



State Industries Promotion Corporation of Tamil Nadu Limited

(A Government of Tamil Nadu Undertaking)

CIN : U74999TN1971SGC005967

Projects/EIA/Manallur/2020

Date: 14.08.2020

The Member Secretary IA III
Ministry of Environment Forests and Climate Change,
Indira Paryavaran Bhavan,
Vayu Wing, 3rd Floor, Aliganj,
Jor Bagh Road,
New Delhi - 110003

Sir,

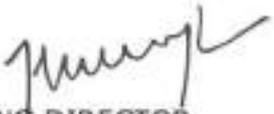
Sub: Reply to the query raised during the 239th EAC Meeting for Development of Manallur Industrial Park, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu by SIPCOT – Reg.

- Ref. 1. Proposal No. IA/TN/NCP/27117/2015 ;[F.No.21-59/2015-IA.III]
2. Minutes of 239th meeting of Expert Appraisal Committee for Projects related to Infrastructure Development, Industrial estate/ parks/ complexes/areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways projects held on 29 - 30 July, 2020- Agenda No.3.4

With reference to the above subject, please find enclosed the reply to the query raised during the 239th EAC meeting along with the supporting Annexure.

We request you to kindly process our application for Environmental Clearance.

Yours Faithfully,


MANAGING DIRECTOR.



State Industries Promotion Corporation of Tamil Nadu Limited

(A Government of Tamil Nadu Undertaking)

CIN : U74999TN1971SGC005967

Projects/EIA/MANALLUR/2020

Date: 14.08.2020

The Member Secretary IA III
Ministry of Environment Forests and Climate Change,
Indira Paryavaran Bhavan,
Vayu Wing, 3rd Floor, Aliganj,
Jor Bagh Road,
New Delhi - 110003

Sir,

Sub: Reply to the query raised in Minutes of 239th Meeting of Expert Appraisal Committee for Projects related to Infrastructure Development, Industrial estate/ parks/ complexes /areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways projects held on 29 - 30 July, 2020 – Agenda 3.4.

With reference to the above subject, please find the reply to the query raised during the 239th EAC meeting for the proposed Development of Manallur Industrial Park at Gummidipoondi Taluk, District Thiruvallur, Tamil Nadu by M/s State Industries Promotion Corporation of Tamil Nadu (SIPCOT) Limited [Proposal No. IA/TN/NCP/27117/2015] [F.No.21-59/2015-IA.III] as given below.

S.No	Query	Reply
1	Submission of NOC from earlier consultant, i.e., M/s CEHS Annamalai University for utilizing their EIA/EMP report by M/s Hubert Enviro Care Systems (P) Ltd Chennai.	The NoC from CEHS Annamalai University for utilising the EIA / EMP report, data and other information provided in the EIA report is enclosed as Annexure-1
2	Submission of NOC from earlier consultant, i.e., ITCOT Consultancy and Services Limited for utilizing	ITCOT Consultancy & Services Ltd., the project consultant of SIPCOT has engaged CEHS Annamalai University

P.T.O.



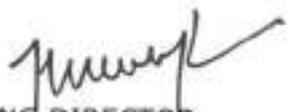
State Industries Promotion Corporation of Tamil Nadu Limited

(A Government of Tamil Nadu Undertaking)

CIN : U74999TN1971SGC005967

S.No	Query	Reply
	baseline data by M/s. Hubert Enviro Care Systems (P) Ltd Chennai.	for preparation of EIA/ EMP report including baseline study for the project. NoC from ITCOT Consultancy & Services Ltd. for utilizing the EIA/EMP report by HECS is enclosed as Annexure-2.
3	Submission of detail process of revalidation of baseline data and EIA/EMP report by M/s Hubert Enviro Care Systems (P) Ltd Chennai.	The process of validation of baseline data and EIA/EMP report is enclosed as Annexure-3.
4	Submission of revised and validated EIA/EMP report on PARIVESH along with duly signed declaration of experts involved in this process, from M/s Hubert Enviro Care Systems (P) Ltd Chennai, for this project.	The revised EIA / EMP report with the signed declaration of experts is enclosed as Annexure-4
5	Proponent is required to make detailed presentation before EAC covering all the above points and also earlier ADS raised for this proposal.	Noted. Same will be followed.

Yours Faithfully,


MANAGING DIRECTOR.

Annexure- 1



Centre for Environment, Health & Safety

ANNAMALAI UNIVERSITY

Annamalai Nagar-608 002



.....NABET/QCI accredited EIA Consultancy Organization for MoEF/Gol

CEHS/SIPCOT/MLR-029/20

14/03/2020

To,

The Member Secretary IA III
Ministry of Environment Forests and Climate Change
Indira Paryavaran Bhavan,
Vayu Wing, 3rd Floor, Aliganj,
JorBagh Road,
New Delhi - 110003

Subject : No objection for taking up the balance work of "Preparation of EIA/ EMP report for proposed Manallur Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District".

Reference : Proposal No. IA/TN/NCP/27117/2015 [F.No.21-59/2015-IA.III]

Sir,

We wish to inform you that we have no objection in M/s. Hubert Enviro Care System (P) Ltd, (HECS) located at A-21, Phase III, Thiru Vi Ka Industrial Estate, Guindy, Chennai- 600 032, towards taking up the balance work of "Preparation of EIA/ EMP report for proposed Manallur Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District" for obtaining Environmental Clearance.

We also inform that, the data and other information provided in the EIA report given by us can be used by HECS to finalize the EIA report and validating the same for appraisal by MoEF&CC.

This has been informed already to NABET/QCI.

Thanking you

Yours faithfully,

Dr. Nehru Kumar
Director

Copy to

M/s. State Industries Promotion Corporation of Tamil Nadu Limited (SIPCOT),
19-A, Rukmani Lakshmi Pathy Road,
Egmore, Chennai - 600 008.



Centre for Environment, Health & Safety

ANNAMALAI UNIVERSITY

Annamalai Nagar-608 002



.....NABET/QCI accredited EIA Consultancy Organization for MoEF&CC/Gol

CEHS/SIPCOT/MLR-041/20

13/08/2020

To

The Member Secretary IA III
Ministry of Environment Forests and Climate Change
Indira Paryavaran Bhavan,
Vayu Wing, 3rd Floor, Aliganj,
Jor Bagh Road,
New Delhi - 110003

Subject : No objection for utilising the EIA/EMP report along with baseline study prepared for
"Proposed SIPCOT Manallur Industrial Park at Manallur and Soorapoondi Villages,
Gummidipoondi Taluk, Thiruvallur District".

Reference: Proposal No. IA/TN/NCP/27117/2015 [F.No.21-59/2015-IA.III]

Sir,

We wish to inform you that we have prepared the EIA/EMP report for "Proposed SIPCOT Manallur Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District". However, due to administrative reason, SIPCOT has engaged M/s. Hubert Enviro Care System (P) Ltd, (HECS) for revision and validation of EIA report.

In this connection, we have no objection for utilising the EIA/EMP report and baseline data of the project by M/s. Hubert Enviro Care System (P) Ltd, located at A-21, Phase III, Thiru Vi Ka Industrial Estate, Guindy, Chennai- 600 032, for appraisal by MoEF&CC.

Thanking you

Yours faithfully,

Dr.Nehrukumar
Director

Copy to

1. M/s. State Industries Promotion Corporation of Tamil Nadu Limited (SIPCOT),
19-A, Rukmani Lakshmipathy Road, Egmore, Chennai - 600 008.
2. M/s. ITCOT Consultancy and Services Limited, 50-A, Greams Road, Chennai 600 006



ITCOT Consultancy and Services Ltd.

(formerly Industrial and Technical Consultancy Organisation of Tamilnadu Limited)
Joint Venture of IFCI, SIPCOT, TIIC, SIDCO & Banks

Registered Office: 50-A, Greams Road, Chennai – 600 006 CIN No:U74210TN1979PLC007894
Tel: 044-28290324, 42936800 Fax: 044-28293512 E-mail: info@itcot.com Web: www.itcot.com



13/08/2020

To,
The Member Secretary IA III
Ministry of Environment Forests and Climate Change
Indira Paryavaran Bhavan,
Vayu Wing, 3rd Floor, Aliganj,
Jor Bagh Road,
New Delhi – 110003

Sir,

Subject : No objection for utilising the EIA/ EMP report prepared by CEHS for “Proposed Manallur Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District” to HECS.

Reference : Proposal No. IA/TN/NCP/27117/2015 [F.No.21-59/2015-IA.III]

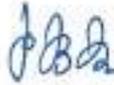
ITCOT is a Deemed Central Govt. Organisation promoted by financial institutions, banks and State industrial development agencies.

We are the project consultant for SIPCOT for the proposed SIPCOT-Manallur Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District. As per MoEF&CC Norms, we had appointed NABET accredited consultant, Centre for Environment, Health & Safety (CEHS), Annamalai University for preparing the EIA/EMP report and obtaining Environmental Clearance for the said project. CEHS has completed the EIA report including base line survey. However, due to administrative reasons we have changed the consultant and handed over the assignment to M/s. Hubert Enviro Care System (P) Ltd, (HECS), a NABET accredited agency.




We have no objection in M/s. Hubert Enviro Care System (P) Ltd, for utilizing the EIA/EMP report prepared by CEHS, Annamalai University including base line data for appraisal by MoEF&CC.

Yours Faithfully



Executive Director



Copy to

1. M/s. Centre for Environment, Health & Safety (CEHS),
Annamalai University, Annamalai Nagar -608002
2. M/s.State Industries Promotion Corporation of Tamil Nadu Limited (SIPCOT),
19-A, Rukmani Lakshmi pathy Road, Egmore, Chennai - 600 008.

Annexure- 3

Detailed process of Validation of Baseline data and EIA/ EMP report

Validation process for Baseline data

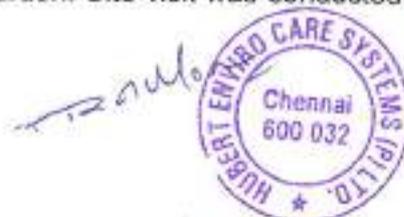
1. One month baseline data was collected for Ambient Air Quality, noise quality, surface water, ground water, soil quality and Biodiversity during February 2020 at the same monitoring locations which are given in the EIA EMP report prepared by CEHS, Annamalai University. (Validation data are given in the following tables in EIA report. **Ambient Air Quality – Table 3-7, Noise Quality – Table 3-10, Surface water quality – Table 3-14, Ground water Quality- Table 3-16, Soil Quality – Table 3-20, Flora – Table 3-21, Fauna- Table 3-22**)
2. The baseline data generated during February 2020, were compared data generated during April – June 2018 by CEHS Annamalai University and the results are interpreted in the EIA report. (Results are given in the EIAEMP report in following sections. **Ambient Air Quality – Section 3.5.1, Noise Quality – Section 3.6.1, Surface water quality – Section 3.7.3, Ground water Quality- Section 3.7.5, Soil Quality – Section 3.9.2, Flora –Section 3.10.1, Fauna- Section 3.10.2**)
3. **Summary of Baseline:**
 - o **Surface water and Ground Water:**
 - As per the monitoring done in April – June 2018 and validation done in February 2020, all the parameters are well within the limits of IS 10500:2012 for Ground water and IS 2296 for Surface water.
 - o **Soil:**
 - As per the monitoring done in April – June 2018 the pH of the soil samples ranged from 5.1 to 6.2. Indicating that the soils are slightly acidic in nature where, as per monitoring done in February 2020 the pH of the soil samples ranged from 5.63 to 7.52. Indicating that the soils are strongly acidic to neutral in nature.
 - As per the monitoring done in April – June 2018 Conductivity of the soil samples ranged from 140 $\mu\text{mhos/cm}$ to 450 $\mu\text{mhos/cm}$ where, as per monitoring done in February 2020 Conductivity of the soil samples ranged from 136 $\mu\text{mhos/cm}$ to 281 $\mu\text{mhos/cm}$.



- As per the monitoring done in April – June 2018 Nitrogen content ranged from 28Kg/ha to 38Kg/ha where, as per monitoring done in February 2020 Nitrogen content ranged from 75 mg/Kg to 252.5 mg/Kg.
 - As per the monitoring done in April – June 2018 Phosphorous ranged from 40.5Kg/ha to 46.2 Kg/ha where, as per monitoring done in February 2020 Phosphorous ranged from 23 mg/Kg to 54.3 mg/Kg.
 - As per the monitoring done in April – June 2018 Potassium content ranges from 42Kg/ha to 50Kg/ha where, as per monitoring done in February 2020 Potassium content ranges from 117.5 mg/Kg to 290 mg/Kg.
- **Ambient Air Quality:**
- Validation is done for 12 parameters as per National Ambient Air Quality Standards (NAAQS) 2009 as per ToR Condition.
 - As per the monitoring done in April – June 2018 and validation done in February 2020, all the parameters are well within the limits of National Ambient Air Quality Standards at all the monitoring locations.
- **Noise (As per old EIA)**
- As per the monitoring done in April – June 2018 all the sampling locations in Industrial and residential area is within the CPCB limits where, as per the monitoring done in February 2020 all the locations in industrial area and all the locations in residential area except Satyavedu and Madharapakkam is within the CPCB limits.

Validation process for EIA/EMP report

1. The revised layout for 279.995 Ha (303.75 Ha as per ToR, 286.065 Ha as per EIA Report (CEHS)) was received from SIPCOT and the boundary was demarcated in Google map. (**Figure 2.2 of EIA Report**).
2. Justification for revision of area from 303.75 Ha to 279.995 Ha prepared based in the inputs provided by Project Proponent (Details given in **Section 2.2 of EIA Report**)
3. 15 Km radius Google map was prepared and the Environmental sensitive areas, water bodies, Reserve forests, within 15 Km radius were marked. Details are given in the EIA Report. (**Table 2.1 of EIA Report**).
4. The site was marked in Toposheet and the distance of Pulicat lake was found to be 5.77 Km from project site boundary. Accordingly application for NBWL Clearance was submitted to Chief Wildlife Warden. Site visit was conducted by RO on 27th July



2020 . (Distance of Pulicat lake from project site and TN –AP Boundary marked in Topo map - Figure 2.6 and NBWL Application along with letter regarding site visit and site visit photographs -Annexure -16 of EIA Report)

5. As per CPCB guidelines of zoning atlas, Land use land cover map, Geo morphology map, Monuments map were prepared for Thiruvallur District. (**Annexure-12 of EIA Report**)
6. Apart from this based on the CPCB's annual monitoring data of 2018, PM10, PM2.5, SO2, NOx values were prepared for Thiruvallur District. (**Annexure-12 of EIA Report**)
7. Ground water levels were identified near the project site and ground water level map was prepared for the project site. (**Section 3.8 of EIA Report**)
8. Based on the above details and ground water table, type of industries were proposed for the project based on CPCB guidelines dated 26th November, 2016. (**Table 2-4 of EIA Report**)
9. Zonation map was prepared for the project based on the type of industries proposed. only 10% of the plotted area (19.41 Ha) is proposed for 5(f) Non Pharma industries like Synthetic acrylic polymers and resins, Synthetic resins and water proofing compounds etc and 90% of plotted area (173.6Ha) is proposed for non EC category industries (**Annexure- 12 of EIA Report**)
10. Based on the Manpower and type of industries proposed, water requirement for the project for domestic, process, utilities and green belt were worked out and detailed water balance chart was prepared. (Details given in **Table 2-7 and Figure 2-9 of EIA Report**)
11. The quantity of Municipal Solid wastes to be generated from the project was also calculated. (**Table 2-8 of EIA Report**)
12. Based on the type of industries proposed, the Ground Level Concentrations for the project considering worst case scenario was computed using AEROMOD Software. (**Section 4.3.2 of EIA Report**)
13. Based on the Public Hearing minutes, the reply was discussed with project proponent and cost allocation towards various CER activities were recommended to the project Proponent and the same was complied. (**Reply to Public Hearing query and commitment by Project Proponent – Table 7.1, CER activities with budget allocation – Section 10.7 of EIA Report**)



14. Environmental Monitoring Plan for construction and operation phases were proposed for the project. (Section 6.5 of EIA Report)
15. Detailed Green belt development plan with type, number of plant species and budget is included (Section 6.7 of EIA Report).
16. List of trees available with number of trees at site based on the GO is included (Section 6.7.1 of EIA Report).
17. Break up of project cost and budget for EMP was obtained from project proponent and included in the EIA Report.(Project cost break up-Section 2.5, Budget for RMP – Section 10.8 of EIA Report)
18. Detailed reply to the query was prepared based on the 230th EAC meeting minutes. (Annexure-1 of EIA Report)
19. Basic structure of EIA Report modified as per APPENDIX III -Generic Structure of Environmental Impact Assessment Document as per EIA Notification 2006 and its amendments comprising 12 chapters (Section 1.6 of EIA Report)
20. Compliance to the ToR issued by MoEF&CC included (Section 1.7 of EIA Report)



ENVIRONMENTAL IMPACT ASSESSMENT REPORT

For

'Development of Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu – Land area 279.99.5 Ha'

At

Villages: Manallur and Soorapoondi

Taluk: Gummidipoondi

District: Thiruvallur

State: Tamil Nadu

By

**State Industries Promotion Corporation of Tamil Nadu Limited
(SIPCOT)**



EIA Consultants

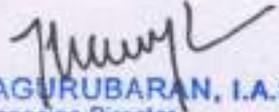
CEHS Annamalai University (EIA Prepared)

ITCOT Consultancy and Services Limited

Report Validation by

HUBERT ENVIRO CARE SYSTEMS (P) LTD, CHENNAI

August 2020


J. KUMARAGURUBARAN, I.A.S.,
Managing Director
State Industries Promotion Corporation of Tamil Nadu Limited
19-A, Rukmani Lakshmi Pathy Road,
Egmore, Chennai-600 008.

Project Milestones

S.No	Activity	Reference
1	ToR application uploaded	13/03/2015 Proposal no IA/ TN/NCP/27115/2015 File No: 21-59/2015 –IA.III
2	ToR issued for the project	22/07/2015
3	ToR extension obtained for the project	13/11/2018
4	Baseline monitoring Period	April – June 2018 (By CEHS Annamalai University and VIMTA Labs, Hyderabad)
5	Public Hearing Conducted	03/07/2019
6	Uploading Final EIA report	21/07/2019
7	Acceptance of proposal	24/12/2019
8	Proposal considered	230 th EAC Meeting Vide Agenda No. 3.1 on 28/01/2020
9	Additional details sought by EAC vide 230 th Meeting	10/02/2020
10	Uploading additional details	26/06/2020
11	Proposal considered	239 th EAC meeting vide Agenda no 3.4 on 29 and 30 th July 2020
12	Additional details sought by EAC vide 239 th meeting	08/08/2020

Validation Certificate

This is to certify that, Hubert Enviro Care Systems (P) Ltd., Chennai has validated the EIA report prepared by CEHS, Annamalai University EIA/EMP for the proposed “Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District” Tamil Nadu in an area of 279.995 Ha.

We have gone through the EIA report and verified the technical data. We have also conducted one month baseline monitoring for the proposed IP. The report is adequate and in-line with the ToR issued by MoEF&CC for the project and as per the EIA Notification 2006 and its amendments.

We are authorised by NABET, QCI, as EIA Consultant Organisation for “Industrial Estates/ Parks/ SEZs/Export Processing Zones/ Biotech Parks / Leather complexes under Schedule 7(c) Category A.

Thanking you

Yours truly

Signature:



Date: 10.08.2020

Name: Dr. J. R. Moses

Designation: CEO

Declaration by the Head of the Accredited Consultant Organization

I, Dr. J. R. Moses, hereby confirm that the below mentioned experts were involved in Validation of EIA/EMP for the proposed “Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District” Tamil Nadu in an area of 279.995 Ha and also confirm that I shall be fully accountable for any misleading information mentioned in this statement.

Signature: 

Date: 10.08.2020

Name: Dr. J. R. Moses

Designation: CEO

Name of the EIA Consultant Organization: Hubert Enviro Care System Private Limited,
Chennai.

NABET Certificate No & Validity: NABET/EIA/1619/RA0083 valid till 29.09.2020

Declaration of Experts Contribution to the EIA

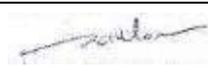
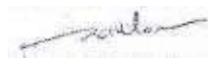
I hereby certify that I was involved in the validation of EIA report for proposed “Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District” Tamil Nadu in an area of 279.995 Ha along with the following Team Members.

EIA Co-ordinator	
Name:	Mr. Vamsee Krishna Navooru
Signature:	
Date:	10.08.2020

Contact Information:

Hubert Enviro Care Systems Pvt. Ltd.,
A-21, Phase III, Behind Lion Club School,
Thiru-vi-ka Industrial Area, Guindy,
Chennai –600032
Tamil Nadu, India
Email: consultancymanager@hecs.in
Website: www.hecs.in

Functional Area Experts (FAEs):

S. No.	Functional Areas		Name of the Expert	Signature	Duration of Involvement
1.	AP	FAE	Dr. J R Moses		February 2020 - till date
2.	AQ	FAE	Dr. J R Moses		February 2020-till date
3.	WP	FAE	Dr. J R Moses		February 2020 – till date
4.	SHW	FAE	Mr. A. Manoharan		February 2020
5.	EB	FAE	Mr. A. Manoharan		February 2020
6.	NV	FAE	Mr. Vivek Navare		February 2020
7.	SC	FAE	Mr. A. Manoharan		February 2020
8.	SE	FAE	Mr. V. Dhivakar		February 2020

S. No.	Functional Areas		Name of the Expert	Signature	Duration of Involvement
9.	HG	FAE	Mr. Mallikarjuna Rao		February 2020
10.	GEO	FAE	Mr. Mallikarjuna Rao		February 2020
11.	LU	FAE	Venkateshwaralu Rachala		February 2020
12.	RH	FAE	Dr. J R Moses		February 2020 – till date

- AP - Air pollution monitoring, prevention and control
AQ - Meteorology, air quality modeling and prediction
WP - Water pollution monitoring, prevention and control
SHW - Solid and hazardous waste management
EB - Ecology and biodiversity
NV - Noise & Vibration
SC - Soil conservation
SE - Socio Economics
HG - Hydrogeology and ground water
Geo - Geology
LU - Land Use
RH - Risk Assessment and Hazard Management

CEHS Annamalai University NABET Extension letter



National Accreditation Board
for Education and Training

(Member - International Accreditation Forum & Pacific Accreditation Co-operation)



QC1/NABET/EIA/CO/20/1371

July 2, 2020

To,

Centre for Environment, Health & Safety (CEHS),
Faculty of Engineering and Technology,
Annamalai University, Annamalai Nagar, Tamil Nadu-608002
(Kind Attention: Dr. V. Nehru Kumar)

TO WHOM SO EVER IT MAY CONCERN

The centre for Environment, Health & Safety (CEHS), Annamalai University, has applied for renewal of their accreditation and the office assessment for the same was held on October 15-16, 2019 and CEHS recommended for following sectors subject to fulfilling the identified shortfalls through supplementary assessments:

Sl. No.	NABET Scheme Sectors	Sector Description	Cat.	Sector Number (MoEFCC Notification dt. Sep. 14, 2006 & Amendments)
1.	1	Mining of mineralic opencast mining only	A	1 (a) (i)
2.	3	River Valley projects	A	1 (c)
3.	31	Industrial estates/ parks/ complexes/ areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	A	7 (c)
4.	32	Common hazardous waste treatment, storage and disposal facilities (TSDFs)	A	7 (d)
5.	32A	Bio-medical waste treatment facilities	B	7 (da)
6.	33	Ports, harbours, break waters and dredging	A	7 (e)

However, requirement of fulfilling of shortfalls is under process but due to the outbreak of COVID-19 the supplementary assessment could not be conducted for issuing the letter and Certificate of accreditation under the EIA Scheme.

Meanwhile, this letter is issued to enable CEHS, Annamalai University to represent EIAs in EAC/SEAC which were carried and completed prior to their application for renewal.

With best regards,

Sd/-
(A K Jha)
Sr. Director, NABET

Institute of Town Planners India, 8th Floor, 4-A, Ring Road, I/P Estate, New Delhi-110002, India
Tel. +91 11-23323436, 417, 18, 419, 420, 421, 423 E-mail: ceo.nabet@qipn.org Website: www.qipn.org

Undertaking by CEHS Annamalai University

Centre for Environment, Health & Safety

ANNAMALAI  UNIVERSITY

Annamalai Nagar-608 002

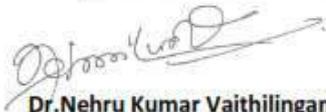
.....NABET/QCI accredited EIA Consultancy Organization for MoEF&CC/Gol

UNDERTAKING

In line with MoEF OM no. J – 11013/41/2006-IA.II (I) dated 4th Aug. 2009. We hereby confirm that all Terms of Reference issued by MoEF & CC, Government of India vide Letter No. 21-59/2015 - IA.III dated 22nd July, 2015 and was valid for a period of three years i.e. up to 21st July, 2018, for preparation EIA/EMP report submitted for EC of Manallur SIPCOT Industrial Park over an area of 286.065 Ha. at Manallur village, Tehsil – Gummidipoondi, District – Thiruvallur, Tamilnadu for production of Synthetic Organic Chemicals and Integrated Paint Industries has been complied with and data provided in the EIA/EMP report is factually correct.

The EIA/EMP report has been vetted by M/s Centre for Environment, Health and Safety, Annamalai University, Annamalai Nagar. Centre for Environment, Health and Safety, is a NABET accredited consultant for preparation of EIA/EMP report of Industrial Estates/Parks/Complexes (Sector 31) in the List of Accredited Consultant Organizations/Rev. 19, January, 2019.

For M/s Centre for Environment, Health and Safety



Dr. Nehru Kumar Vaithilingam
Director & EIA Coordinator

Declaration by EIA Coordinator and FAEs- CEHS Annamalai University

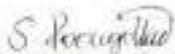
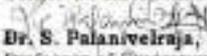
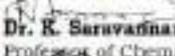
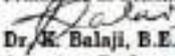
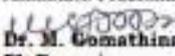
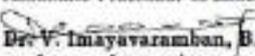
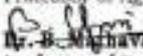
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Validation Summary

Validation process for Baseline data

1. One month baseline data was collected for Ambient Air Quality, noise quality, surface water, ground water, soil quality and Biodiversity during February 2020 at the same monitoring locations which are given in the EIA EMP report prepared by CEHS, Annamalai University. (Validation data are given in the following tables in EIA report. **Ambient Air Quality – Table 3-7, Noise Quality – Table 3-10, Surface water quality – Table 3-14, Ground water Quality- Table 3-16, Soil Quality – Table 3-20, Flora – Table 3-21, Fauna- Table 3-22**)
2. The baseline data generated during February 2020, were compared data generated during April – June 2018 by CEHS Annamalai University and the results are interpreted in the EIA report. (Results are given in the EIAEMP report in following sections. **Ambient Air Quality – Section 3.5.1, Noise Quality – Section 3.6.1, Surface water quality – Section 3.7.3, Ground water Quality- Section 3.7.5, Soil Quality – Section 3.9.2, Flora –Section 3.10.1, Fauna- Section 3.10.2**)
3. **Summary of Baseline:**
 - **Surface water and Ground Water:**
 - As per the monitoring done in April – June 2018 and validation done in February 2020, all the parameters are well within the limits of IS 10500:2012 for Ground water and IS 2296 for Surface water.
 - **Soil:**
 - As per the monitoring done in April – June 2018 the pH of the soil samples ranged from 5.1 to 6.2. Indicating that the soils are slightly acidic in nature where, as per monitoring done in February 2020 the pH of the soil samples ranged from 5.63 to 7.52. Indicating that the soils are strongly acidic to neutral in nature.
 - As per the monitoring done in April – June 2018 Conductivity of the soil samples ranged from 140 µmhos/cm to 450 µmhos/cm where, as per monitoring done in February 2020 Conductivity of the soil samples ranged from 136 µmhos/cm to 281 µmhos/cm.
 - As per the monitoring done in April – June 2018 Nitrogen content ranged from 28Kg/ha to 38Kg/ha where, as per monitoring done in February 2020 Nitrogen content ranged from 75 mg/Kg to 252.5 mg/Kg.
 - As per the monitoring done in April – June 2018 Phosphorous ranged from 40.5Kg/ha to 46.2 Kg/ha where, as per monitoring done in February 2020 Phosphorous ranged from 23 mg/Kg to 54.3 mg/Kg.
 - As per the monitoring done in April – June 2018 Potassium content ranges from 42Kg/ha to 50Kg/ha where, as per monitoring done in February 2020 Potassium content ranges from 117.5 mg/Kg to 290 mg/Kg.

- **Ambient Air Quality:**
 - Validation is done for 12 parameters as per National Ambient Air Quality Standards (NAAQS) 2009 as per ToR Condition.
 - As per the monitoring done in April – June 2018 and validation done in February 2020, all the parameters are well within the limits of National Ambient Air Quality Standards at all the monitoring locations.
- **Noise**
 - As per the monitoring done in April – June 2018 all the sampling locations in Industrial and residential area is within the CPCB limits where, as per the monitoring done in February 2020 all the locations in industrial area and all the locations in residential area except Satyavedu and Madharapakkam is within the CPCB limits.

Validation process for EIA/EMP report

1. The revised layout for 279.995 Ha (303.75 Ha as per ToR, 286.065 Ha as per EIA Report (CEHS)) was received from SIPCOT and the boundary was demarcated in Google map. **(Figure 2.2 of EIA Report)**.
2. Justification for revision of area from 303.75 Ha to 279.995 Ha prepared based in the inputs provided by Project Proponent (Details given in **Section 2.2 of EIA Report**)
3. 15 Km radius Google map was prepared and the Environmental sensitive areas, water bodies, Reserve forests, within 15 Km radius were marked. Details are given in the EIA Report. **(Table 2.1 of EIA Report)**.
4. The site was marked in Toposheet and the distance of Pulicat lake was found to be 5.77 Km from project site boundary. Accordingly application for NBWL Clearance was submitted to Chief Wildlife Warden. Site visit was conducted by RO on 27th July 2020 . **(Distance of Pulicat lake from project site and TN –AP Boundary marked in Topo map - Figure 2.6 and NBWL Application along with letter regarding site visit and site visit photographs -Annexure -16 of EIA Report)**
5. As per CPCB guidelines of zoning atlas, Land use land cover map, Geo morphology map, Monuments map were prepared for Thiruvallur District. **(Annexure-12 of EIA Report)**
6. Apart from this based on the CPCB's annual monitoring data of 2018, PM10, PM2.5, SO2, NOx values were prepared for Thiruvallur District. **(Annexure-12 of EIA Report)**
7. Ground water levels were identified near the project site and ground water level map was prepared for the project site. **(Section 3.8 of EIA Report)**
8. Based on the above details and ground water table, type of industries were proposed for the project based on CPCB guidelines dated 26th November, 2016. **(Table 2-4 of EIA Report)**
9. Zonation map was prepared for the project based on the type of industries proposed. only 10% of the plotted area (19.41 Ha) is proposed for 5(f) Non Pharma industries like Synthetic acrylic polymers and resins, Synthetic resins and water proofing compounds

etc and 90% of plotted area (173.6Ha) is proposed for non EC category industries
(Annexure- 12 of EIA Report)

10. Based on the Manpower and type of industries proposed, water requirement for the project for domestic, process, utilities and green belt were worked out and detailed water balance chart was prepared. (Details given in **Table 2-7 and Figure 2-9 of EIA Report**)
11. The quantity of Municipal Solid wastes to be generated from the project was also calculated. (**Table 2-8 of EIA Report**)
12. Based on the type of industries proposed, the Ground Level Concentrations for the project considering worst case scenario was computed using AEROMOD Software. (**Section 4.3.2 of EIA Report**)
13. Based on the Public Hearing minutes, the reply was discussed with project proponent and cost allocation towards various CER activities were recommended to the project Proponent and the same was complied. (**Reply to Public Hearing query and commitment by Project Proponent – Table 7.1, CER activities with budget allocation – Section 10.7 of EIA Report**)
14. Environmental Monitoring Plan for construction and operation phases were proposed for the project. (**Section 6.5 of EIA Report**)
15. Detailed Green belt development plan with type, number of plant species and budget is included (**Section 6.7 of EIA Report**).
16. List of trees available with number of trees at site based on the GO is included (**Section 6.7.1 of EIA Report**).
17. Break up of project cost and budget for EMP was obtained from project proponent and included in the EIA Report. (**Project cost break up-Section 2.5, Budget for RMP – Section 10.8 of EIA Report**)
18. Detailed reply to the query was prepared based on the 230th EAC meeting minutes. (**Annexure-1 of EIA Report**)
19. Basic structure of EIA Report modified as per APPENDIX III -Generic Structure of Environmental Impact Assessment Document as per EIA Notification 2006 and its amendments comprising 12 chapters (**Section 1.6 of EIA Report**)
20. Compliance to the ToR issued by MoEF&CC included (**Section 1.7 of EIA Report**)

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Annexure no	Details
1	Reply to the query raised in 230 th EAC meeting vide agenda no. 3.1
2	HECS NABET Certificate copy
3	Extension letter issued by NABET
4	Acknowledgement from MoEF&CC on submission of letter regarding change of consultant
5	GO No.119 dated 07/06/2013 regarding administrative approval for development of Industrial Park over and extent of 303.75 Ha (300.765 Ha of poramboke land and 2.985 Ha of patta land to SIPCOT for development of Industrial Park).
6	GO No. 285 dated 03/08/2018 regarding alienation of 283.08 Ha of land to SIPCOT for development of Industrial Park
7	Thiruvallur district Collector Letter No. 14888/2018 dated 10/06/2019 regarding

Annexure no	Details
	exclusion of 3.08.5 Ha of land
8	Land Delivery Receipt in proof of taking over possession of 279.99.5 Ha of land from Zonal Deputy Tahsildar
9	Layout of Proposed Industrial Park
10	Letter for supply of 5MLD TTRO water from CMWSSB to Manallur Industrial Park
11	Letter for supply of 1.3 MLD fresh water from CMWSSB for Manallur Industrial Park.
12	Zonation map prepared for the proposed Industrial Park as per guidelines of CPCB's programme on zoning atlas for siting industries.
13	Advertisement for conducting Public Hearing
14	Public Hearing Proceedings
15	Disaster Management Plan
16	NBWL Clearance Application, Letter regarding site visit by Wild life Warden and Site visit photos

EXECUTIVE SUMMARY

1. Project back ground

M/s.State Industries Promotion Corporation of Tamil Nadu Limited (SIPCOT) was established in the year 1971 to develop industrial growth in Tamil Nadu. The objective of SIPCOT is to establish, develop, maintain and manage industrial complexes, parks and growth centres at various places across the State of Tamil Nadu. SIPCOT has so far developed 21 Industrial Complexes in 12 districts and Seven Sector Specific Special Economic Zones (SEZs) across Tamil Nadu.

Considering the demand for industrial land in the vicinity of Chennai, SIPCOT proposes to develop an “Industrial Park at Manallur and Soorapoondi villages of Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu State” over an extent of 279.99.5 Ha (691.587 Acres) – Manallur Village 201.75 Ha and Soorapoondi village 78.245 Ha. The Industrial Park is planned with 10% plotted area for 5(f) category industries and balance 90% for non EC category. Thus, as per the EIA Notification 2006 and its amendments the project is termed under Schedule 7 (c), Category A (**If at least one industry in the proposed industrial estate falls under the Category A**, entire Industrial Park shall be treated as Category A, irrespective of the area). Besides TN – AP interstate boundary is ~3.13 Km (towards NNW) from the project boundary and Pulicat lake bird Sanctuary is ~5.77 Km (towards NE). Therefore, **General Condition** is applicable.

1.1 EIA study

The EIA study was undertaken by Centre for Environment, Health and Safety Annamalai University and the project was taken in 230th EAC meeting for Projects related to Infrastructure Development, Industrial estate/parks/complexes/areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways projects held on 28 - 29 January, 2020.

EAC has raised queries on the proposal vide uploaded Minutes of 230th meeting and the replies are enclosed in **Annexure -1**.

The revised validated EIA report has been prepared by Hubert Enviro Care Systems Pvt. Ltd., (HECS) Chennai, having NABET Accreditation, with one month validation of baseline data during February 2020.

1.2 Type of industry proposed

Table 1 Type of industry proposed for the Industrial Park

S.No	Plotted Area 193.01 (Ha)	Industry Proposed	Schedule as per EIA notification 2006 and its amendments	Category with Threshold Limit	IP Category (Overall)
1	19.41 (Ha) (10%)	Synthetic Acrylic Polymer Resins, water proofing compounds and Synthetic Adhesives.	5 (f)	A	7 (C), Category A.
2	173.60 (Ha) (90%)	Non EC Categories like E vehicle and its components manufacturing, Automobiles and accessories manufacturing, Engineering and fabrication, Plastics manufacturing etc., falling under Red, Orange, Green and White category industries.	Nil -	Nil	

2. Project location

SIPCOT propose to develop an Industrial Park at Manallur and Soorapoondi Villages over an extent of 279.99.5 Ha.

The site is located at survey Nos. - 203/1, 204/2, 207/2, 208, 209/1, 209/3, 210/1, 210/3, 211, 212/1, 212/3, 213, 214, 215, 216/1, 216/3, 217/1, 217/3, 218/1, 218/3, 219/1, 220/1, 223/4, 224, 225/1, 226/1, 227/1, 227/3, 228, 229, 230, 231, 232, 233/1, 234/1, 234/3, 235/3, 236, 237/1, 237/3, 238, 239, 240, 241, 242, 243, 244, 245, 248, 249, 250, 252, 253, 270/1, 270/8, 274/1, 274/29 at Manallur village and 1, 2, 3, 4, 5, 6/2, 9/1, 9/3, 9/5, 9/6, 9/11, 10/4, 10/9, 12/2, 12/3, 12/4, 12/5, 12/6, 12/7, 12/8, 12/9, 12/10, 12/11, 12/12, 12/13, 12/14, 12/15, 12/16, 12/17, 13/1, 13/2, 13/3, 13/4, 13/5, 13/6, 13/7, 13/8, 13/9, 15, 16/1, 37/1, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49 of Soorapoondi villages in Gummidipoondi Taluk, Thiruvallur District.

While obtaining ToR for the Industrial Park, the land area was considered at 303.75 Ha (300.765 Ha of poramboke land and 2.985 Ha of patta land) based on the administrative sanction issued by Government of Tamil Nadu for development of Industrial Park at Manallur vide G.O (Ms) No.119 dated 07.06.2013. The same is enclosed as **Annexure-5**.

While applying for EC, the poramboke land extent was reduced to 283.08 Ha vide Government of Tamil Nadu land alienation G.O (Ms) No. 285 dated 03/08/2018, enclosed as **Annexure -6**. Accordingly, in EC application the land extent was considered at 286.065 Ha (283.08 Ha of poramboke land vide per GO (Ms) No. 285 dated 03/08/2018 and 2.985 Ha of patta land vide G.O.(Ms) no. 119 dated 07.06.2013).

The project area is now further reduced from 286.065 Ha to 279.99.5 Ha due to the following reasons:

- ❖ 3.085 Ha of poramboke land has been excluded by Thiruvallur District Collector vide letter no. 14888/2018 dated 10.06.2019 enclosed as **Annexure 7**.
- ❖ 2.985 Ha of patta land is also excluded from land acquisition and the total area of the Industrial Park is reduced to 279.99.5 Ha.
- ❖ Land Delivery Receipt in proof of taking over possession of 279.99.5 Ha of land from Zonal Deputy Tahsildar is enclosed as **Annexure-8**.

2.1 Site Salient features

Table 2 Salient features of the project site and surrounding features

S.No	Particulars	Details
1.	Site Co-ordinates of the project site (Centre Co-Ordinates)	Latitude: 13°26'54.55"N Longitude: 80°01'34.32"E
2.	Site Elevation	28m AMSL
3.	Present land use	Barren, Scrub land as per Bhuvan NRSC Land use/Land cover-2012.
4.	Nearest Highway	Chennai –Kolkata Highway (NH-5) at a distance of ~8.04 km towards E.
5.	Interstate Boundary	TN-AP interstate boundary at distance of~ 3.13km NNW (Distance marked in Figure 2-6).

S.No	Particulars	Details
6.	Nearest railway Station	Elavur Railway station, ~ 8.92 km, NE
7.	Nearest Airport	Chennai International Airport, ~ 50.78km, SE
8.	Defense Installation	SDSC –SHAR at a distance of~ 33 Km towards NNE
9.	Nearest village	Manallur, adjacent to site , W Nearest Village habitat: Manallur - 0.56 Km W

S.No	Particulars	Details			
		S.No.	Water Bodies	~ Distance (Km)	Direction
10.	Water bodies	1	lake near Madharpakkam	0.3	W
		2	lake near Surapundi	0.5	E
		3	Pallavada lake	0.75	NW
		4	lake near Sanapattur	0.9	NE
		5	lake near Roshanagaram	1.9	W
		6	lake near Vaniya	2.3	SE
		7	lake near Chittoornatham	2.4	SE
		8	lake near Edur	2.9	NE
		9	lake near Pondavakkam	3.4	NW
		10	lake near Irukulam	4.6	NW
		11	lake near Kannampakkam	4.7	N
		12	lake near Periya Puliyur	5.9	S
		13	lake near Appayapalem	7.1	NW
		14	lake near Tokkamur	7.5	NNE
		15	lake near Balakrishnapuram	7.6	SW
		16	lake near Chatram	7.7	NW
		17	lake near Kollanur	8.09	S
		18	lake near Mandanapalem	8.9	NW
		19	lake near Rajulakandridge	8.9	SW
		20	Pulicat lake	8.98	NE
		21	Arani River	11.04	SSE
		22	Ralla Eru	14.05	NW

S.No	Particulars	Details			
		S.No.	Reserve Forests	~ Distance (Km)	Direction
11.	Reserved/Protected Forest	1	Nemalur RF	1.13	WSW
		2	Irukulam RF	3.05	NNW
		3	Sirurvedu RF	4.02	SSW
		4	Panchali RF	4.03	SSW
		5	Rajugunta RF	5.58	WNW
		6	Vanalur RF	6.67	WNW
		7	Palavakkam RF	7.36	S
		8	Satyavedu RF	7.56	WNW
		9	Manali RF	7.98	SSE
		10	Arudur RF	9.05	NNW
		11	Ambakkam RF	11.03	WSW
		12	Senjiyagaram RF	13.87	SW
12.	Eco sensitive zone/ Wild life sanctuary	Pulicat Bird Sanctuary ~5.77km NE (Distance marked in Figure 2-6)			

2.2 Magnitude of operation

Total land area of the project is 279.99.5Ha (691.587 Acres). Total number of plots are 131 nos. The Layout master plan is given in **Annexure-9**.

Table 3 Area break up for the project

S.No	Area Description	Area (Acres)	Area (Ha)	Area (%)
1	Plotted area (including 25% green belt in plotted area)	476.73	193.01	68.93
2	Common amenities	13.84	5.603	2.0
3	Commercial activities	13.84	5.603	2.0
4	Solid Waste Management	24.06	9.741	3.48
5	Roads, Storm water drain	38.86	15.733	5.63
6	OSR (To be developed as	69.16	28.00	10

S.No	Area Description	Area (Acres)	Area (Ha)	Area (%)
	green belt)			
7	Green belt area (road side, periphery)	55.097	22.305	7.96
8	Total plot area	691.587	279.995	100

2.3 Water requirement

2.3.1 Construction Phase

Water requirement for construction phase is estimated to be 63 KLD. Basic amenities like roads, storm water drainage, Administration building, power supply through TANGEDCO, Occupational health Centre, water supply system will be constructed by SIPCOT. Around 50 employees will be working during construction phase. Water requirement during Construction Phase will be sourced from private water suppliers.

2.3.2 Operation Phase

Water requirement for operation phase is estimated to be 8627 KLD. Raw water requirement is 5239 KLD. Fresh water requirement of 900 KLD and TTRO (Tertiary Treated Reverse Osmosis) water requirement of 4339 KLD is proposed to be sourced from Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB).

The letters issued by CMWSSB for the supply of 5 MLD of TTRO water and 1.3 MLD of fresh water for Manallur Industrial Park is enclosed as **Annexure-10 and Annexure- 11** respectively.

The balance 3388 KLD (208 KLD water for utilities, 2970 KLD for process, 135 KLD for greenbelt and 75 KLD for flushing) of water will be met from recycling of treated wastewater.

2.4 Power and fuel requirement

Power requirement for the Industrial Park is estimated to be 45 MVA. SIPCOT will earmark the land required by TANGEDCO for the establishment of exclusive substation for the Park. Individual industries will have their own power back up in case of power failure.

2.5 Solid waste generation and management

2.5.1 Municipal solid waste generation and management

MSW in Industrial Plots:

SIPCOT will mandate all the industries to manage the Municipal Solid generated by them within their premises as per norms.

Municipal Solid wastes will be segregated by individual industries as organic and inorganic wastes. Organic wastes will be composted by individual industries in Organic Waste Converter or Bio methanation plant and used for green belt development. Inorganic wastes will be sold to TNPCB authorized recyclers by the industries.

(Norms: 0.45 Kg/day of MSW as per construction manual)

MSW in area apart from Industrial Plots:

SIPCOT has earmarked 24.060 Acres of land for establishment of Solid Waste Management facility

Organic wastes will be composted using organic waste converter /Vermi composting and compost will be used as manure for green belt development. Inorganic waste will be sold to TNPCB authorized recyclers.

As a provision to have in house and independent Solid Waste Management facility 24.060 Acres (3.48%of Industrial Park area) has been earmarked for Solid Waste Management Facility. In future, based on need, SIPCOT will float tender and provide land to private players for the establishment of Municipal Solid Waste Management facility on BOOT basis.

2.5.2 Construction Waste Management

Most of the construction materials like soil, bricks, concrete will be reused in the backfilling, road construction, sub-grade reparation etc. works. Metals, wood scraps & bitumen junks will be used for road laying purpose or disposed outside as per C&D rules 2016. The measures like reusing materials on-site and /or donating /selling salvaged items reduces waste, virgin material use and disposal cost.

Vegetation and combustible waste will not be burnt on the site.

Reusable inorganic waste (e.g. excavated sand) will be stockpiled away from drainage features and used for in filling where necessary.

Unusable construction waste, such as damaged pipes, formwork and other construction material, will be disposed off at an approved dumpsite.

2.5.3 Hazardous waste generation and management

Individual industries, will have their own storage area for storing Hazardous waste, within their premises and the hazardous wastes will be sent by individual industries to nearby authorised recyclers/ vendors/ TSDF for recycling /disposal as per the Hazardous and other Wastes (Management and transboundary movement) rules 2016.

2.6 Manpower requirement

During construction phase, man power requirement will be 50 nos. and during operation phase, the man power requirement will be 5000 nos.

2.7 Project Cost

Proposed cost for the project is Rs.250 Crores. The details are given in **Table 2-9 of** EIA report.

3. Environmental Baseline Data

3.1 Micrometeorology

S. No	Parameter	Monitoring Period (April-June 2018)	Validation Period (February 2020)
1.	Temperature	Max. Temperature – 31.2 C Min. Temperature - 17.5 C	Max Temperature:33 ⁰ C Min Temperature: 21 ⁰ C Avg Temperature: 27.3 ⁰ C
2.	Average Relative Humidity	Morning – 65% to 75% Evening - 40% to 65%	68.76 %
3.	Average Wind Speed	1.75 m/s	3.2 m/s
4.	Predominant Wind Direction during February 2020	East and North East	East

3.2 Ambient Air Quality

Ambient air Quality was monitored at 10 locations within the monitoring period (April – June 2018) and also during validation period (February 2020).

As per the monitoring done by Annamalai University through M/s. VIMTA labs, during April- June 2018, the average baseline values were PM₁₀ (45.2- 67.2µg/m³), PM_{2.5} (20.2- 34.1 µg/m³), SO₂ (4.9 -12.4 µg/m³), NO₂ (18.3 – 26.0 µg/m³), CO (BDL- 0.2 µg/m³), NH₃ (BDL).

Baseline data validation for Ambient Air Quality for all the 12 parameters was done in February 2020, the average baseline levels were PM₁₀ (46.85 -66.58 µg/m³), PM_{2.5} (24.30 – 34.27µg/m³), SO₂(6.83 – 12.58 µg/m³), NO₂(14.65– 26.14 µg/m³), O₃ (10.38 – 13.60 µg/m³), NH₃ (6.05 – 8.77 µg/m³). For other parameters the values were Below Detection Limit.

Based on the monitoring done in April – June 2018 and validation done in February 2020, all the parameters are well within the limits of National Ambient Air Quality Standards at all the monitoring locations.

3.3 Ambient noise Quality

Noise levels were monitored at 10 locations within the study area.

The observations during the monitoring period (April – June 2018) at all locations are given below:

- At site the day time average noise level was 34.10 dB(A) and the night time noise level was 24.50 dB(A), which is well within the limit prescribed by CPCB(75 dB(A) Day time & 70 dB(A) Night time for industrial area).
- In residential areas, the day time average noise levels varied from 33.86 dB(A) to 36.81 dB(A) and the night time average noise levels varied from 28.45 dB(A) to 32.16 dB(A). The noise levels were well within the limits prescribed by CPCB for residential areas (55 dB (A) day time & 45 dB (A) night time).

The observations of day equivalent and night equivalent noise levels at all locations during validation (February 2020) are given below:

- At site, day time Average noise level was about 49.1 dB (A) and average noise level at night time was 42.5 dB(A), which is within the limit prescribed by

CPCB (75 dB(A) Day time & 70 dB(A) Night time for industrial area). The noise levels were well within the limits during the monitoring period (April –June 2018) and also during the validation period (February 2020) at site.

- In residential areas day time noise levels varied from 50.6 dB (A) to 56.0 dB (A) and night time noise levels varied from 41.0 dB(A) to 43.6 dB(A) across the sampling stations. The field observations during the study period indicate that the ambient noise levels at Sathyavedu and Madharapakkam exceeded the limits prescribed by CPCB during day time and during night time the noise levels are within the prescribed limits. (Limits prescribed by CPCB (55 dB(A) day time & 45 dB(A) night time).

3.4 Surface water Quality

Surface water quality was monitored at 5 locations during monitoring period (April-June 2018) and during validation period (February 2020).

3.4.1 Observations during Monitoring period (April-June 2018)

- In the surface water the pH value ranged from 6.43 to 7.12. pH levels of all the samples are within the limits of IS 2296:1992, Class A.
- The Electrical Conductivity (EC) of the collected surface water ranges from 515 μ S/cm to 780 μ S/cm.
- TDS levels range from 280 to 430 mg/l, which is well within the limits of IS 2296:1992, Class A.
- The chloride content in the collected surface water ranges from 175 mg/l to 215 mg/l. Limit for chloride is 250 mg/l. The chloride content in all the samples are well within the limits of IS 2296:1992, Class A.
- The sulphate content in the collected surface water sample ranges from 35 mg/l to 75 mg/l. Limit for sulphate is 400 mg/l. All the samples are within the limit.
- The Total hardness of the collected surface water sample ranges from 240 mg/l to 360 mg/l and are exceeding the limits.
- DO levels varied from 4.9 mg/l to 6.2 mg/l and BOD levels varied from 1.3 mg/l to 2.0 mg/l.

3.4.2 Observations during validation period (February 2020)

- In the surface water the pH value ranged from 6.93 to 7.31 which is well within the limits of IS 2296:1992, Class A.
- The Electrical Conductivity (EC) of the collected surface water ranged from 692 μ S/cm to 973 μ S/cm.
- TDS levels range from 441 to 666 mg/l, which is well within the limits of IS 2296:1992, Class A&C. The TDS levels during monitoring period also were within the limits of IS 2296:1992 for Class A.
- The chloride content in the collected surface water ranges from 103 mg/l to 198 mg/l. Limit for chloride is 250 mg/l. The chloride content in all the samples were well within the limits of IS 2296:1992, Class A. The chloride content of all the samples collected during monitoring period also were within the limits of IS 2296:1992 for Class A.
- The sulphate content in the collected surface water sample ranges from 47 mg/l to 93 mg/l. Limit for sulphate is 400 mg/l. All the samples are within the limit. The sulphate content of the samples collected during monitoring period also were within the limits of IS 2296:1992 for Class A.
- The Total hardness of the collected surface water sample ranges from 247 mg/l to 382 mg/l. Total hardness exceeds the limit of IS 2296:1992 for class A for all the samples.
- Fluoride content in the samples ranged from 0.15 mg/l to 0.23 mg/l and is well within the limits of IS 2296:1992 for Class A.
- Heavy metals such as Arsenic, total Chromium, Cadmium, Copper, Lead, Manganese, Mercury, Nickel, Selenium were below detectable limits.
- Dissolved Oxygen values of all the samples ranged from 5.5 to 6.1 mg/l. The sample collected from Iguvarpalayam odai meets the standard of IS 2296:1992 for Class A.
- BOD levels ranged from 1.9 mg/l to 4.9 mg/l. The sample collected from Iguvarpalayam odai meets the standard of IS 2296:1992 for Class A.

3.5 Ground water Quality

Ground water quality was monitored at 5 locations during monitoring period (April-June 2018) and during validation period (February 2020).

3.5.1 Observations during Monitoring period (April-June 2018)

- The ground water results of the study area indicate that the pH range varied from 6.70 to 7.20. It is observed that the pH range is within the limits of IS 10500:2012.
- The Total Dissolved Solids range varied between 1020 - 1510 mg/l for the ground water. All the samples are well within the permissible limit of IS 10500:2012.
- The acceptable limit of the chloride content is 250 mg/l and permissible limit is 1000 mg/l. The chloride content in the ground water for study area ranges between 212 mg/l – 420 mg/l. It is observed that all are well within the permissible limit of IS 10500:2012.
- The acceptable limit of the sulphate content is 200 mg/l and permissible limit is 400 mg/l. the sulphate content of the ground water of the study area is varied between 45 mg/l – 84 mg/l. It is observed that all the samples are within the acceptable limit of the IS 10500: 2012.
- The Total hardness ranged between 160 mg/l – 510 mg/l for ground water samples. It is observed that Total hardness is within the permissible limit of IS 10500: 2012.

3.5.2 Observations during validation period (February 2020)

- The ground water results of the study area indicate that the pH range varied from 6.82 to 7.38. It is observed that the pH range is within the limits of IS 10500:2012.
- The Total Dissolved Solids range varied between 452 - 860 mg/l for the ground water. All the samples are well within the permissible limit of IS 10500:2012.
- The acceptable limit of the chloride content is 250 mg/l and permissible limit is 1000 mg/l. The chloride content in the ground water for study area ranges between 135 mg/l – 351 mg/l. It is observed that all are well within the permissible limit of IS 10500:2012. The Chloride content of samples collected during monitoring period also was within the permissible limit of IS 10500:2012.

- The acceptable limit of the sulphate content is 200 mg/l and permissible limit is 400 mg/l. the sulphate content of the ground water of the study area is varied between 68.4 mg/l – 124.4 mg/l. It is observed that all the samples are within the acceptable limit of the IS 10500: 2012. The sulphate content of the samples collected during monitoring period also was within the permissible limit of IS 10500:2012.
- The Total hardness ranged between 183 mg/l – 332 mg/l for ground water samples. It is observed that Total hardness is within the permissible limit of IS 10500: 2012. The total hardness of samples collected during monitoring period also was within the permissible limit of IS 10500:2012.
- Fluoride content of the samples ranged from 0.24 mg/l to 0.41 mg/l. The Fluoride content of all the samples was within the acceptable limit of IS 10500:2012.
- Heavy metals such as Cyanide, Arsenic, Boron, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel and Selenium were below detectable limits.

3.6 Soil quality

3.6.1 Observations during Monitoring period (April-June 2018)

- The pH of the soil samples ranged from 5.1 to 6.2. Indicating that the soils are slightly acidic in nature.
- Conductivity of the soil samples ranged from 140 µmhos/cm to 450 µmhos/cm.
- Nitrogen content ranged from 28Kg/ha to 38Kg/ha.
- Phosphorous ranged from 40.5Kg/ha to 46.2 Kg/ha.
- Potassium content ranges from 42Kg/ha to 50Kg/ha.

3.6.2 Observations during validation period (February 2020)

- The pH of the soil samples ranged from 5.63 to 7.52. Indicating that the soils are strongly acidic to neutral in nature.
- Conductivity of the soil samples ranged from 136 µmhos/cm to 281 µmhos/cm.
- Organic carbon content ranged from 0.56% to 0.91%.
- Organic matter ranged from 0.97% to 1.57%
- Nitrogen content ranged from 75 mg/Kg to 252.5 mg/Kg.

- Phosphorous ranged from 23 mg/Kg to 54.3 mg/Kg.
- Potassium content ranges from 117.5 mg/Kg to 290 mg/Kg.

3.7 Ecology

Pulicat Bird sanctuary one of India's main water-bird sanctuaries is situated at a distance of 5.77 km, NE from Project Site. More than 40,000 birds (including 26 rare species), from various parts of the world visit the sanctuary during the migratory winter season every year, some of which can be easily identified. Some easily found birds include cormorants, darters, grebes, large egrets, little egrets, moorhens, night herons, paddy birds, painted storks, pintails, pond herons, sandpipers, shovellers, terns, white ibises and many more. The migratory birds include garganeys and teals from Canada, snake birds and glossy ibises from Sri Lanka, grey pelicans from Australia, grey herons and open billed stork from Bangladesh, painted storks from Siberia, spoonbills from Burma and the spot-billed duck. Between October and March, many migratory birds visit.

The forest blocks existing in the study area are Arudur RF9.05 Km (NNW), Vanalur RF6.67 Km (WNW), Irukulam RF3.05 Km (NNW), Satyavedu RF7.56 Km (WNW), Rajugunta RF5.58 Km (WNW), Ambakkam RF11.03 Km (WSW), Senjiyagaram RF 13.87 Km (SW) , Palavakkam RF 7.36 Km (S), Manali RF7.98 Km (SSE) , Siruvedu RF4.02 Km (SSW) , Panchali RF4.03 Km (SSW), Nemalur RF1.13 Km (WSW). The main composition of trees in forest blocks are *Azadiractha indica*, *Ficus bengalensis*, *Ficus religiosa*, *Phenix spp*, *Embllica officinalis*, *Zziphus jujube*, *Eucalyptus*.

3.8 Socioeconomic environment

Social indicators of the Thiruvallur district are given in Table 4 below.

Table 4 Social indicators of Thiruvallur District

S.No	Social Indicators	Thiruvallur District
1	Decadal variation %	35.30
2	Urban population %	65.14
3	Sex ratio (no. of female / 1000 males)	987
4	0-6 age group %	10.88
5	Population density (Persons per square Km)	1098
6	Scheduled caste population %	22.03
7	Scheduled tribe population %	1.26

S.No	Social Indicators	Thiruvallur District
8	Literacy rate %	84.03
9	Work Participation rate %	41.26
10	Main Workers %	81.14
11	Marginal Workers %	18.86
12	Cultivators %	4.78
13	Agricultural labourers %	17.59
14	Workers in household industries %	3.79
15	Other workers %	73.84

4. Impact on Air environment due to proposed industries

Air quality modelling was done using AERMOD software to identify the ground level concentration due to operation of proposed industries. The details on the type of fuel proposed, emissions are given in **Table 4-1** of the EIA report. Based on the modelling done, the total ground level concentrations are given in **Table -5**.

Table 5 Total concentration from proposed stacks (PM controlled)

Pollutant	Max. Base line Conc. ($\mu\text{g}/\text{m}^3$)	Estimated Incremental Conc. ($\mu\text{g}/\text{m}^3$)	Total Conc. ($\mu\text{g}/\text{m}^3$)	NAAQ standard	% increase
PM ₁₀	79.8	1.384	81.18	100	1.73
PM _{2.5}	38.6	0.830	39.43	60	2.15
SO ₂	16.4	5.975	22.38	80	36.43
NO _x	31.5	7.489	38.99	80	23.77

From the above table, it is evident that from the proposed project, the Total Concentration for PM₁₀, PM_{2.5}, SO₂ and NO_x are well within the NAAQ Standards.

Individual Industries having boilers (Schedule 5 (f) industries) will be mandated to provide cyclone separators and other Air Pollution Control measures as per CPCB/ TNPCB norms, so that the estimated incremental concentration for PM, SO₂ and NO_x will be further reduced for the proposed project after establishment.

5. Alternate site consideration

The alternative sites considered for the project were:

- Arur (Kannambakkam)
- Sanaputhur, Iguvarpalaiyam & Lakshminarasimapuram
- Nemalur, Pannur & Vaniyamalli
- Manallur and Surapundi (Hereinafter referred as Manallur and Soorapoondi villages as per GO (Ms) no. 285)

However, at Arur TN-AP interstate boundary is crossing the site and the site at Nemalur, Pannur and Vaniyamalli is near Reserve forest and water body. The site at Sanaputhur, Iguvarpalaiyam & Lakshminarasimapuram villages has a small stream crossing the site. Hence these sites were not selected for development of Industrial Park. Based on the availability of land, access to site, environmental sensitivity, R & R requirements, the land at Manallur and Soorapoondi villages was selected for development of the Industrial Park. Details are given in **Chapter 5**.

6. Environmental Monitoring Programme

A monitoring schedule with respect to Ambient Air Quality, Water Quality, Soil and Noise as per CPCB/MoEF&CC will be adopted during construction phase and after establishment of the project. Details are given in **Tables 6-1** and **6-2** of EIA report.

7. Public Hearing

Public Hearing was conducted for the project on 03/07/2019 at K.V.C.Mahal, Sathyavedu Road (Near Sivan Koil), Madarpakkam, Gummidipoondi Taluk, Thiruvallur District, under the chairman ship of Tmt.Mageswari Ravikumar I.A.S-District Collector, Thiruvallur district, assisted by District Environmental Engineer –Er.P.Ravichandran M.E. The issues raised during Public Hearing with the reply along with commitment based on the Minutes of 230th EAC meeting is revised and detailed in **Table 7-1** of EIA report.

8. Rehabilitation and Resettlement

The project site is free from habitation. The entire extent of land(279.995 ha) is Government poramboke land and is already allotted to SIPCOT by Government of Tamil Nadu for development of Industrial Park. Hence, there is no Rehabilitation and Resettlement for this project.

9. Environmental Management Plan

9.1 Air Environment

- Individual industries will be mandated to have Air Pollution control measures as per CPCB /TNPCB guidelines. Schedule 5 (f) industries will be mandated to provide cyclone separators and adequate stack height in case of boilers for dispersion of flue gases.
- Adequate green belt will be developed to mitigate the pollution arising due to proposed project.

- Ambient air Quality monitoring will be carried out on regular basis and if the values are exceeding the NAAQ standards, proper mitigation measures will be mandated for individual industries.

9.2 Water Environment

- During operation phase, individual industries will have their own STP/ETP as applicable to treat the sewage /effluent generated.
- Zero Liquid Discharge system will be proposed by individual industries.
- Treated sewage will be recycled for green belt development and treated effluent will be recycled for utilities within the industry.
- Individual industries will have their own reject management system so that there is no disposal of untreated effluent in the land or nearby water body.

9.3 Noise Environment

- All the noise generating equipments will be designed / operated to ensure that noise level does not exceed 75-70 dB (A) at plant boundary as per the requirement of Central / State Pollution Control Board.
- Noise generating sources will be maintained properly to minimize noise generated by them.
- Wherever feasible, acoustic enclosures will be provided for compressors, DG sets.
- Compliance with noise control norms will be given due importance at the time of purchase of various equipments and it will be mentioned while placing the purchase orders and guarantee for noise standards will be sought from suppliers.
- Green belt will act as a noise barrier.
- Training will be imparted to personnel to generate awareness about effects of noise and importance of using PPEs.

9.4 Land Environment

- Domestic organic Solid wastes generated during the operation phase will be composted by individual industries and used as manure. Inorganic solid Wastes will be sold to authorised recyclers.
- Individual industries will have their Air Pollution Control Measures to control the release of air pollutants to a greater extent. In addition, thick green belt will attenuate air pollutants released into the environment.
- During operation phase, individual industries will have their own STP/ETP as applicable to treat the sewage /effluent generated.
- Zero Liquid Discharge system will be proposed by individual industries
- Noise generating sources will be maintained properly to minimize noise generated by them.
- Green belt development will help in abatement of air and noise pollution and will improve the aesthetics of the Industrial Park.

9.5 Ecology

- Pulicat bird sanctuary is located at a distance of approximately 5.77 km (NE) from the project site. Online application for NBWL Clearance has been submitted and the report is enclosed as **Annexure-16**. Site inspection by RO done on 27th July 2020. Letter regarding site inspection and the site inspection photos are also enclosed in **Annexure-16**.
- Organic Solid wastes generated during the operation phase will be composted by individual industries and used as manure. Inorganic solid Wastes will be sold to authorised recyclers.
- Individual industries will have their Air Pollution Control Measures to control the release of air pollutants to a greater extent. In addition, thick green belt will attenuate air pollutants released into the environment.
- During operation phase, individual industries will have their own STP/ETP as applicable to treat the sewage /effluent generated.
- Zero Liquid Discharge system will be proposed by individual industries.

- It is expected that the ecology of the region is preserved by these mitigation measures.

9.6 Green belt development

The total land area is 691.587 Acres. Greenbelt area is 243.437 Acres (35.20%). Around 118269 number of tree will be planted as per CPCB guidelines for developing greenbelt.

9.7 Budgetary provisions for EMP

S. No	Component	Capital cost (lakh)	Recurring cost (lakhs) per Annum
1.	Storm water drains & Rain Water Harvesting	600.00	2.0
2.	Municipal Solid Waste Management	25.00	2.0
3.	Greenbelt Development	31.06	3.0
4.	Safety - Occupational Health Centre	30.00	5.0
5.	Environmental monitoring	0.00	15.0
6.	Solar Lighting	150.00	2.0
	Total	836.06	29

9.8 Proposed CER activities

As per the Office Memorandum dated 1st May, 2018 from MoEF&CC, SIPCOT will earmark Rs.3.75 Crores i.e 1.5% of the project cost towards Corporate Environment Responsibility (CER) activities. The details are given in **Section 10.7**.

10. Project Benefits

- There will be an opportunity for job at different cadres and work force.
- This project will have positive impact on the socio economic status of the surrounding human environment and increased inflow of revenue to the Tamil Nadu Government.
- Proposed Industrial Park will help in revenue generation for the State as well as to the Country.

1. INTRODUCTION

1.1 Project Background

M/s. State Industries Promotion Corporation of Tamil Nadu Limited (SIPCOT), is proposing an “Industrial Park at Manallur and Soorapoondi villages of Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu State”. The proposed area for Industrial Park is 279.99.5 Ha (691.587 Acres). As per the EIA Notification 2006 and its amendments the project is termed under Schedule 7 (c), Category A:

S.No	Plotted Area 193.01 (Ha)	Industry Proposed	Schedule as per EIA Notification 2006 and its amendments	Category with threshold limit	IP Category (Overall)
1	19.41 (Ha) (10%)	Synthetic Acrylic Polymer Resins, water proofing compounds and Synthetic Adhesives.	5 (f)	A	7 (C), Category A.
2	173.60 (Ha) (90%)	Non EC Categories like such as E vehicle and its components manufacturing, Automobile and automobile accessories manufacturing, Engineering and fabrication, plastics manufacturing etc., falling under Red,	Nil	Nil	

S.No	Plotted Area 193.01 (Ha)	Industry Proposed	Schedule as per EIA Notification 2006 and its amendments	Category with threshold limit	IP Category (Overall)
		Orange, Green and White category industries.			

***Note: The Total area of IP is 279.99.5 Ha and total Plotted area is 193.01Ha. (476.73 Acres, inclusive of 25% green belt area)**

As per the ToR obtained and EIA report submitted in 2019, the proposal was to accommodate 5(f) and 5(h) project activities under the purview of Environmental Clearance, both A and B category industries as per EIA Notification, 2006 and amendments thereof. It was also proposed to accommodate other industries that are not classified in the EIA Notification but classified by Tamil Nadu Pollution Control Board (TNPCB) as red, ultra red, orange or green category industries.

Based on the queries raised by EAC in 230th Meeting the proposal has been revised to accommodate only non pharma industries as per schedule 5(f) in an area of 19.41 Ha and the rest of 173.60 Ha is proposed to accommodate non EC category industries.

1.2 Project Proponent

State Industries Promotion Corporation of Tamil Nadu Limited (SIPCOT) is a wholly owned Undertaking of Government of Tamil Nadu which was incorporated as a Public Limited company in the year 1971 with the objective of playing a catalytic role in the promotion and development of medium and major industries and to hasten the industrial dispersal in backward and under developed areas of the state. The objective of SIPCOT is to establish, develop, maintain and manage industrial complexes, parks and growth centres at various places across the State of Tamil Nadu. Ever since SIPCOT was incorporated, it plays a key role in the development of industrialization of the State.

With the effective guidance of the Government and the proactive approach of SIPCOT many prominent industrial units viz. M/s. Amway, Apollo Tyres, Ashok Leyland, Bosch,

Britannia, Cognizant Technology, Daimler, DELL, Delta Electronics, Delphi TVS, Eicher Motors, Foxconn, Growth Link, Hyundai, India Yamaha, Kone Elevator, KPR Spinning Mills, Mahindra & Mahindra, Mando-Hella, Michelin Tyres, Nokia Siemens, Renault-Nissan, Saint Gobain, Samsung, Sanmina and Wheels India have established their facility in various Industrial Parks of SIPCOT.

SIPCOT has so far developed 21 Industrial Complexes/Parks/Growth Centres including 7 sector specific Special Economic Zones in a total extent of 32,004 acres spread over 12 Districts. Out of the allottable extent of 26376 acres, 21500 acres have been allotted to 2591 units and thereby attracted investment of about Rs.1,13,630 crores, which created employment opportunity for about 6.40 lakh persons.

1.3 Justification and Need for the Project

Government of Tamil Nadu (GoTN) has implemented several special drives for attracting private investments to promote industries and conducted successfully a Global Investors Meet (GIM) during 2015 and 2019. Many International and National Corporate and industrial houses have expressed their interest to start new industries in Tamil Nadu and many of them have already signed Memorandum of Understanding (MoU) with GoTN and SIPCOT. Based on this several initiatives and incentives have been announced subsequently by GoTN to sustain such initiatives to ensure further industrial growth in Tamil Nadu.

The strategy of **industries- in- cluster** is highly tenable and environmentally compatible with inherent feature of several common facilities for optimal use of resources like land, water, manpower, power, transports, etc., **State Industries Promotion Corporation of Tamil Nadu Limited (SIPCOT)**, is the nodal implementing agency of **Government of Tamil Nadu** (GoTN) for promoting industrial infrastructures in the state.

The proposal of this new standalone IP in Manallur by SIPCOT is essentially need based as several Industrial Houses are in line to establish new industries as the location has become compatible for industrial growth, due to close proximity to Chennai and has sea route access and a major Port.

1.4 Need for the Study

According to the Environmental Impact Assessment (EIA) Notification, 2006 and its amendments, issued by Ministry of Environment, Forests & Climate Change (MoEF&CC) under Environmental Protection Act, - Industrial parks falls under Schedule 7(c) A category. Terms of Reference for the project was issued on 22nd July 2015, vide F.No.21-59/2015 – IA.III. The EIA report prepared is in accordance to the ToR issued for the project. Further for conducting Public Hearing, ToR extension was applied and the same was issued on 13th November, 2018. Public Hearing was conducted on 2 July 2019 and the final EIA report was submitted to EAC on 21 July 2019. The project was appraised in 230th EAC meeting for Projects related to Infrastructure Development, Industrial estate/ parks/ complexes /areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways projects held on 28 - 29 January, 2020. Based on the query raised in the EAC meeting, the EIA report is revised and being submitted.

1.5 EIA Study

The EIA study was undertaken by Centre for Environment, Health and Safety Annamalai University and the project was taken in 230th EAC meeting for Projects related to Infrastructure Development, Industrial estate/parks/complexes/areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways projects held on 28 - 29 January, 2020.

EAC raised queries vide uploaded Minutes of 230th meeting and the replies are enclosed in **Annexure -1**.

As per the uploaded MoM of 230th meeting, Centre for Environment, Health and Safety Annamalai University, was not having valid NABET accreditation for Schedule 7 (c) Hence the work of preparing revised EIA/EMP report, addressing the queries raised in the meeting was allotted to M/s.Hubert Enviro Care Systems Pvt. Ltd., (HECS) Chennai. Accordingly, HECS having NABET Accreditation, has prepared the revised EIA/ EMP report, with one month validation of baseline data during February 2020. The Accreditation Certificate of HECS with the extension letter from NABET is enclosed as **Annexure 2** and **3** respectively.

Also, the Change of consultant request has been submitted to MoEF&CC and the acknowledgment is enclosed as **Annexure -4**.

1.6 Structure of the EIA Report

This EIA report is structured into eleven chapters as below.

Chapter 1 – Introduction presents details of project background, justification and need for the project, screening and scoping studies, compliance to ToR.

Chapter 2 – (Project Description) presents details of the proposed project, land requirement and details of various supporting facilities required for the project.

Chapter 3 - (Description of Environment) presents a comprehensive description of the baseline environmental conditions of the study area. This includes the data obtained from primary surveys carried by Centre for Environment, Health and Safety Annamalai University and M/s.VIMTA Labs from February to June 2018, and also secondary published data from various authentic sources. One month validation of baseline data was done by M/s. Hubert Enviro Care Systems Pvt. Ltd., Chennai during February 2020. The validated results are incorporated in appropriate sections.

Chapter 4 – (Anticipated Environmental Impacts and Mitigation Measures) presents the environmental aspects associated with the proposed project, envisaged emissions and discharges from the facility, an overview of various pollution control systems proposed under project planning activities in the detailed project report and construction and operational phase environmental impacts.

Chapter 5 – (Analysis of Alternative Sites & Technology) presents alternative sites if any considered for the project and alternative Technologies considered for this project.

Chapter 6 – (Environmental Monitoring Programme) depicts the summary of proposed environmental management plan.

Chapter 7 – (Additional Studies) presents the details of Public Hearing and the issues raised during Public Hearing with the reply to the same, findings of the risk assessment study and disaster management plan.

Chapter 8– (Project Benefits) presents the benefits of the project.

Chapter 9- Environmental Cost Benefit Analysis

Chapter 10- (Environmental Management Plan) present the EMP of the project.

Chapter 11 – (Summary and Conclusion) of EIA report.

Chapter 12 – Disclosure of Consultant Engaged presents the declaration by the EIA consultant organisation as per the NABET requirements.

1.7 Compliance to the ToR Issued by MoEF&CC

S.No	ToR Point	Details
1	Reasons for selecting the site with details of alternate sites examined/rejected/ selected on merit with comparative statement and reason/basis for selection. The examination should justify site suitability in terms of environmental damage, resources sustainability associated with selected site as compared to rejected sites. The analysis should include parameters considered along with weightage criteria for short-listing selected site.	<p>Four sites were selected for this project.</p> <p>1. Arur (Kannambakkam) 2. Sanaputhur, Iguvarpalaiyam & Lakshminarasimapuram 3. Nemalur, Pannur & Vaniyamalli 4. Manallur and Surapundi (Soorapoondi as per revenue records)</p> <p>Based on the availability of land, eco sensitive areas, access to site, the land available at Manallur and Soorapoondi villages was selected for development of Industrial Park. The Topo map showing the alternate sites and alternate site matrix in details is given in Chapter 5.</p>
2	Submit details of the land use break-up for the	Land use break up for the

S.No	ToR Point	Details
	proposed project. Details of land use around 10 km radius of the project site. Analysis should be made based on latest satellite imagery for land use with raw images.	project is given in Table 2-2 . Details regarding land use and Land cover of study area is given in Section 3.3.4.1
3	Submit details of environmentally sensitive places, land acquisition status, rehabilitation of communities/ villages and present status of such activities	Environmental sensitive places are given in Table 2-1 . Government of Tamil Nadu has alienated to SIPCOT vide GO (Ms)No. 285 dated 3/8/2018 and the entire extent i.e 279.995 Ha has been taken over possession by SIPCOT vide LDR attached as Annexure-8 .
4	Examine the impact of proposed project on the nearest settlements.	Nearest settlement is Manallur which is adjacent to the site. The details are discussed in chapter 4 . Air Quality modeling was done for worst case scenario and it was found that from uncontrolled emissions also the incremental GLCs are well within the limits of NAQ Standards for PM, SO ₂ and NO _x . Details are given in Section 4.3.2
5	Examine baseline environmental quality along with projected incremental load due to the project taking into account of the existing developments	Baseline environmental quality was examined at 10 locations within the study area. Existing baseline data

S.No	ToR Point	Details
	nearby.	includes the Ambient Air Quality due to existing development also. Details are given in Table 3-4 . Incremental pollution load due to proposed project is given in Table 4-6 .
6	Environmental data to be considered in relation to the project development would be (a) land, (b) groundwater, (c) surface water, (d) air, (e) bio-diversity, (f) noise and vibrations, (g) socio economic and health.	Details are given in as following Land (Table 3-19 & Table 3-20), ground water (Table 3-15 & Table 3-16), surface water (Table 3-13 & Table 3-14), Ambient air Quality (Table 3-4), biodiversity (Section 3.10), noise and vibrations (section 3-6), socio economic and health (section 3.11)
7	Submit a copy of the contour plan with slopes, drainage pattern of the site and surrounding area.	Contour map of the site and surrounding area are given in Figure 3-8 . Drainage pattern of the project site and surrounding area is given Figure 3-13 .
8	Details regarding project boundary passing through any eco- sensitive area and within 10 km from eco- sensitive area	The project site is located at ≈ 5.77 Km, NE from Pulicat lake Bird sanctuary ESZ. Topo map showing the distance of Pulicat Lake ESZ from project site is given in Figure 2-6 .
9	Green buffer in the form of green belt to a width	15 m green belt is proposed

S.No	ToR Point	Details
	of 15 meters should be provided all along the periphery of the industrial area. The individual units should keep 33% of the allotted area as a green area.	along the periphery of the project site (39.157Acres).Green belt is proposed along the industrial plots also (119.18 Acres). Total green belt area proposed is 243.437 Acres which is 35.20% of plot area.
10	Submit details of the trees to be felled for the project.	List of trees available at site as per GO is given in Section 6.7.1 To the maximum tree cutting will be avoided at site. If it is not possible, the trees will be uprooted and planted in the area allotted for green belt development. For the trees in the industrial plots, if the industries, has to remove the tree, they will compensate at the rate of 3 trees for each tree cut. The details regarding the number of trees to be cut and compensation will be provided in the application for EC/CTE by individual industries.
11	Submit details of the infrastructure to be developed.	Infrastructure facilities like roads, storm water drain, street lights, water supply system, power supply through TANGEDCO, Administration building, and solid waste

S.No	ToR Point	Details
		management system is proposed. Apart from this fire station, occupational health centre is also proposed in common amenities. Canteen/ food court will be provided in commercial area.
12	Submit the present land use and permission required for any conversion such as forest, agriculture etc.	Government of Tamil Nadu has allotted the entire land to SIPCOT for industrial purpose vide GO (Ms)No. 285 dated 3/8/2018. Further SIPCOT will also obtain specific land use certification from Directorate of Town and Country Planning (DTCP) before applying CTO, for the Industrial Park from TNPCB.
13	Submit details regarding R&R involved in the project.	There is no R&R for the project. The entire extent of land (279.995 ha) is Government poramboke land and is already handed over to SIPCOT by Government of Tamil Nadu for development of Industrial Park.
14	Zoning of the area in terms of 'type of industries' coming-up in the industrial area based on the resource requirement along with likely pollutants with	Zonation map is enclosed as Annexure- 12.

S.No	ToR Point	Details
	quantity from the various industries.	
15	The project boundary area and study area for which the baseline data is generated should be indicated through a suitable map. Justification of the parameters, frequency and locations shall be discussed in the EIA.	Details are given from sections 3.5 to 3.9 along with monitoring locations map and parameters for each.
16	Submit Legal frame work for implementation of the Environmental Clearance conditions - to be clearly spelt out in the EIA report.	Legal frame work/EMP responsibilities are discussed in section 10.3 of EIA report.
17	Submit roles and responsibility of the developer for compliance of environmental regulations under the provisions of EP Act.	Legal frame work/EMP responsibilities are discussed in section 10.3 of EIA report.
18	Site justification of the identified industry sectors from environmental angle and details of the studies conducted if any.	Ground water table near the project site is low. Study was conducted during February 2020 and it was found that ground water levels at site varied from 2.5 to 4.8 m bgl. Details are given in Section 3-8 . Hence it was decided to propose 10% of plotted area (19.41 Ha) for non pharma industries in 5(f) -ie Synthetic Acrylic polymers and resins, water proofing compounds, synthetic adhesives etc. and rest of the 90% of plotted area (175.37Ha), will be allotted to non EC category industries

S.No	ToR Point	Details
		<p>such as E vehicle and its components manufacturing, Automobile and accessories manufacturing, Engineering and fabrication, plastics manufacturing etc., falling under Red, Orange, Green and White category industries.</p> <p>Details of ground water levels near the site are given in Section 3-8.</p>
19	Ground water classification as per the Central Ground Water Authority	As per CGWB's District ground water brochure for 2007, Gummidipoondi taluk is in safe category.
20	Submit the source of water, requirement vis-a-vis waste water to be generated along with treatment facilities, use of treated waste water along with water balance chart taking into account all forms of water use and management.	<p>Total water requirement for the project is 8627 KLD. Raw water requirement is 5239 KLD. Fresh water requirement of 900 KLD and TTRO (Tertiary Treated Reverse Osmosis) water requirement of 4339 KLD is proposed to be sourced from Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB).</p> <p>The letter issued by CMWSSB for the supply of 5 MLD of TTRO water and 1.3 MLD of fresh water for Manallur Industrial Park is enclosed as</p>

S.No	ToR Point	Details
		<p>Annexure-10 and Annexure-11 respectively</p> <p>Individual industries will have their own STP/ ETP as applicable and will ensure Zero Liquid Discharge concept. 208 KLD of water for utilities, 2970 KLD water for process, 135 KLD of water for green belt and 75 KLD for flushing will be met from recycling of treated effluent and sewage. Water balance diagram is enclosed in Figure 2-9.</p>
21	Rain water harvesting proposals should be made with due safeguards for ground water quality, Maximize recycling of water and utilization of rain water	<p>Individual industries will have their own rain water harvesting mechanism.</p> <p>Rainwater harvesting calculations with number of pits proposed for common areas and road are given in section 10.5.4.</p>
22	Examine soil characteristics and depth of ground water table for rainwater harvesting	<p>Soil quality was assessed in 10 different locations within the study area and the details are given in Section 3.9 of EIA report.</p> <p>Depth of water table was found to vary between 2.5m to 4.5 m below ground level. Details are given in Section 3-8.</p>

S.No	ToR Point	Details
23	Examine details of solid waste generation treatment and its disposal.	Details are given in Section 2.4.3.
24	Examine and submit details of use of solar energy and alternative source of energy to reduce the fossil energy consumption	Solar lighting will be proposed for 70% of street lights within the Industrial Park.
25	In case DG sets are likely to be used during construction and operational phase of the project, emissions from DG sets must be taken into consideration while estimating the impacts on air environment.	Details of utilities and DGs proposed for the project is given in Table 4-1. AEROMOD software is used to estimate the GLCs from proposed project is given in Section 4.3.2.
26	A detailed traffic and transportation study should be made for existing and projected passenger and cargo traffic.	Details given in Section 4.3.3
27	Examine details of transport of materials for construction which should include source and availability.	The construction materials will be sourced from nearby places for the proposed project.
28	Examine details of National Highways/State Highways/ expressways falling along the corridor and the impact of the development on them.	NH5~8.04Km (towards E) from project site. Impact due to existing and proposed traffic is detailed in section 4.3.3.
29	Examine noise levels - present and future with noise abatement measures.	Noise levels were monitored at 10 locations within the study area and the same is given in Table 3-9. Noise management measures are given in Section 10.5.2.
30	Identify, predict and assess the environmental and sociological impacts on	CER with cost estimate is given in Section 10-7.

S.No	ToR Point	Details
	account of the project. A detailed description with costs estimates of CSR should be incorporated in the EIA / EMP report.	
31	Examine separately the details for construction and operation phases both for Environmental Management Plan and Environmental Monitoring Plan with cost and parameters.	Environmental monitoring plan for construction operation phases are given in Section 6.5. Environmental management plan with cost estimate is given in section 10.8.
32	Submit details of a comprehensive Disaster Management Plan including emergency evacuation during natural and man-made disaster.	Disaster Management Plan is included in Annexure-16 of the EIA report.
33	Any further clarification on carrying out the above studies including anticipated impacts due to the project and mitigative measure, PP can refer to the model ToR available on Ministry website " http://moef.nic.in/ Manual/Industrial Estate "	Noted and will do the needful as required.
1	The EIA document shall be printed on both sides, as far as possible	Noted and will do the needful as required.
2	All documents should be properly indexed, page numbered	Noted and will do the needful as required.
3	Period/ date of data collection should be clearly indicated.	Given
4	Authenticated English translation of all material provided in Regional languages.	Noted and will do the needful as required.
5	The letter/application for EC should quote the MoEF&CC File No. and also attach a copy of the letter prescribing the TOR	Noted and will do the needful as required.

S.No	ToR Point	Details
6	The copy of the letter received from the Ministry on the TOR prescribed for the project should be attached as an annexure to the final EIA-EMP Report.	Noted and will do the needful as required.
7	The final EIA-EMP report submitted to the Ministry must incorporate the issues in TOR and that raised in Public Hearing. The index of the final EIAEMP report, must indicate the specific chapter and page no. of the EIA /EMP Report where the specific TOR prescribed by Ministry and the issue raised in the P.H. have been incorporated. Questionnaire related to the project (posted on MQEF&CC website) with all sections duly filled in shall also be submitted at the time of applying for EC	Noted and will do the needful as required.
8	Grant of TOR does not mean grant of EC	Noted and will do the needful as required.
9	Grant of TOR/EC to the present project does not mean grant of approvals in other regulations such as the Forest (Conservation) Act 1980 or the Wildlife (Protection) Act, 1972.	Noted and will do the needful as required.
10	Grant of EC is also subject to Circulars issued under the EIA Notification 2006, which are available on the MoEF&CC website: www.envfor.nic.in .	Noted and will do the needful as required.
11	The status of accreditation of the EIA consultant with NABET/QCI shall be specifically mentioned. The consultant shall certify that his accreditation is	Accreditation certificate for the sector 7(c) is enclosed as Annexure -2

S.No	ToR Point	Details
	for the sector for which this EIA is prepared	
12	On the front page of EIA/EMP reports, the name of the consultant/ consultancy firm along with their complete details including their accreditation, if any shall be indicated. The consultant while submitting the EIA/EMP report shall give an undertaking to the effect that the prescribed TORs (TOR proposed by the project proponent and additional TOR given by the MoEF) have been complied with and the data submitted is factually correct (Refer MoEF office memorandum dated 4 th August, 2009).	Noted and will do the needful as required.
13	While submitting the EIA/EMP reports, the name of the experts associated with/involved in the preparation of these reports and the laboratories through which the samples have been got analysed should be stated in the report. It shall clearly be indicated whether these laboratories are, approved under the Environment (Protection) Act, 1986 and the rules made there under (Please refer MoEF office memorandum dated 4 th August, 2009). The project leader of the EIA study shall also be mentioned.	Noted and will do the needful as required.
14	All the TOR points as presented before the Expert Appraisal Committee (EAC) shall be covered.	Noted and will do the needful as required.
15	A detailed draft EIA/EMP report should be prepared in terms of the above	Noted

S.No	ToR Point	Details
	<p>additional ToRs and should be submitted to the State Pollution Control Board for conduct of Public Hearing. Public Hearing to be conducted for the project in accordance with the provisions of Environmental Impact Assessment Notification, 2006 and the issues raised by the public should be addressed in the Environmental Management Plan. The Public Hearing should be conducted based on the ToR letter issued by the Ministry and not on the basis of Minutes of the Meeting available on the web-site.</p>	
16	<p>You are required to submit the detailed final EIA/EMP prepared as per ToRs including issues raised during Public Hearing to the Ministry for considering the proposal for environmental clearance within 3 years as per the MoEF&CC O.M. No.J-11013/41/2006-IA-II(I)(P)dated : 08.10.2014.</p>	<p>Noted and will do the needful as required.</p>
17	<p>The consultants involved in the preparation of EIA/EMP report after accreditation with Quality Council of India/National Accreditation Board of Education and Training (QCI/NABET) would need to include a certificate in this regard in the EIA/EMP reports prepared by them and data provided by other Organization(s)/Laboratories including their status of approvals etc. vide notification of the MoEF dated 19.07.2013.</p>	<p>Noted and will do the needful as required.</p>

S.No	ToR Point	Details
18	The prescribed ToRs would be valid for a period of three years for submission of the EIA / EMP Reports.	Noted and will do the needful as required.

2. PROJECT DESCRIPTION

2.1 Type of the Project

SIPCOT propose to establish an “Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu”. The total land area for the project is 279.99.5 Ha. (691.587Acres). It is proposed to develop Industrial park as below:

SI.No.	Plotted Area 193.01 (Ha)*	Industry Proposed	Schedule as per EIA notification 2006 and its amendments	Category with threshold limit	IP Category (Overall)
1	19.41 (Ha) (10%)	Synthetic Acrylic polymer Resins, water proofing compounds and Synthetic Adhesives.	5 (f)	A	7 (C), Category A.
2	173.60 (Ha) (90%)	Non EC Categories such as E vehicle and its components manufacturing, Automobile and accessories manufacturing, Engineering and fabrication, plastics manufacturing etc., falling under Red, Orange, Green and White category industries.	Nil	Nil	

***Note: The Total area for IP is 279.99.5 Ha and Total Plotted area is 193.01Ha.(476.73 Acres inclusive of 25% green belt area).**

As per the ToR obtained and EIA report submitted in 2019, the proposal was to accommodate 5f and 5h project activities under the purview of Environmental Clearance, both A and B category industries as per EIA Notification, 2006 and amendments thereof. It was also proposed to accommodate other industries that are not classified in the EIA Notification but classified by Tamil Nadu Pollution Control Board (TNPCB) as red, ultra red, orange or green category industries

Based on the queries raised by EAC in 230th Meeting the proposal has been revised to accommodate only non pharma industries as per schedule 5(f) in an area of 19.41 Ha and the rest of 173.60 Ha is proposed to accommodate non EC category industries.

2.2 Project Site Location

SIPCOT propose to develop an Industrial Park at Manallur and Soorapoondi Villages over an extent of 279.99.5 Ha.

The site is located at survey Nos. - 203/1, 204/2, 207/2, 208, 209/1, 209/3, 210/1, 210/3, 211, 212/1, 212/3, 213, 214, 215, 216/1, 216/3, 217/1, 217/3, 218/1, 218/3, 219/1, 220/1, 223/4, 224, 225/1, 226/1, 227/1, 227/3, 228, 229, 230, 231, 232, 233/1, 234/1, 234/3, 235/3, 236, 237/1, 237/3, 238, 239, 240, 241, 242, 243, 244, 245, 248, 249, 250, 252, 253, 270/1, 270/8, 274/1, 274/29 of Manallur village and 1, 2, 3, 4, 5, 6/2, 9/1, 9/3, 9/5, 9/6, 9/11, 10/4, 10/9, 12/2, 12/3, 12/4, 12/5, 12/6, 12/7, 12/8, 12/9, 12/10, 12/11, 12/12, 12/13, 12/14, 12/15, 12/16, 12/17, 13/1, 13/2, 13/3, 13/4, 13/5, 13/6, 13/7, 13/8, 13/9, 15, 16/1, 37/1, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49 of Soorapoondi villages in Gummidipoondi Taluk, Thiruvallur District.

While obtaining ToR for the Industrial Park, the land area was considered as 303.75 Ha (300.765 Ha of poramboke land and 2.985 Ha of patta land) based on the administrative sanction issued by Government of Tamil Nadu for development of Industrial Park at Manallur vide G.O (Ms) No.119 dated 07.06.2013. The same is enclosed as **Annexure-5**.

While applying for EC, the poramboke land extent was reduced to 283.08 ha vide Government of Tamil Nadu land alienation GO (Ms) No. 285 dated 03/08/2018, enclosed as **Annexure -6**. Accordingly, in EC application the land extent was considered at 286.065 Ha (283.08 Ha of poramboke land vide per GO (Ms) No. 285 dated 03/08/2018 and 2.985 Ha of patta land vide GO.(Ms) no. 119 dated 07.06.2013).



Figure 2-2 Satellite image (1 Km) of the project site



Figure 2-3 Satellite image of the project site covering 10 Km radius



Figure 2-4 Project Site Photographs



Figure 2-5 Approach road to the site towards Madharapakkam

Table 2-1 Salient Features of project site and surroundings

S. No	Particulars	Details
1.	Site Co-ordinates of the project site (Center Co-Ordinates)	Latitude: 13°26'54.55"N Longitude: 80°01'34.32"E
2.	Site Elevation	28mAMSL
3.	Present land use	Barren, Scrub land as per Bhuvan NRSC Landuse/Land cover-2012.
4.	Nearest Highway	Chennai –Kolkata Highway (NH-5) at a distance of ~8.04 km towards E.

S. No	Particulars	Details
5.	Interstate Boundary	TN-AP interstate boundary at distance of \approx 3.13km NNW (Distance marked in Figure 2-6)
6.	Nearest railway Station	Elavur Railway station, ~ 8.92 km, NE Chennai Central Railway station, ~47.32 km, SE
7.	Nearest Airport	Chennai International Airport, ~ 50.78km, SE
8.	Defense Installation	SDSC –SHAR at a distance of \approx 33 Km towards NNE
9.	Nearest village	Manallur, adjacent to site W Nearest Village Habitat: Manallur- 0.56 Km W

S. No	Particulars	Details			
10.	Waterbodies	S.No.	Water Bodies	~ Distance (Km)	Direction
		1	lake near Madharpakkam	0.3	W
		2	lake near Surapundi	0.5	E
		3	Pallavada lake	0.75	NW
		4	lake near Sanapattur	0.9	NE
		5	lake near Roshanagaram	1.9	W
		6	lake near Vaniya	2.3	SE
		7	lake near Chittoornatham	2.4	SE
		8	lake near Edur	2.9	NE
		9	lake near Pondavakkam	3.4	NW
		10	lake near Irukulam	4.6	NW
		11	lake near Kannampakkam	4.7	N
		12	lake near Periya Puliyur	5.9	S
		13	lake near Appayapalem	7.1	NW
		14	lake near Tokkamur	7.5	NNE
		15	lake near Balakrishnapuram	7.6	SW
		16	lake near Chatram	7.7	NW
		17	lake near Kollanur	8.09	S
		18	lake near Mandanapalem	8.9	NW
		19	lake near Rajulakandridge	8.9	SW
		20	Pulicat lake	8.98	NE
		21	Arani River	11.04	SSE
22	Ralla Eru	14.05	NW		

S. No	Particulars	Details			
11.	Reserved/Protected Forest	S.No.	Reserve Forests	~ Distance (Km)	Direction
		1	Nemalur RF	1.13	WSW
		2	Irukulam RF	3.05	NNW
		3	Siruvedu RF	4.02	SSW
		4	Panchali RF	4.03	SSW
		5	Rajugunta RF	5.58	WNW
		6	Vanalur RF	6.67	WNW
		7	Palavakkam RF	7.36	S
		8	Satyavedu RF	7.56	WNW
		9	Manali RF	7.98	SSE
		10	Arudur RF	9.05	NNW
		11	Ambakkam RF	11.03	WSW
		12	Senjiyagaram RF	13.87	SW
12.	Eco sensitive zone/ Wildlife sanctuary	Pulicat Bird Sanctuary ≈5.77km NE (Distance marked in Figure 2-6).			

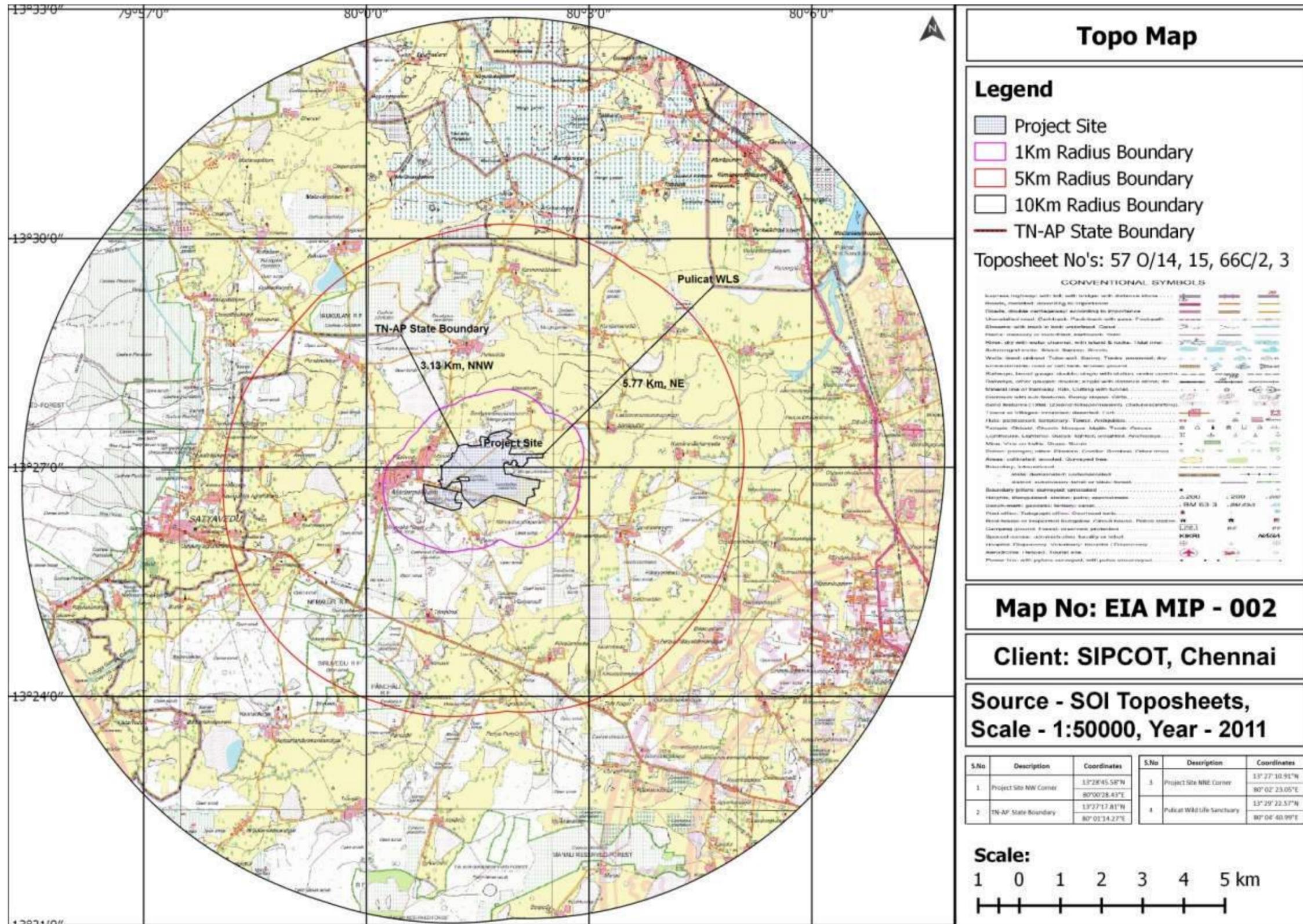


Figure 2-6 Topo Map of the study area showing the distance of Pulicat Lake and TN-AP State Boundary from project site

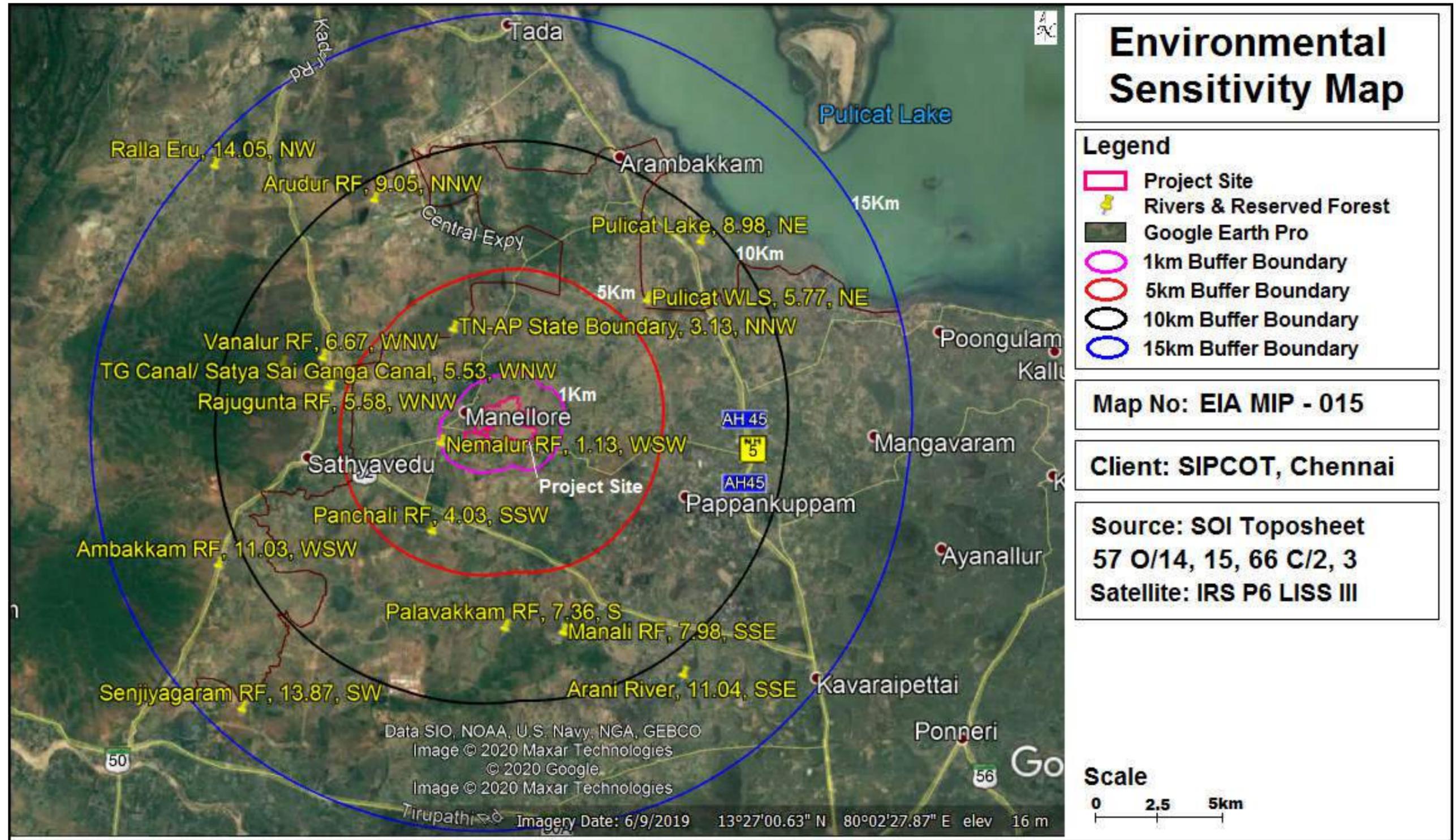


Figure 2-7 Google map showing Environmental Sensitive areas within 15 Km radius from the project site

2.3 Size or Magnitude of Operation

Total land area for the project is 279.99.5Ha (691.587 Acres). Area break up for the project is given in **Table 2-2**. Total number of plots are 131. The Layout master plan is given in **Figure 2-8** and **Annexure-9**.

Table 2-2 Area break up for the project

S. No	Area Description	Area (Acres)	Area (Ha)	Area (%)
1	Plotted area (including 25% green belt in plotted area)	476.73	193.01	68.93
2	Common amenities	13.84	5.603	2.0
3	Commercial activities	13.84	5.603	2.0
4	Solid Waste Management	24.06	9.741	3.48
5	Roads, Storm water drain	38.86	15.733	5.63
6	OSR (To be developed as green belt)	69.16	28.00	10
7	Green belt area (road side, periphery)	55.097	22.305	7.96
	Total plot area	691.587	279.995	100

TENTATIVE LAYOUT FOR PROPOSED SIPCOT INDUSTRIAL PARK IN MANALLUR and SOORAPOONDI VILLAGES, GUMMIDIPOONDI Tk., TIRUVALLUR Dt..

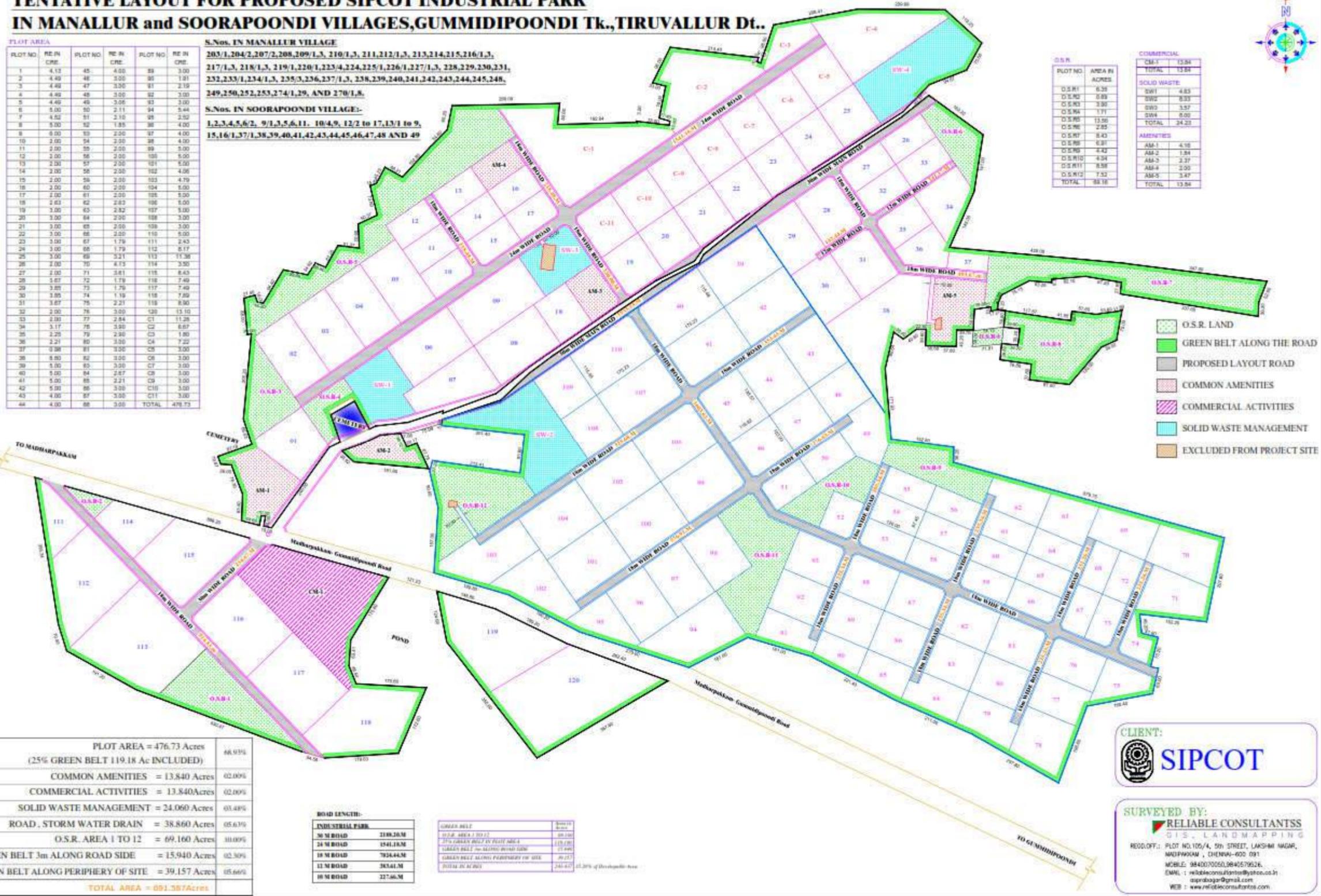
PLOT AREA					
PLOT NO	RE IN CRE	PLOT NO	RE IN CRE	PLOT NO	RE IN CRE
1	4.13	45	4.00	89	3.00
2	4.49	46	3.00	90	5.44
3	4.40	47	3.00	91	2.19
4	4.49	48	3.00	92	3.00
5	4.49	49	3.00	93	3.00
6	5.00	50	2.11	94	5.44
7	4.52	51	2.10	95	2.50
8	3.00	52	1.85	96	4.00
9	5.00	53	2.00	97	4.00
10	3.00	54	3.00	98	4.00
11	2.00	55	2.00	99	3.00
12	3.00	56	3.00	100	5.00
13	2.30	57	2.00	101	2.50
14	3.00	58	2.00	102	4.00
15	3.00	59	3.00	103	4.79
16	2.00	60	2.00	104	5.00
17	2.00	61	2.00	105	5.00
18	2.63	62	2.63	106	1.00
19	3.00	63	2.62	107	3.00
20	3.00	64	2.90	108	3.00
21	3.00	65	2.00	109	3.00
22	3.00	66	3.00	110	5.00
23	3.00	67	1.79	111	2.43
24	3.00	68	1.79	112	5.17
25	3.00	69	3.21	113	11.36
26	3.00	70	4.13	114	3.50
27	2.00	71	3.81	115	6.43
28	3.87	72	1.79	116	7.40
29	3.85	73	1.79	117	7.40
30	3.85	74	1.19	118	7.89
31	3.87	75	2.21	119	8.90
32	3.00	76	3.00	120	15.10
33	4.30	77	2.84	121	11.28
34	3.17	78	3.00	122	6.87
35	2.25	79	2.90	123	1.80
36	2.21	80	3.00	124	7.22
37	3.98	81	3.00	125	3.00
38	8.80	82	3.00	126	3.00
39	5.00	83	3.00	127	3.00
40	5.00	84	2.67	128	3.00
41	5.00	85	2.21	129	3.00
42	5.00	86	3.00	130	3.00
43	4.00	87	3.00	131	3.00
44	4.00	88	3.00	TOTAL	476.73

S.Nos. IN MANALLUR VILLAGE
203/1,204/2,207/2,208,209/1,3, 210/1,3, 211,212/1,3, 213,214,215,216/1,3, 217/1,3, 218/1,3, 219/1,220/1,223,4,224,225/1,226/1,227/1,3, 228,229,230,231, 232,233/1,234/1,3, 235/3,236,237/1,3, 238,239,240,241,242,243,244,245,248, 249,250,252,253,274/1,29, AND 270/1,8.

S.Nos. IN SOORAPOONDI VILLAGE:-
1,2,3,4,5,6/2, 9/1,3,5,6,11, 10/4,9, 12/2 to 17,13/1 to 9, 15,16/1,37/1,38,39,40,41,42,43,44,45,46,47,48 AND 49

O.S.R		COMMERCIAL	
PLOT NO	AREA IN ACRES	CM-1	CM-2
O.S.R.1	6.26	13.00	
O.S.R.2	0.89		
O.S.R.3	3.30		
O.S.R.4	1.71		
O.S.R.5	13.90		
O.S.R.6	2.95		
O.S.R.7	8.43		
O.S.R.8	6.31		
O.S.R.9	4.42		
O.S.R.10	4.34		
O.S.R.11	8.58		
O.S.R.12	7.52		
TOTAL	84.76		

SOLID WASTE		AMENITIES	
SW-1	SW-2	AM-1	AM-2
4.83	8.33	4.18	1.84
3.57	8.00	2.37	2.00
34.23		3.47	
TOTAL	24.06	TOTAL	13.84



PLOT AREA = 476.73 Acres	48.93%
(25% GREEN BELT 119.18 Ac INCLUDED)	
COMMON AMENITIES = 13.840 Acres	02.89%
COMMERCIAL ACTIVITIES = 13.840 Acres	02.89%
SOLID WASTE MANAGEMENT = 24.060 Acres	03.48%
ROAD, STORM WATER DRAIN = 38.860 Acres	05.63%
O.S.R. AREA 1 TO 12 = 69.160 Acres	10.00%
GREEN BELT 3m ALONG ROAD SIDE = 15.940 Acres	02.30%
GREEN BELT ALONG PERIPHERY OF SITE = 39.157 Acres	05.66%
TOTAL AREA = 691.587 Acres	

ROAD LENGTH:	
INDUSTRIAL PARK	
30 M ROAD	2189.26M
24 M ROAD	1541.87M
18 M ROAD	7934.43M
12 M ROAD	3834.13M
6 M ROAD	227.66M

CLIENT:
SIPCOT

SURVEYED BY:
RELIABLE CONSULTANTSS
GIS, LAND MAPPING

REGD. OFF: PLOT NO.105/4, 5th STREET, LAKSHMI NAGAR, MADIPPAKKAM, CHENNAI-600 091
MOBILE: 9840070050, 9840579526
EMAIL: reliableconsultantss@yahoo.co.in, asprabakar@gmail.com
WEB: www.reliableconsultantss.com

Figure 2-8 Manallur Industrial Park Layout Master Plan

2.3.1 Plotted Area Allotment

Around 10 % of the plotted area (47.95Acres) is proposed to be allotted for Non Pharma 5(f) industries, like Synthetic Acrylic polymers and resins, water proofing compounds synthetic adhesives etc. Rest of the area 90%(428.78Acres) is proposed for Non EC category industries such as E vehicle and its components manufacturing, Automobile and automobile accessories manufacturing, Engineering and fabrication, Plastics manufacturing etc., falling under Red, Orange, Green and White category industries.

The area proposed for industries is given in **Table 2-3** and type of industries proposed is given in **Table 2-4**. The types of industries proposed are based on the enquiry and feasibility. No electro plating industry will be proposed in the Industrial Park.

Table 2-3 Type of industries proposed

S. No	Industry type	Total area in Acres	Total Area in Ha	Plot nos. as per layout
1	5 (f) –Non pharma - Synthetic Acrylic polymers and resins, water proofing compounds and synthetic adhesives etc.,	47.95	19.41	C-1 to C-11
2	Non EC Category - E vehicle and its components manufacturing	227.51	92.11	39-110
3	Non EC category- Automobiles and accessories industries, Engineering and fabrication, Plastics industries etc.	201.27	81.49	1-38, 111- 120
	Total	476.73	193.01	

Type of EC and non EC category industries proposed for the Industrial Park with the pollution potential and CPCB category is given in **Table 2-4**.

Table 2-4 Type of industries proposed

No.	Industry sector	Type of Industry	Pollution potential	Schedule as per EIA Notification and amendments	Category with threshold limit	Category as per CPCB	Area details
1	EC Category Chemical – Non Pharma	Synthetic acrylic polymers and resins	W12, Group A1G, HW1, HW4	5(f)	A	Red	10 % of plotted area – 47.95 Acres (19.41 Ha)
2		Synthetic resins and water proofing compounds	W12, Group A1G, HW1, HW4	5(f)	A	Red	
3	Non EC category- E Vehicle and its components manufacturing industries	Electronic and electrical parts manufacturing industries	W11, A1F Group, HW1, HW4	Nil	Nil	Red	47.72% of plotted area - 227.51 Acres (92.11 Ha)
4		Electronic and electrical parts assembling industries	Complete dry process	Nil	Nil	White	
5	Non EC category- Chemical	Tyre, tube and rubber components	W12, Group A2F1, HW1, HW4	Nil	Nil	Red	42.28 % of plotted area -201.27 Acres (81.49 Ha)
6		Synthetic detergents and soaps (excluding formulation) having waste water generation < 100KLD	W12, Group A1G	Nil	Nil	Orange	
7		Paints and varnishes (mixing & blending)	Group A1G, W12, HW1, HW4	Nil	Nil	Orange	
8		Printing ink manufacturing	W12, Group A1G, HW1, HW4	Nil	Nil	Orange	
9		Spray painting, paint baking, paint shipping	Group A1G, HW1, HW4	Nil	Nil	Orange	
10	Non EC category-	Automobile	A1C; W11;	Nil	Nil	Red	

No.	Industry sector	Type of Industry	Pollution potential	Schedule as per EIA Notification and amendments	Category with threshold limit	Category as per CPCB	Area details
	Automobile & accessories Manufacturing	manufacturing	HW3 & HW4				
11		Automobile parts manufacturing	A1C; W11; HW3 & HW4	Nil	Nil	Red	
12	Non EC category- Engineering & Fabrication	Foundry units <5 MT/Hr	A2F1, W15	Nil	Nil	Orange	
13		Steel and steel products using furnaces	A2F1, W15	Nil	Nil	Orange	
14		Fabrication Industries – dry process	Nil	Nil	Nil	White	
15	Non EC category- Glass and Ceramics	Fibre glass production and processing	A2F1, HW1, HW4	Nil	Nil	Red	
16		Manufacturing of glass (except Lead glass)	Group A2F1, HW1, HW4	Nil	Nil	Orange	
17		Glass ceramics, earthen potter and tile manufacturing	Group A2F2, W12	Nil	Nil	Orange	
18	Non EC category- Plastics Manufacturing	Reprocessing of waste plastics	Group A2F2, W12	Nil	Nil	Orange	
19		Polythene and plastic processed products manufacturing (virgin products)	Group A1F, W17,	Nil	Nil	Green	

Source: As per CPCB classification of industries dated February 29, 2016

Water Pollution

- a) W11 - Waste-water which is polluted and the pollutants are -
 - not easily biodegradable (very high strength waste waters having BOD > 5000 mg/l); or
 - toxic; or
 - both toxic and not easily biodegradable. (Presence of criteria water pollutants having prescribed standard limits up-to 10 mg/l or having BOD > 5000 mg/l).
- b) W12 - Non-toxic high strength polluted waste-water having BOD in the range of 1000-5000 mg/l and the pollutants are biodegradable. (Presence of criteria water pollutants having prescribed standard limits from 11 mg/l to 250 mg/l and having BOD strength in the range of 1000-5000 mg/l).
- c) W15 – Waste-water generated from the physical unit operations / processes and which is polluted due to presence of TDS (total dissolved solids) of inorganic nature and of natural origin like fresh-water RO rejects, boiler blow-downs, brine solution rejects etc. (Presence of criteria water pollutants having prescribed standard limits more than 250 mg/l).
- d) W17- Waste-water from cooling towers and cooling-re-circulation processes

Air Pollution

- a) A1C – Presence of criteria air pollutants having prescribed standard from 11 to 50 mg/Nm³
- b) A1F – Generation of fugitive emissions of Particulate Matters which are:
 - Not generated as a result of combustion of any kind of fossil-fuel.
 - Generated due to handling / processing of materials without involving the use of any kind of chemicals.
 - Which can be easily contained /controlled with simple conventional methods
- c) A1G – Generation of Odours which are:
 - Generated due to application of binding gums / cements /adhesives /enamels
 - Which can be easily contained /controlled with simple conventional methods
- d) A2F1 – All such industries in which the daily consumption of coal/fuel is more than 24 MT/day and the particular (Particulate/gaseous/process) emissions from which can be controlled only with high level equipment's / technology like ESPs, Bag House Filters, High Efficiency chemical wet scrubbers etc.

- e) A2F2 – All such industries in which the daily consumption of coal/fuel is from 12 MT/day to 24 MT/day and the particular (Particulate/gaseous/process) emissions from which can be controlled with suitable proven technology.

Hazardous waste

- a) HW1 – Land disposable HW which requires special care & treatment for stabilization before disposal.
- b) HW3 – Land disposable HW which doesn't require treatment & stabilization before disposal. High volume low effect wastes such as fly-ash, phosphogypsum, red-mud, slags from pyro-metallurgical operations, mine tailings and ore beneficiation rejects)
- c) HW4 – Recyclable HW, which are easily recyclable with proven technologies

2.3.2 Internal Access Road

Every main haul road shall be paved with concrete, bituminous materials, hardcore or metal plates, and kept clear of dusty materials; or sprayed with water or a dust suppression chemical so as to maintain the entire road surface wet. Internal roads of width varying (30 m/ 24 m/ 18m /12 m) width with median will be provided. Storm water drains will be provided along the roads. 38.860 Acres i.e., 5.63% of the total layout area is allotted for providing internal roads and storm water drains.

2.3.3 Common Amenities

Area allotted for common facilities is 13.84 Acres i.e., 2% of the total Layout area. This includes an Administration Building, and other common Facilities like Bank, ATM, canteen, post office, weigh bridge, truck parking area, fire station and Occupational Health Centre. Apart from this raw water storage tank and electrical substation are also proposed for the Industrial Park.

Area proposed for Municipal Solid waste processing is 24.06 Acres (3.48% of plot area). The Municipal Solid Wastes produced in the Industrial park, will be segregated by the individual industries and sent to this area. Organic wastes will be composted here and used for green belt development and inorganic waste will be sold to authorised recyclers.

13.84 Acres (2%) is allotted for commercial activities like Food court / restaurants etc.

2.3.4 Green Belt

243.437 Acres (35.20% of total area of the park) is allotted for green belt development. 15 m Green belt (39.157 Acres) is proposed along the periphery of the Industrial park. Apart from this, 3 m green belt is proposed along the roads (15.94 Acres). Industrial

units will be mandated to develop green belt in 25 % of allotted area (119.18Acres). OSR area (69.16 Acres) is also proposed for development of green belt.

It is proposed to plant indigenous species which can control air pollution.

2.4 Utilities Proposed for the Project

2.4.1 Power and Fuel Requirement

Power requirement for the Industrial Park is estimated to be 45 MVA. SIPCOT will earmark the land required by TANGEDCO for the establishment of exclusive substation for the Park.

Individual industries will have their own power back up in case of power failure. Tentative power requirement is given in **Table 2-5**.

Table 2-5 Power and Fuel requirement

Details	Capacity/Quantity	Source
Power Requirement (MVA)	45	TANGEDCO
Back-up (KVA)	No back up is proposed for common facilities.	-

2.4.2 Water Requirement

2.4.2.1 Construction phase

Water requirement for construction phase is 63KLD. Infrastructure facilities like roads, storm water drain, street lights, water supply system, power supply through TANGEDCO, Administration building, and solid waste management system is proposed. Apart from this fire station, occupational health center is also proposed by SIPCOT. Around 50 employees will be working during construction phase. Water requirement for construction phase with break up is given in **Table 2-6**.

Table 2-6 Water requirement during construction phase

S. No	Activities	Water Requirement (KLD)
1	Domestic water (50 employees)	3
2	Water for construction purpose	50

3	Other uses (Water sprinkling, green belt development etc.)	10
Total		63

Water requirement for construction phase will be met from private tankers.

2.4.2.2 Operation Phase

Water requirement for operation phase is estimated to be 8627 KLD. Raw water requirement is 5239 KLD. Fresh water requirement of 900 KLD and TTRO (Tertiary Treated Reverse Osmosis) water requirement of 4339 KLD is proposed to be sourced from Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB). The letter issued by CMWSSB for the supply of 5 MLD of TTRO water and 1.3 MLD of fresh water for Manallur Industrial Park is enclosed as **Annexure-10** and **Annexure- 11** respectively. The balance 3388 KLD (208 KLD water for utilities, 2970 KLD for process, 135 KLD for green belt and 75 KLD for flushing) of water will be met from recycling of treated waste water. Water requirement details are given in **Table 2-7**. Individual industries will have their own STP/ETP as applicable. SIPCOT will ensure that individual industries set up Zero Liquid Discharge system for ETP using RO/MEE/ATFD. Individual industries will be responsible for their reject management system from their ETP. Water Balance is given in **Figure 2-8**.

Table 2-7 Water Requirement during operation phase

Sl. No	Description	Total Water (KLD)	Fresh Water (KLD)	Water from TTRO (KLD)	Recycled Water (KLD)	Sewage Generation (KLD)	Effluent generation (KLD)	MEE & ATFD	Treatment Method
1	Domestic water								
	Domestic	150	150	-	-	135	-		STP
	Flushing	75	-	-	75	75	-		STP
2	Green Belt	3450	-	3315	135	-	-		-
3	Process								
	10% EC Category industries	2948	400	423	2125	-	2358	294	ETP
	90% Non-EC Category industries	1500	275	380	845	-	1050		ETP
4	Utilities	429	-	221	208	-	63.8		ETP
5	To Manallur village water supply (CER)	75	75	-	-	65*	-		STP
	Total (KLD)	8627	900	4339	3388	275	3472	294	
	Total (MLD)	8.63	0.9	4.34	3.39	0.275	3.47	0.294	

Note:

- *Sewage of 65 KLD will be treated in separate STP and treated sewage will be used for avenue plantation in Manallur Village.
- TTRO water will be filtered and disinfected and used by individual industries.
- Loss (1.43 MLD)

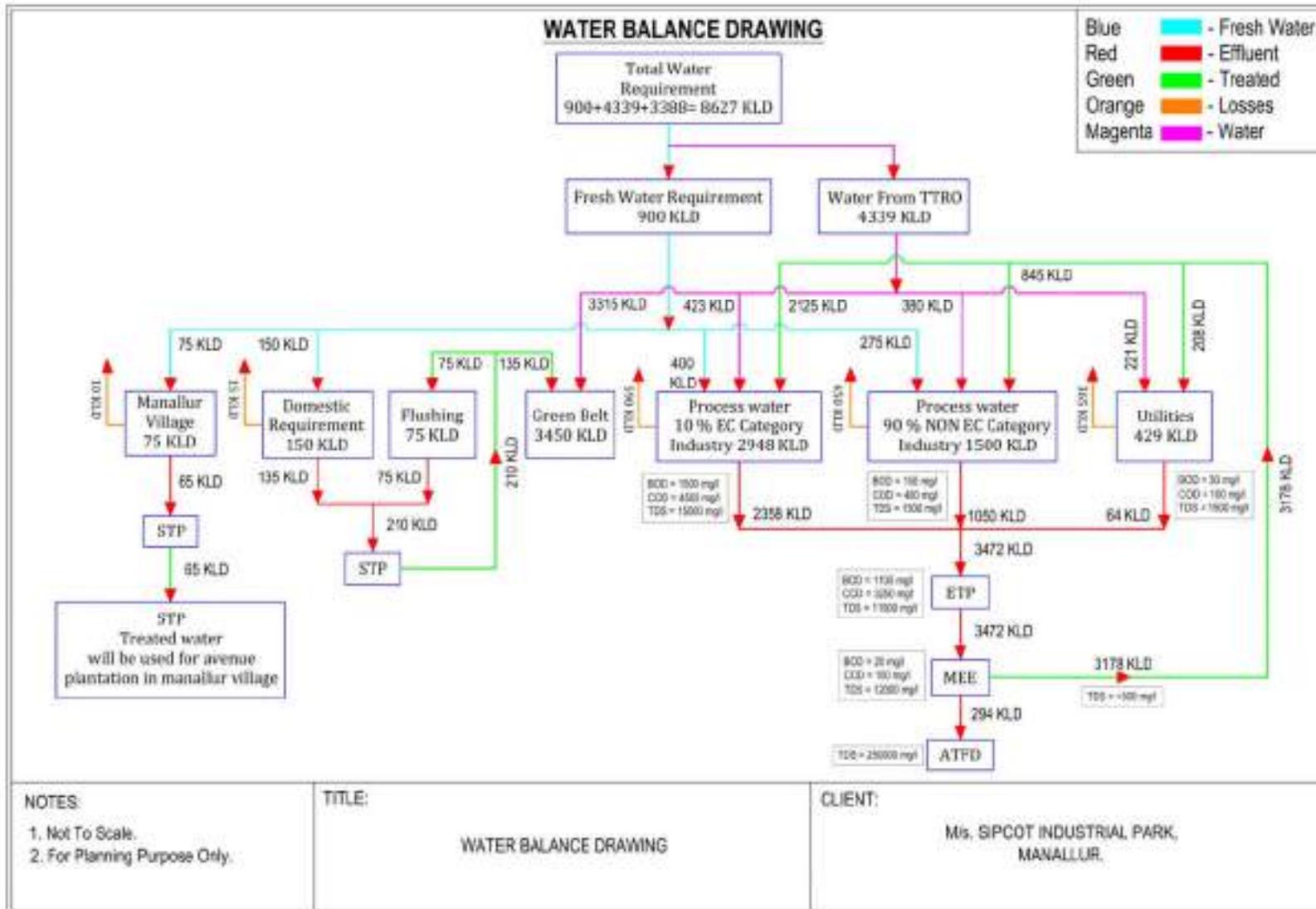


Figure 2-9 Proposed Water Balance

2.4.3 Solid Waste Generation and Management

2.4.3.1 Municipal solid Waste Generation and Management

During construction phase around 22.5 Kg/day of Municipal solid waste will be generated. This will be collected and disposed in local municipal bins near the site.

During operational phase, Total quantity of Municipal Solid Waste generated will be 2250 Kg/day. All industries will be mandated to have their own solid waste storage facility, within their plot as per the norms. The Individual industries will segregate organic and inorganic wastes. 1350 Kg/day of Organic wastes will be composted by individual industries using Organic Waste Composter and the compost will be used for green belt development. 900 Kg/day of inorganic wastes will be sold to authorised recyclers by individual industries. Details are given in **Table 2-8**.

Table 2-8 Municipal solid waste generation and management

Sl.No.	Waste type	Construction phase (kg/day)	Operation phase (kg/day)	Management measure (for operational phase)
1	Organic waste	13.5	1350	<p>MSW in Industrial Plots:</p> <p>SIPCOT will mandate all the industries to manage the Municipal Solid generated by them within their premises as per norms.</p> <p>Municipal Solid wastes will be segregated by individual industries as organic and inorganic wastes. Organic wastes will be composted by individual industries in Organic Waste Converter or Bio methanation plant and used for green belt development. Inorganic wastes will be sold to</p>
2	Inorganic waste	9	900	

Sl.No.	Waste type	Construction phase (kg/day)	Operation phase (kg/day)	Management measure (for operational phase)
				TNPCB authorized recyclers by the industries. MSW in area apart from Industrial Plots: SIPCOT has earmarked 24.060 Acres of land for establishment of Solid Waste Management facility Organic wastes will be composted by using Organic waste composter /Vermi composting and compost will be used as manure for green belt development. Inorganic waste will be sold to TNPCB authorized recyclers.
3	Total	22.5	2250	

Norms: CPHEEO waste generation @0.45 Kg/capita/day

Population for construction phase – 50 nos. Operation phase – 5000 nos.

As a provision to have in house and independent Solid Waste Management facility 24.060 Acres (3.48%of Industrial Park area) has been earmarked for Solid Waste Management Facility. In future, based on need, SIPCOT will float tender and provide land to private players for the establishment of Municipal Solid Waste Management facility on BOOT basis.

2.4.3.2 Hazardous waste Generation and Management

Individual industries, will have their own storage area for storing Hazardous waste, within their premises and the hazardous wastes will be sent to TNWML for recycling /disposal as per the Hazardous and other Wastes (Management and transboundary movement) rules 2016.

2.5 Project Cost

Proposed cost for the project is Rs.250 Crores. Project cost break up is given in **Table 2-9** and project schedule is given in **Table 2-10**.

Table 2-9 Project cost break up

S. No	Aspects	Capital cost (Lakhs)
1	Land acquisition cost	9580.00
2	Survey, site clearance and plotting	138.32
3	Development of roads (including storm water drains)	8254.15
4	Water supply	4245.00
5	Amenity building	400.00
6	Street lights	454.60
7	Green belt development	31.06
8	Rain water harvesting	100
9	Contingencies	1021.73
10	Preliminary and Preoperative Expenses	775.29
	Total cost	25000.16

Table 2-10 Tentative Project schedule

S. No	Activity	Schedule (Month & year)
1	Environmental Clearance from MoEF&CC	August 2020
2	Consent for Establishment from TNPCB	October 2020
3	Infrastructure development	November 2020-October 2022 (2 years)

2.6 Man power Requirement

During construction phase, man power requirement will be 50 nos. and during operation phase, the man power requirement will be 5000 nos.

2.7 Pollution control Measures Proposed

2.7.1 Air Pollution Control measures

Individual industries will have their Air Pollution Control equipments /Measures, like stack heights for DGs and boilers for proper mixing of pollutants before they are dispersed to atmosphere.

2.7.2 Wastewater Treatment

SIPCOT will mandate all individual industries adhere to Zero Liquid Discharge system, so that no effluent is let out of the Industrial park.

2.7.3 Solid Waste Management

MSW in Industrial Plots:

SIPCOT will mandate all the industries to manage the Municipal Solid Waste generated by them within their premises as per norms.

Municipal Solid wastes will be segregated by individual industries as organic and inorganic wastes. Organic wastes will be composted by individual industries in Organic Waste Converter or Bio methanation plant and used for green belt development. Inorganic wastes will be sold to TNPCB authorized recyclers by the industries.

MSW in area apart from Industrial Plots:

SIPCOT has earmarked 24.060 Acres of land for establishment of Solid Waste Management facility. Organic wastes will be composted by organic waste composter /Vermi composting and compost will be used as manure for green belt development. Inorganic waste will be sold to TNPCB authorized recyclers. Details are given in **Table 2-8**.

As a provision to have in house and independent Solid Waste Management facility 24.060 Acres (3.48%of Industrial Park area) has been earmarked for Solid Waste Management Facility. In future, based on need, SIPCOT will float tender and provide land to private players for the establishment of Municipal Solid Waste Management facility on BOOT basis.

Individual industries will have their own storage area for hazardous waste within their premises. The hazardous wastes will be segregated and sent to authorised recyclers / TNWML for disposal by individual industries as per Hazardous and other Wastes (Management and Transboundary Movement) amended Rules 2016. Individual industries will have to obtain Hazardous waste authorisation from TNPCB as applicable.

3. DESCRIPTION OF ENVIRONMENT

3.1 Preamble

The proposed IP will have **279.99.5 ha** of land in the revenue limits of Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur district.

The area around 10 km radius from the proposed IP is considered as project impact area for evaluating the environmental due diligence of the proposed IP location.

The proposed project impact area of 10 km radius is presented in **Figure 3-1**. The Satellite image based map showing the impact area features, for a radial distance of 10 km radius are presented in **Figure 3-2**.

Environmental Baseline Monitoring (EBM) was initiated and carried out in line with the generic guidelines of Terms of Reference (ToR) of MoEF&CC for Industrial Estates and also in compliance to Additional ToR as approved by EAC/MoEF&CC.

The prevailing environmental status in respect of all attributes viz., micrometeorology, air, water, soil, noise, biological and socio-economics, have been evaluated using the objective test results of the field samples.

The baseline data were correlated and interpreted to appreciate the prevailing interactions between the attributes of natural, cultural, socio-economic systems.

The objective is to describe the baseline settings of the prevailing environmental attributes and also to focus the baseline data to facilitate all Value Environmental Components (VECs) that are likely to be affected by the industrial activities of the proposed IP.

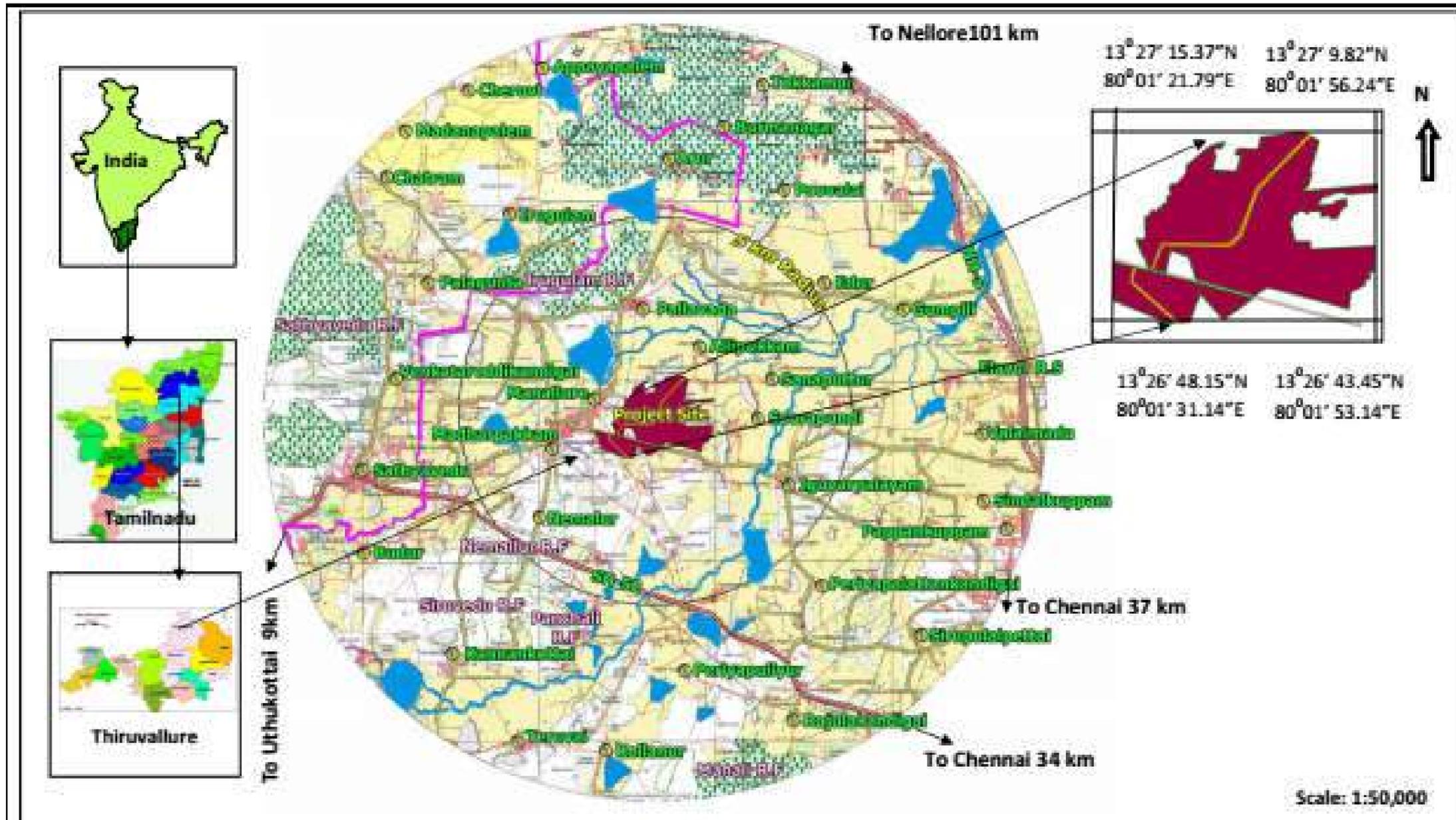


Figure 3-1 Project Impact Area Map covering 10 Km radius

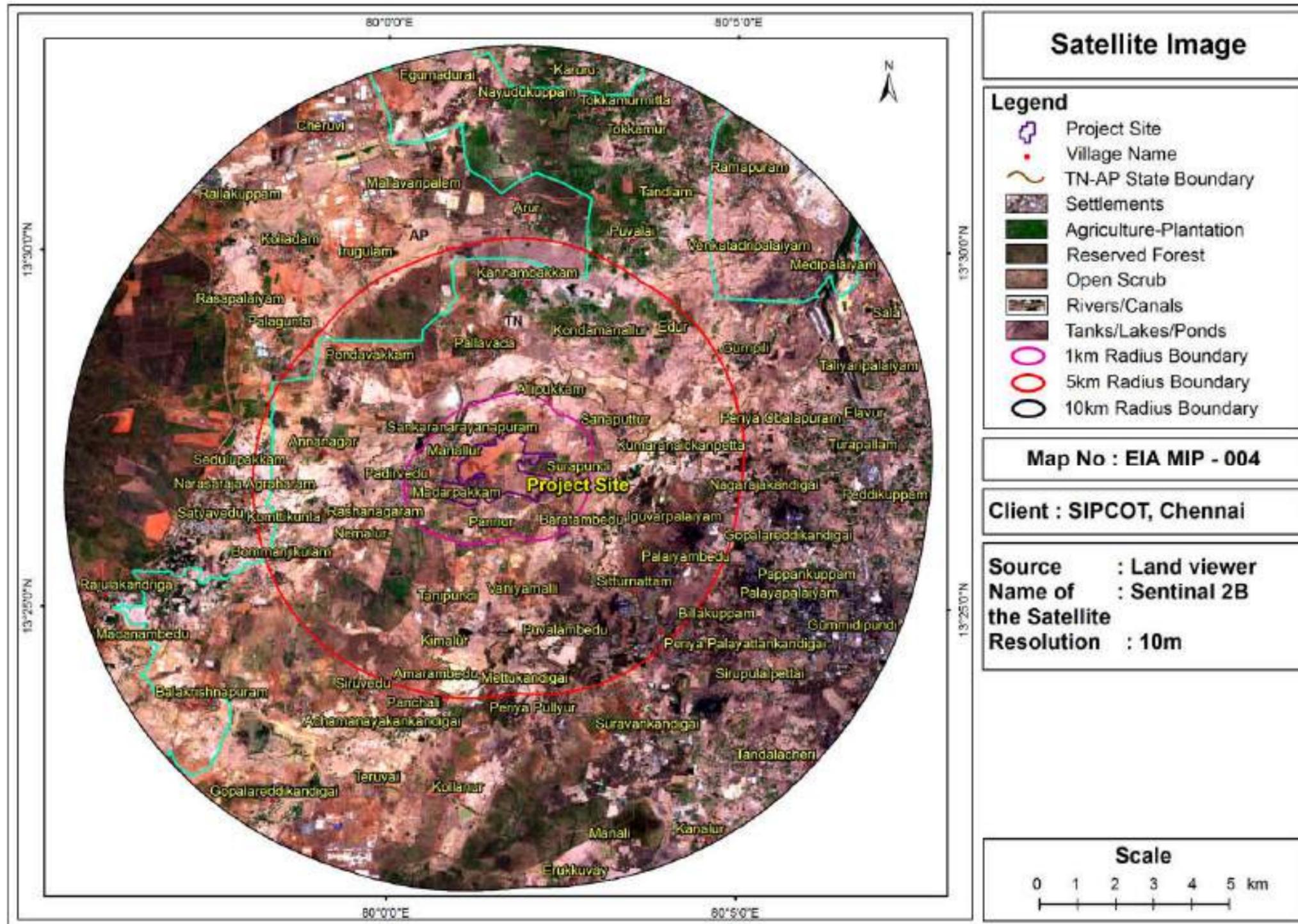


Figure 3-2 Satellite image covering 10 Km radius from project site

3.2 Objectives

The Environmental Baseline Monitoring (EBM) is envisaged on the following objectives;

- Evaluation of environmental conditions using primary data generated through field survey of sampling and analysis on all value attributes as per CPCB guidelines
- Interpretation of data on the basis of their relationships among micro meteorology, air, water, noise, soil, biological and socio economics.
- Identification of sensitive polluting sources requiring prevention, mitigation and control activities.
- Collection and regulating of input data for prediction models, if necessary.
- Summation of baseline data against which the results of any future Environmental monitoring programs can be compared.

Systematic observation strategies with program for sampling, analysis, data collection on all VECs were carried out during the period, during **April- June, 2018**. The study was carried out for all VECs in 10 Km radius from the proposed IP.

The Survey was conducted by **VIMTA LABS, Hyderabad** who are NABL accredited laboratory. CEHS has outsourced the services to VIMTA Labs for conducting Environmental Baseline Survey through an exclusive Memorandum of Understanding (MoU) and subsequent job contract.

One month validation of baseline data was done by M/s. Hubert Enviro Care Systems Pvt. Ltd., Chennai during **February 2020** and the results are given in subsequent sections.

3.3 Physical Conditions

In this section, the physical conditions of PIA district are discussed in general and wherever possible references to the conditions prevailing in the study area in particular are also provided. The physical conditions are discussed as under:

- District profile
- Drainage, land use, geology, Physiography
- Natural resources
- Climatic conditions, seismic zone characteristics and natural hazard

3.3.1 District Profile

Thiruvallur district is bounded on the north by Andhra Pradesh state, on the south by Kancheepuram district, on the west by Vellore and Chennai district on the east. The district lies between 12° 15' N -13° 15' N latitude and 79° 15' E - 80° 20' E longitude. The total geographical area of the district is about 3,422 Sq.Km. At present there are 617 Revenue Villages (582 inhabited and 35 uninhabited), 58 towns (33 Census Towns, 12 Municipalities, 13 Town Panchayats) in this district. This district is constituted with 14 Panchayat Unions (Community Development Blocks) for the convenience of community development activities. The district has a total population of Thirty-seven lakhs twenty eight thousand one hundred and four with 18,760,62 males and 18,520,42 females (2011 census).The sex ratio in Thiruvallur stood at 987females per 1000 males according to the 2011 census. Of the total population, 12,99,709 (32.4%) persons live in rural areas and 24,28,395 (67.6%) persons live in urban areas.

Source:https://censusindia.gov.in/2011census/dchb/DCHB_A/33/3301_PART_A_DCHB_THIRUVALLUR.pdf

3.3.2 Climatic Conditions

Average summer temperature of Thiruvallur is 37.9°C and the average winter temperature is found to be 18.5 °C. Like other parts of Tamil Nadu, hot climate prevails during the month of April - May and humid climate during the rest of the year except December - February when it is slightly cold. The annual maximum and minimum temperature (1970-2000) of Thiruvallur district are 33.3°C and 23.6°C respectively. 3 Projections of maximum temperature over Thiruvallur for the periods 2010-2040 (2020s), 2040-2070 (2050s) and 2070-2100 (2080s) with reference to the baseline (1970-2000) indicate an increase of 0.9°C, 2.0°C and 3.0°C respectively. Similarly, the projections of minimum temperature for the same periods indicate an increase of 1.1°C, 2.3°C and 3.4°C respectively.

Source:

http://www.tnenvis.nic.in/WriteReadData/UserFiles/file/2_THIRUVALLUR_TEMPERATURE.pdf

3.3.3 Natural Resources of Thiruvallur District

3.3.3.1 Flora & Fauna

A qualitative floristic survey was conducted in Thiruvallur district to record alien invasive flora. The study recorded 136 species in 90 genera and 37 families. The most specious family of study area is Asteraceae (18), Convolvulaceae (11), Caesalpiniaceae (9) and Amaranthaceae (8) while 12 families which include Apocynaceae, Balsaminaceae, Cactaceae, Liliaceae were represented by just single species in study area. Among genera, Cassia with 9 species dominated the study area followed by Ipomoea (7) and Indigofera (5). Eighty-nine species from tropical America, 19 from tropical Africa and 6 from tropical South America invaded into Thiruvallur district, Tamil Nadu, India. Of eight life forms herb represented with 95 species followed by shrub and under-shrub (11 species each). Study that concentrates on quantitative analysis is essential to assess the impact of invasive alien species on native flora of Thiruvallur district. The diversity of butterflies in Thiruvallur district, which constitutes of 9 talukas, has been studied. A total of 63 genera and 97 species belonging to 5 families were recorded. Out of these, individuals of the family Nymphalidae were dominant with 31 species under 19 genus, followed by the family Hesperidae with 25 species under 18 genus, family Pieridae with 20 species under 12 genus, family Lycaenidae with 14 species under 11 genus and family Papilionidae with 7 species under 3 genus. Flora and fauna of PIA are discussed in **Section 3.10**.

3.3.3.2 Forest Resources

The district has scattered forest area of 18748.82 hectares of the total area of 290785.61 hectares. The forest types available in the district are tropical in nature and they fall under dry thorn and dry evergreen types. Much of the natural forest have been converted in to manmade forests since the late 1950s. However, chunks of natural forests still exist. These pieces of reserved forest consist of trees of poor height and deciduous type, fuel trees and low scrub jungle and do not have any valuable resources.

Source:

http://censusindia.gov.in/2011census/dchb/DCHB_A/33/3301_PART_A_DCHB_THIRUVALLUR.pdf

3.3.3.3 Irrigation

Apart from seasonal rivers like Kosasthalaiyar, Araniar, Nandi, Kallar, Coovum and Buckingham canal, there is no perennial river in the district. The agricultural operations in the district depend mainly on tanks and lakes. They get water mainly during two monsoon periods viz., South-West monsoon (June to September) and North-East monsoon (October to December). The North-East monsoon brings more water compared to the others. During the year 2009-10, an area of 80348.2 hectares was irrigated by different sources. Out of this, the main source of irrigation was by tube wells for about 62663.3 hectares and irrigation from lakes was 14273 hectares which works out to 78% and 17.8% respectively. There are 17 canals in the district which connects to 3292 hectares of land.

Source:

http://censusindia.gov.in/2011census/dchb/DCHB_A/33/3301_PART_A_DCHB_THIRUVALLUR.pdf

3.3.3.4 Agricultural Resources

Though industrially well developed, residents of Thiruvallur district continues to be involved in the agricultural sector also. But, the extent of dependency on agriculture appears to be declining in this district as seen from previous years. Only 8.5% of the total workers of its residents are occupied in agriculture, 37.41% of the total area of the district is utilised for cultivation of various food and non-food crops and 73444 persons in this district are engaged in agriculture as cultivators. The major crops grown in the district are paddy, corn, maize, ragi, green gram, black gram, sugar cane and ground nut.

Source

http://censusindia.gov.in/2011census/dchb/DCHB_A/33/3301_PART_A_DCHB_THIRUVALLUR.pdf

3.3.3.5 Mineral Resources

The district does not contain any precious mineral. However, it has a few varieties of major/ minor minerals which are detailed below.

Minor minerals

Lime Shell: Pulicut Lake, Sunnambukulam, Annamalaicherry

Silica Sand: Elavoor, Eravanoor, Ennore, Gummidipoondi and Ponneri.

Stoneware Clay: Adhigathur, Odhupal, Gudapakkam Kandigai

Major minerals

River Sand: Kosasthalaiyar, Araniar, Kallar, Nandi, Coovam

Blue Metal: Pallipattu and Tiruttani Taluks

Gravel: Ponneri and Gummidipoondi Taluks

Brick Clay: Thiruvallur and Ponneri Taluks.

Source:

http://censusindia.gov.in/2011census/dchb/DCHB_A/33/3301_PART_A_DCHB_THIRUVALLUR.pdf

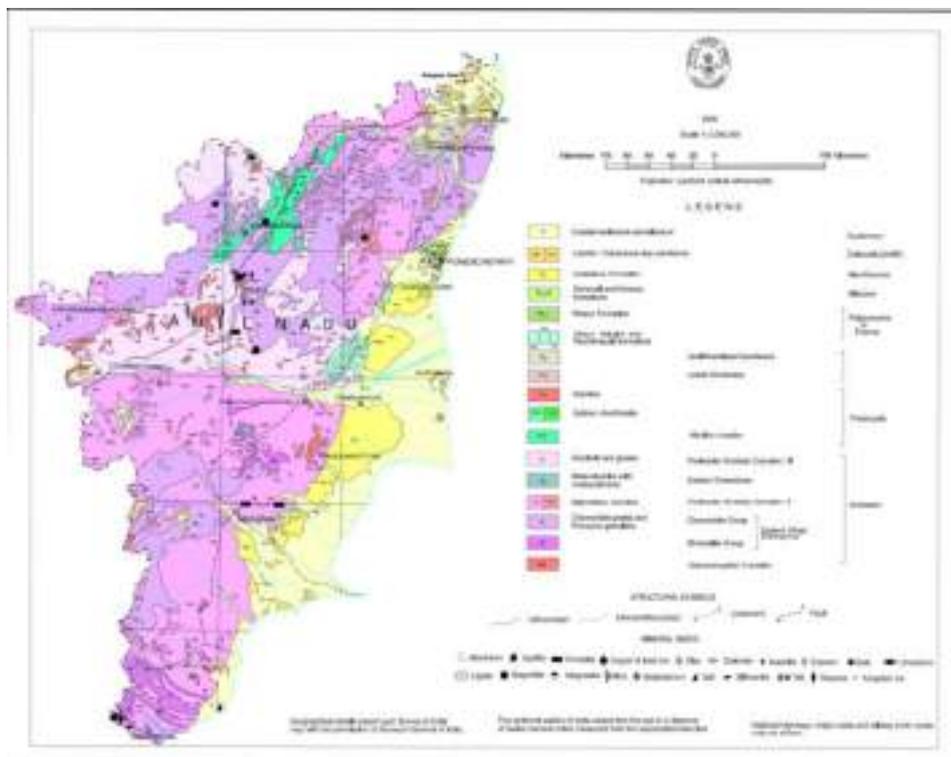


Figure 3-3 Geology and Minerals Maps of Tamil Nadu

3.3.4 Land Use & Land Cover

Total geographical area of Thiruvallur district is 3423Sq.Km.Total urban area of Agriculture Plantation is 69.82.Km. Forest, Forest Plantation covered is 13.09Sq.Km. Built up-Urban area is 224.06Sq.Km. Details of land use/land cover statistics for Thiruvallur district is given in Table 3-1 and Land Use map of Thiruvallur district is given in Figure 3-4.

Table 3-1 District land use/land cover statistics for Thiruvallur district

S. No	Division of Land Use/Land Cover	Area in Sq. Km	Area in Acres	Area in Ha	Area in %
1.	Built up,Urban	224.06	55366.35	22406	6.55
2.	Buildup,Mining	0.71	175.4446	71	0.02
3.	Agriculture, Plantation	69.82	17252.87	6982	2.04
4.	Forest, Evergreen/ Semi evergreen	18.21	4499.782	1821	0.53
5.	Forest, Forest Plantation	13.09	3234.604	1309	0.38
6.	Barren/unculturable/ Wastelands, Salt Affected land	17.39	4297.156	1739	0.51
7.	Barren/unculturable/ Wastelands, Scrub land	220.09	54385.34	22009	6.43
8.	Wetlands/Water Bodies, Inland Wetland	0.33	81.54465	33	0.01
9.	Wetlands/Water Bodies, River/Stream/canals	66.9	16531.32	6690	1.95
10.	Buildup, Rural	108.84	26894.91	10884	3.18
11.	Agriculture, Crop land	2090.02	516454.4	209002	61.06
12.	Agriculture, Fallow	56.28	13907.07	5628	1.64
13.	Forest, Deciduous	70.03	17304.76	7003	2.05
14.	Forest, Scrub Forest	19.74	4877.853	1974	0.58
15.	Barren/unculturable/ Wastelands, Gullied/Ravinous Land	0.47	116.1394	47	0.01
16.	Barren/unculturable/ Wastelands, Sandy area	9.09	2246.184	909	0.27
17.	Wetlands/Water Bodies, Coastal Wetland	102.92	25432.05	10292	3.01
18.	Wetlands/Water Bodies, Reservoir/Lakes/Ponds	335.01	82782.65	33501	9.79
Total		3423	845840.4	342300	100

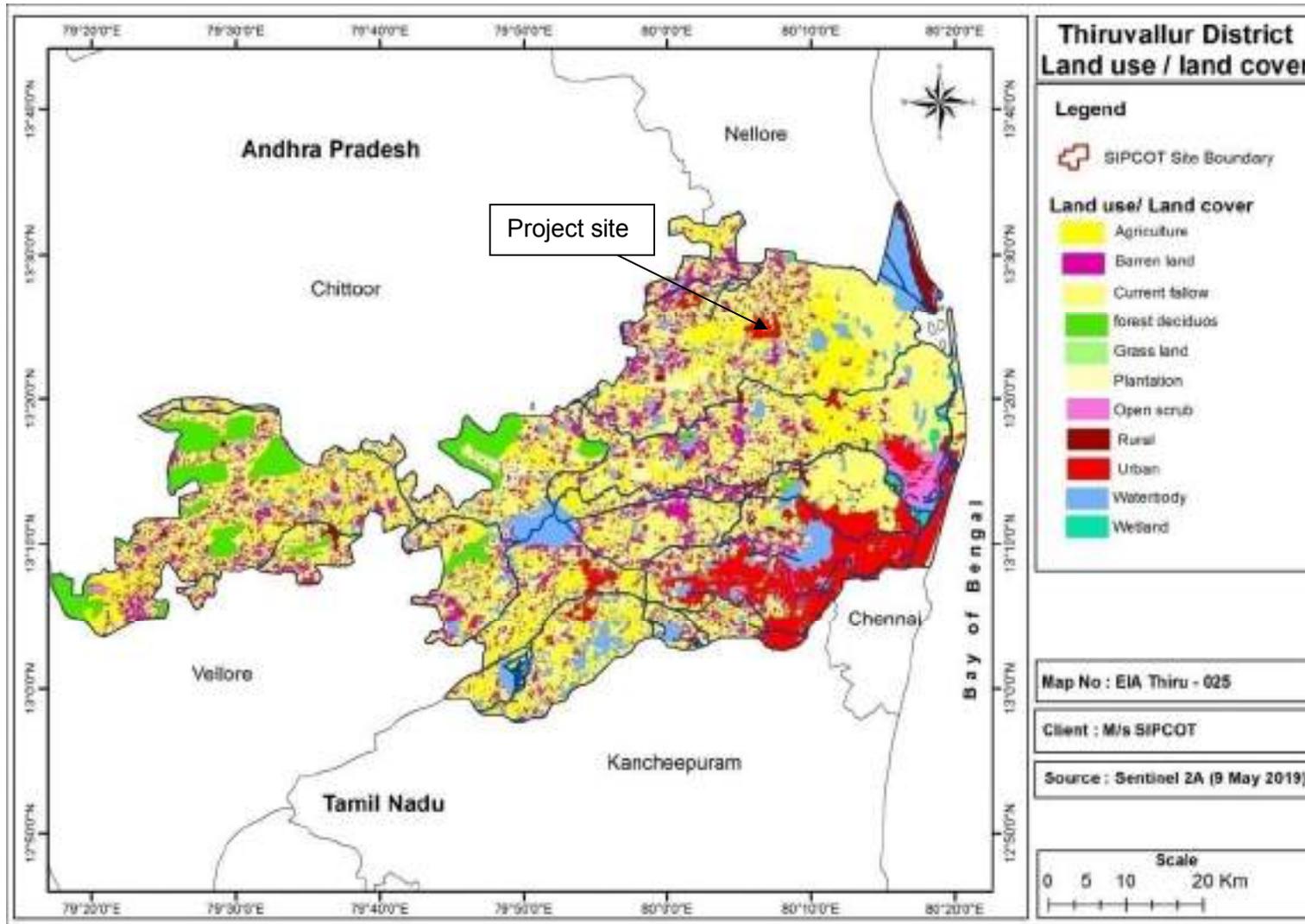


Figure 3-4 Land use map of Thiruvallur district showing the project site

3.3.4.1 Land Use and Land Cover of Study area

Project study area is 412.40 Sq.km. Land use pattern of study area is given in **Table 3-2** and **Figure 3-5**. Land use map of the study area is given in **Figure 3-6**.

Table 3-2 Land use pattern of study area

S. No	Description	%	Sq.Km	Acres	Ha
1	Cropland	54.42	224.44	55460.2	22444
2	Plantation	8.35	34.45	8512.77	3445
3	Fallow land	7.53	31.04	7670.14	3104
4	Forest Plantation	5.69	23.48	5802.03	2348
5	Scrub land	5.00	20.63	5097.78	2063
6	Forest, Deciduous	4.39	18.11	4475.07	1811
7	Rural	4.17	17.18	4245.26	1718
8	Reservoirs/ Lakes/ Ponds	4.01	16.54	4087.12	1654
9	Urban	3.47	14.29	3531.13	1429
10	Coastal Wetland	2.21	9.1	2248.66	910
11	Scrub Forest	0.55	2.26	558.457	226
12	River/ Stream/ Canals	0.11	0.46	113.668	46
13	Sandy area	0.10	0.42	103.784	42
	Total	100	412.40	101906	41240.0

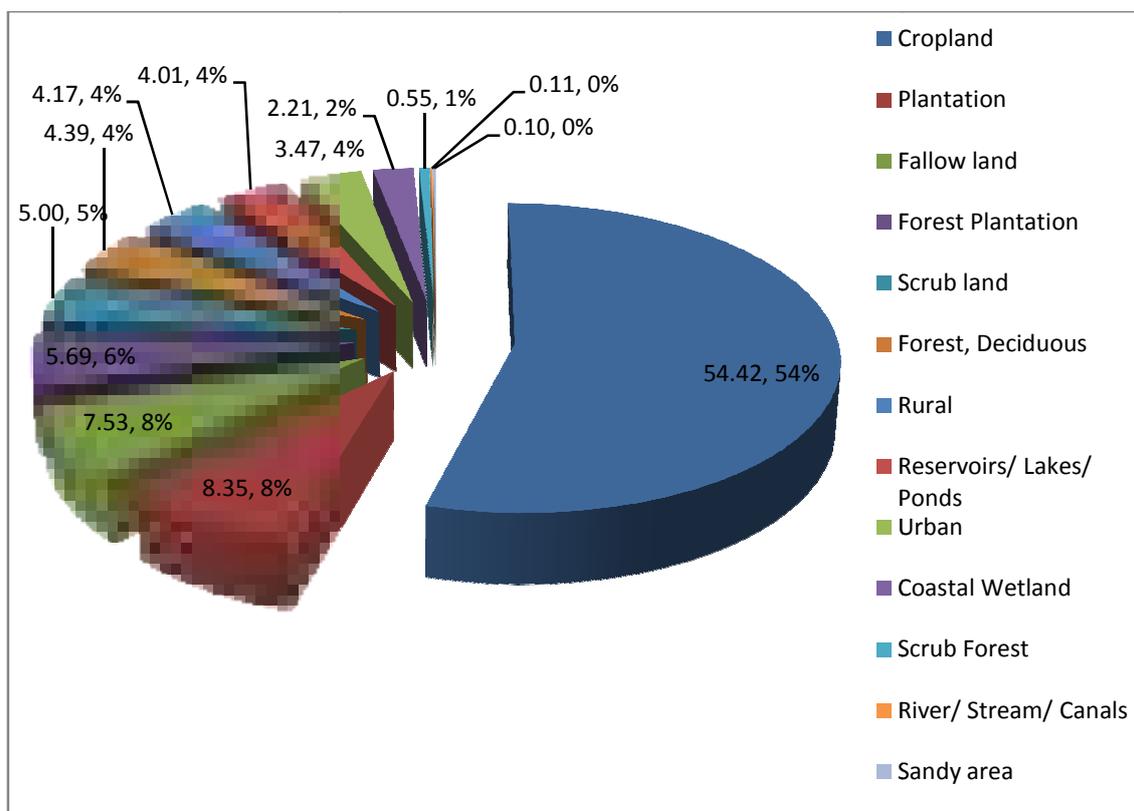


Figure 3-5 Land Use pattern of the study area

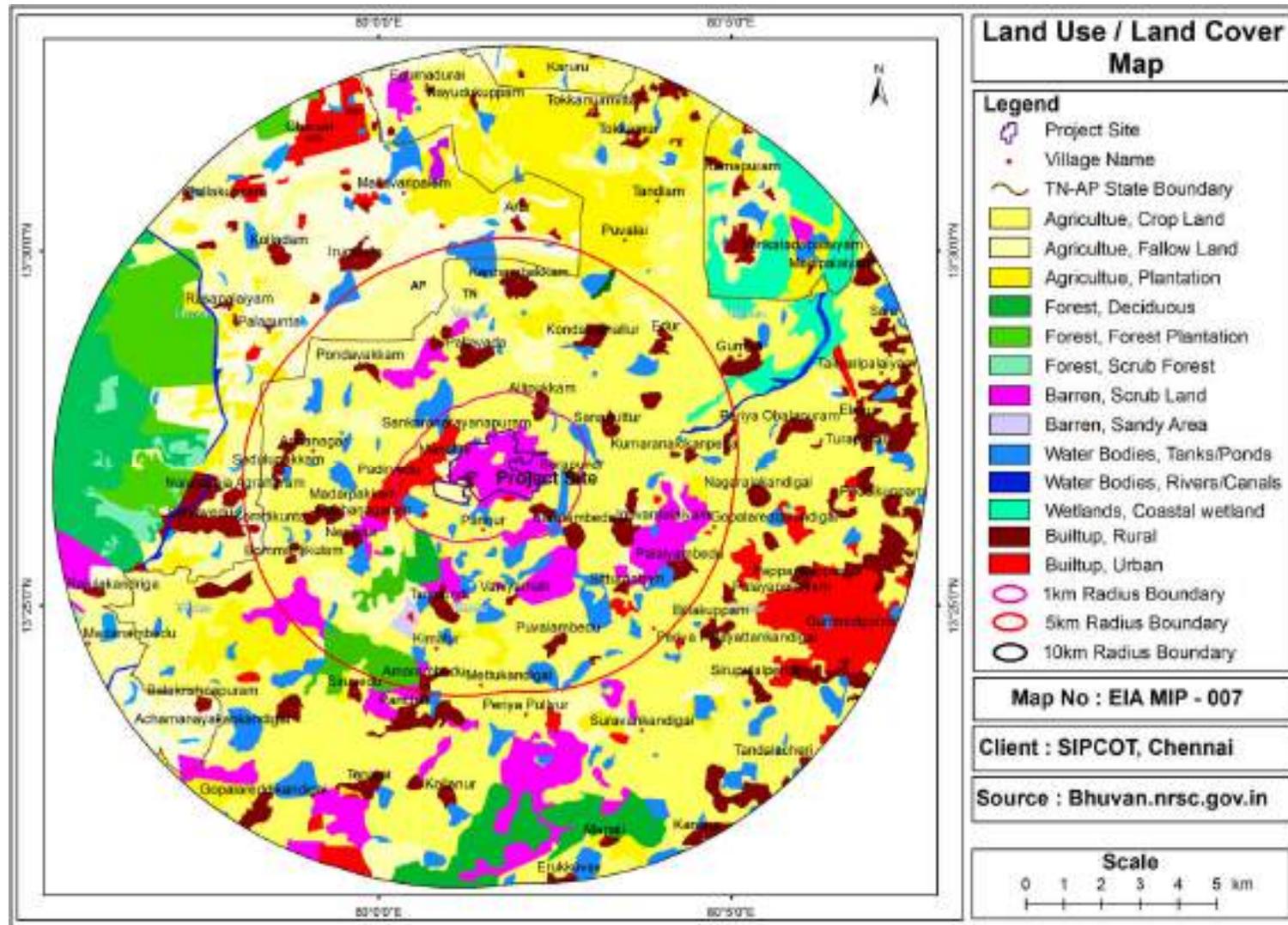


Figure 3-6 Land Use Map of the Study area

3.3.5 Topography

The coastal region is mostly flat while certain areas in Tiruttani and Pallipattataluka's are undulated and even hilly. The types of soil, predominantly found are red non calcareous and coastal alluvial. The soil found in the coastal region is of the erinaceous type (sandy), suitable for Casuarina plants. The other soil types are sand and sandy loams which are found in all taluks with red loam in part of Tiruthani Taluk. Saline and alkaline soils are also noticed in some patches of Ambathur, Ponneri and Thiruvallur division. The project site falls under an elevation of 40m above the mean sea level and the study area contours vary from 20 m to 180 m above MSL. From the project site the high elevations were observed towards West North West direction. While the remaining areas showed variations with respect to contours. Physical map of Tamil Nadu state is given in **Figure 3-7**. Contour map of the Study area is given in Figure 3-8.



(Source: [http://www.mapsofindia.com/Tamil Nadu](http://www.mapsofindia.com/Tamil%20Nadu))

Figure 3-7 Physical map of Tamil Nadu State

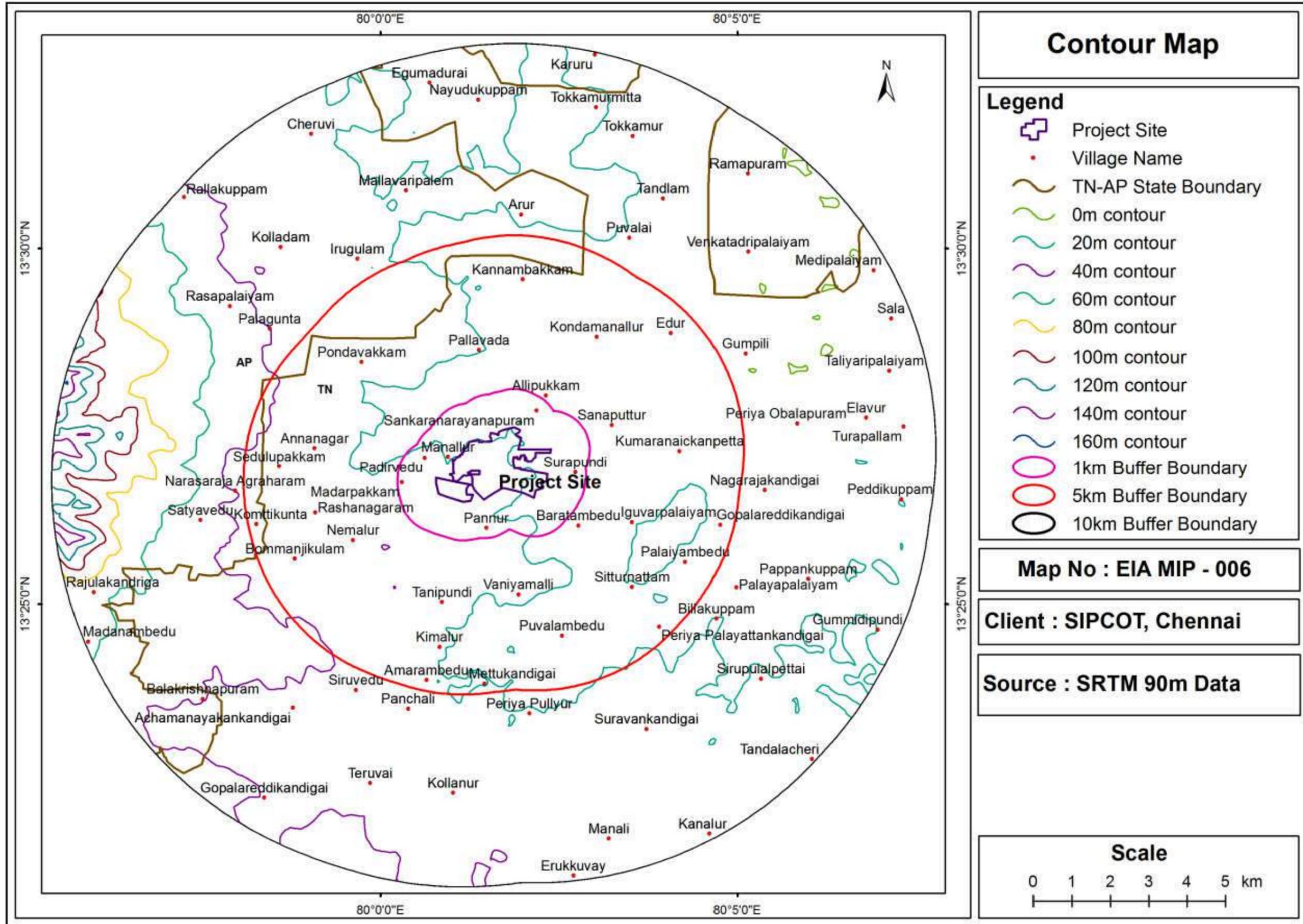


Figure 3-8 Contour Map of the study area

3.3.6 Geomorphology of PIA District

The prominent geomorphic units identified in the district through interpretation of Satellite imagery are 1) Alluvial Plain, 2) Old River Courses 3) Coastal plains 4) Shallow & deep buried Pediments, 5) Pediments and 6) Structural Hills. The elevation of the area ranges from 183 m amsl in the west to sea level in the east. Four cycles of erosion gave rise to a complex assemblage of fluvial, estuarine and marine deposits. The major part of the area is characterized by an undulating topography with innumerable depressions which are used as irrigation tanks. The coastal tract is marked by three beach terraces with broad inter-terrace depressions. The coastal plains display a fairly lower level or gently rolling surface and only slightly elevated above the local water surfaces or rivers. The straight trend of the coastal tract is resultant of development of vast alluvial plains. There are a number of dunes in the coastal tract. Geomorphology map of the district is given in Figure 3-9. Geomorphology Map of the study area is given in **Figure3-10**.

Source: http://cgwb.gov.in/District_Profile/TamilNadu/TIRUVALLUR.pdf

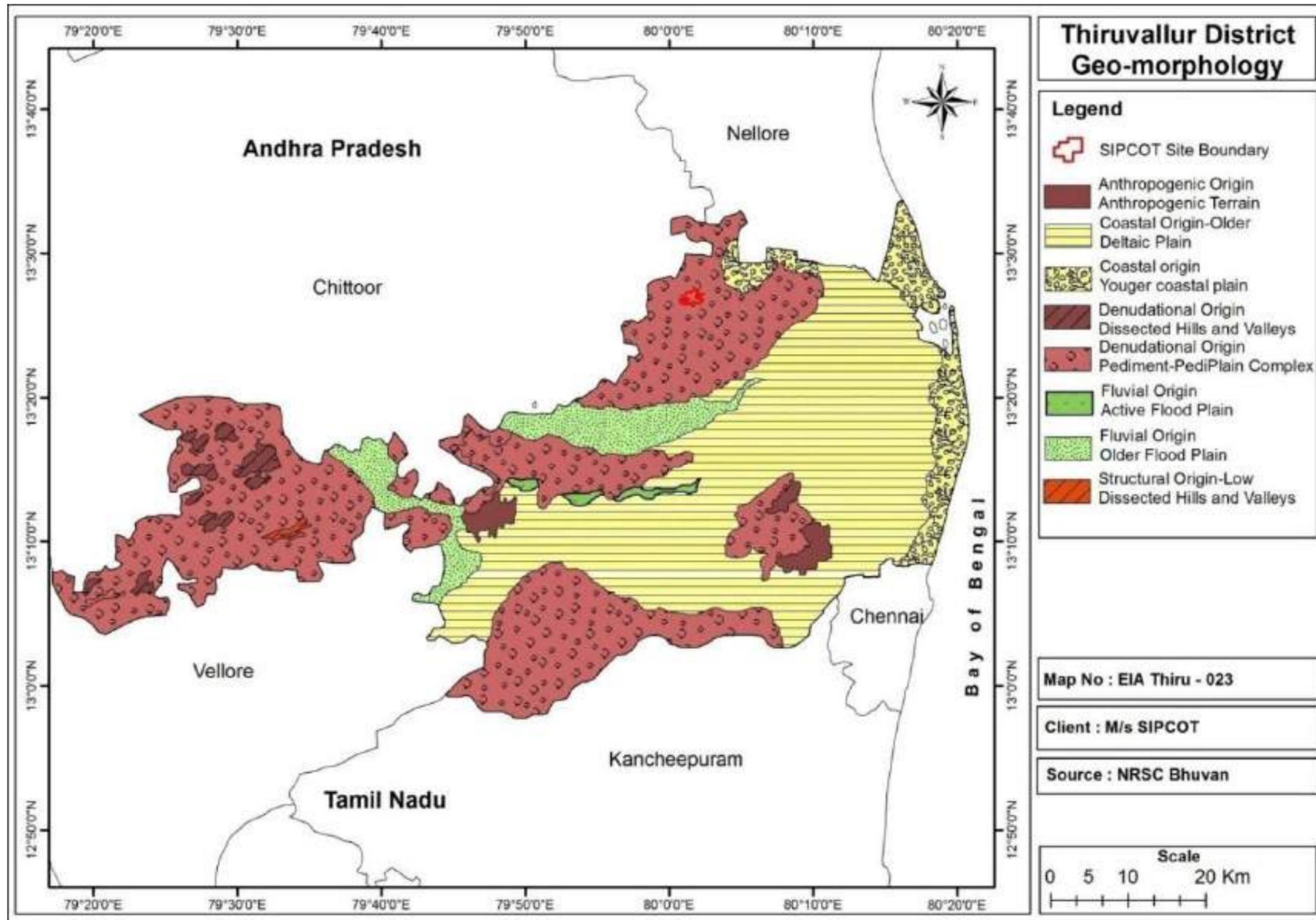


Figure 3-9 Geomorphology map of Thiruvallur district marking the project site

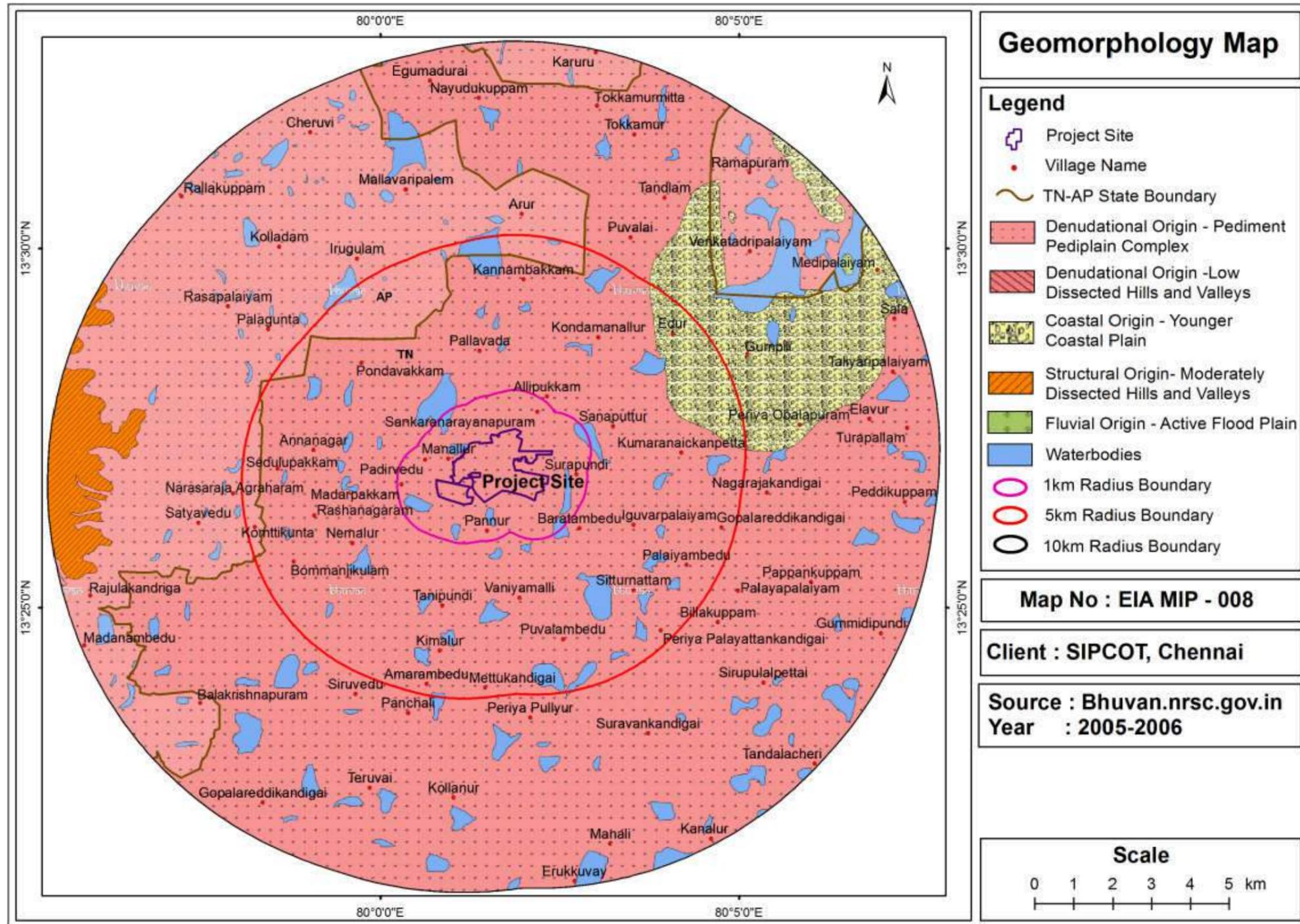


Figure 3-10 Geomorphology Map of study area

3.3.7 Hydrogeology of PIA District

The district is underlain by both porous and fissured formations. The important aquifer systems in the district are constituted by unconsolidated & semi consolidated formations, weathered, fissured and fractured crystalline rocks. The porous formations in the area include sandstones and clays of Jurassic age (Upper Gondwana), marine sediments of Cretaceous age, Sandstones of Tertiary age and Recent alluvial formations.

As the Gondwana formations are well compacted and poorly jointed, the movement of ground water in these formations is restricted to shallow levels. Ground water occurs under pre-tertiary to semi-confined conditions in inter-granular pore spaces in sands and sandstones and the bedding planes and thin fractures in shales. In the area underlain by Cretaceous sediments, ground water development is rather poor due to the rugged nature of the terrain and the poor quality of the formation water. Quaternary formations comprising mainly sands, clays and gravels are confined to major drainage courses in the district. The maximum thickness of alluvium is 30.0 m whereas the average thickness is about 15.0 m.

Ground water occurs under phreatic to semi-confined conditions in Baseline Environmental Status. These formations are being developed by means of dug wells, and filter points. Alluvium, which forms a good aquifer system along the Arani and Kosasthalaiyar river bed is one of the major sources of water supply to urban areas of Chennai city and also to the industrial units.

Ground water generally occurs under phreatic conditions in the weathered mantle and under semi-confined conditions in the fissured and fractured zones at deeper levels. The thickness of weathered zone in the district is in the range of 2 to 12 m. The depth of the wells ranged from 8.00 to 15.00 m bgl. The yield of large diameter wells tapping the weathered mantle of crystalline rocks ranges from 100 to 500 lpm and are able to sustain pumping for 2 to 6 hours per day. The yield of bore wells drilled down to a depth of 50 to 60 m ranges from 20 to 400 lpm. The yield of successful bore wells drilled down to a depth of 150 m bgl during the ground water exploration programme of Central Ground Water Board ranged from 1.2 to 7.6 lpm. Hydrogeology map of PIA district is given in Figure 3-11.

Source: http://cgwb.gov.in/District_Profile/TamilNadu/TIRUVALLUR.pdf

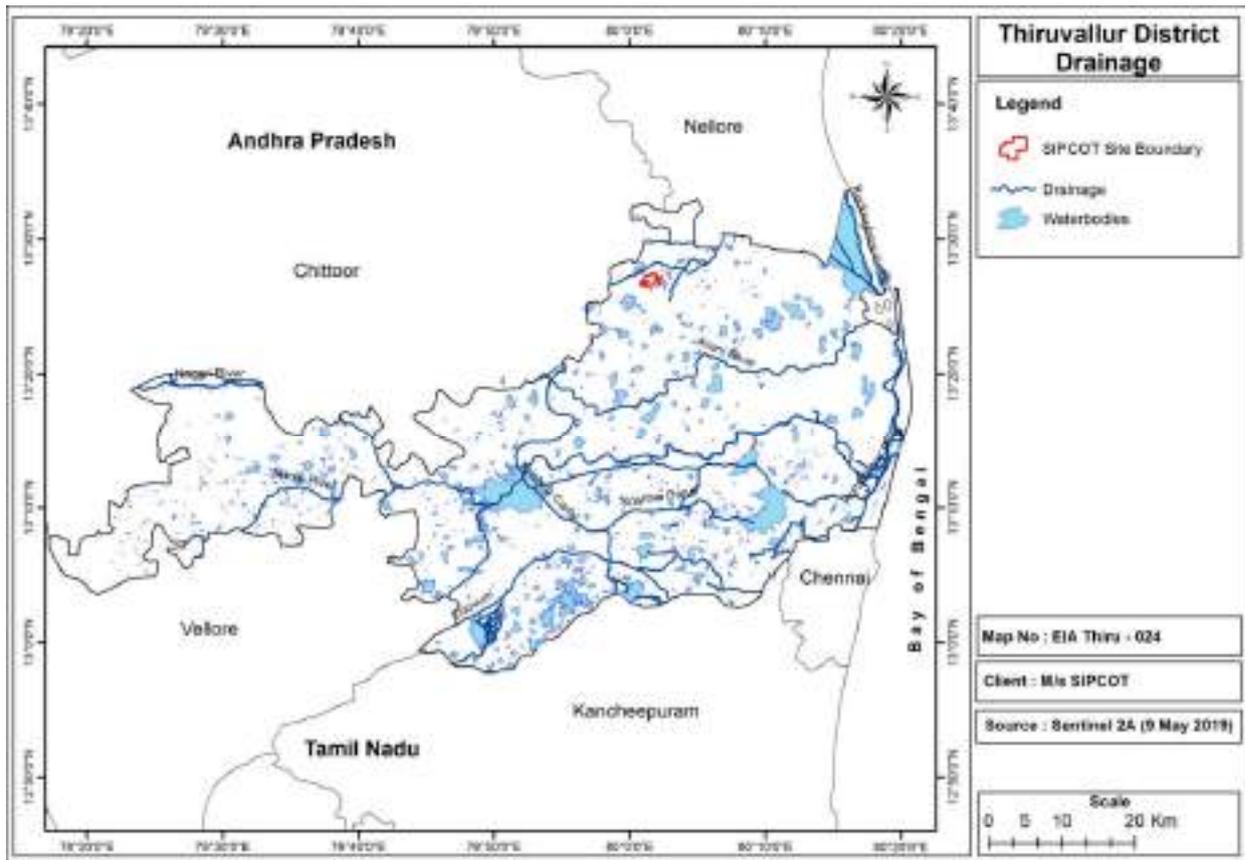


Figure 3-12 Drainage pattern of Thiruvallur district showing the project site

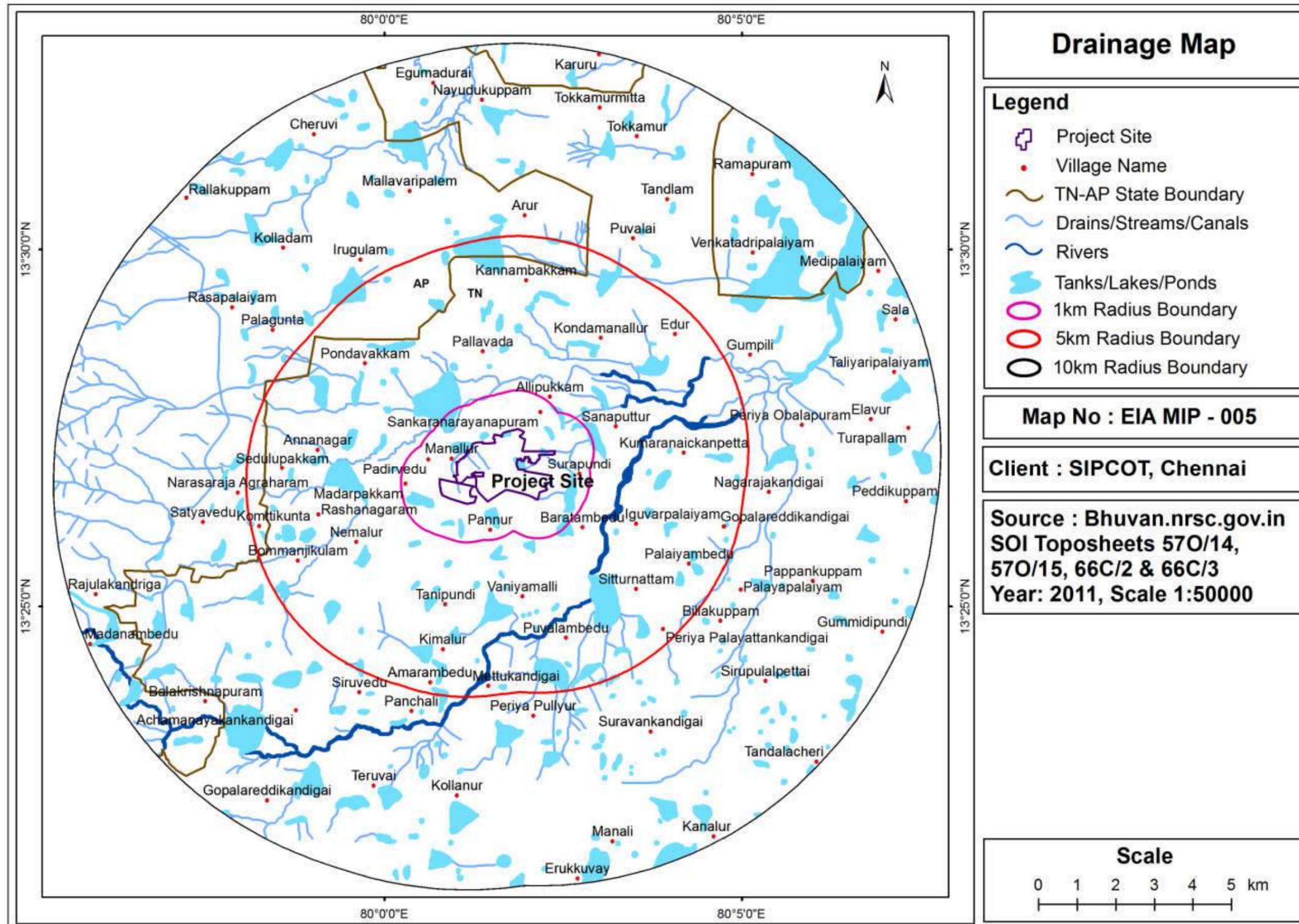


Figure 3-13 Drainage pattern of the study area

3.3.9 Soils in PIA District

Soils in the area have been classified into i) Red soil ii) Black soil iii) Alluvial soil iv) colluvial soil. The major part is covered by Red soil of red sandy/clay loam type. Ferruginous red soils are also seen at some places. Black soils are deep to very deep and generally occur in the depressions adjacent to hilly areas, in the western part. Alluvial soils occur along the river courses and eastern part of the coastal areas. Sandy coastal alluvium (arenaceous soil) are seen all along the sea coast as a narrow belt. The study area covers moderately deep black soil. Soil map of the district is given in **Figure 3-14**.

Source: http://cgwb.gov.in/District_Profile/TamilNadu/TIRUVALLUR.pdf

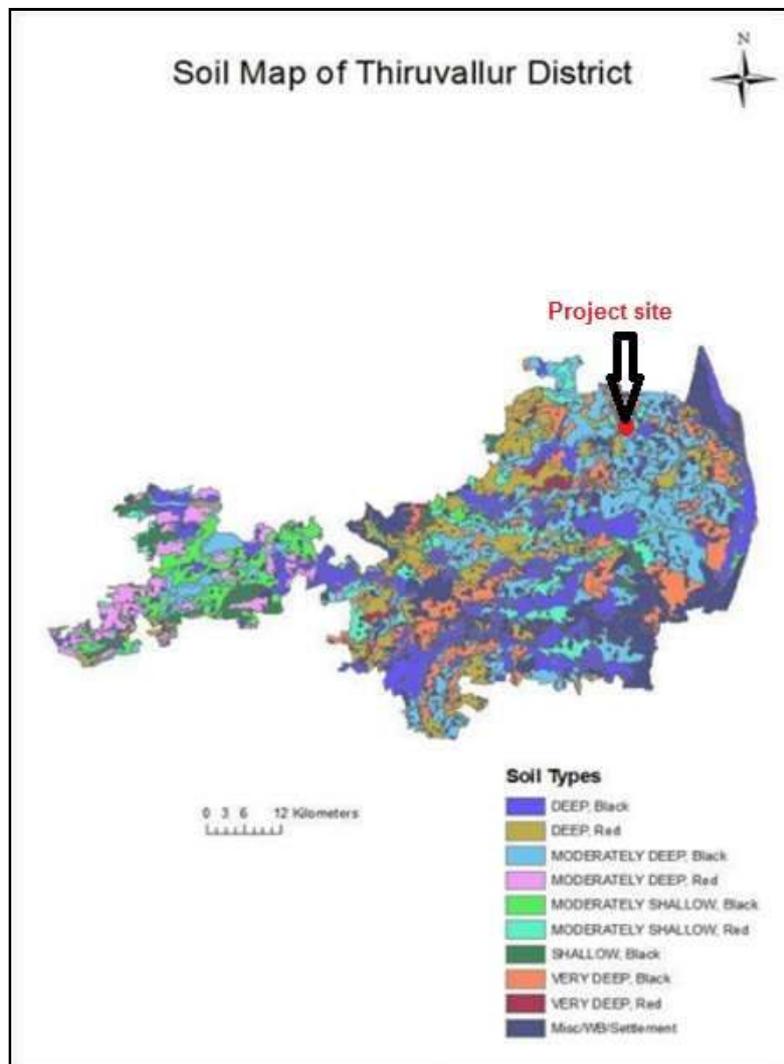


Figure 3-14 Soil Map of Thiruvallur District

3.3.10 Natural Hazards in PIA District

The coastline is mainly accreting with noticeable erosional effects particularly near Ennore. Development of offshore bars and shoals are observed near Ennore and Pulicat. Generally, floods occur during north east monsoon when there is heavy rainfall coupled with cyclonic storm in Bay of Bengal. Floods often occur in the basins of Kosasthalaiyar, Araniar, Coovum and Adyar and its tributaries. The entire coastal length of the district is prone to Tsunami.

3.3.10.1 Seismicity

As per Vulnerability Atlas of India (3rd Edition), the project location/study area falls in Zone III, which is categorized as a Moderate Risk Zone. The seismicity map of India is shown in Figure 3-15.

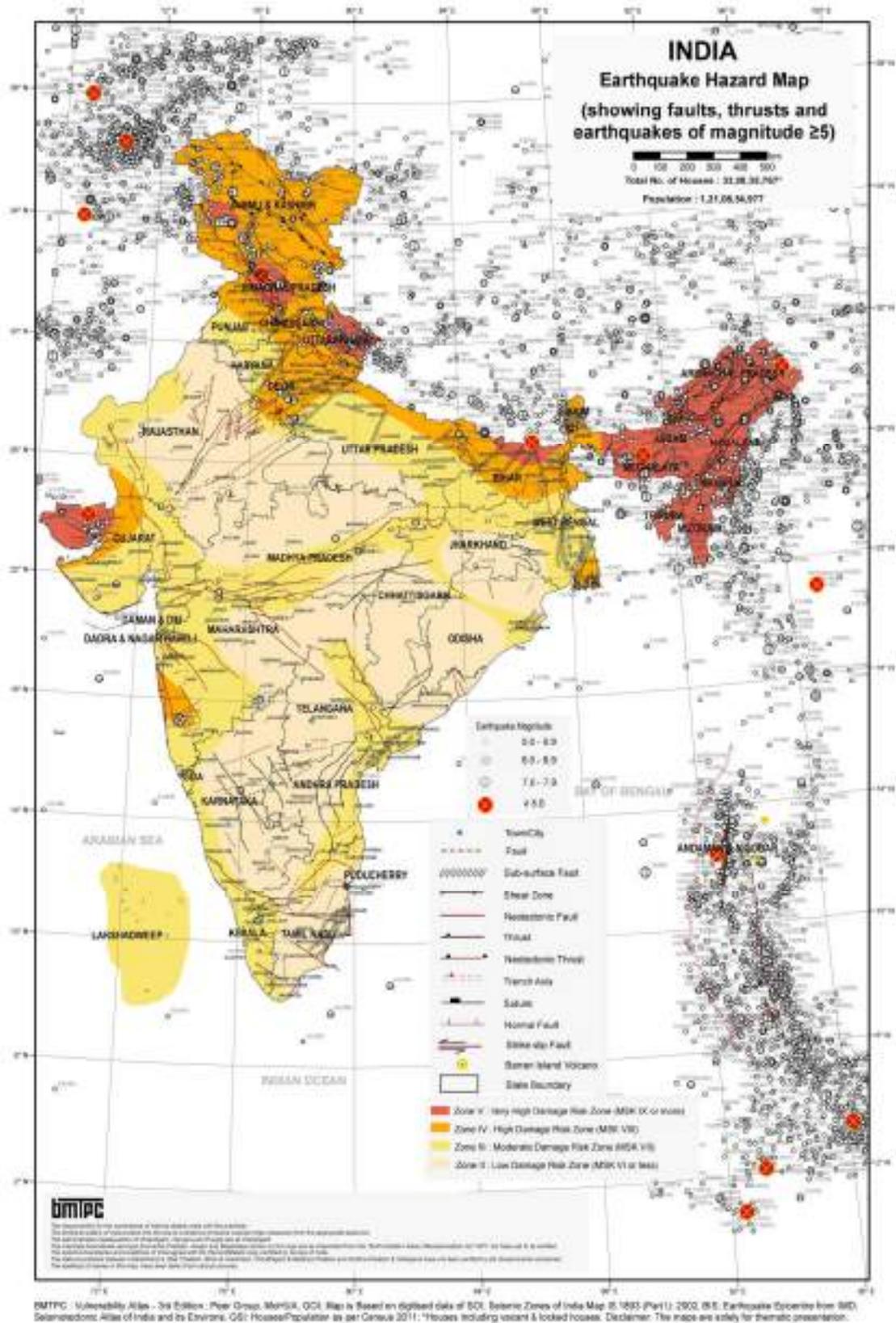


Figure 3-15 Seismic Zonation map of India

3.4 Micrometeorology

A micrometeorological station was installed at the project site for continuous monitoring of the meteorological parameters, during April, May, and June 2018

The climate is hot and tropical, during the study period of April-June, 2018. The Project location receives the rain during both South East and North East monsoons. Most of the precipitation occurs in the form of cyclonic storm caused due to the depressions in Bay of Bengal chiefly during northeast monsoon period. The southwest monsoon rainfall is highly erratic and summer rains are negligible.

3.4.1 Wind Speed and Direction

The wind speed and directions were observed at the observatory station in the proposed IP project site on hourly basis with an average wind speed is 1.75 m/s.

The observed data were used to draw a Wind Rose Diagram which is presented in **Figure 3-16**.

The predominant wind directions were **E** and **NE**. The clam period was observed for **18.29 %** during the study period.

3.4.2 Temperature

The highest temperature observed was **31.2°C** and the lowest was **17.5°C**.

3.4.3 Relative Humidity

The relative humidity varied in the **morning hours between 65 to 75 %** and in the **evening hours between 40 to 65%**, during the study period.

3.4.4 Rainfall

Annual total rainfall was 1391.5 mm. Maximum and minimum rainfall of 407.4 mm and 2.2 mm was recorded in the months of Nov and Feb respectively.

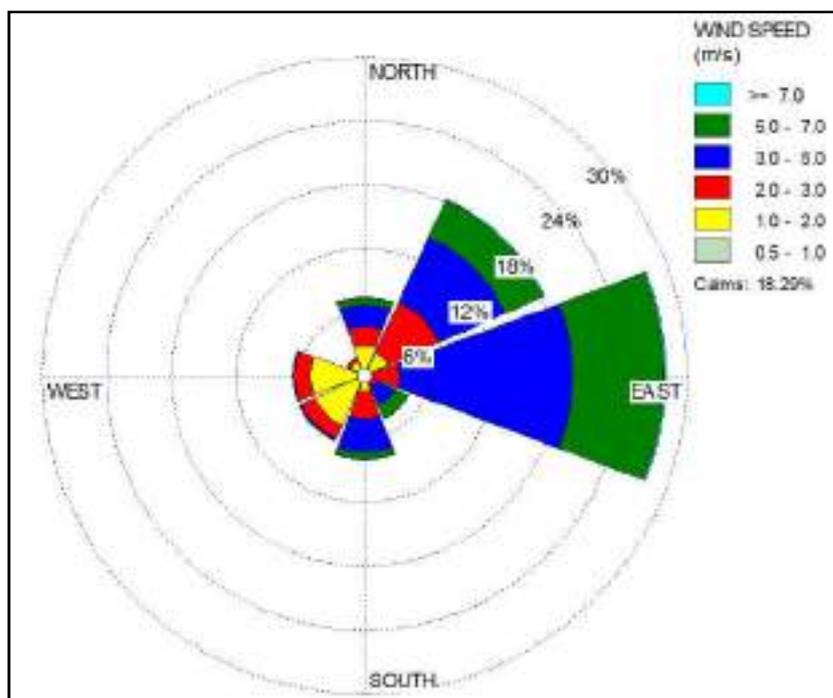


Figure 3-16 Wind rose for the study period (April to June 2018) (From Meteorological station installed at site)

3.4.5 Micrometeorology data for validation period

Micrometeorology data for validation period (February 2020) is given in **Table 3-3** and windrose for February 2020 is given in **Figure 3-17**. The predominant wind direction was East during the monitoring period (April – June 2018) and for the validation period (February 2020).

Table 3-3 Micrometeorology for February 2020

S. No	Parameter	Observation
1.	Temperature	Max Temperature : 33 ^o C Min Temperature:21 ^o C Avg.Temperature: 27.3 ^o C
2.	Average Relative Humidity	68.76 %
3.	Average Wind Speed	3.2 m/s
4.	Predominant Wind Direction during February 2020	East

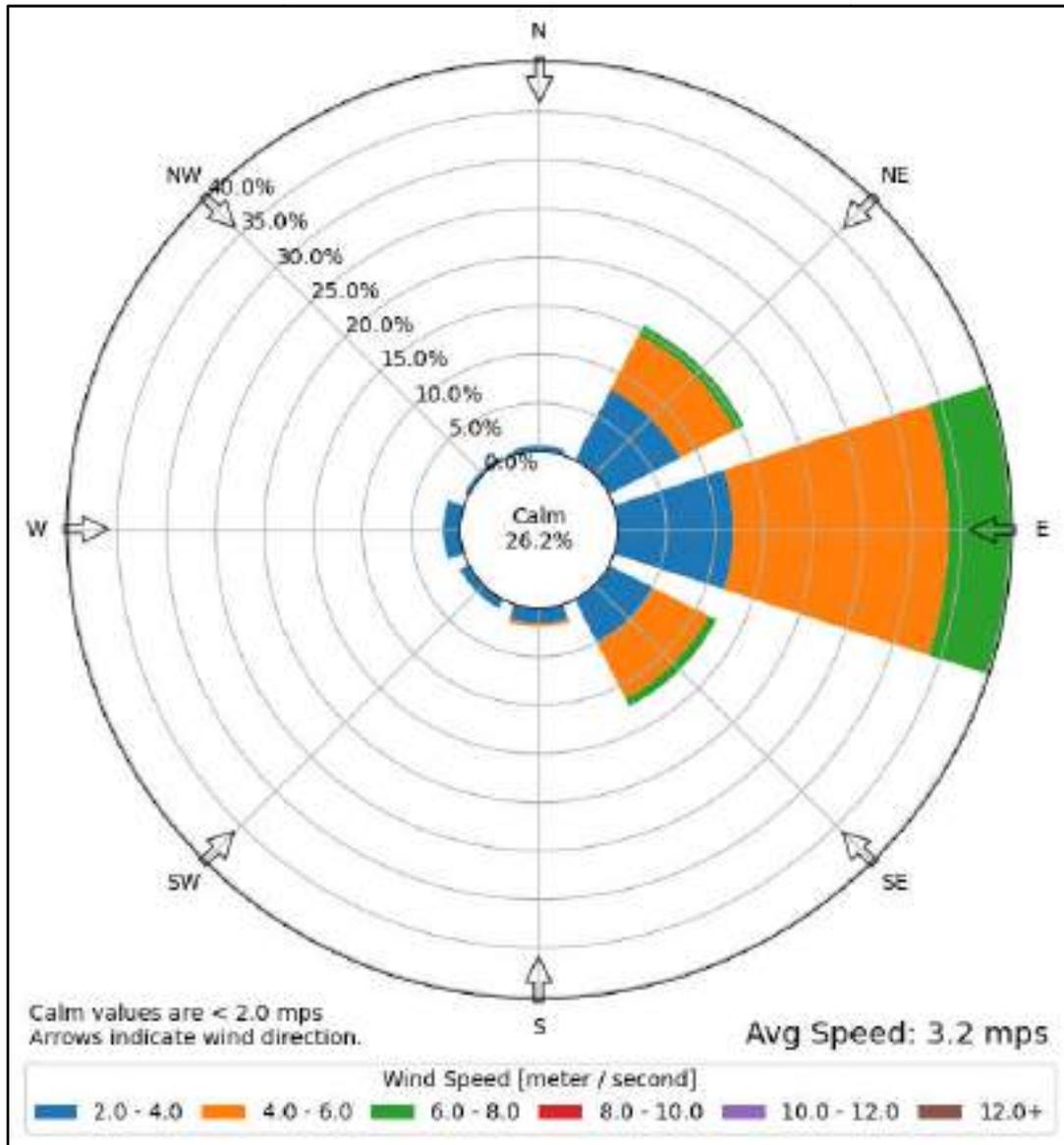


Figure 3-17 Windrose for February 2020 – From Chennai Airport data

3.5 Ambient Air Quality

The Environmental survey was carried for Ambient Air Quality Monitoring (AAQM), considering **10 AAQ** stations. The AAQM stations were chosen on the basis wind directions.

The Four AAQ station were fixed within 5km radius and another Six AAQ stations were fixed above 5km radius

- Upwind direction - 1Nos.
- Downwind direction - 2Nos.
- Crosswind direction - 7Nos.

The locations of the AAQM stations in the project impact area are presented in **Table 3-4** and the map showing Ambient air quality monitoring stations are given in **Figure 3-18**.

The standard methods recommended by MoEF&CC used for analysis of the parameters viz., PM₁₀, PM_{2.5}, Sulphur Dioxide (SO₂) Nitrogen Oxides (NO_x). Carbon monoxide (CO) and Ammonia (NH₃), etc. are presented **Table 3-5**.

The comprehensive analysis values during the monitoring period from April- June 2018 is presented in **Table 3-6**. Validation done for the AAQ parameters during February 2020 is given in **Table 3-7**.

Table 3-4 Ambient Air Quality Monitoring locations

S.No	AAQ Station no.	Location	Direction	Distances (km)	Category of Wind
1	A1	Project location	N	0.5	Cross wind
2	A2	Soorapundi	E	1.25	Up Wind
3	A3	Madharpakkam	SW	3.50	Down Wind
4	A4	Pallavada	N	3.8	Cross wind
5	A5	Burma nagar	NNE	7.5	Cross Wind
6	A6	Pappankuppam	SE	8.4	Cross wind
7	A7	Periyapuliyur	SSE	7.4	Cross wind
8	A8	Sathyavedu	SW	8.5	Down Wind
9	A9	Palagunta	NW	6.50	Cross Wind
10	A10	Madanapalem	NNW	9.2	Cross Wind

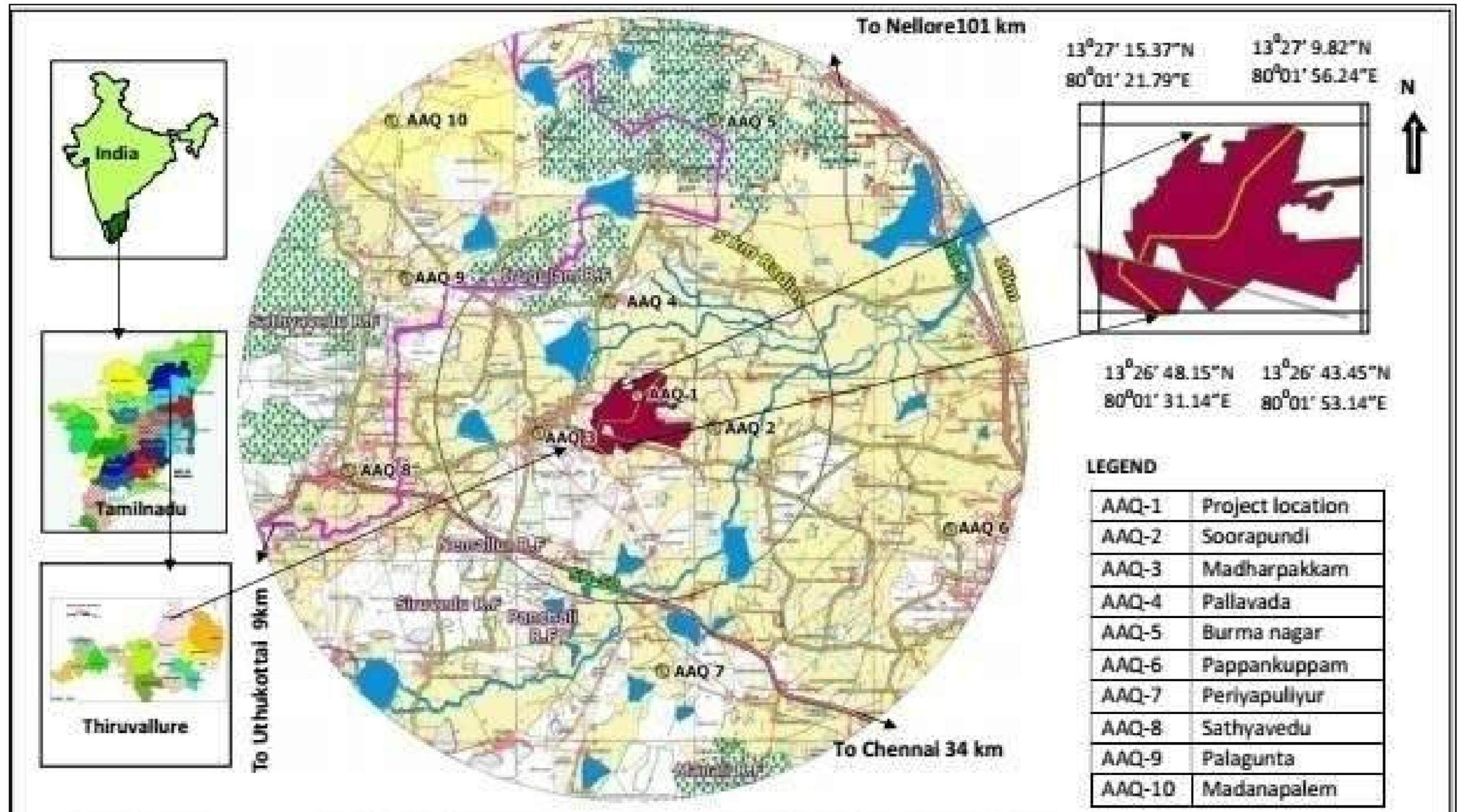


Figure 3-18 Map showing Ambient Air Quality monitoring locations

Table 3-5 Analytical methods for analysing Ambient Air Quality

S.No	Parameters	Analytical method	NAAQ standards: 2009		Sampling Time
1	Sulphur Dioxide (SO ₂), µg/m ³	IS:5182(Part-2):2001 (Reaff:2006)	50 (Annual)	80(24 Hours)	24 Hours
2	Nitrogen Dioxide (NO ₂), µg/m ³	IS: 5182 (Part - 6): 2006	40 (Annual)	80 (24 Hours)	24 Hours
3	Particulate Matter (PM _{2.5}), µg/m ³	IS: 5182 (Part - 23): 2006	40 (Annual)	60 (24 hours)	24 Hours
4	Particulate Matter (PM ₁₀), µg/m ³	IS:5182 (Part– 23): 2006	60 (Annual)	100 (24 hours)	24 Hours
5	CO mg/m ³	IS:5182(Part–10):1999 (Reaff:2006)	2 (8 hours)	4 (1hour)	8 Hours
6	Pbµg/m ³	IS:5182(Part–22):2004 (Reaff:2006)	0.5(Annual)	1(24 hours)	24 Hours
7	O ₃ , µg/m ³	IS: 5182 (Part – 9): 1974	100(8hours)	180 (1hour)	8 Hours
8	NH ₃ , µg/m ³	APHA(air) 2nd edition (Indophenol-blue method)	100(Annual)	400(24 hours)	8 Hours
9	Benzene, µg/m ³	IS:5182(Part–11):1999 (RA:2009)	5 (Annual)	5 (Annual)	24 Hours
10	Benzo (a) pyrene, ng/m ³	IS:5182(Part–12):2004 (RA:2009)	1 (Annual)	1 (Annual)	24 Hours
11	Arsenic, ng/ m ³	APHA (air) 2nd edition	6 (Annual)	6 (Annual)	24 Hours
12	Nickel ng/ m ³	In house method (AAS method) based on CPCB guidelines volume 1	20(Annual)	20(Annual)	24 Hours

Table 3-6 Ambient Air Quality Results (April - June 2018)

Parameters	Conc.	NAAQ Standards	Locations									
			Project site	Soorapundi	Madharapakkam	Pallavada	Burma Nagar	Pappan kuppam	Periyapuliur	Sathyavedu	Palagunta	Madanapalem
			A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
PM10 Conc. ($\mu\text{g}/\text{m}^3$)	Min.	100 (24 Hours)	41.2	56.2	49.7	52.4	49.0	35.8	56.2	35.8	52.4	56.2
	Max		67.8	76.8	74.3	69.4	67.5	58.4	79.8	53.4	69.4	76.8
	Avg.		52.8	66.0	60.6	61.2	59.2	47.1	67.2	45.2	61.2	66.0
	98th 'tile		66.5	76.6	72.9	69.0	67.4	57.4	78.4	52.9	69.0	76.6
PM _{2.5} Conc. ($\mu\text{g}/\text{m}^3$)	Min.	60 (24 Hours)	21.4	23.5	23.4	17.5	17.4	17.4	29.4	18.2	17.4	23.4
	Max		29.3	36.1	33.5	22.5	25.7	24.8	38.6	25.6	25.7	33.5
	Avg.		25.4	29.5	27.3	20.2	20.7	20.5	34.1	21.2	27	27.3
	98th 'tile		28.7	35.3	33.0	22.2	24.8	24.3	38.4	24.8	24.8	33.0
SO ₂ Conc. ($\mu\text{g}/\text{m}^3$)	Min.	80 (24 Hours)	6.2	3.5	3.6	8.7	8.7	6.2	7.5	3.5	3.5	3.6
	Max		12.4	6.8	7.8	16.4	16.4	12.5	13.8	6.8	6.8	7.8
	Avg.		9.0	5.0	5.9	12.4	11.9	9.4	10.4	4.9	5.0	5.9
	98th 'tile		12.4	6.7	7.7	16.0	15.8	12.5	13.2	6.6	6.7	7.7
NO ₂ Conc. ($\mu\text{g}/\text{m}^3$)	Min.	80 (24 Hours)	22.4	17.5	15.2	15.6	16.2	17.6	18.8	16.0	17.5	17.6
	Max		31.5	22.1	22.5	23.3	23.3	27.1	26.4	22.1	22.1	27.1
	Avg.		26.0	19.5	18.3	19.8	19.7	23.2	23.0	19.1	19.5	23.2
	98th 'tile		30.8	21.8	22.0	22.9	22.9	26.8	6.2	22.1	21.8	26.8
CO (mg/m^3)	Min	4	0.17	0.14	0.05	BDL	0.07	0.03	0.08	BDL	BDL	BDL

Parameters	Conc.	NAAQ Standards	Locations									
			Project site	Soorapundi	Madharapakkam	Pallavada	Burma Nagar	Pappan kuppam	Periyapuli yur	Sathyavedu	Palagunta	Madanapalem
			A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
	Max	(1hour)	0.23	0.22	0.16	BDL	0.07	0.03	0.08	BDL	BDL	BDL
	Avg		0.2	0.18	0.10	BDL	0.07	0.03	0.08	BDL	BDL	BDL
	98 th 'tile		0.19	0.18	0.10	BDL	0.06	0.02	0.07	BDL	BDL	BDL
NH ₃ (µg/m ³)	Min	400 (24 hours)	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	Max		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	Avg		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL
	98 th 'tile		BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL

Table 3-7 Ambient air Quality Validation Results (February 2020)

Parameters	Conc.	NAAQ Standards	Locations									
			Project site	Soorapundi	Madharapakkam	Pallavada	Burma Nagar	Pappankuppam	Periyapuli yur	Sathyavedu	Palagunta	Madanapalem
			AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	AAQ9	AAQ10
PM ₁₀ Conc. (µg/m ³)	Min.	100 (24 Hours)	44.32	57.59	54.58	53.55	48.62	41.15	58.48	40.96	53.55	55.75
	Max		59.89	77.81	73.75	72.36	65.70	55.60	79.02	55.35	72.36	75.32
	Avg.		50.46	65.56	62.15	60.97	55.36	46.85	66.58	46.64	60.97	63.47
	98 th 'tile		59.73	77.60	73.56	72.17	65.53	55.45	78.81	55.20	72.17	75.12
PM _{2.5} Conc. (µg/m ³)	Min.	60 (24 Hours)	23.02	29.65	28.16	27.64	25.17	21.44	30.10	21.35	27.64	28.73
	Max		31.11	40.07	38.04	37.35	34.01	28.97	40.67	28.84	37.35	38.82
	Avg.		26.21	33.76	32.06	31.47	28.66	24.41	34.27	24.30	31.47	32.71
	98 th 'tile		31.02	39.96	37.94	37.25	33.92	28.89	40.56	28.76	37.25	38.72
SO ₂ Conc.	Min.	80	8.22	6.16	6.00	9.83	11.05	7.71	9.11	6.74	7.01	6.44

Parameters	Conc.	NAAQ Standards	Locations									
			Project site	Soorapundi	Madharapakkam	Pallavada	Burma Nagar	Pappankuppam	Periyapurur	Sathyavedu	Palagunta	Madanapalem
			AAQ1	AAQ2	AAQ3	AAQ4	AAQ5	AAQ6	AAQ7	AAQ8	AAQ9	AAQ10
$\mu\text{g}/\text{m}^3$	Max	(24 Hours)	11.11	8.32	8.11	13.28	14.93	10.41	12.31	9.11	9.47	8.70
	Avg.		9.36	7.01	6.83	11.19	12.58	8.77	10.37	7.68	7.98	7.33
	98th 'tile		11.08	8.30	8.09	13.25	14.89	10.38	12.27	9.09	9.45	8.68
NO_2 Conc. ($\mu\text{g}/\text{m}^3$)	Min.	80 (24 Hours)	17.30	13.18	12.87	20.52	22.96	16.27	19.07	14.34	14.88	13.74
	Max		23.38	17.80	17.38	27.73	31.03	21.99	25.77	19.38	20.10	18.57
	Avg.		19.70	15.00	14.65	23.36	26.14	18.53	21.72	16.33	16.94	15.65
	98th 'tile		23.32	17.75	17.34	27.65	30.94	21.93	25.70	19.33	20.05	18.52
Pb ($\mu\text{g}/\text{m}^3$)	Avg.	1 (24 hour)	BLQ(LOQ 0.05)									
CO (mg/m^3)	Avg.	4 (1hour)	BDL(DL 0.05)									
O_3 ($\mu\text{g}/\text{m}^3$)	Avg.	180 (1hour)	10.38	13.39	12.69	11.85	11.32	10.57	13.60	11.15	12.45	12.96
NH_3 ($\mu\text{g}/\text{m}^3$)	Avg.	400 (24 hours)	6.57	8.63	8.16	8.27	7.24	6.08	8.77	6.05	8.06	8.34
Benzene ($\mu\text{g}/\text{m}^3$)	Avg.	5 (Annual)	BLQ(LOQ 1)									
Benzo (a) pyrene, (ng/m^3)	Avg.	1 (Annual)	BLQ(LOQ 1)									
Arsenic (ng/m^3)	Avg.	6 (Annual)	BLQ(LOQ 2)									
Nickel (ng/m^3)	Avg.	20 (Annual)	BLQ(LOQ 10)									

Note: BLQ – Below Limit Of Quantification; LOQ – Limit Of Quantification

3.5.1 Observations

The Ambient Air Quality was monitored at 10 locations for 6 parameters as per CPCB guidelines within the study area. As per the monitoring done during April- June 2018, the average baseline values were PM_{10} (45.2 - 67.2 $\mu\text{g}/\text{m}^3$), $PM_{2.5}$ (20.2- 34.1 $\mu\text{g}/\text{m}^3$), SO_2 (4.9 -12.4 $\mu\text{g}/\text{m}^3$), NO_2 (18.3 – 26.0 $\mu\text{g}/\text{m}^3$), CO (BDL- 0.2 $\mu\text{g}/\text{m}^3$), NH_3 (BDL).

Baseline data validation for Ambient Air Quality for all the 12 parameters was done in February 2020, the average baseline levels were PM_{10} (46.85 - 66.58 $\mu\text{g}/\text{m}^3$), $PM_{2.5}$ (24.30 – 34.27 $\mu\text{g}/\text{m}^3$), SO_2 (6.83 – 12.58 $\mu\text{g}/\text{m}^3$), NO_2 (14.65 – 26.14 $\mu\text{g}/\text{m}^3$), O_3 (10.38 – 13.60 $\mu\text{g}/\text{m}^3$), NH_3 (6.05 – 8.77 $\mu\text{g}/\text{m}^3$). For other parameters the values were Below Detection Limit.

Based on the monitoring done in April – June 2018 and validation done in February 2020, all the parameters are well within the limits of National Ambient Air Quality Standards at all the monitoring locations.

3.6 Ambient Noise Monitoring

Ten Noise observatory stations are fixed for noise sampling in the study area. The locations of noise observatory stations are presented in **Table 3-8** and **Figure 3-19**.

One station was taken at the project site and another 9 stations were taken in the location of road intersection points, railway station, schools and village administrative office.

Noise level monitoring at each observatory station was carried out three times, uniformly distributed, during the study period of one month. Noise levels were studied separately during day and night at all ten stations. The observed noise levels during the monitoring period from April- June 2018 is presented in **Table 3-9**. The validation done for noise levels during February 2020 is given in **Table 3-10**.

Table 3-8 Noise level monitoring locations

Sl.No.	Noise Observatory Station No.	Location	Direction	Distances (km)
1	N1	Project location	N	0.5
2	N2	Soorapundi	E	1.25
3	N3	Madharpakkam	SW	3.50
4	N4	Pallavada	N	3.8

Sl.No.	Noise Observatory Station No.	Location	Direction	Distances (km)
5	N5	Burma nagar	NNE	7.5
6	N6	Pappankuppam	SE	8.4
7	N7	Periyapuliyur	SSE	7.4
8	N8	Sathyavedu	SW	8.5
9	N9	Palagunta	NW	6.50
10	N10	Madanapalem	NNW	9.2

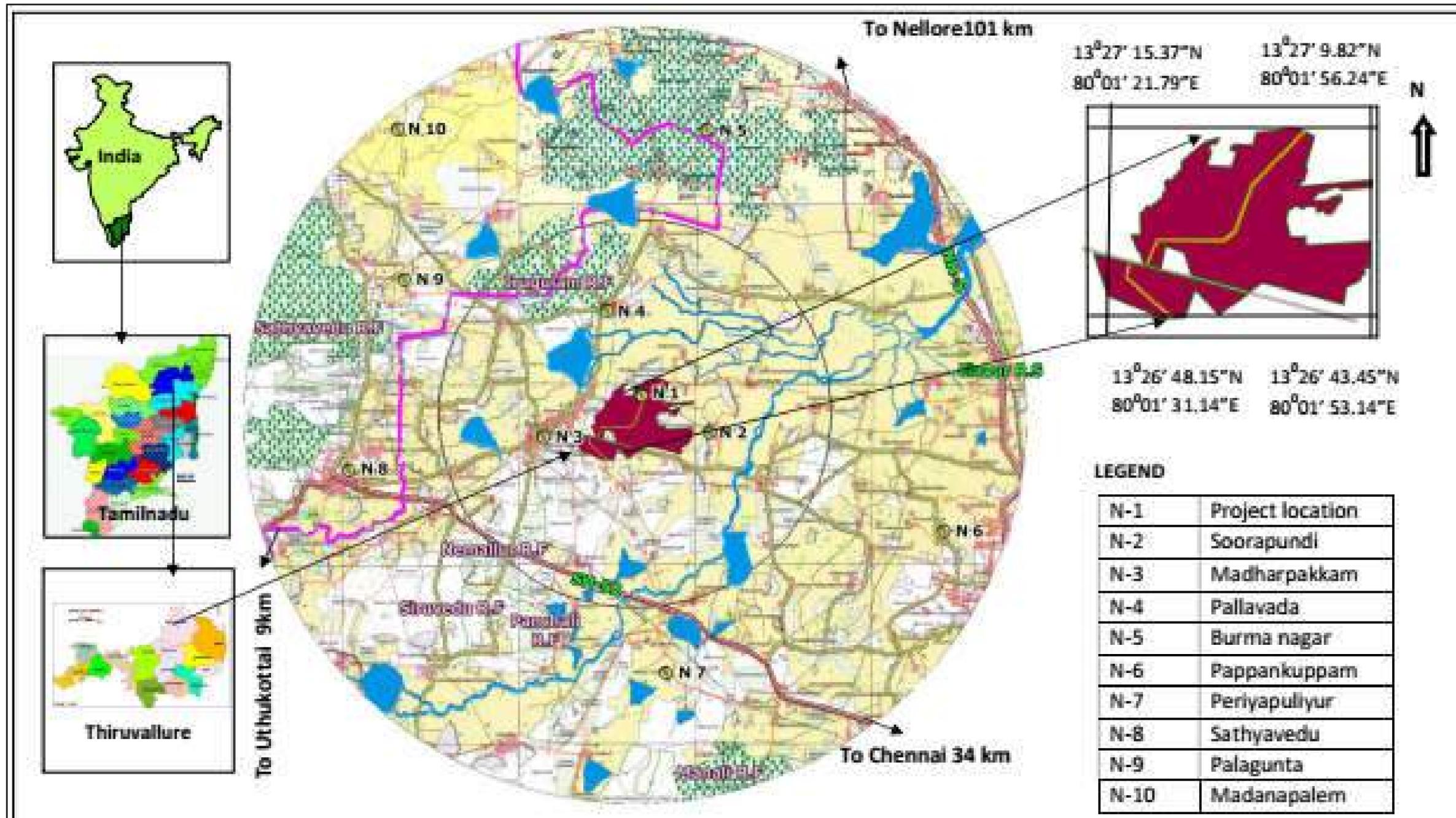


Figure 3-19 Map showing Noise Monitoring locations

Table 3-9 Ambient noise levels during study period (April –June 2018)

Monitoring Stations	Day Time			Night Time			dB(A) standard	
	Max. dB(A)	Min. dB(A)	Avg. dB(A)	Max. dB(A)	Min. dB(A)	Avg. dB(A)	Day time	Night time
Project site	35.45	30.65	34.20	32.10	27.90	24.50	55	45
Soorapundi	38.90	36.98	36.45	35.40	30.50	28.45	55	45
Madharapakka m	36.90	31.60	34.82	35.10	32.70	30.40	55	45
Pallavada	38.90	33.53	34.96	36.95	33.70	32.16	55	45
Burma nagar	36.20	30.60	35.94	35.20	31.20	30.70	55	45
Pappankuppam	37.40	32.75	34.57	33.25	31.40	29.60	55	45
Periyapuliur	35.70	30.02	33.86	31.30	31.50	30.10	55	45
Sathyavedu	38.20	35.43	36.81	32.50	32.40	30.96	55	45
Palagunta	37.50	34.22	35.86	32.65	32.90	29.20	55	45
Madanapalem	36.00	34.80	35.40	33.47	32.75	30.10	55	45

Table 3-10 Validation of Ambient Noise levels within the study area (February2020)

Monitoring Locations	Day Time Avg. dB(A)	Night Time Avg. dB(A)	CPCB Standards dB(A)		Environmental Setting
			Day time	Night time	
Project site	49.1	42.5	75	70	Industrial
Soorapundi	52.4	41.9	55	45	Residential
Madharapakkam	55.3	42.1	55	45	Residential
Pallavada	52.2	41.0	55	45	Residential
Burma nagar	51.4	42.6	55	45	Residential
Pappankuppam	51.8	42.1	55	45	Residential
Periyapuliur	52.6	42.3	55	45	Residential

Monitoring Locations	Day Time Avg. dB(A)	Night Time Avg. dB(A)	CPCB Standards dB(A)		Environmental Setting
			Day time	Night time	
Sathyavedu	56.0	43.6	55	45	Residential
Palagunta	51.8	41.4	55	45	Residential
Madanapalem	50.6	41.7	55	45	Residential

3.6.1 Observations

The observations during the monitoring period (April – June 2018) at all locations are given below:

- At site the day time average noise level was 34.20 dB(A) and the night time noise level was 24.50 dB(A), which is well within the limit prescribed by CPCB (75 dB(A) Day time & 70 dB(A) Night time for industrial area).
- In residential areas, the day time average noise levels varied from 33.86 dB(A) to 36.81 dB(A) and the night time average noise levels varied from 28.45 dB(A) to 32.16 dB(A). The noise levels were well within the limits prescribed by CPCB for residential areas (55 dB(A) day time & 45 dB(A) night time).

The observations of day equivalent and night equivalent noise levels at all locations during validation (February 2020) are given below:

- At site, day time Average noise level was about 49.1 dB(A) and average noise level at night time was 42.5 dB(A), which is within the limit prescribed by CPCB (75 dB(A) Day time & 70 dB(A) Night time for industrial area). The noise levels were well within the limits during the monitoring period (April – June 2018) and also during the validation period (February 2020) at site.
- In residential areas day time noise levels varied from 50.6 dB (A) to 56.0 dB (A) and night time noise levels varied from 41.0 dB(A) to 43.6 dB(A) across the sampling stations. The field observations during the study period indicate that the ambient noise levels at Sathyavedu and Madharapakkam exceeded the limits prescribed by CPCB during day time and during night time the noise levels are within the prescribed limits. (Limits prescribed by CPCB (55 dB(A) day time & 45 dB(A) night time).

3.7 Water Quality Monitoring

Samples were taken from ten locations. Five ground water samples and five surface water samples were collected from the study area.

Water sampling locations are given in **Table 3-11** and **Figure 3-20**. The samples were analysed for all Standard parameters of potable water quality. The Methodology of Analysis is given in **Table 3-12**.

Field monitoring results (April – June 2018) of surface water sample results are given in **Table 3-13** and the monitoring results of validation done in February 2020 is given in **Table 3-14**. Field monitoring results (April – June 2018) of ground water sample results are given in **Table 3-15** and the monitoring results of validation done in February 2020 is given in **Table 3-16**.

Table 3-11 Water quality monitoring locations

Sl.No.	Water Sampling Stations	Location	Type of Source
1	SW 1	Manallur Lake	Surface
2	SW 2	Irugulam Lake	Surface
3	SW 3	Madharpakkam Eri	Surface
4	SW 4	Iguvarpalayam Lake	Surface
5	SW 5	Iguvarpalayam odai	Surface
6	GW 6	Sanaputtur	Sub Surface
7	GW 7	Sathyavedu	Sub Surface
8	GW 8	Irugulam	Sub Surface
9	GW 9	Elavur	Sub Surface
10	GW 10	Chinna Puliyur	Sub Surface

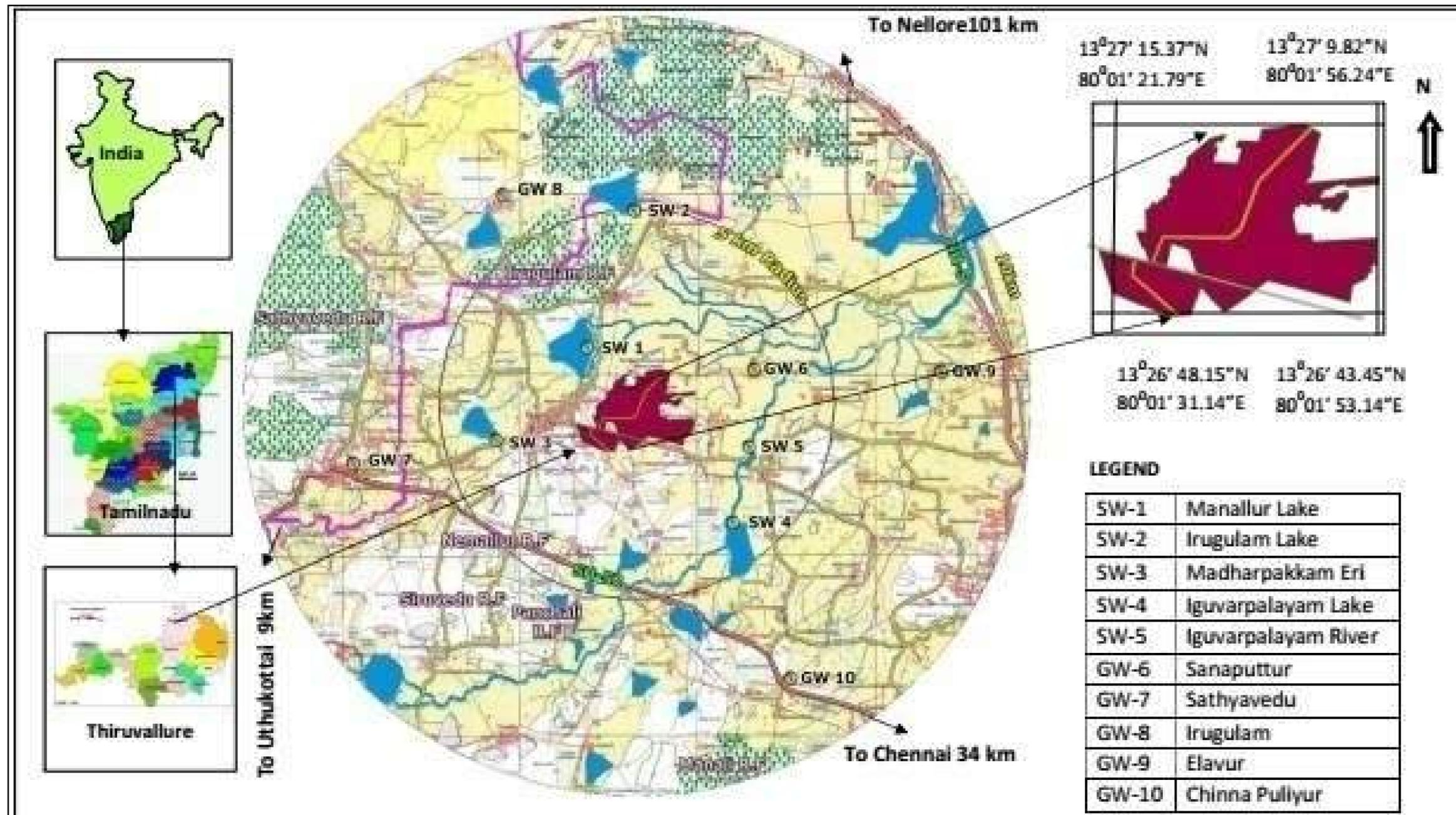


Figure 3-20 Map showing water quality monitoring locations

Table 3-12 Analytical methods

Quality	Parameter	Method
Physico-chemical	pH	pH meter
	Turbidity (NTU)	Nephelometric method
	Total Dissolved Solids, mg/l	Evaporation method
	Total Suspended Solids, mg/l	Filtration & Evaporation method
	Total Hardness as Ca Co ₃	EDTA Titrometric method
	Conductivity uS/cm	Conductivity meter
	Sulphates as SO ₄ , mg/l	Turbidometric method
	Chloride as Cl, mg/l	Argentometric method
	Sodium as Na, mg/l	Flame Photometric method
	Calcium as Ca, mg/l	EDTA Titrometric method
	Magnesium as Mg, mg/l	Calculation method
	Potassium as K, mg/l	Flame Photometric method
	Nitrates as NO ₃ , mg/l	U.V Spectrophotometer method
	Ammonical Nitrogen, mg/l	Titrometric method
Biological	Dissolved Oxygen, mg/l	Azide modification
	BOD ₅ , mg/l	Dilution & DO by Winkler's method
	COD, mg/l	Open reflux method

Table 3-13 Surface water quality monitoring results during monitoring period (April- June 2018)

S.No	Parameters	Surface water standards (IS 2296 Class-A)	Manallur Lake	Irugulam lake	Madharapakka m Eri	Iguvarpalayam Lake	Iguvarpalaya m odai
1	pH at 25°C	6.5-8.5	7.12	7.03	7.12	6.43	6.90
2	Turbidity (NTU)	1	1.3	1.5	0.8	1.6	1.1
3	Total Dissolved Solids, mg/l	500	370	430	280	390	280
4	Total Suspended Solids, mg/l	-	15	29	08	12	15
5	Total Hardness as Ca Co ₃	200	240	360	265	355	270
6	Conductivity uS/cm	-	515	745	670	780	520
7	Sulphates as SO ₄ , mg/l	400	75	45	60	35	55
8	Chloride as Cl, mg/l	250	175	205	190	215	195
9	Sodium as Na, mg/l	-	65	85	90	95	72
10	Calcium as Ca, mg/l	-	52	60	45	55	65
11	Magnesium as Mg, mg/l	-	35	40	29	34	40
12	Potassium as K, mg/l	-	1	-	-	4	-
13	Fluoride as F, mg/l	1.5	0.20	0.15	0.15	0.15	0.20
14	Dissolved Phosphate as PO ₄ , mg/l	-	0.01	0.01	0.01	0.02	0.01
15	Nitrates as NO ₃ , mg/l	20	10.40	8.60	7.50	60.10	5.50
16	Aluminum as Al, mg/l	-	<0.01	<0.01	<0.01	<0.01	<0.01

S.No	Parameters	Surface water standards (IS 2296 Class-A)	Manallur Lake	Irugulam lake	Madharapakka m Eri	Iguvarpalayam Lake	Iguvarpalayam odai
17	Manganese as Mn, mg/l	0.5	0.19	0.10	0.05	0.01	0.10
18	Iron as Fe, mg/l	0.3	0.05	0.10	0.10	0.05	0.15
19	Ammonical Nitrogen, mg/l	-	11	13	12	15	10
20	Dissolved Oxygen, mg/l	6.0	4.9	5.7	6.2	5.5	5.9
21	BOD ₃ , mg/l	2.0	1.3	1.7	1.0	2.0	1.5
22	COD, mg/l	-	20.1	15.6	10.5	10.8	9.1

Table 3-14 Surface water quality monitoring results of validation (February 2020)

S. No	Parameter	Unit	Surface water standards (IS 2296 Class-A)	Manallur Lake	Irugulam lake	Madharapakka m Eri	Iguvarpalayam Lake	Iguvarpalayam odai
1	Turbidity	NTU	1	4.3	5.9	2.6	2.1	6.2
2	pH (at 25°C)	--	6.5-8.5	7.31	7.19	7.04	6.93	7.23
3	Electrical Conductivity	µS/cm	-	796	973	879	916	692
4	Total Dissolved Solids	mg/l	500	495	666	595	622	441
5	Total Suspended Solids	mg/l	-	24	38	16	13	43
6	Total Alkalinity as CaCO ₃	mg/l	-	104	161	76	168	113
7	Total Hardness as CaCO ₃	mg/l	300	247	366	280	382	275
8	Sodium as Na	mg/l	-	58	83	96	63	43

S. No	Parameter	Unit	Surface water standards (IS 2296 Class-A)	Manallur Lake	Irugulam lake	Madharapakkam Eri	Iguvarpalayam Lake	Iguvarpalayam odai
9	Potassium as K	mg/l	-	2	3	2	5	1
10	Calcium as Ca	mg/l	-	51	79	56	72	49
11	Magnesium as Mg	mg/l	-	29	41	34	49	37
12	Chloride as Cl	mg/l	250	131	183	198	149	103
13	Sulphate as SO ₄	mg/l	400	72	58	93	54	47
14	Nitrate as NO ₃	mg/l	20	12.7	6.9	8.6	10.2	11.3
16	Fluorides as F	mg/l	1.5	0.23	0.18	0.15	0.19	0.21
17	Cyanide	mg/l	0.05	BLQ (LOQ 0.01)	BLQ(LOQ 0.01)	BLQ(LOQ 0.01)	BLQ (LOQ 0.01)	BLQ (LOQ 0.01)
18	Arsenic	mg/l	0.05	BLQ (LOQ 0.005)	BLQ (LOQ 0.005)	BLQ (LOQ 0.005)	BLQ (LOQ 0.005)	BLQ (LOQ 0.005)
19	Boron as B	mg/l	-	BLQ(LOQ 0.1)	BLQ(LOQ 0.1)	BLQ(LOQ 0.1)	BLQ(LOQ 0.1)	BLQ(LOQ 0.1)
20	Cadmium as Cd	mg/l	0.01	BLQ(LOQ 0.001)	BLQ(LOQ 0.001)	BLQ(LOQ 0.001)	BLQ(LOQ 0.001)	BLQ(LOQ 0.001)
21	Chromium, Total	mg/l	0.05	BLQ(LOQ 0.01)	BLQ(LOQ 0.01)	BLQ(LOQ 0.01)	BLQ(LOQ 0.01)	BLQ(LOQ 0.01)
22	Copper as Cu	mg/l	1.5	BLQ(LOQ 0.01)	BLQ(LOQ 0.01)	BLQ(LOQ 0.01)	BLQ(LOQ 0.01)	BLQ(LOQ 0.01)
23	Lead as Pb	mg/l	0.1	BLQ(LOQ 0.005)	BLQ(LOQ 0.005)	BLQ(LOQ 0.005)	BLQ(LOQ 0.005)	BLQ(LOQ 0.005)
24	Manganese as Mn	mg/l	0.5	BLQ(LOQ 0.05)	BLQ(LOQ 0.05)	BLQ(LOQ 0.05)	BLQ(LOQ 0.05)	BLQ(LOQ 0.05)

S. No	Parameter	Unit	Surface water standards (IS 2296 Class-A)	Manallur Lake	Irugulam lake	Madharapakkam Eri	Iguvarpalayam Lake	Iguvarpalayam odai
25	Mercury	mg/l	0.001	BLQ(LOQ 0.0005)	BLQ(LOQ 0.0005)	BLQ(LOQ 0.0005)	BLQ(LOQ 0.0005)	BLQ(LOQ 0.0005)
26	Nickel as Ni	mg/l	-	BLQ(LOQ 0.01)	BLQ(LOQ 0.01)	BLQ(LOQ 0.01)	BLQ(LOQ 0.01)	BLQ(LOQ 0.01)
27	Selenium as Se	mg/l	0.01	BLQ(LOQ 0.005)	BLQ(LOQ 0.005)	BLQ(LOQ 0.005)	BLQ(LOQ 0.005)	BLQ(LOQ 0.005)
29	Dissolved Oxygen	mg/l	6	5.6	5.9	5.5	5.7	6.1
30	Chemical Oxygen Demand as O ₂	mg/l	-	42.7	23.6	49.2	31.5	6.2
31	BOD, 3 days @ 27°C as O ₂	mg/l	2	4.9	3.4	5.2	4.1	1.9

Note: BLQ – Below Limit Of Quantification; LOQ – Limit Of Quantification

3.7.1 Observations during monitoring period (April- June 2018)

- In the surface water the pH value ranged from 6.43 to 7.12. pH of all the samples are within the limits of IS 2296:1992, Class A.
- The Electrical Conductivity (EC) of the collected surface water ranges from 515 $\mu\text{S}/\text{cm}$ to 780 $\mu\text{S}/\text{cm}$.
- TDS levels range from 280 to 430 mg/l, which is well within the limits of IS 2296:1992, Class A.
- The chloride content in the collected surface water ranges from 175 mg/l to 215 mg/l. Limit for chloride is 250 mg/l. The chloride content in all the samples are well within the limits of IS 2296:1992, Class A.
- The sulphate content in the collected surface water sample ranges from 35 mg/l to 75 mg/l. Limit for sulphate is 400 mg/l. All the samples are within the limit.
- The Total hardness of the collected surface water sample ranges from 240 mg/l to 360 mg/l and some of the samples are exceeding the limits.
- DO levels varied from 4.9 mg/l to 6.2 mg/l and BOD levels varied from 1.0 mg/l to 2.0 mg/l.

3.7.2 Observations during validation period (February 2020)

- In the surface water the pH value ranged from 6.93 to 7.31 which is well within the limits of IS 2296:1992, Class A.
- The Electrical Conductivity (EC) of the collected surface water ranged from 692 $\mu\text{S}/\text{cm}$ to 973 $\mu\text{S}/\text{cm}$.
- TDS levels range from 441 to 666 mg/l, which is well within the limits of IS 2296:1992, Class A & C. The TDS levels during monitoring period also were within the limits of IS 2296:1992 for Class A.
- The chloride content in the collected surface water ranges from 103 mg/l to 198 mg/l. Limit for chloride is 250 mg/l. The chloride content in all the samples were well within the limits of IS 2296:1992, Class A. The chloride content of all the samples collected during monitoring period also were within the limits of IS 2296:1992 for Class A.
- The sulphate content in the collected surface water sample ranges from 47 mg/l to 93 mg/l. Limit for sulphate is 400 mg/l. All the samples are within the limit. The sulphate content of the samples collected during monitoring period also were within the limits of IS 2296:1992 for Class A.

- The Total hardness of the collected surface water sample ranges from 247 mg/l to 382 mg/l. Total hardness exceeds the limit of IS 2296:1992 for class A for all the samples.
- Fluoride content in the samples ranged from 0.15 mg/l to 0.23 mg/l and is well within the limits of IS 2296:1992 for Class A.
- Heavy metals such as Arsenic, total Chromium, Cadmium, Copper, Lead, Manganese, Mercury, Nickel, Selenium were below detectable limits.
- Dissolved Oxygen values of all the samples ranged from 5.5 to 6.1 mg/l. The sample collected from Iguvarpalayam odai meets the standard of IS 2296:1992 for Class A.
- BOD levels ranged from 1.9 mg/l to 5.2 mg/l. The sample collected from Iguvarpalayam odai meets the standard of IS 2296:1992 for Class A.

Table 3-15 Ground water quality results during monitoring period (April –June 2018)

S.No	Parameter	Drinking water Standard (IS 10500: 2012) Permissible Limit	Drinking water Standard (IS 10500: 2012) Acceptable Limit	Sanaputtur	Sathyavedu	Irugulam	Elavur	Chinna Puliur
1	pH at 25°C	NR	6.5-8.5	6.71	7.20	7.20	6.80	7.20
2	Turbidity (NTU)	5	1	15.6	10.5	12.1	10.9	10.6
3	Total Dissolved Solids, mg/l	2000	500	1020	1510	1270	1450	1120
4	Total Suspended Solids, mg/l	-	-	36	28	25	36	29
5	Total Hardness as Ca Co ₃	600	200	510	470	280	260	160
6	Conductivity µS/cm	-	-	790	670	795	685	480
7	Sulphates as SO ₄ , mg/l	400	200	60	70	84	54	45
8	Chloride as Cl, mg/l	1000	250	345	298	357	420	212
9	Fluoride as F, mg/l	1.5	1	<0.05	<0.05	BDL	<0.05	BDL
10	Dissolved Phosphate as PO ₄ , mg/l	-	-	0.08	0.06	0.04	0.06	0.02
11	Iron as Fe, mg/l	NR	0.3	0.20	0.15	0.09	0.55	0.62
12	Manganese as Mn, mg/l	0.3	0.1	<0.01	<0.01	<0.01	<0.01	<0.01
13	Potassium as K, mg/l	-	-	<1.0	4.3	<1.0	<1.0	6.5
14	Sodium as Na, mg/l	-	-	76	124	127	182	90
15	Calcium as Ca, mg/l	200	75	35	86	72	67	63
16	Nitrates as NO ₃ , mg/l	NR	45	12.50	10.90	9.60	6.10	5.90
17	Aluminium as Al, mg/l	0.2	0.03	<0.01	<0.01	<0.01	<0.01	<0.01
18	Magnesium as Mg, mg/l	100	30	8.60	11.0	21.6	15.2	11.1

S.No	Parameter	Drinking water Standard (IS 10500: 2012) Permissible Limit	Drinking water Standard (IS 10500: 2012) Acceptable Limit	Sanaputtur	Sathyavedu	Irugulam	Elavur	Chinna Puliur
19	Ammoniacal Nitrogen, mg/l	-	-	0.14	0.15	0.45	0.14	0.55
20	Dissolved Oxygen, mg/l	-	-	5.2	5.0	4.4	4.6	5.4
21	BOD ₃ , mg/l	-	-	26	20	31	26	19
22	COD, mg/l	-	-	70	56	45	61	31

Table 3-16 Groundwater quality monitoring results of validation (February 2020)

S.No	Parameters	Unit	Drinking water Standard (IS 10500: 2012) Permissible Limit	Drinking water Standard (IS 10500: 2012) Acceptable Limit	Sanaputtur	Sathyavedu	Irugulam	Elavur	Chinna Puliur
1	Colour	Hazen	15	5	BLQ(LOQ 1)				
2	Turbidity	NTU	5	1	BLQ(LOQ 0.1)				
3	pH	--	NR	6.5-8.5	6.82	7.26	7.04	6.96	7.38
4	Conductivity	µS/cm	-	-	736	1157	1271	1352	893
5	Total Dissolve Solids	mg/l	2000	500	452	732	806	860	578
6	Total Suspended Solids		-	-	BLQ(LOQ 1)				
7	Alkalinity as CaCO ₃	mg/l	600	200	84	119	142	97	68
8	Total Hardness as CaCO ₃	mg/l	600	200	183	332	276	233	206
9	Sodium as Na	mg/l	-	-	59	114	135	162	97

S.No	Parameters	Unit	Drinking water Standard (IS 10500: 2012) Permissible Limit	Drinking water Standard (IS 10500: 2012) Acceptable Limit	Sanaputtur	Sathyavedu	Irugulam	Elavur	Chinna Puliur
10	Potassium as K	mg/l	-	-	1.8	5.2	2.4	3.1	4.9
11	Calcium as Ca	mg/l	200	75	42	73	59	48	45
12	Magnesium as Mg	mg/l	100	30	18.9	36.4	31.3	27.5	22.7
13	Chloride as Cl	mg/l	1000	250	135	243	285	351	224
14	Sulphate SO ₄	mg/l	400	200	68.4	87.5	92.5	124.4	81.3
15	Nitrate as NO ₃	mg/l	NR	45	12.5	10.9	9.60	6.1	5.9
16	Fluorides as F		1.5	1	0.27	0.35	0.24	0.41	0.32
17	Cyanide	mg/l	NR	0.05	BLQ(LOQ 0.01)				
18	Arsenic as As	mg/l	0.05	0.01	BLQ(LOQ 0.005)				
19	Boron as B	mg/l	1.0	0.5	BQL(LOQ 0.1)				
20	Cadmium as Cd	mg/l	NR	0.003	BQL(LOQ 0.001)				
21	Chromium as Cr	mg/l	NR	0.05	BQL(LOQ 0.01)				
22	Copper as Cu	mg/l	1.5	0.05	BLQ(LOQ 0.01)				
23	Lead as Pb	mg/l	NR	0.01	BLQ(LOQ 0.005)				
24	Manganese as Mn	mg/l	0.3	0.1	BLQ(LOQ)	BLQ(LOQ)	BLQ(LOQ)	BLQ(LOQ)	BLQ(LOQ)

S.No	Parameters	Unit	Drinking water Standard (IS 10500: 2012) Permissible Limit	Drinking water Standard (IS 10500: 2012) Acceptable Limit	Sanaputtur	Sathyavedu	Irugulam	Elavur	Chinna Puliur
					0.05)	0.05)	0.05)	0.05)	0.05)
25	Mercury	mg/l	NR	0.001	BLQ(LOQ 0.0005)				
26	Nickel as Ni	mg/l	NR	0.02	BLQ(LOQ 0.01)				
27	Selenium as Se	mg/l	NR	0.01	BLQ(LOQ 0.005)				

Note: BLQ – Below Limit Of Quantification; LOQ – Limit Of Quantification

3.7.3 Observations during monitoring period (April- June 2018)

- The ground water results of the study area indicate that the pH range varied from 6.71 to 7.20. It is observed that the pH range is within the limits of IS 10500:2012.
- The Total Dissolved Solids range varied between 1020 - 1510 mg/l for the ground water. All the samples are well within the permissible limit of IS 10500: 2012.
- The acceptable limit of the chloride content is 250 mg/l and permissible limit is 1000 mg/l. The chloride content in the ground water for study area ranges between 212 mg/l – 420 mg/l. It is observed that all are well within the permissible limit of IS 10500:2012.
- The acceptable limit of the sulphate content is 200 mg/l and permissible limit is 400 mg/l. the sulphate content of the ground water of the study area is varied between 45 mg/l – 84 mg/l. It is observed that all the samples are within the acceptable limit of the IS 10500: 2012.
- The Total hardness ranged between 160 mg/l – 510 mg/l for ground water samples. It is observed that Total hardness is within the permissible limit of IS 10500: 2012.

3.7.4 Observation during Validation period (February 2020)

- The ground water results of the study area indicate that the pH range varied from 6.82 to 7.38. It is observed that the pH range is within the limits of IS 10500:2012.
- The Total Dissolved Solids range varied between 452- 860mg/l for the ground water. All the samples are well within the permissible limit of IS 10500: 2012.
- The acceptable limit of the chloride content is 250 mg/l and permissible limit is 1000 mg/l. The chloride content in the ground water for study area ranges between 135mg/l – 351mg/l. It is observed that all are well within the permissible limit of IS 10500:2012. The Chloride content of samples collected during monitoring period also was within the permissible limit of IS 10500:2012.
- The acceptable limit of the sulphate content is 200 mg/l and permissible limit is 400 mg/l. the sulphate content of the ground water of the study area is varied between 68.4 mg/l – 124.4 mg/l. It is observed that all the samples are within the acceptable limit of the IS 10500: 2012. The sulphate content of the samples collected during monitoring period also was within the permissible limit of IS 10500:2012.
- The Total hardness ranged between 183mg/l – 332mg/l for ground water samples. It is observed that Total hardness is within the permissible limit of IS

10500: 2012. The total hardness of samples collected during monitoring period also was within the permissible limit of IS 10500:2012.

- Fluoride content of the samples ranged from 0.24 mg/l to 0.41 mg/l. The Fluoride content of all the samples were within the acceptable limit of IS 10500:2012.
- Heavy metals such as Cyanide, Arsenic, Boron, Cadmium, Chromium, Copper, Lead, Manganese, Mercury, Nickel and Selenium were below detectable limits.

3.8 Water table in the study area

Ground water table was identified at four locations during February 2020, near the project site using piezometer. The details are given in **Table 3-17** below.

Table 3-17 Ground water table near the project site

Well No	Location	Latitude	Longitude	Ground Water depth
1.	Kundelimedu	13°27'19.71"N	80° 1'22.49"E	4 m
2.	Manellore	13°27'23.01"N	80° 1'1.52"E	3.5 m
3.	Sanapoothur	13°27'49.59"N	80° 2'12.11"E	4 m
4.	Soorapoondi	13°26'45.47"N	80° 2'42.43"E	2.2 m

Photographs of monitoring are enclosed in **Figure 3-21**. Based on the ground water table, the map was prepared for the project site and the same is given below in **Figure 3-22**. Water table at site varies from 2.5 m to 4.2 m below ground level.



Figure 3-21 Photograph of Ground water level monitoring

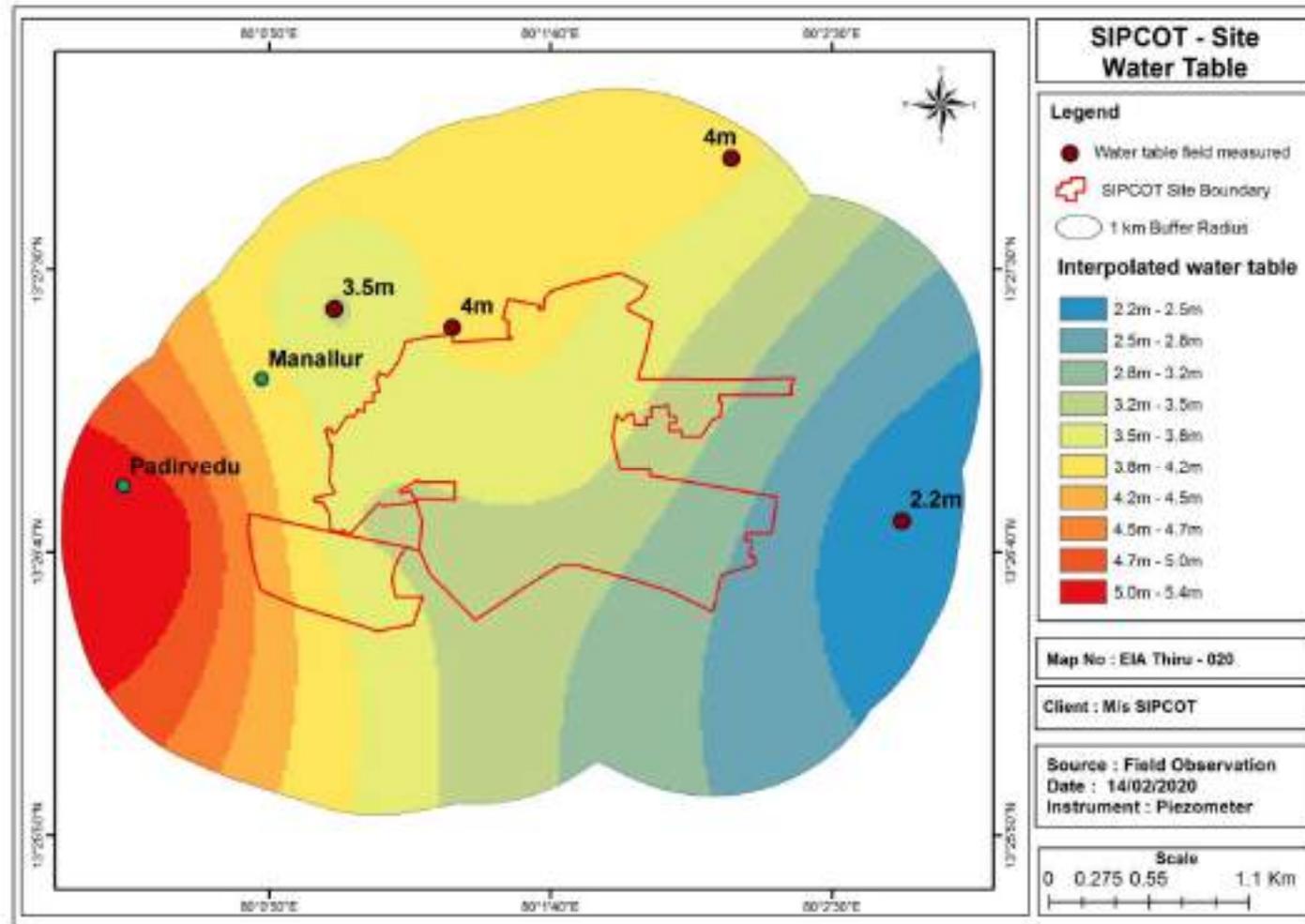


Figure 3-22 Ground water table map showing the project site

3.9 Soil Quality monitoring

Soil quality was monitored at 10 locations within the study area. The monitoring locations are given in **Table 3-18** and **Figure 3-23**. The result of soil quality during monitoring period (April- June 2018) is given in **Table 3-19** and the results of soil quality during validation (February 2020) is given in **Table 3-20**.

Table 3-18 Soil quality monitoring locations

Sl.No.	Soil Sampling Stations	Location
1	S1	Project location
2	S2	Soorapundi
3	S3	Madharpakkam
4	S4	Allipukkam
5	S5	Gumpili
6	S6	Valaimadu
7	S7	Kollanur
8	S8	Sathyavedu
9	S9	Irugulam
10	S10	Appayapalem

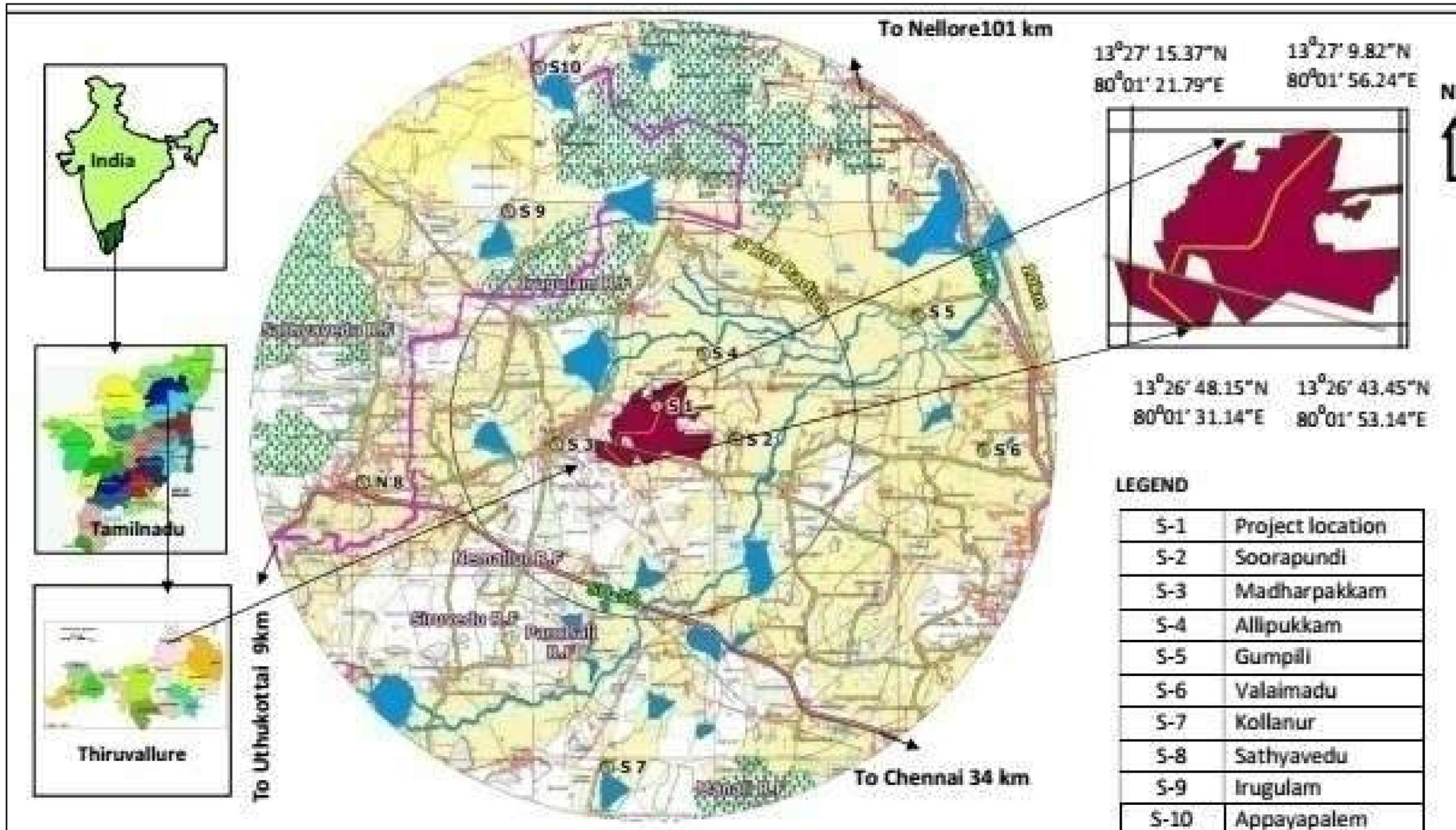


Figure 3-23 Map showing soil quality monitoring locations

Table 3-19 Soil quality monitoring results – monitoring period (April –June 2018)

S.No	Characteristics	Project site	Soorapoon di	Madharapakk am	Allipukka m	Gumpil i	Valaimad u	Kollanu r	Sathyaved u	Irugula m	Appayapale m
1	Type of soil (Texture)	Reddish brown	Brown	Brown	Reddish brown	Brown	Brown	Reddish brown	Brown	Brown	Reddish brown
2	Colour	Silt loam	Sand	Silt loam	Silt loam	Sand	Sand	Clay	Sand	Sand	Clay
3	pH	6.00	5.70	5.10	5.60	5.90	5.40	5.80	5.70	5.45	6.20
4	Conductivity (micro mhos/cm)	140	150	180	190	160	170	180	170	450	140
5	Magnesium (mg/kg)	16	15	21	29	32	35	41	33	42	31
6	Nitrogen (kg/ha)	29	30	31	35	37	28	30	35	35	38
7	Phosphorous (kg/ha)	42.5	46.2	40.5	45.2	44.5	40.8	41.8	45.8	44.3	45.5
8	Potassium, as K ⁺⁺ , (kg/ha)	42	47	50	49	47	45	45	47	49	50
9	Calcium, as Ca ⁺⁺ , mg/kg	20	25	20	20	25	25	21	20	22	24
10	Sand (%)	32.50	90.2	35.50	47.50	91.5	88.5	20	92.2	91.2	22
11	Gravel (%)	7.70	12.80	5.10	5.30	11.50	12.50	7.10	9.20	12.80	9.50
12	Silt and Clay (%)	16.40	40.50	43.50	20.40	39.50	46.00	49.50	19.70	40.90	23.80
13	Infiltration (cm/hr)	3.10	2.90	2.60	2.90	2.70	2.80	2.30	3.10	2.90	3.10
14	Bulk Density (g/cc)	1.50	1.70	1.90	1.45	1.45	1.50	1.75	1.45	1.60	1.55

Table 3-20 Soil quality monitoring results for validation period (February 2020)

S. No	Parameters	Units	Project site	Soorapondi	Madhara pakkam	Allipukkam	Gumpili	Valaimadu	Kollanur	Sathyavedu	Irugulam	Appayapalem
1	Soil Texture	-	Loam	Sand	Silt loam	Silt loam	Loamy Sand	Sand	Clay	Sand	Sand	Clay
2	Sand	%	37.5	93.5	28.3	25.6	83.5	91.3	33.4	93.9	90.3	26.5
3	Silt	%	46.1	3.1	53.4	54.1	12.1	5.6	19.8	4.6	5.9	23.9
4	Clay	%	16.4	3.4	18.3	20.3	4.4	3.1	46.8	1.5	3.8	49.6
5	pH	-	6.42	6.13	5.85	6.07	6.83	5.63	6.22	6.75	7.52	7.19
6	Electrical conductivity	umhos/cm	172	189	167	153	235	267	158	206	281	136
7	Organic Carbon	%	0.68	0.89	0.78	0.71	0.91	0.83	0.75	0.85	0.56	0.81
8	Organic matter	%	1.17	1.53	1.34	1.22	1.57	1.43	1.29	1.47	0.97	1.40
9	Nitrogen as N	mg/kg	252.5	90	105	75	92.5	105	175	112.5	213	202
10	Phosphorus	mg/kg	54.3	42	49	32.5	45	35.5	38	51	23	27
11	Potassium	mg/kg	175	207.5	117.5	232.5	250	200	164	127.6	290	156
12	Boron	mg/kg	BLQ(LOQ 1)	BLQ(LOQ 1)	BLQ(LOQ 1)	BLQ(LOQ 1)	BLQ(LOQ 1)	BLQ(LOQ 1)	BLQ(LOQ 1)	BLQ(LOQ 1)	BLQ(LOQ 1)	BLQ(LOQ 1)
13	Cadmium	mg/kg	BLQ(LOQ 0.1)	BLQ(LOQ 0.1)	BLQ(LOQ 0.1)	BLQ(LOQ 0.1)	BLQ(LOQ 0.1)	BLQ(LOQ 0.1)	BLQ(LOQ 0.1)	BLQ(LOQ 0.1)	BLQ(LOQ 0.1)	BLQ(LOQ 0.1)

Note: BLQ – Below Limit Of Quantification; LOQ – Limit Of Quantification

3.9.1 Summary of analytical results of monitoring period (April- June 2018)

- The pH of the soil samples ranged from 5.1 to 6.2. Indicating that the soils are slightly acidic in nature.
- Conductivity of the soil samples ranged from 140 $\mu\text{mhos/cm}$ to 450 $\mu\text{mhos/cm}$.
- Nitrogen content ranged from 28Kg/ha to 38Kg/ha.
- Phosphorous ranged from 40.5Kg/ha to 46.2 Kg/ha.
- Potassium content ranges from 42Kg/ha to 50Kg/ha.

3.9.2 Summary of analytical results of validation (February 2020)

- The pH of the soil samples ranged from 5.63to 7.52. Indicating that the soils are strongly acidic to neutral in nature.
- Conductivity of the soil samples ranged from 136 $\mu\text{mhos/cm}$ to 281 $\mu\text{mhos/cm}$.
- Organic carbon content ranged from 0.56% to 0.91%.
- Organic matter ranged from 0.97% to 1.57%
- Nitrogen content ranged from 75 mg/Kg to 252.5mg/Kg.
- Phosphorous ranged from 23mg/Kgto 54.3mg/Kg.
- Potassium content ranges from 117.5mg/Kgto 290mg/Kg.

3.10 Biological Environment

Biodiversity encompasses the variety and variability of life on Earth. It refers to the differences within and between all living organisms at their different levels of biological organization – genus, individuals, species and ecosystems. The diversity depends not only on the rate of species input (by immigration and speciation), species output (emigration and extinction) but also on the ecological history of the region. Terrestrial flora and fauna are important features of the environment. Each plant and animal in the world brings something to the environment that another plant or animal including man will rely on. This creates a balance of life that enables the life cycle to survive. The flora and fauna are imperative because they form the fine net of life, where each life has something to contribute even if in a very small way.

Pulicat Bird sanctuary one of India's main water-bird sanctuaries is situated at a distance of ~5.77 km from Project Site. More than 40,000 birds (including 26 rare species), from

various parts of the world visit the sanctuary during the migratory winter season every year, some of which can be easily identified. Some easily found birds include cormorants, darters, grebes, large egrets, little egrets, moorhens, night herons, paddy birds, painted storks, pintails, pond herons, sandpipers, shovellers, terns, white ibises and many more. The migratory birds include garganeys and teals from Canada, snake birds and glossy ibises from Sri Lanka, grey pelicans from Australia, grey herons and open billed stork from Bangladesh, painted storks from Siberia, spoonbills from Burma and the spot-billed duck. Between October and March, many migratory birds visit. The birds can be viewed from the bank or from the watch tower.

There is very little natural vegetation within the study area. The predominant species are small trees and bushes. The growth of natural flora is very limited. It is observed that *Prosopis juliflorais* a predominant species present on uncultivable waste land. There is availability of lotus and water lily in seasonal surface water bodies. *Azadirachta indica* and *Cocos nucifera* have better adaptability among naturally growing species. The villages in study area were found to have coconut plantations, along with trees like neem, tamarind, banyans and mangoes. Plantation of fruit trees & decorative plants like Guava, Papaya, Banana, China rose, Coconut etc. are seen. Paddy is the main crop but pulses, sugarcane & groundnut are also grown in this area. The forest blocks existing in the study area are Arudur RF9.05 Km (NNW), Vanalur RF6.67 Km (WNW) , Irukulam RF3.05 Km (NNW) , Satyavedu RF7.56 Km (WNW), Rajugunta RF5.58 Km (WNW), Ambakkam RF11.03 Km (WSW), Senjiyagaram RF 13.87 Km (SW) , Palavakkam RF 7.36 Km (S), Manali RF7.98 Km (SSE) , Siruvedu RF4.02 Km (SSW) , Panchali RF4.03 Km (SSW), Nemalur RF1.13 Km (WSW) The main composition of trees in forest blocks are *Azadirachta indica*, *Ficus bengalensis*, *Ficus religiosa*, *Phenixspp*, *Emblica officinalis*, *Zziphus jujube*, Eucalyptus.

3.10.1 Flora

To characterize vegetation of the study area, the primary data was collected and analyzed for describing the properties of vegetation with reference to species composition and structural attributes expressed. Identification of flora within a radius of 10 km was done based on personal observations, management plan of Forest Division, authentic secondary literature, and in-depth exploration of the entire area. List of species observed during the study period are listed in **Table 3-21**. There are no rare and endangered species in the study area.

Table 3-21 List of flora reported/observed in the study area

S.No	Botanical Name	Family Name	Local Name (Tamil)	IUCN Red List of Threatened Species
Trees				
1.	<i>Acacia auriculoformis</i>	Fabaceae.	Kaththi Savukku	LC
2.	<i>Acacia nilotica</i>	Fabaceae	Karuvelamaram	LC
3.	<i>Albezia lebbeck</i>	Fabaceae	Siridam	VU
4.	<i>Alstonia scholaris</i>	Apocynaceae	Ezhilai pillai	LC
5.	<i>Annona squamosa</i>	Annonaceae	Sitapalam	NA
6.	<i>Azadirachta indica</i>	Meliaceae	Veppamaram	NA
7.	<i>Cocos nucifera</i>	Arecaceae	Thennai	NA
8.	<i>Ficus religiosa</i>	Moraceae	Arasamaram	NA
9.	<i>Flueggea leucopyrus</i>	Malvaceae	Vellai-pulanci	NA
10.	<i>Mangifera indica</i>	Anacardiaceae	Mamaram	DD
11.	<i>Manilkara zapota (L.) P.Royen</i>	Sapotaceae	Sappotta	NA
12.	<i>Prosopis juliflora</i>	Fabaceae	Seemai karuvel	LC
13.	<i>Psidium guajava L.</i>	Myrtaceae	Koiyya	NA
14.	<i>Spondias mangifera</i>	Anacardiaceae	Pulichha kaai	NA
15.	<i>Syzygium cumini</i>	Myrtaceae	Navva Pazham	NA
16.	<i>Tamarindus indica</i>	Legumes	Puliyamaram	NT
17.	<i>Terminalia arjuna</i>	Combretaceae	Marudha maram	EW
18.	<i>Thespesia Populnea</i>	Mallows	Poovarasu	NA
19.	<i>Thevetia peruviana</i>	Apocynaceae	Ponnarali	NA
20.	<i>Ziziphus mauritiana</i>	Rhamnaceae	Elenthai	LC
21.	<i>Barringtonia acutangula</i>	Lecythidaceae	Samudra Pazham	LC
Grass				
22.	<i>Digitaria bicornis</i>	Poaceae	Menmaiyaana kutai pul	DD
23.	<i>Chloris montana</i>	Poaceae	-	LC
24.	<i>Heteropogon contortus</i>	Poaceae	-	LC
25.	<i>Saccharum officinarum</i>	poaceae	Sugarcane	LC
Herbs				
26.	<i>Solanum trilobatum</i>	Nightshade	Thoodhualai	NA
27.	<i>Crotolaria verrucosa</i>	legume	Salangaichedi	DD
28.	<i>Abutilon indicum</i>	Mallows	Thuthi	CR

LC-Least Concern, DD-Data deficient, CR-Critically Endangered, VU-Vulnerable, NE-Not Evaluated, NA-Not assessed, EN- Endangered, NT-Near Threatened, EW- Extinct in the Wild

Source: <https://www.tntreepedia.com/location-result/?id=Thiruvallur>

3.10.2 Fauna

This area hosts common animals. Indian Dogs, Jungle and Domestic cat, Domestic Cows, Buffaloes, Bullocks, Goat etc. are found amongst mammals. Other common snakes, and lizards like garden lizards are commonly found amongst reptiles. List of animals observed during the field survey are provided in **Table 3-22**.

Table 3-22 List of Fauna observed in the study area

S.No	ZoologicalName	Family Name	Common Name	IUCN Red List of Threatened Species
Amphibians				
1.	<i>Bufo melanostictus</i>	Bufoidea	Toad	LC
2.	<i>Hyla arborea</i>	Hylidae	Tree frog	LC
3.	<i>Rana cyanophlyctis</i>	Bufoidea	Skipper Frog	LC
4.	<i>Hoplobatrachus tigerinus</i>	Bufoidea	Bull Frog	LC
5.	<i>Rhacophorus bimaculatus</i>	Rhacophoridae	Asiatic Tree Frog	VU
Mammals				
6.	<i>Bandicota bengalensis</i>	Muridae	Sind Rice Rat	LC
7.	<i>Cynopterus sphinx</i>	Megabat	Short-nosed Fruit Bat	LC
8.	<i>Funambulus palmaram</i>	Sciuridae	Three striped palm Squirrel	LC
9.	<i>Herpestes edwardii</i>	Herpestidae	Indian Grey Mongoose	LC
10.	<i>Rattus norvegicus</i>	Muridae	Common rat	LC
Reptiles				
11.	<i>Bungarus fasciatus</i>	Elapidae	Banded Krait	LC
12.	<i>Calotes ellioti</i>	Agamidae	Elliot's Forest Lizard	LC
13.	<i>Chameleo zeylanicus</i>	Chamaeleonidae	Indian chameleon	LC
14.	<i>Eryx johnii</i>	Boidae	Indian sand boa	NT
Butterflies				
15.	<i>Graphium agamemnos</i>	Papilionidae	Tailed jay	NA
16.	<i>Hypolimnas bolina</i>	Nymphalidae	Great egg fly	NA
17.	<i>Junonia almanac</i>	Nymphalidae	Peacock pansy	LC
18.	<i>Pachliopta hector Lin.</i>	Papilionidae	Crimson rose	NA

S.No	ZoologicalName	Family Name	Common Name	IUCN Red List of Threatened Species
19.	<i>Papilio demoleu</i>	Papilionidae	Lime butterfly	NA
Birds				
20.	<i>Ardea purpurea</i>	Ardeidae	Purple Heron	LC
21.	<i>Alcedo atthis</i>	Alcedinidae	Common Kingfisher	LC
22.	<i>Athene brama</i>	Strigidae	Spotted Owlet	LC
23.	<i>Bubulcus ibis</i>	Ardeidae	Cattle egret	LC
24.	<i>Centropus sinensis</i>	Cuculidae	Crow Pheasant	LC
25.	<i>Clamator jacobinus</i>	Cuculidae	Jacobin Cuckoo	LC
26.	<i>Copsychus saularis</i>	Muscicapidae	Magpie robin	LC
27.	<i>Dicrurus paradiseus</i>	Dicruridae	Racket tailed drongo	LC
28.	<i>Egretta garzetta</i>	Ardeidae	Little egret	LC
29.	<i>Elanus caeruleus</i>	Accipitridae	Black winged Kite	LC
30.	<i>Francolinus pondicerianus</i>	Phasianidae	Grey Francolin	LC
31.	<i>Galerida cristata</i>	Alaudidae	Crested Lark	LC
32.	<i>Gallus sonneratii</i>	Phasianidae	Grey jungle fowl	LC
33.	<i>Motacilla maderaspatensis</i>	Motacillidae	Large browed Wagtail	LC
34.	<i>Nectarinia asiatica</i>	Nectariniidae	Purple Sun Bird	LC
35.	<i>Pavo cristatus</i>	Phasianidae	Indian Peafowl	LC
36.	<i>Psittacula eupatria</i>	Psittacidae	Alexandrine Parakeet	NT
37.	<i>Psittacula krameri</i>	Psittacidae	Rose ringed Parakeet	LC
38.	<i>Pycnonotus cafer</i>	Pycnonotidae	Red vented Bulbul	LC
39.	<i>Spilornis cheela</i>	Accipitridae	Crested Serpent-eagle	LC

(Note: LC-Least Concern, DD-Data deficient, CR-Critically Endangered, VU-Vulnerable, NE-Not Evaluated, NA-Not assessed, EN- Endangered, NT-Near Threatened, EW- Extinct in the Wild).

Source: <https://indiabiodiversity.org/>

List of fishes reported in Pulicat Lake

Sl.No	Family	Scientific Name	IUCN Red list
1	Acanthuridae	Acanthurus mata	LC
2	Carangidae	Alepes kleinii	NA
3	Carangidae	Alectis indica	NA
4	Carangidae	Alectis ciliaris	LC
5	Lutjanidae	Aphareus rutilans	NA
6	Ariidae	Arius thalassinus	NA
7	Balistidae	Balistes niger	LC
8	Belonidae	Belone strongylurus	NA
9	Carangidae	Caranx heberi	NA
10	Chanidae	Chanos chanos	NA
11	Tetraodontidae	Chelenodon patoca	NA
12	Chirocentridae	Chirocentrus nudus	NA
13	Clariidae	Clarias batrachus	LC
14	Cynoglossidae	Cynoglossus puncticeps	NA
15	Cynoglossidae	Cynoglossus macrostomus	NA
16	Haemulidae	Diagramma pictum	NA
17	Diodontidae	Diodon hystrix	LC
18	Echeneidae	Echeneis brachyptera	LC
19	Serranidae	Epinephelus fasciatomaculosus	NA
20	Ephippidae	Ephippus orbis	NA
21	Serranidae	Epinephelus lanceolatus	V
22	Serranidae	Epinephelus retouti	NA
23	Cichlidae	Etroplus suratensis	LC
24	Scombridae	Euthynnus affinis	LC
25	Exocoetidae	Exocoetus bahiensis	LC
26	Exocoetidae	Exocoetus poecilopterus	NA
27	Fistulariidae	Fistularia serrata	NA
28	Carangidae	Formio niger	NA
29	Gerreidae	Gerres lucidus	NA
30	Pleuronectidae	Glyptocephalus cynoglossus	NA
31	Gymnuridae	Gymnura poecilura	NT
32	Muraenidae	Gymnothorax reticularis	NA
33	Hemiramphidae	Hemiramphus limbatus	NA
34	Paralichthyidae	Hippoglossina oblonga	LC
35	Kyphosidae	Kyphosus vaigiensis	LC
36	Leiognathidae	Leiognathus splendens	LC
37	Trichiuridae	Lepturacanthus savala	NA
38	Lutjanidae	Lutjanus ehrenbergii	NA
39	Lutjanidae	Lutjanus jocu	NA
40	Lutjanidae	Lutjanus Priacanthid	NA

41	Mugilidae	Mugil cephalus	LC
42	Muraenesocidae	Muraenesox cinereus	NA
43	Triakidae	Mustelus canis	NA
44	Cottidae	Myoxocephalus octodecemspinosus	NA
45	Narcinidae	Narcine tinglei	DD
46	Clupeidae	Nematalosa nasus	LC
47	Nemipteridae	Nemipterus bipunctatus	NA
48	Nemipteridae	Nemipterus metopias	NA
49	Nemipteridae	Nemipterus randalli	NA
50	Sciaenidae	Nibea maculata	NA
51	Lutjanidae	Pinjalo pinjalo	NA
52	Platycephalidae	Platycephalus indicus	DD
53	Haemulidae	Plectorhynchus gibbosus	NA
54	Plotosidae	Plotosus canius	NA
55	Polynemidae	Polydactylus quadrifilis	LC
56	Haemulidae	Pomadasys maculatus	LC

List of Avifauna reported in Pulicat Lake

Species Name	Family	Common Name	IUCN Red List Status
<i>Limosa limosa</i>	Scolopacidae	Black-tailed Godwit	NT
<i>Himantopus himantopus</i>	Recurvirostridae	Black-winged Stilt	LC
<i>Tringa nebularia</i>	Scolopacidae	Common Greenshank	LC
<i>Tringa totanus</i>	Scolopacidae	Common Redshank	LC
<i>Actitis hypoleucos</i>	Scolopacidae	Common Sandpiper	LC
<i>Gallinago gallinago</i>	Scolopacidae	Common Snipe	LC
<i>Calidris ferruginea</i>	Scolopacidae	Curlew Sandpiper	LC
<i>Numenius arquata</i>	Scolopacidae	Eurasian Curlew	NT
<i>Burhinus oedicephalus</i>	Burhinidae	Eurasian Thick-Knee	LC
<i>Pluvialis squatarola</i>	Charadriidae	Grey Plover	LC
<i>Charadrius alexandrinus</i>	Charadriidae	Kentish Plover	LC
<i>Podiceps ruficollis</i>	Podicipedidae	Little Grebe	LC
<i>Pelicanus philippensis</i>	Pelecanidae	Spotted-billed Pelican	NT
<i>Phalacrocorax carbo</i>	Phalacrocoracidae	Cormorant	LC
<i>Phalacrocorax niger</i>	Phalacrocoracidae	Little Cormorant	LC
<i>Anhinga rufa</i>	Anhingidae	Darter	LC
<i>Ardea cinerea</i>	Ardeidae	Grey Heron	LC
<i>Ardeola grayii</i>	Ardeidae	Pond Heron or Paddy Bird	LC
<i>Bulbulcus ibis</i>	Ardeidae	Cattle Egret	LC
<i>Ardea alba</i>	Ardeidae	Large Egret	LC
<i>Egretta garzetta</i>	Ardeidae	Little Egret	LC

<i>Egretta gularis</i>	Ardeidae	Indian Reef Heron	LC
<i>Nycticorax nycticorax</i>	Ardeidae	Night Heron	LC
<i>Mycteria leucocephala</i>	Ardeidae	Painted Stork	NT
<i>Anastomus oscitans</i>	Ardeidae	Opnebill Stork	LC
<i>Ciconia episcopus</i>	Ciconiidae	White-necked Stork	VU
<i>Pseudibis papillosa</i>	Threskiornithidae	Black Ibis	LC
<i>Platalea leucorodia</i>	Threskiornithidae	Spoonbill	LC
<i>Phoenicopterus roseus</i>	Phoenicopteridae	Flamingo	LC
<i>Anas acuta</i>	Anatidae	Pintail	LC
<i>Anas crecca</i>	Anatidae	Common Teal	LC

Note: (LC-Least Concern, DD-Data deficient, CR-Critically Endangered, VU-Vulnerable, NE-Not Evaluated, NA-Not assessed, EN- Endangered, NT-Near Threatened, EW- Extinct in the Wild).

Source :

- Ramesh R, Nammalwar P, Gowri VS. Database of coastal information of Tamil Nadu. Report submitted to environmental information system (ENVIS) Centre Department of Environment, Government of Tamil Nadu. 2008; 1-133.
- Macro Fauna of Pulicat Lake, National Biodiversity Authority, 2006

3.11 Socioeconomic Profile of the District

A socio-economic study was undertaken in assessing aspects which are dealing with social and cultural conditions, and economic status in the study area. The study provides information such as demographic structure, population dynamics, infrastructure resources, and the status of human health and economic attributes like employment, per-capita income, agriculture, trade, and industrial development in the study area. The study of these characteristic helps in identification, prediction and evaluation of impacts on socio-economic and parameters of human interest due to proposed project developments. The parameters are:

- Demographic structure
- Infrastructure Facility
- Economic Status
- Health status
- Cultural attributes
- Awareness and opinion of people about the project and Industries in the area.

The following **Table 3-23** provides the certain important social indicators of Thiruvallur District.

Table 3-23 Thiruvallur District Social Indicators

S.No	Social Indicators	Thiruvallur District
1	Decadal variation %	35.30
2	Urban population %	65.14
3	Sex ratio (No. Of females / 1000 males)	987
4	0-6 age group %	10.88
5	Population density (Persons per square Km)	1098
6	Scheduled caste population %	22.03
7	Scheduled tribe population %	1.26
8	Literacy rate %	84.03
9	Work Participation rate %	41.26
10	Main Workers %	81.14
11	Marginal Workers %	18.86
12	Cultivators %	4.78
13	Agricultural labourers %	17.59
14	Workers in household industries %	3.79
15	Other workers %	73.84

(Source: Census 2011 and Thiruvallur District Profile)

3.11.1 Population and household size

Thiruvallur district ranked the 4th in terms of the highest population in Tamil Nadu. Thiruvallur district has the urban population share of 65.14%. In terms of population density, Thiruvallur district has recorded 1098 persons per sq.km. The district's Sex Ratio is 987, lower when compared to the State Sex Ratio of 996. The district has recorded higher literacy rate (84.03%) as compared with State literacy rate of 80.1%. The district decadal population growth during 2001 - 2011 was 35.3%.

Source:

http://censusindia.gov.in/2011census/dchb/DCHB_A/33/3301_PART_A_DCHB_THIRUVALLUR.pdf

3.11.2 Sex Ratio

The sex ratio is defined as number of females to 1000 males. Sex Ratio is 987 per 1000 male compared to 2001 census figure of 971. The average national sex ratio in India is 940 as per latest reports of Census 2011 Directorate. In 2011 census, child sex ratio is 946 girls per 1000 boys compared to figure of 957 girls per 1000 boys of 2001 census data.

Source: <https://shodhganga.inflibnet.ac.in/bitstream/10603/195871/6/chapter%20iv.pdf>

3.11.3 Scheduled Castes and Scheduled Tribes

As per 2011 Census, Total Scheduled Castes (SC) population reported in the district is 821646 persons, which contributes about 22.03 percent of total population of the district. Total Scheduled Tribes (ST) population reported in the district is 47243 persons, which contributes about 1.26 % of total population of the district.

Source:

http://censusindia.gov.in/2011census/dchb/DCHB_A/33/3301_PART_A_DCHB_THIRUVALLUR.pdf

3.11.4 Education Facilities

The literacy rate of Thiruvallur district is 84.03% in 2011 as against the state literacy rate of 80.1%. The educational infrastructure in Thiruvallur district is given in **Table 3-24**.

Source:

http://censusindia.gov.in/2011census/dchb/DCHB_A/33/3301_PART_A_DCHB_THIRUVALLUR.pdf

Table 3-24 Education Infrastructures in Thiruvallur District

Type of school	Total schools		Rural Schools	
	Government	Private	Government	Private
Primary	941	487	815	252
Primary + Upper Primary	289	60	225	35
Primary + Upper Primary + Secondary + Higher Secondary	33	192	12	55
Upper Primary only	2	1	2	0
Upper Primary + Secondary + Higher Secondary	100	36	69	13
Primary + Upper Primary + Secondary	22	126	11	53

Type of school	Total schools		Rural Schools	
	Government	Private	Government	Private
Upper Primary + Secondary	147	18	117	7

Source: District Information System on Education (DISE report) card 2016-17

3.11.5 Health Facilities

Primary Health Centers (PHCs) and Health Sub-centers (HSCs) are providing the preventive, curative and rehabilitative health care services to the rural people. The district has good number of public health systems accessible and affordable apart from the private health facilities. The Health Facilities given in **Table 3-25**.

Table 3-25 Medical Facilities available in Thiruvallur District

Name of the District	Type of Facility	Facilities As on 05th November 2019									
		Total Facility					Active Facilities				
		Total [(A+B) or (C+D)]	Public [A]	Private [B]	Urban [C]	Rural [D]	Total [(A+B) or (C+D)]	Public [A]	Private [B]	Urban [C]	Rural [D]
Thiruvallur	SC	303	303	0	0	303	303	303	0	0	303
	PHC	58	58	0	11	47	54	54	0	11	43
	CHC	16	15	1	1	15	15	14	1	1	14
	SDH	12	12	0	10	2	11	11	0	10	1
	DH	1	1	0	0	1	1	1	0	0	1
	Total	390	389	1	22	368	384	383	1	22	362

Note: SC – Sub Center; PHC – Primary Health Center; CHC – Community Health Center; SDH – Sub District Hospital; DH – District Hospital.

(Source: National Health Mission, as on November 05, 2019)

3.11.6 Employment and Livelihood within study area

Though agriculture is the main occupation of the district, being close to Chennai and fast industrialization has resulted in shift in the occupation pattern. Out of the total workers only 4.78% of workers are cultivators and 17.59% of workers are Agricultural labourers. The district's economy is vibrant as 81.14% of working population is belonging to main workers category that means they have regular employment activities more than 6 months in a year. The total coastal area of the district is about 49,803 ha and has a coast line of 80 km for marine fisheries. Prawn/shrimp culture is famous along the coast line of Gummidipoondi and Minjur.

3.11.7 Industrial Scenario

The district is fast growing in Industries. The district has many leading industries like Madras Refineries Ltd., Madras Fertilizers Ltd., Manali Petrochemicals Ltd., MRF, Ashok Leyland, TI Cycles, Britannia India Ltd, Parry India Ltd. It also boasts Ennore Thermal Power Station and Avadi Tank Factory. The District has 16 Industrial Estates, all in operation: 11 developed by the Government and 5 by Private Organization. This district also has 16940 Small Scale Industries.

Source: <http://dcmsme.gov.in/dips/2016-17/DIP.THIRUVALLUR.%202015.16.pdf>.

4. ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

4.1 General

Environmental Impact Assessment (EIA) is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse. It aims to predict environmental impacts at an early stage in project planning and design, find ways and means to reduce adverse impacts, shape project to suit the local environment and present the predictions and options to decision-makers. By using EIA both environmental and economic benefits can be achieved, such as reduced cost and time of project implementation and design, avoiding treatment/clean-up costs and impacts of laws and regulations. The main purpose of identifying the impacts is that it helps in adopting appropriate mitigation measures for the adverse consequences if any. The impacts on the environmental indices viz. air, water, soil, noise, biological and socioeconomic conditions are scrutinized methodically and assessed.

The most likely impacts on the environment due to the proposed project need to be appraised during the two different phases of the project namely pre-operation/construction phase and operation phase. The impacts that could be triggered on the environmental attributes by the activities of the proposed project are discussed below.

4.2 Construction Phase

Impact assessment during the construction phase of the project is of importance as the construction activities lead to adverse effects on the environment on a short term basis. The major activities that are undertaken during this phase are civil works, mechanical works, machinery works and transportation works.

During the construction phase, the following activities among many are considered to be important towards creating environmental impacts:

- Site preparation (fencing, boundary & clearing of site).
- Excavation, backfilling and levelling
- Hauling and dumping of earth materials & construction spoils.

- Foundation works.
- Fabrication erection of Steel structures such as, Tanks, Pipelines and Sheds.
- Construction of internal roads drains & water supply.
- Painting and finishing.
- Cleaning, landscaping and plantations.

4.2.1 Land Environment

4.2.1.1 Impacts

The activities carried out during the construction phase will involve a change in the land use from vacant industrial land to a built up industrial land, which will pose the following impacts on the land environment.

1. Compaction of soil and a change in the soil structure due to the use of heavy construction vehicles and machineries.
2. Removal of soil from the site.
3. Mixing of the topsoil and subsoil.
4. Dispersion of dust.

4.2.1.2 Mitigation Measures

1. Restricting access during wet conditions, using protective boarding and low ground pressure machineries will minimize compaction of soil.
2. The removed soil will be properly stored for subsequent reinstatement.
3. Reuse of excess excavated material for road development, green belt development and landscaping.
4. A well designed closed depository for storage of construction materials to prevent land/soil pollution.
5. Effective stabilization of altered landforms to minimize soil erosion and the potential for water pollution (e.g. vegetation).
6. Reuse of construction wastes such as sand, brick, gravel, cement for developing internal road and project structures.

4.2.2 Air Environment

4.2.2.1 Impacts

Activities like site clearance, site levelling, movements of workers and material, construction of road, transportation will generate dust, gaseous pollutants and particulate matter and affect the air quality. Other impacts include -

1. Site Preparation-fencing the boundary and clearing of site will cause disturbance to the surroundings.
2. Excavation, backfilling and levelling.
3. Hauling and dumping of earth materials and construction spoils.
4. Foundation works can cause dust generation which will decrease the air quality and it can impact the labours working.
5. Emission from Construction DG & Construction equipments.

4.2.2.2 Mitigation Measures

1. Barricading the construction area and minimizing exposed areas to reduce dust generation.
2. Areas generating dust during dry weather will be sprayed with water.
3. Creation of vegetation screens to act as a barrier to dust.
4. Appropriate enclosed areas for storage of construction materials.
5. Facilitating the workers with required Personal Protective Equipments.
6. Efficient usage and maintenance of equipment's/machineries to lower air emissions, noise pollution and consumption of energy resource.
7. Exhaust vent of DG set will be provided with adequate stack height to ensure quick dispersal of gaseous emissions.
8. Periodic monitoring and maintenance of transport vehicles to check on the quality of emission to be within permissible limits and consumption of fuel.
9. Regular inspection of construction site to ensure timely removal and disposal of construction debris to the dumping sites or for recycle/reuse.

4.2.3 Water Environment

4.2.3.1 Impacts

1. Contamination of watercourses by leakage from fuel and materials storage areas.

2. Oil and suspended solids in run-off from vehicles and access roads.
3. Use of heavy machineries and vehicles causes compaction of topsoil due to which a change in the surface water drainage pattern may occur.
4. Generation of sewage.

4.2.3.2 Mitigation measures

1. Impenetrable lining will be provided to storage premises to avoid accidental mixing or leakage.
2. Storehouse will be located at a distance away from the water storage area to prevent accidental release or spillage.
3. Proper management of rain water run-off during monsoon by creating bunds to utilize the rain water for construction purpose.
4. Sewage will be treated in mobile STP and treated sewage will be recycled for green belt during construction phase.

4.2.4 Noise Environment

4.2.4.1 Impacts

During construction phase, noise will mostly be generated from building activities and machineries used for carrying out construction. Construction activities mainly involve diesel generators, laying of foundation, erection of superstructure, clearing of obstruction and trees if any from the proposed area. Activities such as construction of labour camps, onsite office, pneumatic hammers, compressors, concrete mixers, construction material plants however does not cause significant noise pollution but if the work continuous for longer duration, it can affect the health of local people and workers involved in the project.

4.2.4.2 Mitigation Measures

1. Selection of equipment's of high quality.
2. Proper planning and organizing construction activities by avoiding loud verbal exchanges between the intervening parties.
3. Transportation activities will be carried out only during the day and only in case of emergency, the transportation activities will be permitted during night time.

4. The vehicles used for construction activities and transportation of materials will be provided with the horn of low noise level as recommended by RTO/ concerned authorities.
5. Minimising operation time of noisy equipment and operation of machineries/equipment that generate high levels of noise only during day time.
6. Inadequate use of plant and equipment, namely, running on full power when the work does not necessitate will be avoided.
7. Personal Protective Equipment's, education and public awareness and exposure control through rotation of work will be provided to the workers engaged in construction activities in the area generating high levels of noise.
8. Development of green belt during construction stage itself.

4.2.5 Waste Generation

4.2.5.1 Impacts

The source of waste are metal pieces, cardboards, wooden scrap, sand, gravels etc., generation of chemical waste by general site practices (e.g. vehicle and plant maintenance/servicing), municipal waste generated by site workers.

4.2.5.2 Mitigation measures

1. Recycling/reusing/recovering materials where possible and thereby reducing the disposal requirements.
2. Separation of construction material for reuse- either to be used on onsite filling or can be used as public fill.
3. Training the staff in waste minimizing practices.
4. Chemical waste should be stored in separate area having impermeable lining, so as to avoid leaching of harmful chemicals in the soil or nearby water bodies (If any).

4.2.6 Construction Waste Management

The contractor will prepare a site waste management plan prior to commencement of construction work. This should include the designation of appropriate waste storage areas, collection and removal schedule, identification of approved disposal site, and a system for supervision and monitoring. Preparation and implementation of the plan

must be made the responsibility of the building contractor with the system being monitored independently.

Special attention will be given to minimizing and reducing the quantities of solid waste produced during site preparation and construction. To reduce organic waste, softer vegetation may be composted onsite and used for soil amendment during landscaping.

Most of the construction materials like soil, bricks, concrete will be reused in the backfilling, road construction, sub-grade repair etc. works. Metals, wood scraps & bitumen junks will be used for road laying purpose or disposed outside as per C&D rules 2016. The measures like reusing materials on-site and /or donating /selling salvaged items reduces waste, virgin material use and disposal cost.

Vegetation and combustible waste will not be burnt on the site.

Reusable inorganic waste (e.g. excavated sand) will be stockpiled away from drainage features and used for in filling where necessary.

Unusable construction waste, such as damaged pipes, formwork and other construction material, will be disposed off at an approved dumpsite.

4.2.7 Ecology

4.2.7.1 Impacts

The impacts on terrestrial wildlife in the project area are considered minor as little to no loss of natural habitat will occur. Continued road construction to access the project site will temporarily increase sediment loading to the water bodies. However, given that the exposed embankments, are currently contributing sediment loading to the water bodies, the additional amount from construction activities is relatively small.

4.2.7.2 Mitigation measures

Minimising erosion and vegetation loss, and protecting nearby water bodies will help minimize impacts to wildlife, habitat, and biodiversity.

4.2.8 Social environment

This new project will have employment opportunity for 50 persons during construction phase and 5000 persons during operation phase. Additional employment opportunity for product dealers and distributors, and transport sectors for product movements will increase the employment opportunity indirectly.

4.3 Operation Phase

From an environmental perspective, this phase is of paramount significance due to its potential to invoke long-term impacts. The adverse effects that are likely to occur during this operational phase of the project are: air pollution (gaseous emissions), effluent generation, noise generation, solid waste generation etc.

4.3.1 Land Environment

The land use of the Industrial park will be changed to industrial use.

4.3.1.1 Impact due to Discharges on land

Discharge of untreated sewage, effluent and solid waste will have adverse impact on the land.

4.3.1.2 Mitigation measures

1. Individual industries will have their own STP/ ETP as applicable and treat the sewage /effluent generated from their premises. Zero Liquid discharge system will be proposed by individual industries.
2. There will be institutional arrangement to check the efficiency of Zero Liquid Discharge.
3. Municipal solid wastes will be segregated by individual industries and organic waste will be composted in the Solid waste management area and used for green belt development. Inorganic wastes will be sold to authorised recyclers.
4. Individual industries will have their own hazardous waste storage areas and the hazardous wastes generated will be disposed as per Hazardous and other wastes (Management and Transboundary movement) amendment Rules 2016.
5. Good housekeeping and best practices of waste handling shall be adopted to eliminate/minimize the risks of soil contamination.

4.3.2 Air Environment

Baseline data reveals that ambient air quality in the study area for the parameters PM₁₀, PM_{2.5}, SO₂ & NO_x, are well within the permissible limits as prescribed by the National Ambient Air Quality Standards (NAAQS) for Industrial, Residential, Rural & Other areas.

The major air pollution sources from the industry are DG sets, boilers and process emissions. The DG set and boiler will be provided with stacks of adequate height to disperse the emanating flue gases containing Particulate Matters, Oxides of Sulphur and Nitrogen without affecting the ground level concentrations.

4.3.2.1 AERMOD Process

AERMOD Software Version 8.0.5 was used for air dispersion modeling and is applicable to a wide range of buoyant or neutrally buoyant emissions up to a range of 50 km. In addition to more straight forward cases, AERMOD is also suitable for complex terrain and urban dispersion scenarios.

AERMOD is a steady-state plume model. In the stable boundary layer (SBL), it assumes the concentration distribution to be Gaussian in both the vertical and horizontal. In the convective boundary layer (CBL), the horizontal distribution is also assumed to be Gaussian, but the vertical distribution is described with a bi-Gaussian probability density function (pdf). This behavior of the concentration distributions in the CBL was demonstrated by Willis and Deardorff (1981) and Briggs (1993). Additionally, in the CBL, AERMOD treats “plume lofting,” whereby a portion of plume mass, released from a buoyant source, rises to and remains near the top of the boundary layer before becoming mixed into the CBL. AERMOD also tracks any plume mass that penetrates into the elevated stable layer, and then allows it to re-enter the boundary layer when and if appropriate. For sources in both the CBL and the SBL AERMOD treats the enhancement of lateral dispersion resulting from plume meander.

The emissions from proposed stacks are estimated and used for the air dispersion modeling as shown in **Table 4-1** for uncontrolled emissions, except for Boiler emission that will have cyclone separators for PM control. Maximum incremental values for PM₁₀, PM_{2.5}, SO₂ and NO_x have been represented as pictorial concentration contours from **Figures 4-2 to 4-5** and as tabular concentration values from **Tables 4-2 to 4-5** respectively.

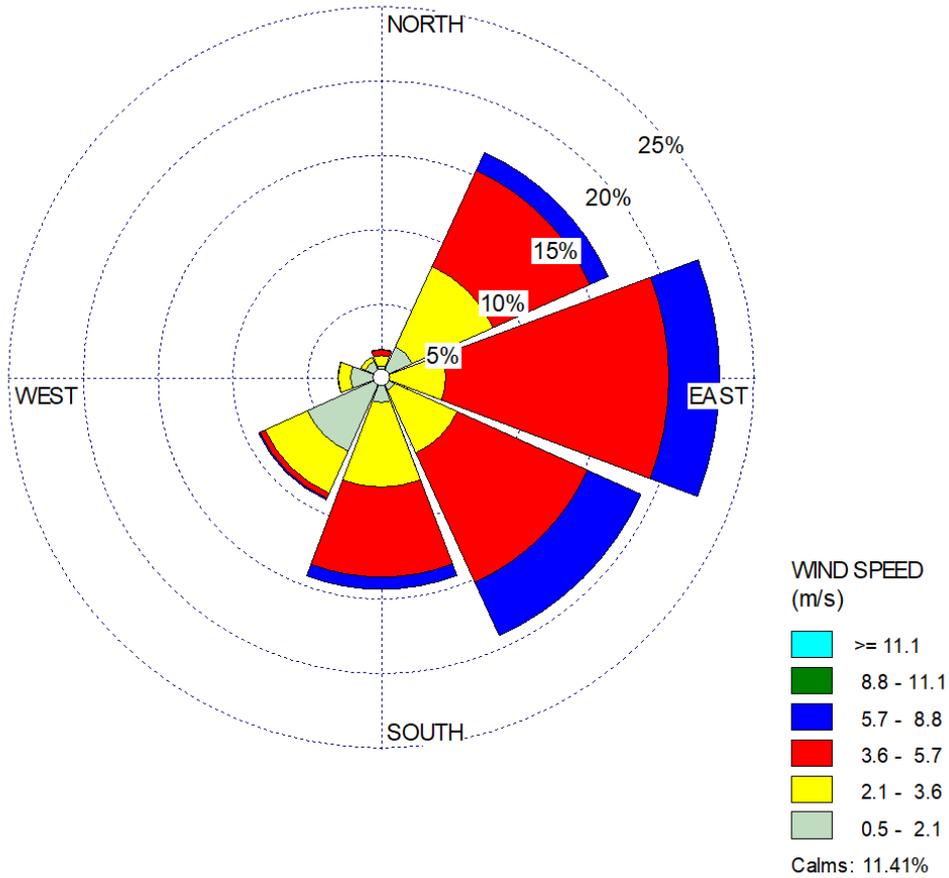


Figure 4-1 Wind rose diagram considered for Modeling (April to June 2018)

Table 4-1 Proposed Stack Emission details

S. No	Stack details	Industry Type	Stack Details				Emission per stack (g/s)			
			Height (m)	Dia. (m)	Exit Velocity (m/s)	Temp (°K)	PM10	PM2.5	SO ₂	NO _x
1.	Boiler- 5 TPH (APC-Cyclone Separator)	Industry – I [8.04 Acres 5 (f)]	23.889	1.2	20	393	0.3493	0.20958	1.65	0.95
2.	DG 500 kVA x 1 (Stand by)		15	0.3	10	523	0.00619	0.003714	0.00574	0.087
3.	Boiler- 5 TPH (APC-Cyclone Separator)	Industry – II [8.04 Acres 5 (f)]	23.889	1.2	20	393	0.3493	0.20958	1.65	0.95
4.	DG 500 kVA x1 (Stand by)		15	0.3	10	523	0.00619	0.003714	0.00574	0.087
5.	Boiler- 2 TPH (APC-Cyclone Separator)	Industry – III [4 Acres 5 (f)]	18.14	0.8	12	393	0.1397	0.08382	0.66	0.38
6.	DG 250 kVA x 1 (Stand by)		13	0.3	8	473	0.0031	0.00186	0.00287	0.0435
7.	Boiler- 2 TPH (APC-Cyclone Separator)	Industry – IV [4 Acres 5 (f)]	18.14	0.8	12	393	0.1397	0.08382	0.66	0.38
8.	DG 250 kVA x 1 (Stand by)		13	0.3	8	473	0.0031	0.00186	0.00287	0.0435
9.	Boiler- 2 TPH (APC-Cyclone Separator)	Industry – V [4 Acres 5 (f)]	18.14	0.8	12	393	0.1397	0.08382	0.66	0.38
10.	DG 250 kVA x 1 (Stand by)		13	0.3	8	473	0.0031	0.00186	0.00287	0.0435
11.	Boiler- 2 TPH (APC-Cyclone Separator)	Industry – VI [4 Acres 5 (f)]	18.14	0.8	12	393	0.1397	0.08382	0.66	0.38

S. No	Stack details	Industry Type	Stack Details				Emission per stack (g/s)			
			Height (m)	Dia. (m)	Exit Velocity (m/s)	Temp (°K)	PM10	PM2.5	SO ₂	NO _x
12.	DG 250 kVA x 1 (Stand by)		13	0.3	8	473	0.0031	0.00186	0.00287	0.0435
13.	Boiler- 2 TPH (APC-Cyclone Separator)	Industry – VII [4 Acres 5 (f)]	18.14	0.8	12	393	0.1397	0.08382	0.66	0.38
14.	DG 250 KVA x 1 (Stand by)		13	0.3	8	473	0.0031	0.00186	0.00287	0.0435
15.	DG 750 KVA x 1 (Stand by)	Industry VIII	20	0.3	10	573	0.00929	0.005574	0.00861	0.131
16.	DG 750 KVA x 1 (Stand by)	Industry IX	20	0.3	10	573	0.00929	0.005574	0.00861	0.131
17.	DG 750 KVA x 1 (Stand by)	Industry X	20	0.3	10	573	0.00929	0.005574	0.00861	0.131
18.	DG 750 KVA x 1 (Stand by)	Industry XI	20	0.3	10	573	0.00929	0.005574	0.00861	0.131
19.	DG 750 KVA x 1 (Stand by)	Industry XII	20	0.3	10	573	0.00929	0.005574	0.00861	0.131
20.	DG 750 KVA x 1 (Stand by)	Industry XIII	20	0.3	10	573	0.00929	0.005574	0.00861	0.131
21.	DG 500 KVA x 1 (Stand by)	Industry XIV	15	0.3	10	523	0.00619	0.003714	0.00574	0.087
22.	DG 500 KVA x 1 (Stand by)	Industry XV	15	0.3	10	523	0.00619	0.003714	0.00574	0.087
23.	DG 500 KVA x 1 (Stand by)	Industry XVI	15	0.3	10	523	0.00619	0.003714	0.00574	0.087

S. No	Stack details	Industry Type	Stack Details				Emission per stack (g/s)			
			Height (m)	Dia. (m)	Exit Velocity (m/s)	Temp (°K)	PM10	PM2.5	SO ₂	NO _x
24.	DG 500 KVA x 1 (Stand by)	Industry XVII	15	0.3	10	523	0.00619	0.003714	0.00574	0.087
25.	DG 500 KVA x 1 (Stand by)	Industry XVIII	15	0.3	10	523	0.00619	0.003714	0.00574	0.087
26.	DG 500 KVA x 1 (Stand by)	Industry XIX	15	0.3	10	523	0.00619	0.003714	0.00574	0.087
27.	DG 500 KVA x 1 (Stand by)	Industry XX	15	0.3	10	523	0.00619	0.003714	0.00574	0.087
28.	DG 500 KVA x 1 (Stand by)	Industry XXI	15	0.3	10	523	0.00619	0.003714	0.00574	0.087
29.	DG 500 KVA x 1 (Stand by)	Industry XXII	15	0.3	10	523	0.00619	0.003714	0.00574	0.087
30.	DG 500 KVA x 1 (Stand by)	Industry XXIII	15	0.3	10	523	0.00619	0.003714	0.00574	0.087
31.	DG 500 KVA x 1 (Stand by)	Industry XXIV	15	0.3	10	523	0.00619	0.003714	0.00574	0.087
32.	DG 500 KVA x 1 (Stand by)	Industry XXV	15	0.3	10	523	0.00619	0.003714	0.00574	0.087
33.	DG 250 KVA x 1 (Stand by)	Industry XXVI	13	0.3	8	473	0.0031	0.00186	0.00287	0.0435
34.	DG 250 KVA x 1 (Stand by)	Industry XXVII	13	0.3	8	473	0.0031	0.00186	0.00287	0.0435
35.	DG 250 KVA x 1 (Stand by)	Industry XXVIII	13	0.3	8	473	0.0031	0.00186	0.00287	0.0435

S. No	Stack details	Industry Type	Stack Details				Emission per stack (g/s)			
			Height (m)	Dia. (m)	Exit Velocity (m/s)	Temp (°K)	PM10	PM2.5	SO ₂	NO _x
36.	DG 250 KVA x 1 (Stand by)	Industry XXIX	13	0.3	8	473	0.0031	0.00186	0.00287	0.0435
37.	DG 250 KVA x 1 (Stand by)	Industry XXX	13	0.3	8	473	0.0031	0.00186	0.00287	0.0435
38.	DG 250 KVA x 1 (Stand by)	Industry XXXI	13	0.3	8	473	0.0031	0.00186	0.00287	0.0435
39.	DG 250 KVA x 1 (Stand by)	Industry XXXII	13	0.3	8	473	0.0031	0.00186	0.00287	0.0435
40.	DG 250 KVA x 1 (Stand by)	Industry XXXIII	13	0.3	8	473	0.0031	0.00186	0.00287	0.0435
41.	DG 250 KVA x 1 (Stand by)	Industry XXXIV	13	0.3	8	473	0.0031	0.00186	0.00287	0.0435
42.	DG 250 KVA x 1 (Stand by)	Industry XXXV	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
43.	DG 100 KVA x 1 (Stand by)	Industry XXXVI	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
44.	DG 100 KVA x 1 (Stand by)	Industry XXXVII	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
45.	DG 100 KVA x 1 (Stand by)	Industry XXXVIII	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
46.	DG 100 KVA x 1 (Stand by)	Industry IXL	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
47.	DG 100 KVA x 1 (Stand by)	Industry XL	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174

S. No	Stack details	Industry Type	Stack Details				Emission per stack (g/s)			
			Height (m)	Dia. (m)	Exit Velocity (m/s)	Temp (°K)	PM10	PM2.5	SO ₂	NO _x
48.	DG 100 KVA x 1 (Stand by)	Industry XLI	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
49.	DG 100 KVA x 1 (Stand by)	Industry XLII	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
50.	DG 100 KVA x 1 (Stand by)	Industry XLIII	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
51.	DG 100 KVA x 1 (Stand by)	Industry XLIV	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
52.	DG 100 KVA x 1 (Stand by)	Industry XLV	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
53.	DG 100 KVA x 1 (Stand by)	Industry XLVI	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
54.	DG 100 KVA x 1 (Stand by)	Industry XLVII	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
55.	DG 100 KVA x 1 (Stand by)	Industry XLVIII	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
56.	DG 100 KVA x 1 (Stand by)	Industry XLIX	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
57.	DG 100 KVA x 1 (Stand by)	Industry L	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
58.	DG 100 KVA x 1 (Stand by)	Industry LI	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
59.	DG 100 KVA x 1 (Stand by)	Industry LII	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174

S. No	Stack details	Industry Type	Stack Details				Emission per stack (g/s)			
			Height (m)	Dia. (m)	Exit Velocity (m/s)	Temp (°K)	PM10	PM2.5	SO ₂	NO _x
60.	DG 100 KVA x 1 (Stand by)	Industry LIII	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
61.	DG 100 KVA x 1 (Stand by)	Industry LIV	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
62.	DG 100 KVA x 1 (Stand by)	Industry LV	10	0.12	7	523	0.00124	0.000744	0.00115	0.0174
63.	DG 250 KVA x 1 (Stand by)	Commercial Area-I	13	0.3	8	473	0.0031	0.00186	0.00287	0.0435
64.	DG 500 kVA x 1 (Stand by)	Industry LVI	15	0.3	10	523	0.00619	0.003714	0.00574	0.087
65.	DG 500 kVA x 1 (Stand by)	Industry LVII	15	0.3	10	523	0.00619	0.003714	0.00574	0.087
66.	DG 500 kVA x 1 (Stand by)	Industry LVIII	15	0.3	10	523	0.00619	0.003714	0.00574	0.087

Note:

- Coal-fired Boilers to have Cyclone separators for PM control. Control efficiency assumed to be 95%.
- Diesel Generator emissions uncontrolled
- 1TPH Steam generation would consume 3TPD Coal.
- Coal ash content and sulfur content taken as 35% and 0.5% respectively.

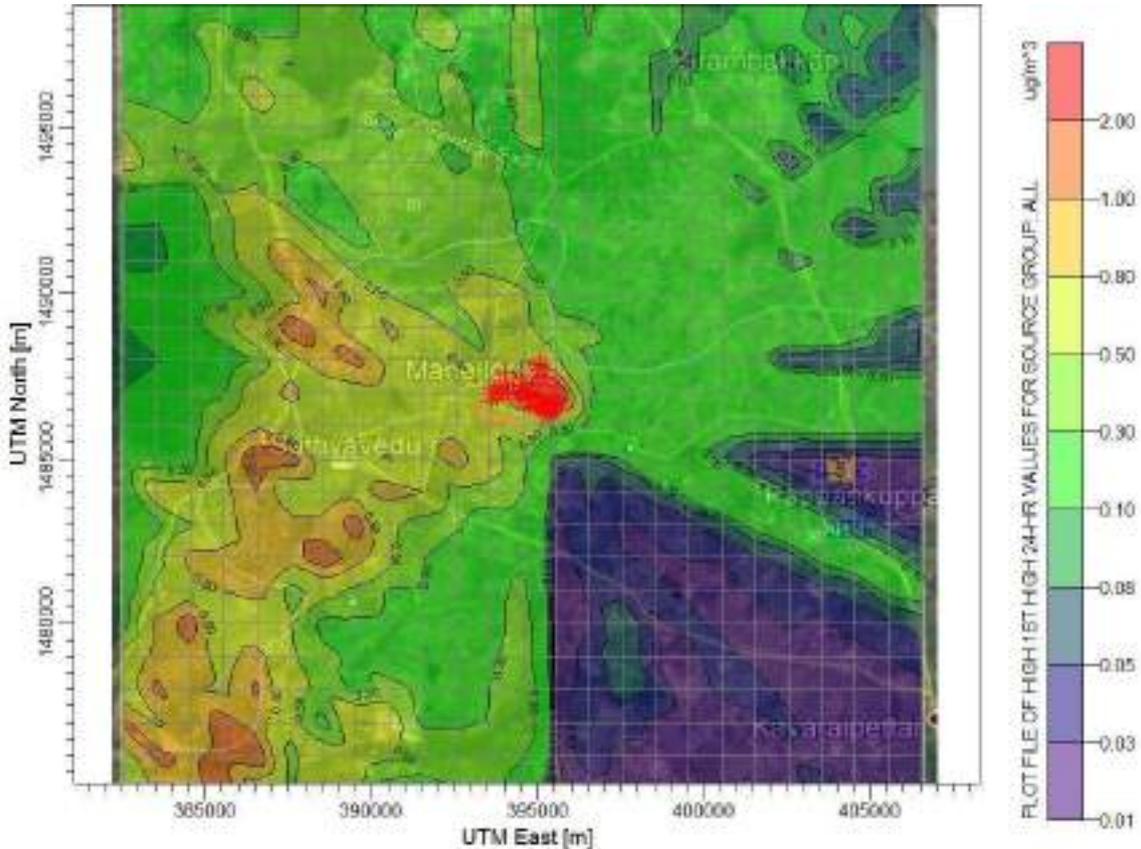


Figure 4-2 Predicted 24-Hrs GLC's of PM₁₀ within 10 km Radius of the Study Area

Table 4-2 Estimated Top 10 Highest Concentrations of PM₁₀ obtained through Modeling

S. No	UTM coordinates (m)		Conc. (µg/m ³)	Distance from Centre of IP (~Km)	Direction from Centre of IP
	E	N			
1.	395545.9	1486996	1.38409	1	E
2.	386545.9	1475996	1.20412	13.70	SW
3.	388545.9	1481996	1.18725	7.92	SW
4.	386545.9	1484996	1.18533	8.22	WSW
5.	384545.9	1479996	1.15065	12.08	SW
6.	387545.9	1488996	1.14745	7.23	WNW
7.	389545.9	1482996	1.12272	6.42	WSW
8.	385545.9	1474996	1.11152	15	SW
9.	385545.9	1476996	1.10806	13.35	SW
10.	387545.9	1484996	1.10239	7.35	WSW

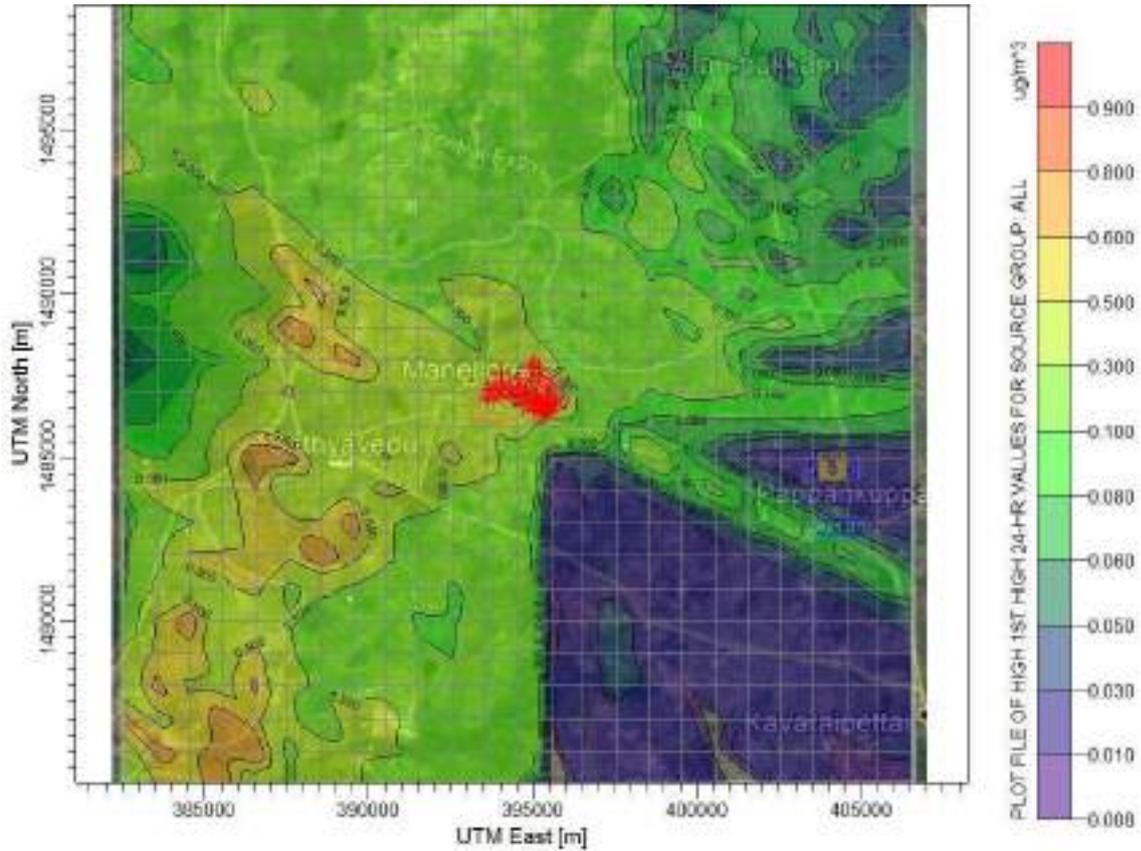


Figure 4-3 Predicted 24-Hrs' GLC's of PM_{2.5} within 10 km Radius of the Study Area

Table 4-3 Estimated Top 10 Highest Concentrations of PM_{2.5} Obtained Through Modeling

S. No	UTM coordinates (m)		Conc. (µg/m ³)	Distance from Center of Sources (Km)	Direction from Source Center
	E	N			
1.	395545.9	1486996	0.83045	1	E
2.	386545.9	1475996	0.72247	13.70	SW
3.	388545.9	1481996	0.71235	7.92	SW
4.	386545.9	1484996	0.71112	8.22	WSW
5.	384545.9	1479996	0.69039	12.08	SW
6.	387545.9	1488996	0.68847	7.23	WNW
7.	389545.9	1482996	0.67363	6.42	WSW
8.	385545.9	1474996	0.66691	15	SW
9.	385545.9	1476996	0.66484	13.35	SW
10.	387545.9	1484996	0.66143	7.35	WSW

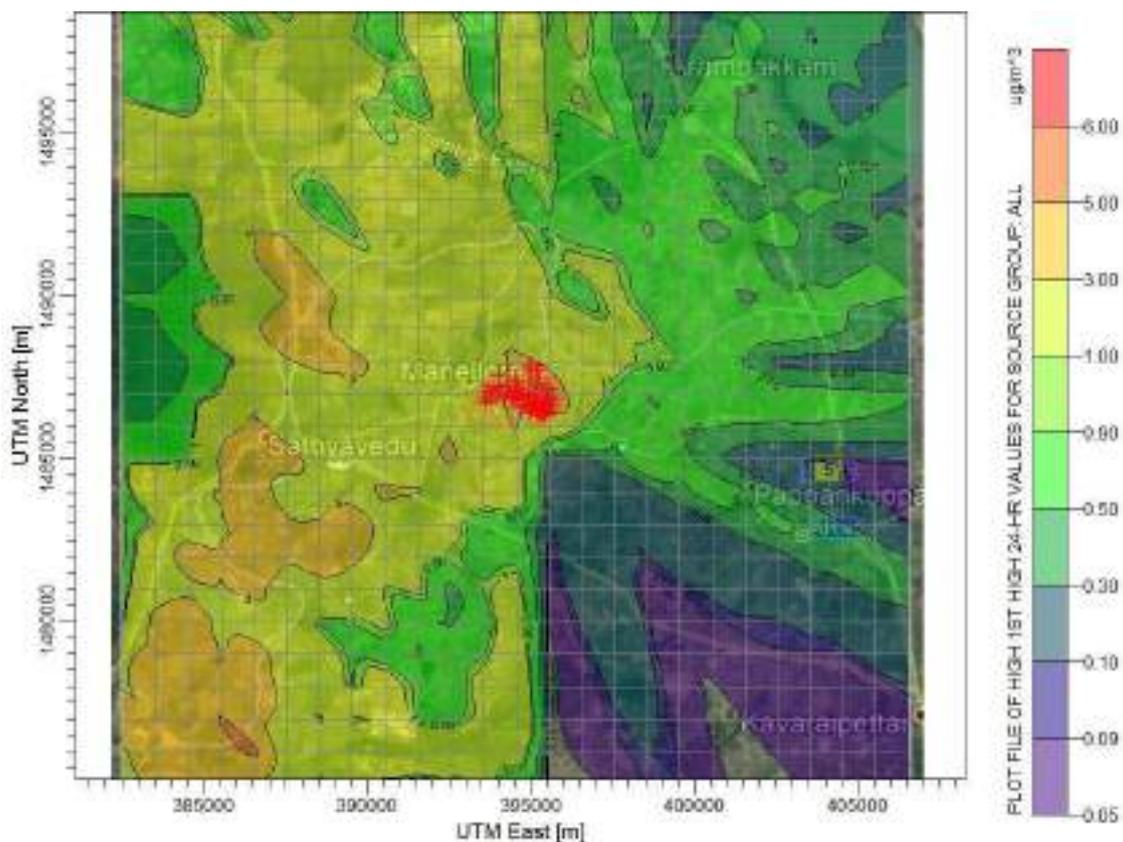


Figure 4-4 Predicted 24-Hrs' GLC's of SO₂ within 10 km Radius of the Study Area

Table 4-4 Estimated Top 10 Highest Concentrations of SO₂ Obtained through Modeling

S. No	UTM coordinates (m)		Conc. (µg/m ³)	Distance from Centre of IP (~Km)	Direction from Centre of IP
	E	N			
1.	395545.9	1486996	5.97505	1	E
2.	386545.9	1475996	5.42355	13.70	SW
3.	385545.9	1476996	5.15701	13.35	SW
4.	388545.9	1481996	5.05364	7.92	SW
5.	385545.9	1474996	5.00784	15	SW
6.	383545.9	1477996	4.7737	14.25	SW
7.	386545.9	1477996	4.73417	12.02	SW
8.	382545.9	1476996	4.73118	15.60	SW
9.	383545.9	1475996	4.71723	15.52	SW
10.	387545.9	1488996	4.59824	7.12	WNW

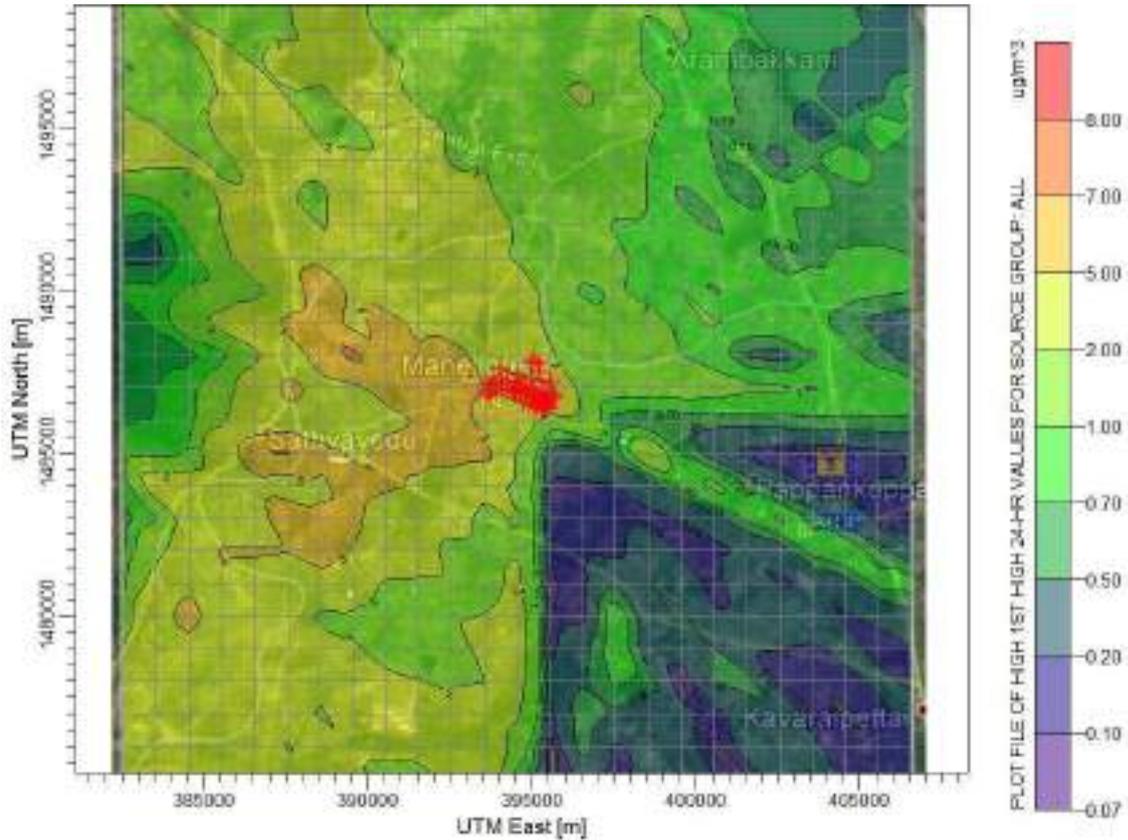


Figure 4-5 Predicted 24-Hrs' GLC's of NO_x within 10 km Radius of the Study Area

Table 4-5 Estimated Top 10 Highest Concentrations of NO_x Obtained through Modeling

S. No	UTM coordinates (m)		Conc. (µg/m ³)	Distance from Center of Sources (Km)	Direction from Source Center
	E	N			
1.	389545.9	1487996	7.48914	5.14	WNW
2.	387545.9	1484996	7.14706	7.35	WSW
3.	386545.9	1484996	6.9674	8.22	WSW
4.	388545.9	1489996	6.78826	6.65	WNW
5.	392545.9	1487996	6.54344	2.27	WNW
6.	384545.9	1479996	6.45462	12.24	SW
7.	388545.9	1481996	6.37329	7.83	SW
8.	387545.9	1482996	6.32806	8.06	WSW
9.	388545.9	1488996	6.19985	6.20	WNW
10.	394545.9	1486996	6.18772	0	-

4.3.2.2 Conclusion

It was observed that the maximum concentration observed due to proposed Industrial Park for PM₁₀, PM_{2.5}, SO₂ and NO_x are 1.384µg/m³, 0.83 µg/m³, 5.975 µg/m³ and 7.489µg/m³ respectively. The total increase in concentrations above baseline status to estimate the percentage increase and summarized in **Table 4-6**.

Table 4-6 Total Maximum GLCs from the proposed Stack Emissions (Boiler emissions PM controlled)

Pollutant	Max. Base line Conc. (µg/m ³)	Estimated Incremental Conc. (µg/m ³)	Total Conc. (µg/m ³)	NAAQ standard	% increase
PM ₁₀	79.8	1.384	81.18	100	1.73
PM _{2.5}	38.6	0.830	39.43	60	2.15
SO ₂	16.4	5.975	22.38	80	36.43
NO _x	31.5	7.489	38.99	80	23.77

From the above table, it is evident that due to the emissions from the proposed project, the Total Concentration for PM₁₀, PM_{2.5}, SO₂ and NO_x are well within the NAAQ Standards.

Industries proposing coal fired boilers will have cyclone separators as Air Pollution control measure, apart from proper stack height, so that the estimated incremental concentration for PM₁₀, PM_{2.5}, SO₂ and NO_x will be further reduced for the proposed project after establishment.

4.3.3 Traffic and Transport

Approach road to the site is Madarapakkam –Gummidipoondi Road. Google image of road connectivity to the site is given in **Figure 4-6**. Existing and expected traffic due to the proposed project is given in **Table 4-7** and the level of service after implementation of the project is given in **Table 4-8**.

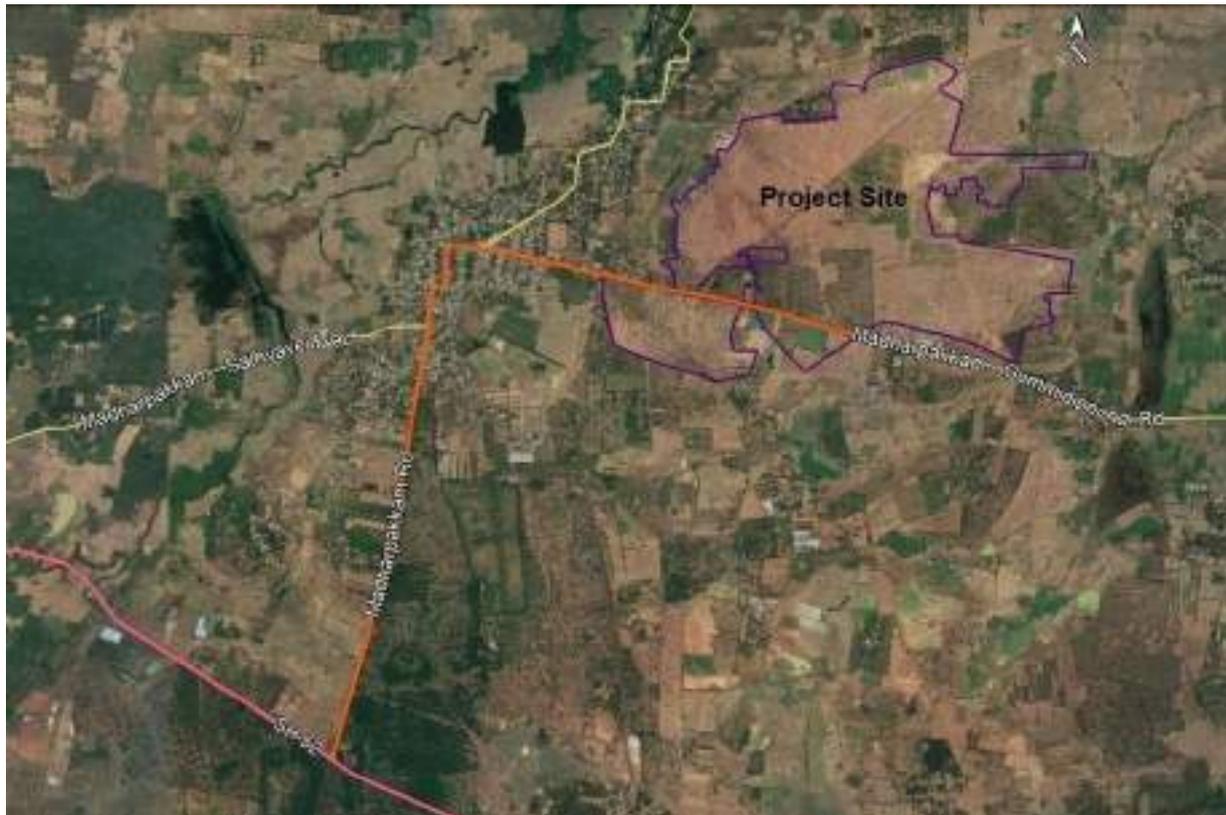


Figure 4-6 Google image showing site connectivity

Table 4-7 Existing and proposed vehicular movement

S. No	Type of Vehicle	Existing vehicles at Peak hour	Existing PCU at peak hour	Proposed vehicles	Proposed PCU	Total vehicles after project implementation	PCU Factors IRC (SP 41)	Total PCU after project implementation
1	Two wheeler	10	7.5	100	75	110	0.75	82.5
2	3Wheeler	10	12	30	36	40	1.2	48
3	4 Wheeler/cars	10	10	50	50	60	1	60
4	Trucks/Bus	4	8.8	30	66	34	2.2	74.8
5	Agri. tractor	0	0	1	4	1	4	4
6	Light commercial vehicle	0	0	20	28	20	1.4	28
	Total	34	38.3	231	259	265		297.3

Table 4-8 Traffic volume after implementation of the project

For the Road	Volume of Traffic	Volume (V)	Capacity (C)	V/C Ratio	LOS Category*	Traffic Classification
Existing	34	38.3	2400	0.02	A	Free Traffic Flow
After project implementation	265	297.3	2400	0.12	A	Free Traffic Flow

4.3.4 Noise Environment

The impacts of the proposed project on the noise levels of the surrounding areas were assessed. All equipments in the Industrial Park will be designed/operated to have a noise level not exceeding 85 to 90 dB (A) as per the requirement of Occupational Health and Safety Administration Standard (OHSAS). In addition, since most of the noise generating equipment would be in closed structures, the noise transmitted outside would be still lower.

4.3.4.1 Impacts

Major sources of noise generation in the individual industries during operational phase are classified into two categories:

- Stationary sources due to operation of heavy duty machinery at the project site like Boilers, Compressors, DG sets, Pumps etc.
- Mobile sources corresponding to mainly vehicular traffic for staff mobilization, materials, material transportation, liquid fuel transportation to project site, etc.

The impact of vibrations beyond the site would be negligible during normal operation phase. However, the impacts on workers engaged in the plant area would be considerable due to occupational exposure. The fixed major equipment/units such as boiler house, compressors, pumps, DG sets etc., also generate vibrations during operational phase and may cause exposures to the workers/operators engaged at these units.

4.3.4.2 Mitigation Measures

- The major noise generating equipment like Compressors, DG sets, Boiler Feed water pumps etc. will be enclosed in an acoustic enclosure designed for an insertion loss of 25 dB (A) and silencers to other equipment etc.

- Major noise generating equipment will be designed with 85 dB (A) ensuring cumulative noise at 1.0 m remains at 85 dB (A).
- The occupational noise exposure to the workers in the form of eight hourly times weighted average will be maintained well within the prescribed Occupational Safety and Health Administration (OSHA) standard limits.
- Acoustic silencers will be provided in equipment wherever necessary.
- Acoustic design with sound proof glass panelling will be provided for critical operator cabins / control rooms of individual modules as well as central control facilities.
- Use of personal protective equipments/devices such as ear-muffs, ear plugs etc. will be strictly enforced for the workers engaged in high noise areas.
- 33% greenbelt will be developed along the periphery and at various locations within the industry.
- Ambient noise levels will be monitored at regular intervals during operational phase of the project. Work place monitoring will also be carried out at regular intervals to ensure that noise levels are well within the standards prescribed by the Factories Act.

4.3.5 Water Requirement

The total water requirement for proposed project will be 8627 KLD. Fresh water consumption of 900 KLD and 4339 KLD of TTRO will be used for process and green belt development. 3388 KLD water requirement will be met from recycling of treated effluent for utilities (208 KLD), process (2970 KLD) and for green belt (135 KLD) and flushing (75 KLD) from recycling of treated sewage.

Individual industries will have their own STP and ETP as applicable and treated sewage /effluent will be recycled for utilities and green belt development and will maintain Zero Liquid Discharge system.

4.3.5.1 Impact due to Wastewater Generation

The untreated wastewater if discharged into nearby surface water may affect the surface water and/or if disposed off on land without treatment may pollute the ground and surface water.

The effluent characteristics of different types of industries are given in **Tables 4-9 to 4-20** below.

Table 4-9 Effluent characteristics of Synthetic polymer resins and water proofing compounds, resins industries

S.No.	Parameters	Range
1	pH	7.0- 7.7
2	Color (Pt/Co)	50-60
3	Oil & Grease (mg/l)	60-90
4	Total Suspended Solids (mg/l)	200-230
5	Total Dissolved Solids (mg/l)	700-800
6	BOD (mg/l)	575- 650
7	COD (mg/l)	1250- 1350

Table 4-10 Effluent characteristics of printing ink manufacturing industries

S.No.	Parameters	Range
1	pH	6.8-7.2
2	Color (Pt/Co)	35-40
3	Oil & Grease (mg/l)	150-170
4	Total Suspended Solids (mg/l)	100-125
5	Total Dissolved Solids (mg/l)	375-410
6	BOD (mg/l)	175-230
7	COD (mg/l)	625-700

Table 4-11 Effluent characteristics of paint blending industries

S.No.	Parameters	Range (solvent based)	Range (water based)
1	pH	7.0-7.7	7.0-7.7
2	Color (Pt/Co)	10-15	Out of range
3	Oil & Grease (mg/l)	20-30	375-410
4	Total Suspended Solids (mg/l)	30-40	1400-150

S.No.	Parameters	Range (solvent based)	Range (water based)
5	Total Dissolved Solids (mg/l)	340-360	1600-1700
6	BOD (mg/l)	50-75	2500-3000
7	COD (mg/l)	200-250	5500-6000

Table 4-12 Effluent characteristics of tyre, tube and rubber components manufacturing industries

S.No.	Parameters	Range
1	pH	5.5-6.0
2	Total Suspended Solids (mg/l)	3450 -3550
3	Total Dissolved Solids (mg/l)	2200-2250
4	BOD (mg/l)	1250-1350
5	COD (mg/l)	2800-2900
6	Phosphate (mg/l)	40-50
7	Ammonia (mg/l)	90-100

Table 4-13 Effluent characteristics of fibre glass manufacturing industries

S.No.	Parameters	Range
1	pH	6.5- 9.0
2	Total Suspended Solids (mg/l)	1000 -1200
3	Total Dissolved Solids (mg/l)	1400 -1500
4	BOD (mg/l)	1400- 1500
6	COD (mg/l)	300-3100

Table 4-14 Effluent characteristics of synthetic detergents and soaps manufacturing industries

S.No.	Parameters	Range
1	pH	8.5-9.3
2	Total Suspended Solids (mg/l)	300-350
3	Total Dissolved Solids (mg/l)	1400-1500
4	BOD (mg/l)	600-700

6	COD (mg/l)	1000-1100
7	Total Hardness (mg/l)	200-230
8	Color	Greyish

Table 4-15 Effluent characteristics of Automobile manufacturing industries

S.No.	Parameters	Range
1	pH	8.2-9.7
2	Total Suspended Solids (mg/l)	15- 400
3	Total Dissolved Solids (mg/l)	800-4200
4	BOD (mg/l)	3.5-150
6	Cadmium (mg/l)	45-1200
7	Oil & Grease (mg/l)	2.3 - 5.0
8	Zn (mg/l)	0.1- 3.7

Table 4-16 Effluent characteristics of earthen pot/ tiles manufacturing industries

S.No.	Parameters	Range
1	pH	7.5 -7.7
2	Total Suspended Solids (mg/l)	3500-4250
3	Total Dissolved Solids (mg/l)	3000-3750
4	Turbidity (NTU)	399-405

Table 4-17 Effluent characteristics of plastics manufacturing industries

S.No.	Parameters	Range
1	pH	7.2- 7.9
2	Total Suspended Solids (mg/l)	500-1000
3	COD (mg/l)	5200 -6700
4	BOD (mg/l)	2600 -3500
5	Organic Nitrogen (mg/l)	90-210
6	Phenols (mg/l)	0.5 – 1.3
7	Oil & Grease (mg/l)	200-500

Table 4-18 Effluent characteristics of Electronics and Electrical parts manufacturing

S.No.	Parameters	Range
1	pH	7.2-7.9
2	Total Suspended Solids (mg/l)	70-200
3	COD (mg/l)	40-100
4	Fe (ppm)	30-50
5	Zn (ppm)	200-300
6	Mn (ppm)	4-6
7	Pb (ppm)	2-3
8	Cu (ppm)	01 -0.5

Table 4-19 Effluent characteristics of Foundries and steel products

S.No	Parameters	Range
1	pH	6-9
2	TSS (mg/l)	50-75
3	Oil & Grease(mg/l)	5-10
4	Copper (mg/l)	0.3-0.6
5	Zinc(mg/l)	1-3
6	Temperature increase	3 to 5 C

Table 4-20 Characteristics of sewage

S. No	Parameter	Units	STP Inlet	MOEF Standards
1	pH	-	6.0-8.0	6.5 – 9.0
2	BOD	Mg/l	300	<20
3	TSS	Mg/l	240	< 50
4	F.Colifom	(MPN/100 ml)	600	<100

4.3.5.2 Mitigation Measures

- Individual industries will have their STP/ETP as applicable and treat the sewage/ effluent generated. Zero Liquid discharge concept is proposed. Treated effluent will be recycled for utilities and treated sewage for green belt development.

- Out of the effluent generated High TDS and low TDS wastewater stream will be segregated by individual industries and treated to tertiary level to ensure zero liquid discharge concept.
- 210 KLD sewage generated will be treated in STP proposed by individual industries and treated to meet the MoEF&CC standards. Treated sewage of 210 KLD will be recycled for green belt development and flushing.
- Institutional arrangements will be proposed for monitoring of treated sewage and treated effluent quality by individual industries.

4.3.6 Solid waste management

4.3.6.1 Impacts

During operation phase the type of solid wastes generated can be broadly categorized as Hazardous Waste and Municipal Solid Waste. Further, the generated Municipal Solid Waste generation includes biodegradable, recyclable and inert compounds.

If the solid waste generated is not properly managed and disposed in unauthorised manner, it will impact on soil quality, groundwater and air quality.

Municipal Solid waste generated from operation phase is estimated as 3250Kg/day.

4.3.6.2 Mitigation Measures

- The Source of Municipal waste in the industry will be from the domestic use and strict guidelines will be put in place in order to manage the solid waste generation during operation phase will be segregated to organic and inorganic wastes. The organic waste will be composted at site and used for green belt development and inorganic waste will be sold to authorized vendor by individual industries.
- As a provision to have in house and independent Solid Waste Management facility 24.060 Acres (3.48%of Industrial Park area) has been earmarked for Solid Waste Management Facility. In future, based on need, SIPCOT will float tender and provide land to private players for the establishment of Municipal Solid Waste Management facility on BOOT basis.

- Hazardous waste generated from the process will be stored in a separate hazardous waste storage area and properly disposed as per the Hazardous and Other Wastes (Management and Transboundary Movement) Amendment Rules, 2016.

4.3.7 Ecology

Air emissions, liquid effluent disposal and solid waste generation are likely to have some impact on terrestrial ecosystem. However, there will be no net increase in air pollution. Individual industries in the Industrial Park will maintain a ZLD system and the solid wastes will be collected and disposed properly. Hence, negligible impact on ecology is expected.

Proposed plot will have greenbelt of 243.437 Acres (35.20% of total area of Industrial Park). Greenbelt will be developed along the periphery and at various locations within the Industrial Park thereby minimising impacts of noise and gaseous emissions.

4.3.8 Socio-Economic Environment

The project is likely to have positive impacts on socio economic environment.

SIPCOT intends to spend around 1.5% of project cost for the CER activities with focus on Health and sanitation facilities near the project site, desilting of two water bodies near the site there by improving social infrastructure.

Various modes of indirect employment i.e. increased business opportunities will reflect in the improved quality of life of the people in the study area.

Thus, it can be said that the proposed project will have significant beneficial impact on the socio economic scenario in the study area.

5. ANALYSIS OF ALTERNATIVES

5.1 General

The development and promotion of socio economics of the people in almost many districts of Tamil Nadu entirely depends on the Industries. The Government of Tamil Nadu is under pressure to address the potential for the growth and development of industries at state level. SIPCOT identified three locations, considering demand to have access and a pre-set idea of establishing it near Chennai.

The environmental compatibility of the identified land mass is the key issue for the finalization of the particular location and extent of land for the proposed Industrial Park.

5.2 Choice of Alternative Sites

SIPCOT considered four alternative sites based on the need for promoting an Industrial Park in the proposed project location. Industrial growth, preciously, require good connectivity to the urban areas and other facilities like port, airports etc. Hence only, the present location is proposed.

The alternative sites considered as per SOI Topo map were:

- Arur (Kannambakkam)
- Sanaputhur, Iguvarpalaiyam & Lakshminarasimapuram
- Nemalur ,Pannur & Vaniyamalli
- Manallur and Surapundi (hereinafter referred as Manallur and Soorapoondi villages as per land alienation GO Ms No 285)

However, at Arur TN-AP interstate boundary is crossing the site and the site at Nemalur, Pannur and Vaniyamalli is near Reserve forest and water body. The site at Sanaputhur, Iguvarpalaiyam & Lakshminarasimapuram villages has a small stream crossing the site. Hence these sites were not selected for development of Industrial Park.

The alternative site with reference to the proposed project location is presented in **Figure 5-1**.

Detailed comparison was made among these sites for the proposed Industrial Park. On the basis of these options and detailed ground truth exercise, it is recommended

that the land available at Manallur and Soorapoondi Villages is the best among the four choices.

5.3 SITE MATRIX

The choice among the alternative sites in Thiruvallur District was made by constructing a Matrix using Standard set of guidelines and set of recommendations in the Technical Guidance Manual of MoEF&CC.

The environmental and coastal compatibility of the location which is with respect to the following were studied and compared for all the three locations;

- Area
- Access
- Soil Conditions
- Ecological Index
- R& R Requirements

The Site Matrix evaluated for the above said deciding criteria is presented in **Table 5-1**.

5.4 Evaluation of Selected Sites

The importance of environmental and coastal attributes was examined for their relevance to the proposed project and arbitrary values were assigned. The assigned values of importance for evaluation of selected sites are listed in **Table 5-2**. The score of values of each site is listed in **Table 5-3**.

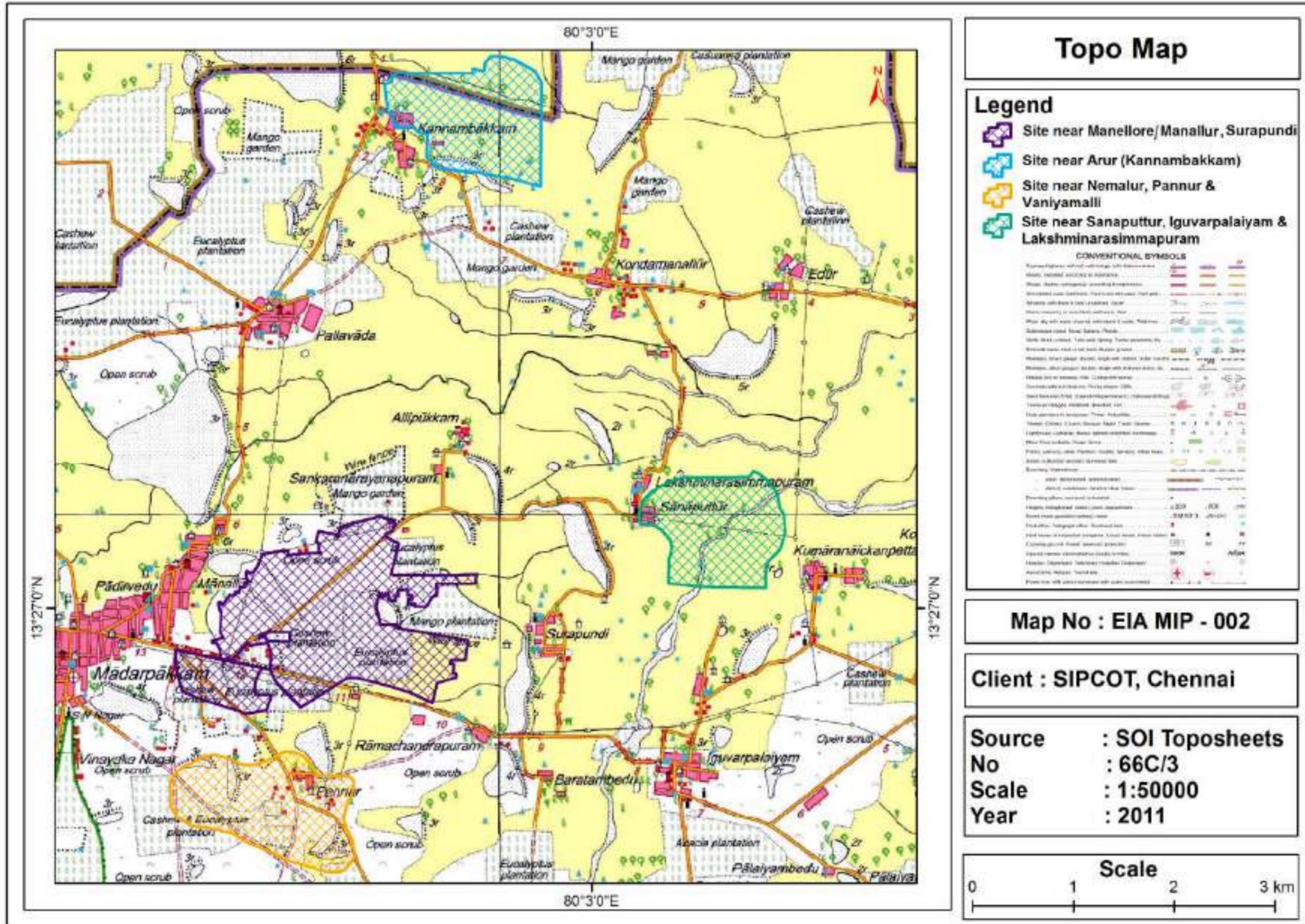


Figure 5-1 Alternate sites considered for the project

Table 5-1 Environmental analysis for alternate sites for Proposed Industrial Park

S.No	Environmental Attributes	Arur	Sanaputhur, Iguvarpalaiyam & Lakshminarasimapuram	Nemalur, Pannur & Vaniyamalli	Manallur & Soorapundi
1	Location	Human Settlement adjacent	Human Settlement adjacent to the	Human settlement within 1 Km	Human Settlement within 1 Km
2	Land availability	To be purchased	Government Lands	To be purchased	Government Land. Alienated to SIPCOT for Industrial Development.
3	Land use classification	Unclassified	Unclassified	Unclassified	Unclassified
4	Access	No Access Road	Direct Access	Access road available	Access Road available
5	Soil Characteristics	Clayey	Largely Sandy Fine/Coarse	Sandy fine/coarse	Sandy with Red Gravelly patches
6	Socio Economic	Disturbance to local farming	Farms are in the adjoining location	Site close to many religious places	No Activity; Barren
7	Eco sensitive areas	Interstate boundary crossing the site	No eco sensitive regions in the near vicinity (within 1 Km radius)	Reserve forest is near the site and water body is near the site	No eco sensitive regions in the near vicinity (within 1Km radius).
8	Air Quality	AAQ is well within the prescribed level	AAQ is well within the prescribed level	AAQ is well within the prescribed level	AAQ is well within the prescribed level
9	Water Source	Ground water	Ground water	Ground water	Ground water
10	Noise	Within the limits prescribed by CPCB	Within the limits prescribed by CPCB	Within the limits prescribed by CPCB	Within the limits prescribed by CPCB
11	RR Plan	Applicable	Not applicable	Applicable	Not applicable
12	Project Costing Budgetary Estimate	More	Comparatively less	More	Less since land is already alienated to SIPCOT.

Table 5-2 Arbitrary value of importance for site selection

Sl. No	Selection Criteria	Value of Importance
1	Land Availability	200
2	Road Access	100
3	Soil Conditions	100
4	Ecological Sensitivity	200
5	Change in land use	100
6	Interference with fresh water sources	100
7	R& R Requirements	100
8	Project timeline	50
9	Project Budget estimate	50
Net Score		1000

Table 5-3 Site Selection Criteria

Sl.No	Selection Criteria	Site-I Arur	Site-II Sanaputhur, Iguvarpalaiyam & Lakshminarasimapur am	Site -III Nemalur, Pannur & Vaniyamalli	Site-IV Manallur & Soorapoon di
1	Land Availability	To be purchased	Available	To be purchased	Readily available
2	Road Access	Not available	available	Available	Available. Bisecting the project site
3	Soil Conditions	Coarse sand	Fine sand	Coarse and fine sand	Coarse sand
4	Ecological Sensitivity	Yes	Nil	Yes	Nil
5	Change in land use	Required	Required	Required	Required
6	Interference with fresh water sources	Nil	Yes	Yes	Nil
7	R&R Requirements	Yes	Nil	Yes	Nil
8	Project Timeline	More	Optimum	More	Optimum
9	Project Budget estimate	More	Optimum	More	Less
Site- IV is preferred, on the basis of compatibility.					

Table 5-4 Site selection based on arbitrary value

Sl. No	Selection Criteria	Importance Values	Site-I Arur	Site-II Sanaputhur, Iguvarpalaiyam & Lakshminarasimapuram	Site -III Nemalur, Pannur & Vaniyamalli	Site-IV Manallur & Sorapoondi
1	Land Availability	200	50	100	50	200
2	Road Access	100	0	100	50	100
3	Soil Conditions	100	50	50	50	50
4	Ecological Sensitivity	200	75	100	75	150
5	Change in land use	100	50	50	50	50
6	Interference with fresh water sources	100	100	100	0	100
7	R & R requirements	100	0	100	0	100
8	Project Timeline	50	25	50	25	50
9	Project budget	50	0	25	0	50
Total score		1000	350	675	300	850
Choice Ranking			IV	II	III	I

Based on these criteria, Manallur site is selected for development of this Industrial Park.

Based on the CPCB's siting criteria for setting up of the industrial Parks, the zoning map for the Industrial Park has been prepared and enclosed as **Annexure -12**.

6. ENVIRONMENTAL MONITORING PROGRAMME

6.1 Introduction

The primary aim of environmental monitoring program is to formulate a systematic, site-specific plan for monitoring the environmental parameters within the impact area, during and after commissioning of the project, which would aid in assessing the effectiveness of mitigation and environmental protection measures implemented for the proposed project based on the existing environmental scenario and probable environmental impacts appraisal.

The plan framed for the intended facility will describe:

- The details of the proposed mitigation measures taken for safeguarding the environment at the project site as well as in the vicinity of the industrial site.
- Details of management plans (Greenbelt development plan, Solid waste management plan etc.)
- Post project environmental monitoring programme to be undertaken after commissioning of the project.
- The associated cost components of the pollution control systems installed at the site.

For each of the environmental attributes, the monitoring plan specifies the parameters to be monitored, location of monitoring sites, frequency and duration of monitoring and it also denotes the applicable standards, implementation and supervising responsibilities.

6.2 Objectives

- Ensure day to day operational activities are conducted in a manner in compliance with the applicable regulatory approvals including legislation and industry standards.
- Evaluate the adequacy of mitigation and pollution control measures implemented for reducing the adverse impacts caused during the construction and operation stage and suggest additional mitigation measures, if appropriate, in the light of the results.
- Define a detailed framework to monitor and document for achieving full compliance with statutory requirements.
- Encourage good environmental management practices through planning, commitment and continuous improvement.

- Develop clearly defined environmental monitoring program designed to assess the nature and extent of environmental impacts of the proposed operations and progressively refine such programs against the targets
- Define roles and responsibilities of site personnel and ensure that all people onsite are fully informed of their responsibilities and accountabilities with regard to the environment.
- To comply with all regulations stipulated by the Central Pollution Control Board (CPCB)/ State Pollution Control Board (SPCB) related to air emission and liquid effluent discharge as per air and water pollution control act/ laws.
- To handle hazardous wastes as per the Hazardous Waste (Management & Handling) Rules 1989 and Hazardous and Other Wastes (Management and Transboundary Movement) Rules, 2016 and subsequent amendments.
- Review, improve and update environmental management procedures and standards.
- Establish response procedures for actual/potential environmental impacts including community complaints and ensure corrective action is taken.
- Perspective budgeting and allocation of funds for environmental management expenditure, Continuous development and search for innovative technologies for a cleaner and better environment.

6.3 Environmental Management Plan during Construction Phase

Environmental impacts during the construction phase can be attributed to the site preparation activity and the mobilization of workforce. The impacts of the construction phase on the environment would be basically transient nature and are expected to wear out gradually on completion of the construction programme. However, once the construction of the project is completed and its operations started, these operation stage impacts would overlap the impacts due to the construction activities.

In order to mitigate such impacts and restrict them within tolerable levels, the following measures shall be adopted:

- Proper and prior planning of approach and access roads, and appropriate sequencing and scheduling of all major construction activities.
- Adoption of appropriate soil conservation programme and its timely implementation in the proposed project site.
- Initiation of an appropriate landscape programme including plantation of trees and flowering plants in and around the project site particularly, at all available spaces

which would serve the dual purpose of controlling fugitive dust and abatement of noise levels in addition to improving the aesthetics of the area.

- Water sprinkling in the vulnerable areas to suppress the dust generated during excavation, levelling and other operations.
- Use of properly tuned construction machinery & vehicles in good working condition with low noise & emission and engines turned off when not in use.
- Control of quality of construction wastewater within the construction site through suitable drainage system with traps for arresting the sediment load for its proposed disposal into the main natural drainage system around the site.
- Implementation of suitable disposal methods of sediment/ construction debris at designated places to avoid water logging at construction site.
- Provision of protective gears such as ear muffers etc. for construction personnel exposed to high noise levels and locating the temporary labour sheds for housing the construction labourers away from the construction site.

6.4 Environmental Management Plan during Operation Phase

The control measures which will be imposed to mitigate the impacts caused during the operation phase of the project are as follows:

- Periodic monitoring of the environmental attributes to check the adequacy and effectiveness of pollution control measures employed.
- The major sources of emission from individual industries are DG set and boiler stacks which will be of adequate height to disperse the pollutants. Regular monitoring of Stacks (DG, process, utilities) by individual industries and Ambient air quality by individual industries and project proponent is advisable.
- Individual industries will follow Zero liquid discharge system for sewage and effluent treatment for the sewage and effluent generated in the plant.
- Noise pollution is curbed by providing acoustic enclosures for D.G sets, pumps and reactors; thereby the ambient noise level is maintained below the CPCB limits of 75 dB (A) for industrial areas. Personal Protective Equipments will be provided to those workers who work in the areas of high noise.
- Rainwater harvesting system will be implemented for recharging ground water system.
- Proper maintenance of greenbelt will be ensured.
- Adequate safety measures conforming to the occupational health and safety policy will be taken to prevent accidents/hazards to the workers.

6.5 Environmental Monitoring Programme

It is imperative that the Project Authorities set up regular monitoring stations to assess the quality of environment during construction phase and after commissioning of the project. An environmental monitoring programme is important as it provides useful information and helps to:

- Verify the predictions on environmental impacts presented in this study assist in detecting the development of any unwanted environmental situation, and thus, provides opportunities for adopting appropriate control measures, and identify the effectiveness of mitigation measures suggested in the EMP.

6.5.1 Environmental Monitoring Program – Construction Phase

During construction, to assess the environmental parameters, monitoring will be carried out which will include Ambient Air Quality, noise, water and soil quality of site and surrounding areas. Monitoring programme including areas, number and location of monitoring stations, frequency of sampling and parameters to be covered is summarized in **Table 6-1**.

Table 6-1 Environmental Monitoring Programme- Construction Phase

S. No	Area of Monitoring	Number of Sampling Stations	Frequency of Sampling	Parameters to be Analysed
1	Ambient Air Quality	Three stations (one at site, one in upwind direction and one in down wind direction)	Once a month	All the parameters as per NAAQ Standards
2	Noise	Three locations at site in different places	Once in a month	Ambient Equivalent Continuous Sound Pressure Levels (Leq) at day and Night time.
3	Water	Two number of surface and ground water samples near the site	Once in a month	All the parameters as per IS 10500:2012
4	Vehicular Emissions	One at site approach	During peak hours Once in a week	Air emission and noise, PCU

S. No	Area of Monitoring	Number of Sampling Stations	Frequency of Sampling	Parameters to be Analysed
5	Solid waste / Hazardous waste	Storage areas of solid and hazardous waste	Weekly once	Quantity
6	Soil	Three locations within the site	Once a month	Physico chemical properties, Nutrients, Heavy metals

6.5.2 Environmental Monitoring Program – Operation Phase

After commissioning of the project, post project monitoring of environmental parameters will be carried out at regular intervals. The monitoring programme in different areas of the environment has been based on the findings of the impact assessment studies. The post project monitoring programme including areas, number and location of monitoring stations, frequency of sampling and parameters to be covered is summarized in **Table 6-2**.

Table 6-2 Environmental Monitoring Programme –Operation Phase

S. No	Area of Monitoring	Number of Sampling Stations	Frequency of Sampling	Parameters to be Analyzed
1.	Meteorology	One at site	Daily basis	Wind speed and direction, Temperature, Relative Humidity, Atmospheric pressure, Rainfall.
2.	Ambient Air Quality	3 Stations (one in up wind and one in downwind and one at site)	Once in 3 months 24 hourly period	All the 12 parameters as per NAAQ Standards
3.	Noise	3 (two within IP and one outside IP)	Once in 3 months for 24 hours	Ambient Equivalent Continuous Sound Pressure Levels (Leq) at day and Night time.
4.	Water	Two number of surface and ground water sample near the site	Once in 6 months	All the parameters as per IS 10500:2012
5.	Vehicular Emissions	At site approach	Periodic monitoring of vehicles	Air emission and noise, PCU

S. No	Area of Monitoring	Number of Sampling Stations	Frequency of Sampling	Parameters to be Analyzed
6.	Solid waste	Municipal Solid and waste storage area	Twice in a month	Quantity
7.	Soil	Three locations (two within and one outside project site)	Once in 6 months	Physico chemical properties, Nutrients, Heavy metals
8.	Compost	One at the compost yard	Monthly	Nutrients, Heavy metals
9.	Terrestrial Ecology	Within 10km, around the project	Once in three years	Symptoms of injuries on plants

6.6 Submission of Compliance Reports

As a part of environmental monitoring programme, following compliance report will be submitted to TNPCB and Regional Office of MoEF&CC.

- Half yearly compliance reports of Environmental Clearance terms and conditions on 1st June and 1st December every calendar year
- Environmental statement (Form-V) for the financial year ending March 31 to TNPCB on or before September 30 every year.

6.7 Greenbelt Development

As per the rules and regulations laid by Ministry of Environment Forests and Climate Change, Central Pollution Control Board (CPCB) and State Pollution Control Board (SPCB), it is legally mandatory to earmark 33% of the project area for greenbelt development to promote integration of environmental issues with industrial development projects.

The total land area is 691.587 Acres. Greenbelt area is 243.437 Acres – 35.20% of total area of Industrial Park). Details are given in **Table 6-3**.

Table 6-3 Green belt area breakup within the Industrial Park

S.No	Green belt details	Area (Acres)
1	OSR area	69.160
2	25% Green belt along the plotted area	119.18
3	3 m green belt along the road	15.94

S.No	Green belt details	Area (Acres)
	side	
4	Green belt along the periphery of the site	39.157
Total greenbelt area		243.437

Around 118269 numbers of trees (1200 trees / Ha) will be planted as per CPCB guidelines for developing greenbelt (PROBES/75/1999-2000, published in Mar 2000).

The purpose of developing the greenbelt in and around the industrial site is for:

1. Preventing land degradation and erosion of topsoil due to activities during construction phase.
2. Containment and abatement of pollution in the industrial environment, capturing of fugitive emissions if any and thereby improving the quality of the surrounding environment.
3. Substantially reducing the adverse environmental impacts due to the proposed industrial activity.
4. Serving as a barrier for attenuating the intensity of noise generated.
5. Enhancing the biodiversity index of the region.
6. Adding aesthetic value to the project area.
7. Maintaining the ecological equilibrium of the area.

The following general guidelines and measures will be adopted:

1. The plantation of trees will be initiated during construction stage so that substantial growth may be achieved when the project is completed. The greenbelt development programme will be drawn to conform to natural climatic conditions and adaptability of the species.
2. Species involved in afforestation will be indigenous, fast growing and eco-friendly.
3. Proper drainage system and proper plantation techniques will be adopted.
4. Plantation will be properly maintained and protected by fencing from grazing and felling.
5. The plantations would consist of a mixture of carefully chosen locally available species of trees, shrubs and herbs, preferably evergreen and resistant to pollution.

A capital cost of INR 31.06 Lakhs shall be earmarked for this purpose and INR of 3.0 Lakhs will be allotted for recurring expenses towards green belt development and maintenance.

Proposed Species:

1. Neem (*Azadirchta indica*) – 10000 Nos
2. Seesam – (*Sesamum indicum*)-10000 No's
3. Teak wood (*Tectona grandis*) –10000 Nos
4. *Cassia fistula* – 10000 Nos.
5. *Commelina benghalensis*-10000 nos
6. *Cheno qodium album* -10000 nos.
7. *Acacia auriculiformis* – 10000 nos.
8. *Acacia ferruginea* – 10000 nos.
9. *Adina cordifolio Roxb* – 10000 nos.
10. *Borringtonio racemose Roxb* – 10000 nos.
11. *Buteo monos perma Lamk.* – 10000 nos.
12. *Colophyllum inophyllum Linn* – 8269 nos.

(Note: The plant species proposed are based on the guidelines for developing green belt by CPCB-March 2000)

6.7.1 Trees already available at site

Trees available at site as per GO (Ms) No. 285 date 03.08.2018, is given in **Table 6-4** below.

Table 6-4 Survey No. wise list of trees available at site

S.No	S.F.No	No. of trees												
		Mango	Coconut	Guava	Sapota	Eucalyptus	Amla	Cashew	Banyan	Neem	Papaya	Palm	Naga	Teak
Manallur Village														
1	213	228	192	1	5	38	-	-	-	-	-	-	-	-
2	214	210	-	-	-	-	-	-	-	-	-	-	-	-
3	215	-	92	-	-	-	-	-	-	-	-	-	5	48
4	216/3	34	5	-	-	-	37	-	-	-	-	-	-	-
5	235/3	22	3	-	-	-	-	16	-	21	-	-	-	-
6	238	-	107	16	-	-	-	-	-	-	-	-	1	-
7	239	459*	31	72	-	-	58	-	-	-	-	-	-	-
8	245	29	41	-	19	-	-	-	2	29	19	1	-	-
Soorapoondi village														
9	9/1	5	-	-	-	-	-	-	-	-	-	-	-	-
10	9/3	9	-	-	-	-	-	-	-	-	-	-	-	-
11	9/5	7	-	-	-	-	-	-	-	-	-	-	-	-
12	9/6	7	-	-	-	-	-	-	-	-	-	-	-	-
13	9/11	20	-	-	-	-	-	-	-	-	-	-	-	-

S.No	S.F.No	No. of trees												
		Mango	Coconut	Guava	Sapota	Eucalyptus	Amla	Cashew	Banyan	Neem	Papaya	Palm	Naga	Teak
14	10/4	8	-	-	-	-	-	-	-	-	-	-	-	-
15	10/9	7	-	-	-	-	-	-	-	-	-	-	-	-
16	12/2	8	-	-	-	-	-	-	-	-	-	-	-	-
17	12/3	7	-	-	-	-	-	-	-	-	-	-	-	-
18	12/4	7	-	-	-	-	-	-	-	-	-	-	-	-
19	12/5	7	-	-	-	-	-	-	-	-	-	-	-	-
20	12/6	7	-	-	-	-	-	-	-	-	-	-	-	-
21	12/7	7	-	-	-	-	-	-	-	-	-	-	-	-
22	12/8	7	-	-	-	-	-	-	-	-	-	-	-	-
23	12/9	7	-	-	-	-	-	-	-	-	-	-	-	-
24	12/11	11	-	-	-	-	-	-	-	-	-	-	-	-
25	12/12	2	-	-	-	-	-	-	-	-	-	-	-	-
26	12/13	2	-	-	-	-	-	-	-	-	-	-	-	-
27	12/14	4	-	-	-	-	-	-	-	-	-	-	-	-
28	12/15	11	-	-	-	-	-	-	-	-	-	-	-	-
29	12/16	4	-	-	-	-	-	-	-	-	-	-	-	-
30	12/17	7	-	-	-	-	-	-	-	-	-	-	-	-
31	13/1	31	-	-	-	-	-	-	-	-	-	-	-	-
32	13/2	79	-	-	-	-	-	-	-	-	-	-	-	-
33	13/3	4	-	-	-	-	-	-	-	-	-	-	-	-
34	13/4	14	-	-	-	-	-	-	-	-	-	-	-	-
35	13/5	5	-	-	-	-	-	-	-	-	-	-	-	-
36	13/6	4	-	-	-	-	-	-	-	-	-	-	-	-
37	13/7	5	-	-	-	-	-	-	-	-	-	-	-	-
38	13/8	5	-	-	-	-	-	-	-	-	-	-	-	-
39	13/9	4	-	-	-	-	-	-	-	-	-	-	-	-
Total		835 + 459*	471	89	24	38	95	16	2	50	19	1	6	48

*saplings

Total number of trees at site is 1694 +459 Mango saplings.

The trees available along the periphery of site and OSR area will be retained to the maximum. If not possible the trees will be uprooted and planted along the green belt area allotted at site.

For the trees at the industrial plots, in case of necessity to cut the trees by individual industries, the industry will plant additional 3 trees for cutting one tree as compensation in their greenbelt area. Details regarding tree cutting by individual industries will be given in their EC/ CTE application as applicable along with the compensation of trees.

7. ADDITIONAL STUDIES

7.1 Public Hearing

As per the ToR dated 22nd July, 2015, Public Hearing is mandatory for the project. Public Hearing was conducted for the project on 03/07/2019 at K.V.C.Mahal, Sathyavedu Road (Near Sivan Koil), Madarpakkam, Gummidipoondi Taluk, Thiruvallur District, under the chairman ship of Tmt.Mageswari Ravikumar I.A.S-District Collector, Thiruvallur district, assisted by District Environmental Engineer –Er.P.Ravichandran M.E.

The advertisement for Public Hearing was given in Indian Express and Dhinamani on 01/06/2019. Advertisement copies are enclosed as **Annexure -13**.

Public Hearing Proceedings along with the reply given during Public Hearing is enclosed as **Annexure -14**.

Based on the proceedings of 230thEAC meeting MoM, reply to the issues raised during Public Hearing and the commitment is revised and given in **Table 7-1**.

Table 7-1 Issues raised during Public Hearing and reply with commitment

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
1	Thiru. Ravi Soorapoondi	It is informed that no forest land is available in the vicinity of proposed site, but forest land is available.	There is no forest land within the Industrial Park area. The nearest forest is Nemalur RF which is 1.13 Km towards WSW. A detail of Reserve Forests within the study area with distance and direction from project site boundary is given in Table 2-1 of EIA document.	
		Whether Manallur Industrial Park is started or yet to be started by SIPCOT.	The Industrial Park is yet to start.	
		The industries such as M/s.ARS Power and Kevin Steel located in the vicinity, have made bore well for a depth up to 1000 ft. But in the proposed site it is reported that the bore well by individual unit is refused. How the water will come in Matherpakkam area.	No borewell will be permitted in the proposed Industrial Park. The same will be stipulated as a condition in the Allotment Order and Lease Deed. The fresh water and TTRO water will be sourced from CMWSSB.	

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		What is the necessity of SIPCOT in this area, it should be established based on public's need? Already one SIPCOT is existing in Gummidipoondi, then what is the necessity for one more SIPCOT in this area?	Considering the demand for industrial space near Chennai/Andhra Border, the site is selected. The entire extent of land in Gummidipoondi Industrial Complex has already been allotted to the industries and in Thervoykandigai Industrial Park only few plots are vacant.	
		It is informed that the Bio medical wastes will be dumped, below ground, but it will be released during rainy days and it will affect the health and livelihood of nearby Public. Hence we don't need the Manallur Industrial park.	No biomedical waste will be generated from proposed project.	
2	Mrs.Vettriselvi Manallur	My residence is located adjacent to this SIPCOT. Development of SIPCOT in healthy and wealthy village is not acceptable. Large area of agricultural land is available in the vicinity of the proposed site. Agriculture will be affected due to the industries. Already Gummidipoondi SIPCOT is available within a distance of 30 Km, for that red alert is given. The proposed SIPCOT is adjacent to their agricultural land and it	The project has been reworked as 10% of EC Category viz. Non-Pharma 5(f) Categories and the balance 90% will be Non-EC Category industries viz. Automobile and its auxiliary industries, E-Vehicle, etc., Every member industry will have the required APC measures and the Ambient air quality as per the Statutory standards will be maintained.	

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		will affect the three season harvesting in that area.		
		Air pollution is caused due to heavy lorry transportation and in the evening after 5 PM and night hours, the transport gets affected due to this smoke.	SIPCOT will provide proper paved roads within the Industrial park to prevent dust emissions. The individual industries will adapt to low Sulphur diesel vehicles so that air pollution due to transportation is minimised.	
		It is informed that employment opportunity will be available due to the development of SIPCOT, but opportunities are given only to the other state people.	The Industrial Park will provide direct employment to 5000 people as per the TN Government guidelines. Employment will be provided as per the skills, preference will be given to locals.	As part of CER Activity, Skill development centre will be established for providing training related to E-Vehicle/ auto components repairing,etc to local people at cost of Rs.25 lakhs .

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		Due to the industrial development, ground water is over exploited and gets contaminated and affects children's health. Hence we don't need Manallur Industrial park.	No borewell will be permitted in the proposed Industrial Park. The same will be stipulated as a condition in the Allotment Order and Lease Deed	As a part of CER activity, Health camps will be conducted once in six months by SIPCOT at Manallur and Soorapoondi villages to ensure the health condition of local people. The cost for the same will be around Rs.15 Lakhs.
3	Thiru. Gunasekar - Manallur	<p>The industries which are not affecting the surrounding environment can be acceptable, but the surrounding environment already gets polluted due to operation of existing industries.</p> <p>Due to heavy air pollution, whitewashed walls get blackened within a week. Due to air pollution, the public gets affected by diseases like cancer, Typhoid etc.</p>	<p>The project has been reworked as 10% of EC Category viz. Non-Pharma 5(f) Categories and the balance 90% will be Non-EC Category industries viz. Automobile and its auxiliary industries, E-Vehicle, etc.,</p> <p>SIPCOT will ensure and monitor that all the industries proposed within this Industrial Park have their APC measures and ZLD Concept along with proper storage area for Hazardous wastes.</p>	As a part of CER activity, Health camps will be conducted once in six months by SIPCOT at Manallur and Soorapoondi villages to ensure the health condition of local people. The cost for the same will be around Rs.15 Lakhs.

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		It is informed that employment opportunity will be available due to the development of SIPCOT, but security and Scavengers post is only given to local people.	The Industrial Park will provide direct employment to 5000 people as per the TN Government guidelines. As per the skill requirements of the job local people will be considered and preferred.	.As part of CER Activity, Skill development centre will be established for providing training related to E-Vehicle/ auto components repairing, etc to local people at cost of Rs.25 lakhs.
		There is no possibility of developing non polluting industries in this Manallur SIPCOT. Hence we don't need the Manallur Industrial Park in our area.	SIPCOT will ensure and monitor that all the industries proposed within this Industrial Park have their APC measures and ZLD Concept along with proper storage area for Hazardous wastes.	
4	Thiru. Prem Pathirivedu -	It is informed that animals and forests will not be affected but there is no protection to the Human. Also the industries proposed in this area will be chemical industries only and it will affect the environment.	The project has been reworked as 10% of EC Category viz. Non-Pharma 5(f) Categories and the balance 90% will be Non-EC Category industries viz. Automobile and its auxiliary industries, E-Vehicle, etc.,	
		The great Thiruvalluvar said "There is no world without water" but we are suffering due to contamination of water. Hence we don't need Manallur Industrial Park.	There will not be ground water extraction for the project. Entire Water requirement for the proposed IP will be met from CMWSSB and recycling of treated wastewater. Individual industries will be mandated for Zero liquid discharge concept to reduce the consumption of fresh water and maximise	

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
			recycling of treated sewage/ effluent as applicable.	
5	Thiru. Chittibabu - Pathirivedu	<p>There is no adequate announcement well in advance regarding the Manallur Industrial park proposed to be developed by SIPCOT and the conducting of Public Hearing in this regard. No awareness was given to the Public in this regard. It was reported that Public notice was given in the news papers, but necessary local announcement in the way of "Dom Dom.</p> <p>In the public meeting, without hearing the public views, it is reported that SIPCOT is being developed.</p> <p>The conduction of Public Hearing meeting is not known to many of the people in the surroundings.</p>	<p>TNPCB has given Advertisement in English (Indian Express) and Tamil (Thina Mani) newspapers on 01.06.2019. Apart from this, announcement regarding Public hearing was made through loud speaker system by auto.</p>	
		<p>After 7 PM, vision of route gets affected due to air pollution. Agriculture gets affected. The duty of the Government is to protect the public, instead, the Government affects the livelihood of the people, in the name of industrial development.</p>	<p>In the proposed Industrial Park, Individual industries will be mandated to provide all pollution control measures as per CPCB/TNPCB norms to minimise the effect of the project on the nearby agricultural land and communities. Apart from this 243.437 Acres (35.20% of area) of land is proposed</p>	<p>As a part of CER activity, Health camps will be conducted once in six months by SIPCOT at Manallur and Soorapoondi villages to ensure the health condition of local</p>

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		Hence we don't need, Manallur Industrial Park.	for green belt development which will act as buffer.	people. The cost for the same will be around Rs.15 Lakhs.
6	Thiru. E.Sambath-Mannallur	There is no adequate announcement well in advance regarding the "Manalur Industrial Park", proposed to be developed by SIPCOT and conducting of Public Hearing. Women were not able to participate in the Public Hearing Programme. It is not correct to discuss about the development of SIPCOT, without having adequate Toilet facilities and without solving the discrepancy in the 100 day employment programme.	TNPCB has given Advertisement in English (Indian Express) and Tamil (Thina Mani) newspapers on 01.06.2019. Apart from this, announcement regarding Public hearing was made through loud speaker system by auto. SIPCOT will provide 5 no. of toilets each at Manallur and Soorapoondi. Further, Skill development Centre will also be provided for training local people related to E - Vehicle/ auto components repairing, etc.	As a part of CER activity, 10 no. of common toilets will be constructed. 5 Nos at Manallur Village and 5 Nos at Soorapoondi village. Total cost recurred towards construction, operation and maintenance of 10 common toilets will be Rs. 25 Lakhs. Further, Skill development centre will be established for providing training related to Evehicle/ auto

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
				components repairing,etc to local people at cost of Rs.25 lakhs .
		There is no action taken on the resolution passed in the village Saba due to M/s.Kavin Steel. It is rice bowl and setting up SIPCOT by sacrificing the agriculture is not acceptable one.	In the proposed Industrial Park, individual industries will be mandated to provide all pollution control measures as per CPCB/ TNPCB norms to minimise the effect of the project on the nearby agricultural land and communities. Apart from this 243.437 Acres (35.20% of area) of land is proposed for green belt development which will act as buffer.	
		There is lot of Palm and Cashew trees and it is proposed to set up the SIPCOT by destroying the above trees. There are 5000 number of cattle available in the area and there will not be sufficient land for grazing.	Total number of trees at site is 2153 nos. The trees are as follows: Mango tree – 1294, Guava tree – 89, Sapota tree – 24, Coconut tree – 471 Eucalyptus – 38, Amla – 95, Cashew – 16 Banyan tree – 2, Papaya tree – 19, Neem tree – 50, Palm tree – 1, Teak – 48 and Naga – 6 The trees available along the periphery of site and OSR area will be retained to the maximum extent. As per the proposed green belt about 1.1 lakhs trees will be developed in the proposed green belt by SIPCOT and the	

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
			allotted industries.	
		There is no solution for water problems and the Public hearing is being conducted for establishing new SIPCOT. Agriculture gets affected due to industrialization.	There will not be any ground water abstraction for the project. Entire Water requirement will be met from CMWSSB and recycling of treated wastewater.	As a part of CER Activity, 75 KLD of water will be provided for Manallur villages by SIPCOT along with 75 KLD water storage tank also Sewerage system will be provided. Cost towards the same will be around Rs.50 Lakhs.
		Desilting has not been done in the two lakes located within the proposed site. Due to heavy harvesting of Paddy, the village is named Manallur.	Desilting will be undertaken by SIPCOT in the two nearby lakes.	As a part of CER activity desilting will be undertaken in the nearby 2 lakes. The Cost for same will be around Rs.15 lakhs.
		There is no adequate land allotment for "Burial Ground" and disposal of Municipal Solid waste. Instead of that, all the Poremboke land is allotted for this proposal. Instead of developing SIPCOT, importance may be given to agriculture.	As per the Thiruvallur Collector Letter dated 10.06.2019, the burial ground is excluded from the proposed Industrial Park area and SIPCOT will provide and maintain access road for the burial ground.	

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		Already enough number of SIPCOTs are available in this area. There is no need of Manallur Industrial park.	Nearby SIPCOT Industrial Complex/ Park are Gummidipoondi and Thervoykandigai. Almost entire extent of the land in Gummidipoondi Industrial Complex has already been allotted to industries. Further, only few plots are available in Thervoykandigai Industrial Park. Considering the demand for industrial space near Chennai/Andhra Border, the site is selected.	
7	Thiru. Nalan – Madarapakkam	The Government has to provide all the basic amenities for living things. This proposal will not affect mankind. There are lot of SIPCOT available in the area and what are the developments made for this people?	It was mentioned to the Participant that such issues will be addressed with the guidance of district administration to the extent possible. SIPCOT will provide basic amenities to nearby villages such as water supply, sanitation, health care, etc. under CER.	SIPCOT will earmark Rs.3.75 crores for undertaking the following CER Activities in Manallur, Soorapoondi, Ramachandrapuram, Madharapakkam, Sathyavedu, Irukulam villages: <ul style="list-style-type: none"> • Construction of toilets • Providing water supply and sewerage system • Conducting Health camps

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
				<ul style="list-style-type: none"> • Desliting of two nearby lakes • PC with a printer and scanner to the Government schools. • Drinking water dispensers for the Government schools. • Class room furniture for the Government schools. • Sports equipments for the Government schools. • Solar lighting facilities for the Government schools. • Providing Medical equipments for primary health centre. • Providing trolleys to

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
				<p>Local Panchayat for transport of Municipal Solid Waste</p> <ul style="list-style-type: none"> • Solid Waste Disposal Bins • Construction of Rainwater Harvesting Pits • Avenue Plantation • Solar lighting facilities • Scientific Support/Awareness to farmers • Skill development for youth
		<p>Most of the families were shifted from this area, since there is no basic amenities and transport available even in 2019.</p>	<p>It was mentioned to the Participant that such issues will be addressed with the guidance of district administration to the extent possible.</p> <p>Due to development of this Industrial Park, transportation facilities and basic amenities will improve in the nearby vicinity.</p>	

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		Already we are suffering a lot from existing SIPCOT and don't push us to death trench by developing this SIPCOT. We don't need Manallur Industrial Park.	To minimise the impact due to proposed IP, proper Air Pollution Control Measures, Zero Liquid Discharge Concept, waste minimisation measures will be mandated to individual industries to minimise the effect of pollution due to proposed project. Apart from this 35.20% of green belt area is proposed as buffer.	
8	Thiru Saravanan Manallur	A. - Most of the people are not aware of this Public Hearing. It should be informed through village Panchayat. Advertisement through news papers will not reach.	TNPCB has given Advertisement in English (Indian Express) and Tamil (Thina Mani) newspapers on 01.06.2019. Apart from this, announcement regarding Public hearing was made through loud speaker system by auto.	
		It is proposed to develop SIPCOT in an extent of 286 Ha, but there is no way for development of agriculture. Desilting of lakes will improve agriculture.	The present proposal is for industrial development and the member was told that GoTN also execute exclusive projects for agricultural projects with grants.	As a part of CER activity desilting will be undertaken in the nearby 2 lakes .Cost for Desilting will be around Rs.15 lakhs.

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		<p>Due to operation of M/s.Chitrakoot Industries, the public in Gummidipoondi area gets more affected. Similarly it will happen in this area also.</p> <p>Due to heavy industrialisation, lots of diseases occur and public suffer a lot.</p>	<p>Proper Air Pollution Control Measures, Zero Liquid Discharge Concept, waste minimisation measures will be mandated to individual industries to minimise the effect of pollution due to proposed project. Apart from this 35.20% of green belt area is proposed as buffer. Hence the impact due to the proposal will be minimal.</p>	
		<p>In the event of closing most of the industries in Gummidipoondi SIPCOT, there is no need for this proposed SIPCOT.</p>	<p>Nearby SIPCOT Industrial Complex/ Park are Gummidipoondi and Thervoykandigai. Almost entire extent of the land in Gummidipoondi Industrial Complex has already been allotted to industries. Further, only few plots are available in Thervoykandigai Industrial Park.</p> <p>Considering the demand for industrial space near Chennai/Andhra Border, the site is selected.</p>	
9	Thiru. Jagankumar - Manellur	<p>As per EIA Notification 2006, this "Manallur Industrial park is categorised as Category A. The Category A type is dangerous and poisonous. It is proposed to develop Synthetic Organic Chemicals in the area. The waste generated cannot be recycled.</p>	<p>The project has been reworked as 10% of EC Category viz. Non-Pharma 5(f) Categories and the balance 90% will be Non-EC Category industries viz. Automobile and its auxiliary industries, E-Vehicle, etc.,</p> <p>Proper Air Pollution Control Measures, Zero Liquid Discharge Concept, waste</p>	

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
			<p>minimisation measures will be mandated to individual industries to minimise the effect of pollution due to proposed project. Apart from this 35.20% of green belt area is proposed as buffer. Hazardous waste generated for individual industries will be properly stored and disposed as per Hazardous and other wastes (Management handling and Transboundary movement) amendment rules 2016.</p>	
		<p>There are more number of SIPCOT, SIDCO & CRZ prone area.</p>	<p>Nearby SIPCOT Industrial Complex/ Park are Gummidipoondi and Thervoykandigai. Almost entire extent of the land in Gummidipoondi Industrial Complex has already been allotted to industries. Further, only few plots are available in Thervoykandigai Industrial Park. Considering the demand for industrial space near Chennai/Andhra Border, the site is selected.</p>	

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		<p>Water and food material are supplied by this area to Thiruvallur District. Tanjore is the rice bowl of Tamil Nadu, like that Manellur is the rice bowl of Thiruvallur District.</p> <p>There is no welfare for the nearby public due to the project.</p> <p>The cost utilised in the project can be utilised for better development of agriculture and thereby increasing the ground water table. This project cost may be spent on the development of green belt in that project area. Hence we don't need to Manallur Industrial park.</p>	<p>There will be an opportunity for job at different cadres and work force upon establishment of this Industrial Park.</p> <p>This project will have positive impact on the socio economic status of the surrounding human environment and increased inflow to the Tamil Nadu Government.</p> <p>Proposed Industrial Park will help in revenue generation for the State as well as to the Country.</p>	<p>SIPCOT will provide 10 no. of common toilets (5 in Manallur Village and 5 in Soorapoondi village), 75 KL water supply to Manallur village, Health camps at Manallur and Soorapoondi Villages as part of CER activities.</p>
10	Thiru. Vadivel - Manellur	<p>It is reported that the details of industries to be located within the proposed site is not able to furnish right now, but the air pollution is reported as 52%. It is also reported that the value is within the standard prescribed by the Government.</p> <p>After industrialization, whether the 52% can be increased or not. What is the assurance for that?</p>	<p>SIPCOT will ensure and monitor that all the industries proposed within this Industrial Park have their APC measures and ZLD Concept along with proper storage area for Hazardous wastes.</p>	

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		<p>It is informed that employment opportunities will be available due to the development of SIPCOT, but opportunities are given only to other state people. More than 5000 people have registered in the employment exchange office.</p> <p>If the proposed land is given to Public, we will develop agriculture and give employment to more people and develop our livelihood. Hence we don't need Manallur Industrial Park.</p>	<p>The Industrial Park will provide direct employment to 5000 people as per the TN Government guidelines.</p> <p>As per the skill requirements of the job local people will be considered and preferred.</p>	<p>As part of CER Activity, Skill development centre will be established for providing training related to E vehicle/ auto components repairing, etc to local people at cost of Rs.25 lakhs .</p>
11	Thiru.Sukumar - Manellur	<p>Agriculture is the backbone of our country. Development of agriculture is the development of nation. The proposed area is catchment area for the Bootheri lake. If the Industrial Park is developed, how water will come to this lake?</p> <p>It is reported that, the approval has been obtained from MoEF&CC in 2015, but there is no adequate announcement well in advance regarding the "Manallur Industrial Park" proposed to be developed by SIPCOT and the condition of Public Hearing.</p>	<p>The participant was told that no water source in the project area will be sourced for water requirement of the proposed IP.</p> <p>The existing drainage system will not be disturbed due to the proposed Industrial Park by development of appropriate storm water management system.</p> <p>Terms of Reference was obtained for this project in 2015. Public Hearing is conducted as a part of the conditions in Terms of Reference issued by MoEF&CC.</p>	<p>There are two water bodies adjacent to the project site. As a part of CER activity, the lakes will be desilted and will be used for storage of rainwater during monsoon</p>

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		<p>Already 3 lakes and one rain water harvesting pond is located within the proposed site and green belt also developed in some area. But it is given that no water bodies within the proposed site. How the water will come to this area.</p> <p>Hence we don't need the Manallur Industrial Area.</p>	<p>Water bodies are excluded from the project site and the revised layout is enclosed as Annexure -9. As per the revised layout there is no water body within the site. The water body near the site will not be affected and 15 m green belt is proposed along the periphery of the project site.</p>	
12	Thiru. Karthik - Nagarajkandigai	<p>It is reported in the assembly that 12 places were highly polluted. Gummidipoondi is one among them. In Gummidipoondi area lot of emissions after 6 PM and heavy pollution. It can be tolerated by adult, but not by children.</p>	<p>SIPCOT will ensure and monitor that all the industries proposed within this Industrial Park have their APC measures and ZLD Concept along with proper storage area for Hazardous wastes.</p>	<p>As a part of CER activity, Health camps will be conducted once in six months by SIPCOT at Manallur and Soorapoondi villages to ensure the health condition of local people. The cost for the same will be around Rs.15 Lakhs.</p>
		<p>Since the ground water is over exploited by the industries, there is a possibility of sea water intrusion. Hence we are strongly objecting the proposal, which will affect the public livelihood.</p>	<p>No ground water abstraction will be allowed for the project. Entire water requirement will be met from CMWSSB and recycling of treated wastewater.</p>	

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
13	Thiru. Anandharaj – New Gommidipoondi	Already air gets polluted in the Gummidipoondi area due to operation of industries such as KTV Oil, Chitrakoot Steel. Due to air pollution, physical exercises such as walking, result in casualty.	SIPCOT will ensure and monitor that all the industries proposed within this Industrial Park have their APC measures and ZLD Concept along with proper storage area for Hazardous wastes.	As a part of CER activity, Health camps will be conducted once in six months by SIPCOT at Manallur and Soorapoondi villages to ensure the health condition of local people. The cost for the same will be around Rs.15 Lakhs.
		Ground water gets polluted. 12 people died due to this pollution. Many people are affected by vomiting, faint etc. Pollution level is 3-4 times more than Government's, prescribed limit. Hence we don't need the Manallur Industrial Park, which will affect the public livelihood.	No ground water abstraction will be allowed for the project. Entire water requirement will be met from CMWSSB and recycling of treated wastewater.	
14	Thiru. Srinivasan - Manallur	There is no way to the burial ground, due to the development of SIPCOT.	SIPCOT will provide and maintain roads for burial ground. The layout is revised accordingly.	

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		What kind of development can happen to the public? What is the assurance for that?	<p>The proposed project will provide employment to around 5000 people during operation phase, including local people also based on the qualification and skill requirements. This will lead to development of housing, transportation and other infrastructure like Hotels, Educational facilities will develop in the surrounding areas.</p> <p>As a part of compliance to the conditions in EC, the cost spent towards CER activities will be submitted to MoEF&CC Regional Office.</p>	<p>SIPCOT will earmark Rs.3.75 crores for undertaking the following CER Activities in Manallur, Soorapoondi, Ramachandrapuram, Madharapakkam, Sathyavedu, Irukulam villages:</p> <ul style="list-style-type: none"> • Construction of toilets • Providing water supply and sewerage system • Conducting Health camps • Desliting of two nearby lakes • PC with a printer and scanner to the Government schools. • Drinking water dispensers for the Government schools.

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
				<ul style="list-style-type: none"> • Class room furniture for the Government schools. • Sports equipments for the Government schools. • Solar lighting facilities for the Government schools. • Providing Medical equipments for primary health centre. • Providing trolleys to Local Panchayat for transport of Municipal Solid Waste • Solid Waste Disposal Bins • Construction of Rainwater Harvesting Pits • Avenue Plantation

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
				<ul style="list-style-type: none">• Solar lighting facilities• Scientific Support/Awareness to farmers• Skill development for youth

Note:

As seen above, SIPCOT is allocating **INR 3.75 Crores** for the above mentioned **CER activities**.

7.2 Rehabilitation and Resettlement

The project site is free from habitation. The entire extent of land (279.995 ha) is Government poramboke land and is already allotted to SIPCOT by Government of Tamil Nadu for development of Industrial Park. Hence, there is no Rehabilitation and Resettlement for this project.

7.3 Risk Assessment and Disaster Management Plan

In this section risk due to fire and Electric fire/ shock are discussed. Individual industries upon establishment will have their own Risk assessment and Disaster Management Plan as applicable. Disaster Management Plan is enclosed as **Annexure-15**.

7.3.1 Action plan in case of Fire or Explosion

- a) Shout and break MCP.
- b) Trained personnel will be involved in firefighting with suitable PPEs.
- c) Extinguish with DCP / CO₂ / Foam Extinguishers will be installed at site.
- d) Isolate the power supply of the respective area.
- e) Other than the needy all shall evacuate the area.
- f) Affected persons shall be given first aid and moved for medical attention.

7.3.2 Action plan in case of Electric Fire or Shock

- a) Isolate the power supply to the affected area immediately before approaching the site.
- b) Do not use water for extinguishing the fire. Use CO₂ type or DCP type or dry sand to extinguishing the fire.
- c) Remove any flammable or combustible material from the vicinity of the incident.
- d) Remove the affected person to an open area and check his breathing.
- e) If he is unconscious and not breathing initiate artificial resuscitation procedure.
- f) Do first aid for any burn injury.
- g) Physically isolate the burnt electrical components. Do not energize till the entire circuitry is checked with megger or other devices with safety mechanisms.

Individual industries will also have their onsite and offsite DMPs in case of any accidents.

8. PROJECT BENEFITS

1. There will be an opportunity for job at different cadres and work force.
2. This project will have positive impact on the socio economic status of the surrounding human environment and increased inflow to the Tamil Nadu Government.
3. Proposed Industrial Park will help in revenue generation for the State as well as to the Country.

9. ENVIRONMENTAL COST BENEFIT ANALYSIS

(Not recommended for scoping stage)

10. ENVIRONMENTAL MANAGEMENT PLAN

10.1 Introduction

This Environmental Management Plan (EMP) identifies the principles, procedures and methods that will be used to control and minimize the environmental impacts of the proposed construction and operational activities associated with the project development. It is intended to ensure that commitments are made by proponent to minimize project related environmental and social impacts.

10.2 Objectives of EMP

- To suggest the formation of a core group (Environment Management Cell) responsible for implementation of environmental control & protective measures as well as monitoring of such implementation.
- To ensure project components comply with all laws and approval conditions.
- Facilitate a continual review of post construction and operation activities.
- To suggest preventive and mitigation measures to minimize adverse impact and to maximize beneficial impacts like.
- Preparation of Greenbelt Development scheme.
- Preparation of rain water harvesting scheme and energy conservation actions.
- To prepare a capital cost estimate and annual recurring cost for Environmental Management Plan.
- To prepare a detailed action plan for implementation of mitigation measures.
- Measure the effectiveness and success of proposed mitigation measures

10.3 EMP Roles and Responsibilities

10.3.1 Environmental Management System

For effective implementation of the mitigation measures and consistent functioning of the proposed project, an Environmental Management System (EMS) is proposed.

The EMS includes the following:

- Environmental Management Cell
- Environmental Monitoring Program
- Personnel Training
- Regular Environmental Audits and Corrective Action Plan

- Documentation-Standard Operating procedures of Environmental Management

All the activities will be monitored to ensure appropriate implementation of all environmental mitigation activities and to identify areas where environmental management plan compliance is not satisfied.

For effective implementation of the system, it is also necessary to have a permanent organizational set-up as Environmental Management Cell (EMC) for the effective implementation and monitoring of environmental management system. This is done by assigning responsibility to the concerned personnel for implementation of environmental control measures.

SIPCOT Environmental Management Cell consist of 7 team members headed by SIPCOT Managing Director, General Manager (Projects), Manager and two Environmental Consultants assisted by two Office Staffs which will enforce and implement the Environmental Plan.

The Organization of Environmental Management Cell (EMC) proposed is given in **Figure 10-1**.

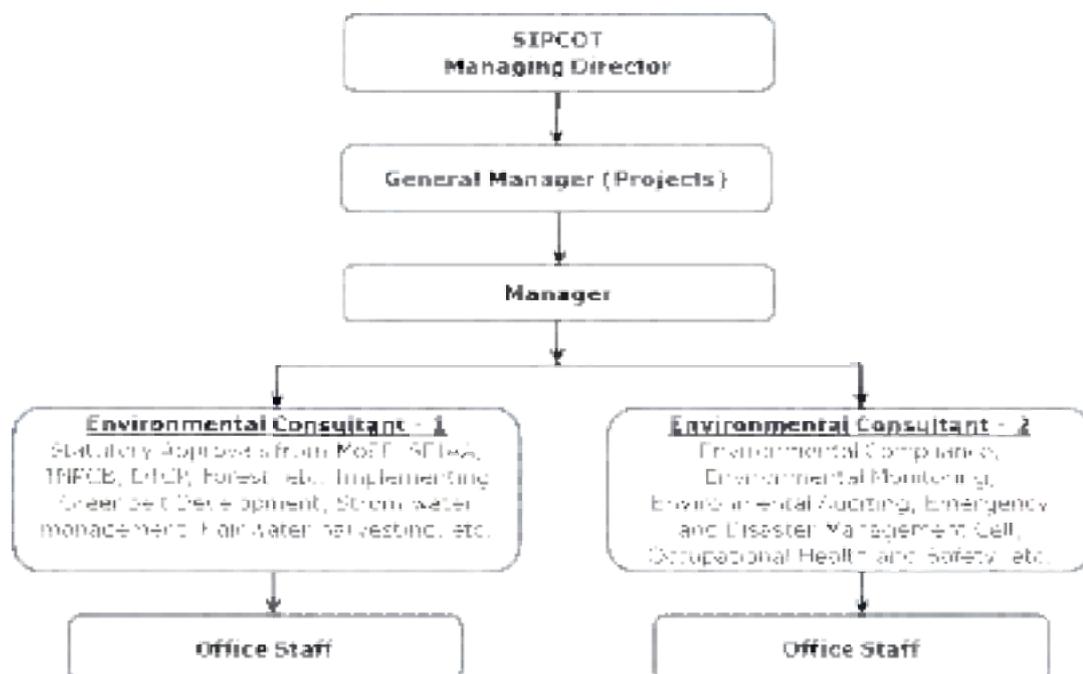


Figure 10-1 Organogram for Environmental Management Cell

10.3.2 Responsibilities of Environmental Management Cell

The Environment Management Cell will be responsible for monitoring of the individual industry's safety and safety related systems which include

- Checking of safety related operating conditions.
- Preparation of a maintenance plan and documentation of maintenance work specifying different maintenance intervals and the type of work to be performed.

Other responsibilities of the cell will include

- Mitigation / corrective measures as specified by TNPCB.
- Keeping the management updated on regular basis about the conclusions / results of monitoring activities and proposes measures to improve environment preservation and protection.
- Conducting regular safety drills and training programs to educate employees on safety practices
- A qualified and experienced safety officer will be responsible for the identification of the hazardous conditions and unsafe acts of workers and advise on corrective actions, organize training programs and provide professional expert advice on various issues related to occupational safety and health.
- Conducting safety and health audits to ensure that recommended safety and health measures are followed.

Table 10-1 EMP Roles and responsibilities

S. No.	Designation	Responsibilities
1	Managing Director	<ul style="list-style-type: none"> ➤ Establish an Environment Management Cell. ➤ Responsible for overall environmental management. Regularly coordinate with GM and take feedback regarding all the activities performed under EM and give directions to succeeding component. ➤ Provide sufficient funds for environmental management cell to reduce the environment impacts.
2	GM – Projects	<ul style="list-style-type: none"> ➤ Keep aware the Management about all the activities performed under EMC. ➤ To ensure, implement and follow all the required safety procedures & facilities, avoid the unsafe act & conditions, organizing safety trainings, mock drills, availability of onsite & off site emergency plans. Plan & implement

S. No.	Designation	Responsibilities
		Good safety committee.
3	Manager	<ul style="list-style-type: none"> ➤ Prepare Management Information System (MIS) reports and budget for environment management program. ➤ To deal with the environmental issues and ensuring compliance to the conditions prescribed by TNPCB. ➤ Noncompliance / violation of environmental norms, if any are reported to GM and immediately required action is taken.
4	Environmental Consultant 1 & 2	<ul style="list-style-type: none"> ➤ Plan and maintain adequate number of trees and gardens around the Industry ➤ Getting Statutory Approvals from MoEF, SEIAA, TNPCB, DTCP, Forest, etc. Implementing Greenbelt development, Storm water management, rain water harvesting, etc. ➤ Submitting Environmental compliance report and coordinating with Environmental monitoring, Environmental auditing, Emergency and Disaster Management Cell, Occupational Health and Safety, etc.

10.4 EMP for Construction Phase

Environmental impacts during the construction phase can be attributed to the site preparation activity and the mobilization of workforce. The impacts of the construction phase on the environment would be basically of transient nature and are expected to wear out gradually on completion of the construction programme. However, once the construction of the project is completed and its operations started, these operation stage impacts would overlap the impacts due to the construction activities.

In order to mitigate such impacts and restrict them within tolerable levels, the following measures shall be adopted:

1. Proper and prior planning of approach and access roads, and appropriate sequencing and scheduling of all major construction activities.
2. Adoption of appropriate soil conservation programme and its timely implementation in the proposed project site.

3. Initiation of an appropriate landscape programme including plantation of trees and flowering plants in and around the project site particularly, at all available spaces which would serve the dual purpose of controlling fugitive dust and abatement of noise levels in addition to improving the aesthetics of the area.
4. Water sprinkling in the vulnerable areas to suppress the dust generated during excavation, levelling and other operations.
5. Use of properly tuned construction machinery & vehicles in good working condition with low noise & emission and engines turned off when not in use.
6. Control of quality of construction wastewater within the construction site through suitable drainage system with traps for arresting the sediment load for its proposed disposal into the main natural drainage system around the site.
7. Implementation of suitable disposal methods of sediment/ construction debris at designated places to avoid water logging at construction site.
8. Provision of protective gears such as ear muffers etc. for construction personnel exposed to high noise levels and locating the temporary labour sheds for housing the construction labourers away from the construction site.

10.5 EMP for Operational Phase

Monitoring during the operation phase will reflect those environmental and socio-economic issues that may persist upon completion of construction activities. Monitoring will focus on evaluating the effectiveness of project mitigation measures and continue baseline monitoring and sampling. The mitigation measures to prevent adverse impact during the operation phase of the project shall focus on the following:

1. Air quality
2. Noise environment
3. Water quality and water resources
4. Solid and hazardous waste
5. Land environment
6. Ecology
7. Socio Economic

10.5.1 Air Quality Management

The major air pollution sources from the industries will be DG set, boiler and process emissions. Individual industries will have air Pollution control measures as per CPCB/ TNPCB norms to disperse the pollutants. Adequate green belt will be developed to mitigate the pollution arising due to movement of vehicles.

10.5.2 Noise Environment

Individual industries will adhere to the following measures to mitigate negative impact of operation phase of the project on the surrounding noise environment.

- All the noise generating equipments will be designed / operated to ensure that noise level does not exceed 75-70 dB (A) at plant boundary as per the requirement of Central / State Pollution Control Board.
- Noise generating sources will be maintained properly to minimize noise generated by them.
- Wherever feasible, acoustic enclosures will be provided for compressors, DG sets.
- Compliance with noise control norms will be given due importance at the time of purchase of various equipments and it will be mentioned while placing the purchase orders and guarantee for noise standards will be sought from suppliers.
- Green belt will act as a noise barrier.
- Training will be imparted to personnel to generate awareness about effects of noise and importance of using PPEs.

10.5.3 Water and Wastewater Management

During operation phase, individual industries will have their own STP/ETP as applicable to treat the sewage /effluent generated. Zero Liquid Discharge system will be proposed by individual industries. Treated sewage will be recycled for green belt development and treated effluent will be recycled for utilities within the industry. Rejects from RO will be taken to MEE/ ATFD and the condensate will be again recycled to utilities/ process. MEE /ATFD salt will be disposed as hazardous waste by individual industries.

10.5.4 Rainwater Harvesting

Rainwater harvesting is an important component of wise resource use and environmental management. The total amount/quantity of water i.e., received in the form of rainfall over an area is called the rain water endowment of that area, out of which the amount of water that can be effectively harvested is called the rain water harvesting potential. The collection efficiency accounts for the fact that all the rain water falling over an area cannot be effectively harvested due to losses on account

of evaporation, spillage or run off etc. Individual industries will have their own rain water harvesting system to recharge ground water upon establishment.

Rainwater harvesting pits are proposed for recharging the ground water table. The calculation on the number of pits for rainwater harvesting is arrived as given below.

Table 10-2 Rainwater harvesting calculation

Land Allocation Breakup	Area in Hectares	Area (A) in (Sq.m)	Run off Coefficient (C)	Intensity of rainfall (I) (mm/day)	Total Discharge-Q (m ³ /day)
Roads and Pavement Area	1.15	11500	0.7	7	56.35
Common amenities	5.6	56000	0.7	7	274.4
OSR	28.0	280000	0.15	7	294.0
Green belt area (Road side, &periphery of plot)	50.30	503000	0.15	7	528.15
Total Land area	85.05	850500			1152.9

Design parameter:

Intensity of Rain fall Considered = 2612 mm (as per 2015 December flood data)

Formula:

Discharge, Q= CIA (m³/day)

Where,

Q= Discharge (in m³/day)

C=Coefficient of Runoff

I= Intensity of rainfall (in mm/day)

A= Area (in Sq.m)

Runoff calculation:

Total runoff Load = 1152.9m³/day

Proposed RWH Pits: (100% Harvesting)

Rain water harvesting pits of 250 mm dia x 1000 mm depth will be constructed.

Volume of each Pit = $\pi \times 0.250 \times 0.250 \times 1.0$

$$= 0.196\text{m}^3$$

Percolation rate is 50%, so total harvesting capacity of each pit per hour = 0.196×1.5

$$= 0.29\text{m}^3$$

Total runoff load per hour = $1152.9/24 = 48.04 \text{ m}^3/\text{Hr}$.

No of Rainwater harvesting pits proposed per hour intensity = $48.04 / 0.29 = 165.65 \sim 166$ nos.

166 No. of rain water harvesting pits are proposed for the project.

10.5.5 Utilisation of solar energy

Solar lighting is proposed for 70% of lighting along the roads. The estimated solar power generation would be around 40KW. Apart from this individual industries will be insisted to provide roof top solar panels to reduce power consumption.

10.5.6 Solid and Hazardous Waste Management

MSW in Industrial Plots:

SIPCOT will mandate all the industries to manage the Municipal Solid generated by them within their premises as per norms.

Municipal Solid wastes will be segregated by individual industries as organic and inorganic wastes. Organic wastes will be composted by individual industries in Organic Waste Converter or Bio methanation plant and used for green belt development. Inorganic wastes will be sold to TNPCB authorized recyclers by the industries.

MSW in area apart from Industrial Plots:

SIPCOT has earmarked 24.060 Acres of land for establishment of Solid Waste Management facility. Organic wastes will be composted using Organic waste converter/ vermin composting and compost will be used as manure for green belt development. Inorganic waste will be sold to TNPCB authorized recyclers.

As a provision to have in house and independent Solid Waste Management facility 24.060 Acres (3.48% of Industrial Park area) has been earmarked for Solid Waste Management Facility. In future, based on need, SIPCOT will float tender and provide land to private players for the establishment of Municipal Solid Waste Management facility on BOOT basis.

Hazardous waste Management

Hazardous waste from individual industries will be stored separately in hazardous waste storage area within their premises and given for recycling to TNPCB authorized vendors or disposed to TNWML within a stipulated period of time.

Hazardous waste materials will be properly disposed as per the Hazardous and Other Wastes (Management and Transboundary Movement) Rules 1989 and subsequent amendment in 2016.

10.5.7 Land Environment

Following measures are proposed to mitigate negative impact during operational phase of the project on the land environment.

- Organic Solid wastes generated during the operation phase will be composted by individual industries and used as manure. Inorganic solid Wastes will be sold to authorised recyclers.
- Individual industries will have their Air Pollution Control Measures to control the release of air pollutants to a greater extent. In addition, thick greenbelt will attenuate air pollutants released into the environment.
- During operation phase, individual industries will have their own STP/ETP as applicable to treat the sewage /effluent generated.
- Zero Liquid Discharge system will be proposed by individual industries
- Noise generating sources will be maintained properly to minimize noise generated by them.
- Green belt development will help in abatement of air and noise pollution and will improve the aesthetics of the Industrial Park.

10.5.8 Ecology

- Pulicat bird sanctuary is located at a distance of approximately 5.77 km (NE) from the project site. Online application for NBWL Clearance has been submitted and the report is enclosed as **Annexure-16**. Site inspection by RO done on 27th July 2020. Letter regarding site inspection and the site inspection photos are also enclosed in **Annexure-16**.
- Organic Solid wastes generated during the operation phase will be composted and used as manure. Inorganic solid Wastes will be sold to authorised recyclers.
- Individual industries will have their Air Pollution Control Measures to control the release of air pollutants to a greater extent. In addition, thick green belt will attenuate air pollutants released into the environment.
- It is expected that the ecology of the region is preserved by these mitigation measures.

- Individual industries will have their own STP/ETP as applicable to treat the sewage /effluent generated. Zero Liquid Discharge system will be proposed by individual industries.

10.5.9 Socio – Economic Environment

Various modes of indirect employment i.e., transportation, increased business opportunities to shopkeepers, small scale business entrepreneurs etc. will lead to development of the area.

10.6 Occupational Health Centre (OHC)

Within the Industrial park, there will be One Occupational Health Centre with 1Doctor and 1male nursefor each shift along with 24/7 ambulance facility.

10.6.1 First aid Boxes

A first aid kit is a collection of supplies and equipment for use in giving first aid. First Aid boxes will be kept available in OHC. First Aid items will be issued to injure only by authorized persons.

Following are the contents of First Aid Box,

1. Dettol – Antiseptic solution
2. Ciplox – Eye Drops
3. Soframycin – Skin ointment
4. Silverex – Burn ointment
5. Betadine – Microbicidal solution
6. Muscle Pain relieving gel
7. Sterilized Cotton Wool
8. Surgical Paper Tape
9. Small Sterilized Dressings
10. Medium Sterilized Dressings
11. Roller Bandage – 5 cm wide
12. Roller Bandage – 10cm wide
13. Band Aid
14. Crocin / Paracetamol Tablet

10.7 Corporate Environmental responsibility (CER)

As per the Office Memorandum dated 1st May, 2018 from MoEF&CC, SIPCOT will earmark **Rs.3.75 crores** i.e 1.5% of the project cost towards Corporate Environment Responsibility (CER) activities. As per the issues raised during Public Hearing, it is

proposed to carry out the following activities. The details along with its cost are given in **Table 10-3**.

Table 10-3 Cost allocation towards CER activities

S.No	CER activity	Cost (Lakhs Rs.)
1	Providing 10 nos. of common toilets (5 nos. in Manallur village and 5 nos. in Soorapoondi Village)	25
2	Skill development centre for providing training related to E-Vehicle/ auto components repairing to local people.	25
3	Desilting two lakes near the project site	15
4	Construction of 75 KL water storage tank for Manallur Village and providing 75 KL water to Manallur village, along with development of sewerage system.	50
5	Providing Health camps at Manallur, Soorapoondi villages once in 6 months for general check up	15
Total		130

The remaining amount will be utilized for the following activities in the nearby villages namely Manallur, Soorapoondi, Ramachandrapuram, Madharapakkam, Sathyavedu, Irukulam villages:

- PC with a printer and scanner to the Government schools.
- Drinking water dispensers for the Government schools.
- Class room furniture for the Government schools.
- Sports equipments for the Government schools.
- Solar lighting facilities for the Government schools.
- Providing Medical equipments for primary health centre.
- Providing trolleys to Local Panchayat for transport of Municipal Solid Waste
- Solid Waste Disposal Bins
- Construction of Rainwater Harvesting Pits
- Construction of toilet
- Avenue Plantation

- Solar lighting facilities
- Scientific Support/Awareness to farmers
- Skill development for youth

The details on CER activities carried out along with its cost will be submitted along with the half yearly compliance reports.

10.8 Budgetary Provisions for EMP

Adequate budgetary provisions have been made for execution of environmental management plan. The details of capital and recurring budget earmarked are given in **Table 10-4**.

Table 10-4 Cost for Environmental Protection Measures

S. No	Component	Capital cost (lakh)	Recurring cost (lakhs) per Annum
1	Storm water drains & Rain Water Harvesting	600.00	2.0
2	Municipal Solid Waste Management	25.00	2.0
3	Greenbelt Development	31.06	3.0
4	Safety - Occupational Health Centre	30.00	5.0
5	Environmental monitoring	0.00	15.0
6	Solar Lighting	150.00	2.0
	Total	836.06	29

11. SUMMARY AND CONCLUSION

11.1 Summary

An Environmental Impact Assessment Study has been carried out and assessed for the proposed project based on the ToR and baseline quality data collected for the study area. Identification and anticipation of the potential environmental impacts due to the proposed project with a delineation of appropriate impact mitigation measures in an Environmental Management plan during both construction and operation phases is provided in the EIA report.

The proposed project will ensure that the industrial activities relevant to the project are environmentally sound with no adverse impacts posed on the natural environment in the surrounding area.

The marginal impacts that might be caused by the proposed activity will be mitigated by the pollution control and environmental management measures.

In a true and a larger sense, in view of the considerable benefits from the project with no major impacts, the proposed project is said to be more beneficial to the nation.

The EMP implemented for the construction and operation stages of the project will include:

- Air Pollution control and management
- Noise Control and Management
- Solid and Hazardous Waste Management
- Sewage treatment and Management
- Effluent treatment and Management

In order to effectively implement the EMP, an environmental management system will be formulated.

11.2 Conclusion

The baseline study carried out for the study area indicates that all the physical, chemical and biological characteristics of the environmental attributes in the surrounding area are well within the permissible limits.

Based on this environmental assessment, the possible impacts during both pre-project and post-project phase are anticipated and the necessary adequate control measures are formulated to meet the statutory compliances.

With very less negative impacts, the project positively leads to commercial business opportunities, employment opportunities, increased revenue and infrastructural development.

Thus, this project may kindly be granted Environmental Clearance.

12. DISCLOSURE OF CONSULTANT

In order to assess the potential environmental impacts due to Proposed development of Manallur Industrial Park at Manallur and Soorapoondi villages, Gummidipoondi Village, Gummidipoondi Taluk, Thiruvallur District and Tamil Nadu state, SIPCOT through ITCOT Consultancy & Services Limited has engaged Hubert Enviro Care Systems (P) Limited, Chennai to submit the revised EIA /EMP report based on the Minutes of 230th meeting of Expert Appraisal Committee for Projects related to Infrastructure Development, Industrial estate/parks/complexes/areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways projects held on 28 - 29 January, 2020. The report was prepared by Centre for Environment Health and Safety - Annamalai University and Baseline monitoring was done by M/s.VIMTA Labs, Hyderabad.

12.1 ITCOT Consultancy & Services Limited

ITCOT Consultancy and Services Limited (ITCOT), SIPCOT's Project Consultant is a reputed Central Public Sector Consultancy Organisation founded in 1979 as a joint venture of leading Financial Institutions, State Industry Development Corporations and Banks. The company is registered under Companies Act, 1956 on 17th July 1979. The Registered Office of the company is located at 50-A, Greams Road, Chennai, Tamil Nadu - 600 006.

ITCOT has more than 40 years of track record in offering various industrial and technical consultancy services to Govt. departments, Banks, Financial Institutions, Corporate, SME, etc.

ITCOT is known for impartial and client neutral approach. ITCOT is an approved consultancy agency for the provision of various consultancy services such as preparation of Techno-Economic Feasibility Report, Techno-Economic Appraisal Report, Detailed Project Report, Project Appraisals, Project Management Consultancy, Tender Process Management, Lender's Independent Engineer, Owner's Engineer, Environment Impact Assessment, Cluster Development, Statutory Compliance Consulting, Energy & Environmental Consulting, Financial Restructuring, Asset valuation, Skill Assessment etc., to Govt. departments, Banks, Financial Institutions, Industrial Development agencies, Corporates, SME, etc. for industrial growth and development.

12.2 CEHS, Annamalai University

Annamalai University is a State University. Centre for Environment, Health & Safety (CEHS) is a wholesome, multi- disciplinary Environmental Organization of Annamalai

University and an accredited EIA Consulting Organization under National Accreditation Board for Education and Training (NABET) by Quality Council of India (QCI) for undertaking EIA studies for Seven Sectors for MoEF&CC. Industrial Estate/Parks is one of the sectors for which CEHS has been accredited.

CEHS has been contracted for EIA consultancy by SIPCOT through ITCOT Consultancy and Services Limited, Chennai towards getting Environmental Clearances under EIA Notification, 2006.

MoEF&CC and as well QCI/NABET updates the list of accredited EIA Consulting Organization on every month and keep posting it in their official web of MoEF&CC and as well QCI/NABET.

12.3 Brief Profile of Hubert Enviro Care Systems (P) Limited (HECS)

Enviro Care Systems was started in the year of 1997 by Dr. J. R. Moses with the vision to serve the world in all environmental related problems by completing the latest technological advancements available.

In the year 2004, Enviro Care Systems became Hubert Enviro Care Systems (P) Ltd after having collaboration with Hubert Stavoren B.V. for higher Technology.

The company provides total pollution control solutions to several industries like Thermal Power Plant, Pharma, R&D Facilities, Electroplating and Manufacturing, IT Parks, Residential Complexes, Dairies, Food Processing, Textile mills, Breweries, etc.

The company is specialized in executing projects right from concept development, supply, erection, commissioning and operation on turnkey basis. HECS has successfully executed more than 200 environmental engineering projects for various industrial sectors both in India and overseas.

HECS has state-of-art facilities to provide quality environmental consultancy and engineering solutions.

12.4 Strengths of HECS

Number of Employees as on date

Total No of Employees	736
Consultancy	26
Laboratory	77

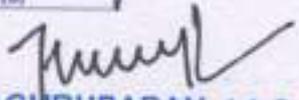
Projects	19
Operation & Maintenance	614

12.3 QCI – NABET – EIA Accreditation

Consultancy	Hubert Enviro Care Systems Pvt. Ltd., Chennai
NABET Certificate No	NABET/ EIA/ 1619/ RA0083 Valid up to 29/09/2020
MoEF Reg. Lab	F.No. Q-15018/13/2016-CPW

National Accreditation Board for Education & Training (NABET) is a constituent board of the Quality Council of India (QCI). QCI, NABET has accredited HECS for carrying out Category 'A & Category B' EIA studies in the following sectors:

Sl. No.	NABET Scheme Sectors	Sector Description	Cat.	Sector No. (MoEFCC Notification dt. September 14, 2006 & Amendments)
1.	1	Mining of minerals including opencast / underground mining	A	1 (a) (i)
2.	2	Onshore oil and gas exploration, development & production	A	1 (b)
3.	4	Thermal power plants	A	1 (d)
4.	8	Metallurgical industries (secondary metallurgy only)	B	3 (a)
5.	9	Cement plants	B	3 (b)
6.	10	Petroleum refining industry	A	4 (a)
7.	18	Petro-chemical complexes (industries based on processing of petroleum fractions & natural gas and/or reforming to aromatics)	A	5 (c)
8.	20	Petrochemical based processing (processes other than cracking & reformation and not covered under the complexes)	A	5 (e)
9.	21	Synthetic organic chemicals industry (dyes & dye intermediates; bulk drugs and intermediates excluding drug formulations; synthetic rubbers; basic organic chemicals, other synthetic organic chemicals and chemical intermediates)	A	5 (f)
10.	28	Isolated storage & handling of Hazardous chemicals (As per threshold planning quantity indicated in column 3 of schedule 2 & 3 of MSIMC Rules 1989 amended 2000)	B	6 (b)
11.	31	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	A	7 (c)
12.	37	Common Municipal Solid Waste Management Facility (CMSWMF)	B	7 (i)
13.	38	Building and construction projects	B	8 (a)
14.	39	Townships and Area development projects	B	8 (b)


J. KUMARAGURUBARAN, I.A.S.,
 Managing Director
 State Industries Promotion Corporation of Tamil Nadu Limited
 19-A, Rukmani Lakshmi Pathy Road,
 Egmore, Chennai-600 008.

ANNEXURE

For

'Development of Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu – Land area 279.99.5 Ha'

At

Villages: Manallur and Soorapoondi

Taluk: Gummidipoondi

District: Thiruvallur

State: Tamil Nadu

By

**State Industries Promotion Corporation of Tamil Nadu Limited
(SIPCOT)**



EIA Consultants

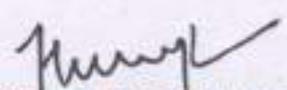
CEHS Annamalai University (EIA Prepared)

ITCOT Consultancy and Services Limited

Report Validation by

HUBERT ENVIRO CARE SYSTEMS (P) LTD, CHENNAI

August 2020


J. KUMARAGURUBARAN, I.A.S.,
Managing Director
State Industries Promotion Corporation of Tamil Nadu Limited
19-A, Rukmani Lakshmi pathy Road,
Egmore, Chennai-600 008.

List of Annexure

Annexure no	Details
1	Reply to the query raised in 230 th EAC meeting vide agenda no. 3.1
2	HECS NABET Certificate copy
3	Extension letter issued by NABET
4	Acknowledgement from MoEF&CC on submission of letter regarding change of consultant
5	GO No.119 dated 07/06/2013 regarding administrative approval for development of Industrial Park over and extent of 303.75 Ha (300.765 Ha of poramboke land and 2.985 Ha of patta land to SIPCOT for development of Industrial Park).
6	GO No. 285 dated 03/08/2018 regarding alienation of 283.08 Ha of land to SIPCOT for development of Industrial Park
7	Thiruvallur district Collector Letter No. 14888/2018 dated 10/06/2019 regarding exclusion of 3.08.5 Ha of land
8	Land Delivery Receipt in proof of taking over possession of 279.99.5 Ha of land from Zonal Deputy Tahsildar
9	Layout of Proposed Industrial Park
10	Letter for supply of 5MLD TTRO water from CMWSSB to Manallur Industrial Park
11	Letter for supply of 1.3 MLD fresh water from CMWSSB for Manallur Industrial Park.
12	Zonation map prepared for the proposed Industrial Park as per guidelines of CPCB's programme on zoning atlas for siting industries.
13	Advertisement for conducting Public Hearing
14	Public Hearing Proceedings
15	Disaster Management Plan
16	NBWL NOC Application



State Industries Promotion Corporation of Tamil Nadu Limited

(A Government of Tamil Nadu Undertaking)

Regd. Office : 19-A, Rukmani Lakshminipathy Road, Post Box No. 7223, Egmore, Chennai - 600 008.

Phone : 28554787, Fax : 044-28513976, Website : www.sipcot.in

Projects/EIA/Manallur/2020

Date: 21.05.2020

The Member Secretary IA III
Ministry of Environment Forests and Climate Change
Indira Paryavaran Bhavan,
Vayu Wing, 3rd Floor, Aliganj,
Jor Bagh Road,
New Delhi - 110003

Sir,

Sub: Reply to the query raised during the 230th EAC meeting for Development of Manallur Industrial Park, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu by SIPCOT

Ref. 1 Proposal No. IA/TN/NCP/27117/2015 [F.No.21-59/2015-IA.III]

2 Minutes of 230th meeting of Expert Appraisal Committee for Projects related to Infrastructure Development, Industrial estate/ parks/ complexes/areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways projects held on 28 - 29 January, 2020- Agenda No.3.1

With reference to the above subject, please find enclosed the reply to the query raised during the 230th EAC meeting along with the supporting Annexure.

We request you to kindly process our application for Environmental Clearance.

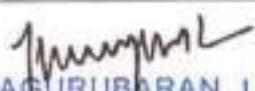
Yours faithfully,


Managing Director.

Reply to the query raised in Minutes of 230th Meeting of Expert Appraisal Committee for Projects related to Infrastructure Development, Industrial estate/ parks/ complexes /areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways projects held on 28 - 29 January, 2020

Agenda No. 3.1 – Development of Manallur Industrial Park at Gummidipoondi Taluk, District Thiruvallur, Tamil Nadu by M/s State Industries Promotion Corporation of Tamil Nadu (SIPCOT) Limited [Proposal No. IA/TN/NCP/27117/2015] [F.No.21-59/2015-IA.III]

S.No	Query	Reply
1	Though the consultant has already applied for accreditation (renewal) but as on date the consultant does not possess accreditation certificate from QCI/NABET.	<ol style="list-style-type: none"> 1. SIPCOT has changed the consultant from M/s. Centre for Environment Health and Safety- Annamalai University to M/s. Hubert Enviro Care Systems (P) Ltd. (NABET Accreditation letter is attached as an Annexure-1a). 2. No objection certificate for change of consultant from M/s. Centre for Environment Health and Safety- Annamalai University is attached as an Annexure-1b. 3. Change of EIA consultant letter submitted to MoEF&CC on 09/03/2020 and acknowledgement of the same is enclosed as Annexure-1c
2	The certificate from Chief Wildlife Warden that states the distance of existing Pulicat Wildlife Lake Sanctuary or any other protected area located in the close vicinity of the proposed project site was not provided.	<ol style="list-style-type: none"> 1. Pulicat wildlife sanctuary/Lake is located at a distance of \approx 5.77 Km towards NE direction. Topo map with demarcation from project boundary to the sanctuary is attached as an Annexure- 2a. 2. Application for obtaining NBWL clearance from Chief Wildlife Warden was applied in Parivesh Portal on 02/03/2020. The online application report is enclosed as Annexure- 2b.
3	Letter from competent authority regarding allocation of water was	The letter issued by Chennai Metropolitan Water Supply and Sewerage Board


J. KUMARA GURUBARAN, I.A.S.,
Managing Director

State Industries Promotion Corporation of Tamil Nadu Limited
19-A, Rukmani Lakshmpathy Road,
Egmore, Chennai-600 008.

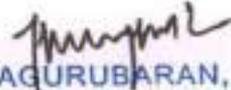
S.No	Query	Reply
	not submitted	(CMWSSB) for the supply of 5 MLD of Sewage-Tertiary Treated Reverse Osmosis (TTRO) water and 1.3 MLD of fresh water for Manallur Industrial Park is enclosed as Annexure-3a and Annexure- 3b respectively
4	Proponent has mentioned that there is no protected area within 10 km range of the proposed site. However, as per Ministry's Decision Support System, Pulicat Lake Wildlife Sanctuary is located at 5.5 km from project site.	<ol style="list-style-type: none"> 1. Pulicat wildlife sanctuary/Lake is located at a distance of = 5.77 Km towards NE direction. Topo map with demarcation from project boundary to the sanctuary is attached as an Annexure- 2a. 2. Application for obtaining NBWL clearance from Chief Wildlife Warden was applied in Parivesh Portal on 02/03/2020. The online application report is enclosed as Annexure- 2b.
5	As per ToR issued by this Ministry, project area is 303.75 ha, however, in EC application, project area is mentioned as 286.065 ha.	<p>The project area is reduced from 303.75 ha to 286.065 ha due to following reasons:</p> <ol style="list-style-type: none"> 1. While obtaining ToR for the park, the land area was considered as 303.75 Ha (300.765 Ha of poramboke land and 2.985 Ha of patta land) based on the administrative sanction issued by Government of Tamil Nadu for development of Industrial Park at Manallur vide G.O (Ms) No.119 dated 07.06.2013. The same is enclosed as Annexure-4a. 2. While applying for EC, the poramboke land extent was reduced to 283.08 ha vide Government of Tamil Nadu GO (Ms) No. 285 dated 03/08/2018, enclosed as Annexure -4b. Accordingly, in EC application the land extent was considered as 286.065 Ha

J. KUMARAGURUBARAN, I.A.S.,
Managing Director

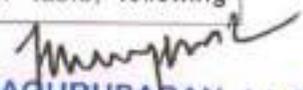
State Industries Promotion Corporation of Tamilnadu Limited
19-A, Rukmani Lakshmiipathy Road,
Egmore, Chennai-600 008.

S.No	Query	Reply
		<p>(283.08 Ha of poramboke land vide per GO (Ms) No. 285 dated 03/08/2018 and 2.985 Ha of patta land vide GO.(Ms) no. 119 dated 07.06.2013).</p> <p>The project area is now further reduced from 286.065 ha to 279.99.5 ha due to the following reasons:</p> <ol style="list-style-type: none"> 1. 3.085 ha of poramboke land has been excluded by Thiruvallur District Collector vide letter no. 14888/2018 dated 10.06.2019 enclosed as Annexure 4c. 2. 2.985 ha of patta land is also excluded from acquisition and the total area of the park is reduced to 279.99.5 Ha. 3. The Land Delivery Receipt of SIPCOT in proof of taking over possession of 279.99.5 Ha of land from Zonal Deputy Tahsildar is enclosed as Annexure-4d. <p>As on date the project site area is 279.99.5 ha.</p> <p>The EIA and all documentations are revised to 279.99.5 ha.</p> <p>We request MoEF&CC to kindly consider the above and accept the same.</p>
6	Site selection for the proposed Industrial Estate is not planned according to guideline of CPCB's programme on Zoning Atlas for siting of Industries.	As per CPCB guidelines dated 29 th February 2016, the line of activities proposed for the Industrial Park is enclosed as Annexure-5a and its Master plan is enclosed as Annexure -5b .
7	The proponent has not addressed the Public Hearing issues raised and commitments made by Proponent along with fund provisions in EIA/EMP report	<ol style="list-style-type: none"> 1. Public Hearing Minutes is attached as Annexure – 6a. 2. Public Hearing issues raised and commitment made by proponent is enclosed as Annexure -6b.

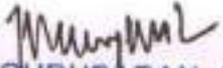
J. KUMARAGURUBARAN, I.A.S.,
Managing Director
State Industries Promotion Corporation of Tamilnadu Limited
19-A, Rukmani Lakshmi Pathy Road,
Egmore, Chennai-600 008.


J. KUMARAGURUBARAN, I.A.S.,
Managing Director
State Industries Promotion Corporation of Tamilnadu Limited
19-A, Rukmani Lakshmi Pathy Road,
Egmore, Chennai-600 008.

S.No	Query	Reply
8	<p>The proponent has not planned Industrial Estate according to criteria mentioned in the Ministry's Technical EIA Guidance Manual for Industrial Estate (2009) prepared by IL&FS Ecosmart Limited.</p> <p>The proponent shall revise the layout (overlaid on Google map using kml file) and planning of the proposed Industrial Estate.</p>	<ol style="list-style-type: none"> 1. Based on CPCB guidelines dated 29th February 2016, the type of industries proposed is enclosed as Annexure-5a. 2. The Industrial Estate's Master plan is revised based on the Ministry's Technical EIA Guidance Manual for Industrial Estate (2009) prepared by IL&FS Ecosmart Limited and the same is enclosed as Annexure-5b. 3. The layout superimposed on Google map using kml file is enclosed As Annexure -5c.
9	<p>The proponent has proposed installation of ETP by individual Industrial Unit with ZLD, employing RO system. But nothing has been mentioned about management/treatment of the reject from RO having high TDS and other constituent parameters.</p>	<p>Proponent has studied and reworked as per the ADS and have proposed the following:</p> <ol style="list-style-type: none"> 1. Individual industries will have their Zero Liquid discharge concept (own ETP/STP as applicable) and will take care of reject management by installing MEE/ATFD. 2. Water requirement calculation and Water Balance diagram is enclosed as Annexure-7a and 7b respectively addressing the rejects management proposed.
10	<p>As water table is shallow in the area (2.38-7.36 m bgl during pre-monsoon and 0.79-7.30m bgl during post-monsoon) and soil formation is predominantly red clay and coastal sand. Thus, the site is not suitable for Chemical Industries so as to protect the ground water and surface water.</p>	<ol style="list-style-type: none"> 1. Primary survey (Post-Monsoon) was done within 1km radius from the project site on 14/02/2020. Ground Water level was identified using peizometer at four locations near the site. 2. Based on the survey, the water table at site varies from 2.5 m to 4.2 m below ground level. The details of the water level and the water table map are enclosed as Annexure-8. 3. Based on the water table, following

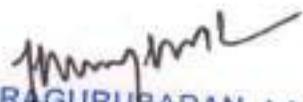

J. KUMARAGURUBARAN, I.A.S.,
 Managing Director
 State Industries Promotion Corporation of Tamilnadu Limited
 19-A, Rukmani Lakshmi Pathy Road,
 Chennai - 600 002

S.No	Query	Reply
		<p>changes are made in the type of industries proposed as below:</p> <ol style="list-style-type: none"> i. Only 10% of the plotted area (19.41 Ha) is proposed for Non Pharma industries in 5(f) Category – i.e., Synthetic Acrylic polymers and resins, water proofing compounds, synthetic adhesives etc. ii. 90% of the plotted area (173.60 Ha) is proposed for Non EC category industries – Automobile and Automobile Accessories, E vehicle and its components manufacturing, Engineering and fabrication, Plastics Manufacturing etc., falling under Red, Orange, Green and White category industries. iii. The individual 5(f) industries will have all their storage tanks and pipelines above ground. <p>4. Affidavit regarding the proposal for allotment of 10% of plotted area for non pharma industries in 5(f) -ie Synthetic Acrylic polymers and resins, water proofing compounds, synthetic adhesives etc and rest 90% of plotted area for non EC category industries – i.e., E vehicle and its components manufacturing, Automobile and accessories manufacturing, Engineering and fabrication, plastics manufacturing etc., is enclosed as Annexure -9.</p>


J. KUMARAGURUBARAN, I.A.S.,
 Managing Director
 State Industries Promotion Corporation of Tamilnadu Limited
 19-A, Rukmani Lakshmi Pathy Road,
 Egmore, Chennai-600 008.

S.No	Query	Reply
		<p>Individual industries will implement the following:</p> <ul style="list-style-type: none"> a. Zero Liquid Discharge Concept with deployment of RO followed by MEE/ATFD. b. Hazardous waste will be segregated and will be earmarked and stored not more than 90 days in dedicated Hazardous storage with concrete platform and proper roof shed. And then will be sent to TSDF. Thus no spillage on land is envisaged. c. Top soil conservation will be done to maintain the soil fertility. <p>SIPCOT will monitor and ensure that individual industries comply with all the conditions in the agreement.</p>
11	Proponent shall revise the EIA/EMP report by incorporating all above mentioned observations of EAC	EIA report is revised and same will be submitted to MS, MOEF&CC*.

*Due to limitation in ADS file size, Revised EIA report could not be uploaded along with this reply. However, the same will be sent to all members for circulation prior to EAC meeting.


J. KUMARAGURUBARAN, I.A.S.,
 Managing Director
 State Industries Promotion Corporation of Tamilnadu Limited
 19-A, Rukmani Lakshmi pathy Road,
 Egmore, Chennai-600 008.

List of Annexure

Annexure no	Details
1a	HECS NABET Certificate copy and Extension letter issued by NABET
1b	NoC from Annamalai University
1c	Acknowledgement from MoEF&CC on submission of letter regarding change of consultant
2a	Topo map showing the distance of Pulicat lake from site
2b	NBWL NOC Application
3a	Letter for supply of 5 MLD TTRO water from CMWSSB to Manallur Industrial Park
3b	Letter for supply of 1.3 MLD fresh water from CMWSSB for Manallur Industrial Park.
4a	G.O (Ms)No.119 dated 07.06.2013 allocating 303.75 Ha (300.765 Ha of poramboke land and 2.985 Ha of patta land) for development of Industrial Park at Manallur.
4b	GO (Ms) No. 285 dated 03/08/2018, callocating 283.08 ha by the Government of Tamil Nadu
4c	Thiruvallur district Collector letter No. 14888/2018 dated 10/06/2019 regarding exclusion of 3.08.5 Ha of land
4d	Land Delivery Receipt in proof of taking over possession of 279.99.5 Ha of land from Zonal Deputy Tahsildar
5a	Line of activities for the proposed project
5b	Zonation Map prepared for the proposed Industrial Park
5c	Layout superimposed in Google image
6a	Public Hearing Proceedings
6b	Reply to issue raised during Public Hearing with Fund allocation
7a	Water requirement calculation
7b	Water Balance Drawing
8	Ground water table near project site
9	Affidavit regarding allotment of 10% of plotted area for non pharma industries in 5(f) -ie Synthetic Acrylic polymers and resins, water proofing compounds, synthetic adhesives etc and rest 90% of plotted area for non EC category industries –i.e., E vehicle and its components manufacturing, Automobile and accessories manufacturing, Engineering and fabrication, plastics manufacturing etc.,



Quality Council of India

National Accreditation Board for
Education & Training



CERTIFICATE OF ACCREDITATION

Hubert Enviro Care Systems (P) Ltd.

A-21, III Phase, Behind Lions Club School, ThruVIKa Industrial Estate,
Gulindy, Chennai – 600 032

Accredited as Category - A organization under the QCI-NABET Scheme for Accreditation of EIA Consultant Organizations: Version 3 for preparing EIA-EMP reports in the following Sectors:

Sl. No.	Sector Description	Sector (as per)		Cat.
		NABET	MOEF/OC	
1	Mining of minerals including open cast / underground mining	1	1 (a) (i)	A
2	Onshore oil and gas exploration, development & production	2	1 (b)	A
3	Thermal power plants	4	1 (d)	A
4	Metallurgical industries (secondary metallurgy only)	8	3 (a)	B
5	Cement plants	9	3 (b)	B
6	Petroleum refining industry	10	4 (a)	A
7	Petro-chemical complexes (industries based on processing of petroleum fractions & natural gas and/or reforming to aromatics)	18	5 (c)	A
8	Petrochemical based processing (processes other than cracking & reformation and not covered under the complexes)	20	5 (e)	A
9	Synthetic organic chemicals industry	21	5 (f)	A
20	Isolated storage & handling of Hazardous chemicals	28	6 (b)	B
11	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	31	7 (c)	A
12	Common Municipal Solid Waste Management Facility (CMSWMF)	37	7 (i)	B
13	Building and construction projects	38	8 (a)	B
14	Townships and Area development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RA AC minutes dated Nov. 03, 2017 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no QCI/NABET/ENV/ACC/18/0566 dated Feb. 16, 2018. The accreditation needs to be renewed before the expiry date by Hubert Enviro Care Systems (P) Ltd., Chennai following due process of assessment.

Sr. Director, NABET
Dated: Feb. 16, 2018

Certificate No.
NABET/ EIA/1619/ RA 0083

Valid till
13.10.2019

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.



National Accreditation Board for Education and Training

(Member - International Accreditation Forum & Pacific Accreditation Cooperation)



To

16 April 2020

Hubert Enviro Care Systems

18, 92nd Street, 18th Avenue,
Ashok Nagar, Chennai – 600083

Sub.: Extension of Validity of Accreditation between 15th March and 30th April 2020
till 30th June, 2020 - regarding

Dear Sir/Madam

In view of the outbreak of Corona Virus (COVID-19) and subsequent lockdown declared for its control vide order dated 24th March 2020, issued by Ministry of Home Affairs, Govt. of India, NABET hereby extends the Validity of your Accreditation till 30th June 2020.

As soon as, NABET office opens/resumes its operation necessary action regarding issuance of certificate/extension of validity letters / other may be initiated, therefore, ACO to ensure their complete application with NABET, if applicable.

Meanwhile, you may enclose this with your EIA reports along with the certificate/validity letter. The EAC/SEIAA/SEAC/Other are hereby requested to consider the same as a valid document for the preparation of EIA/EMP report.

With best regards.

Sd/-

(A K Jha)

Sr. Director, NABET

NABET

To

Hubert Enviro Care Systems

18, 92nd Street, 18th Avenue,
Ashok Nagar, Chennai – 600083

Sub.: Extension of Validity of Accreditation till Sept 29, 2020 - regarding

Dear Sir/Madam

In view of the outbreak of Corona Virus (COVID-19) and subsequent lockdown declared for its control vide order dated 24th March 2020, issued by Ministry of Home Affairs, Govt. of India, NABET hereby extends the Validity of your Accreditation till Sept 29, 2020.

As soon as, NABET office opens/resumes its operation necessary action regarding issuance of certificate/extension of validity letters / other may be initiated, therefore, ACO to ensure their complete application with NABET, if applicable.

Meanwhile, you may enclose this with your EIA reports along with the certificate/validity letter. The EAC/SEIAA/SEAC/Other are hereby requested to consider the same as a valid document for the preparation of EIA/EMP report.

With best regards.

Sd/-

(A K Jha)

Sr. Director, NABET



Centre for Environment, Health & Safety

ANNAMALAI UNIVERSITY

Annamalai Nagar-608 002



.....NABET/QCI accredited EIA Consultancy Organization for MoEF/Gol

CEHS/SIPCOT/MLR-029/20

14/03/2020

To,

The Member Secretary IA III
Ministry of Environment Forests and Climate Change
Indira Paryavaran Bhavan,
Vayu Wing, 3rd Floor, Aliganj,
JorBagh Road,
New Delhi - 110003

Subject : No objection for taking up the balance work of "Preparation of EIA/ EMP report for proposed Manallur Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District".

Reference : Proposal No. IA/TN/NCP/27117/2015 [F.No.21-59/2015-IA.III]

Sir,

We wish to inform you that we have no objection in M/s. Hubert Enviro Care System (P) Ltd, (HECS) located at A-21, Phase III, Thiru Vi Ka Industrial Estate, Guindy, Chennai- 600 032, towards taking up the balance work of "Preparation of EIA/ EMP report for proposed Manallur Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District" for obtaining Environmental Clearance.

We also inform that, the data and other information provided in the EIA report given by us can be used by HECS to finalize the EIA report and validating the same for appraisal by MoEF&CC.

This has been informed already to NABET/QCI.

Thanking you

Yours faithfully,

Dr. Nehru Kumar
Director

Copy to

M/s.State Industries Promotion Corporation of Tamil Nadu Limited (SIPCOT),
19-A, Rukmani Lakshmi pathy Road,
Egmore, Chennai - 600 008.

Letter regarding Change of Consultant –Acknowledgement from MoEF&CC



to submit in 1A IP department
State Industries Promotion Corporation of Tamil Nadu Limited
 (A Government of Tamil Nadu Undertaking)

Regd. Office : 19-A, Rukmani Lakshmpathy Road, Post Box No. 7223, Egmore, Chennai - 600 008.
 Phone : 28554787, Fax : 044-28513978, Website : www.sipcot.in

Projects/EIA/Manailur/2020 *IA 1A*

The Member Secretary,
 Ministry of Environment, Forest & Climate Change,
 Indira Paryavaran Bhavan,
 Vayu Wing, 3rd Floor, Aliganj,
 Jor Bagh Road,
 New Delhi - 110003.

Date: 26.02.2020

Sir,

Sub: SIPCOT - Development of Industrial Park in Manailur and Soorapoondi villages of Gummidipoondi Taluk, Thiruvallur district, Tamil Nadu - Intimation on Change of Consultant - Regarding.

Ref: 1. Proposal No. IA/TN/NCP/27117/2015 [F.No.21-59/2015-IA.III]
 2. Minutes of 230th meeting of Expert Appraisal Committee for Projects related to Infrastructure Development, Industrial estate/ parks/ complexes/areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways projects held on 28 - 29 January, 2020- Agenda No.3.1

With reference to the above subject, we wish to bring to your kind notice that, we have appointed M/s. Hubert Enviro Care Systems Pvt. Ltd., Chennai, vide NABET Certificate No. NABET/EIA/1619/RA0083, valid till 19th April, 2020 as our consultant for submission of revised EIA/EMP report based on the MoM of 230th Meeting of EAC for Projects related to Infrastructure Development, Industrial estate/ parks/ complexes /areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways projects held on 28 - 29 January, 2020- Agenda No.3.1.

The Accreditation certificate and extension letter issued by NABET to HECS is enclosed for your kind reference.

P.T.O.

/2/

This is submitted for your kind perusal and record.

Yours faithfully,


Managing Director

Enclosed as above:

1. NABET Certificate of M/s. Hubert Enviro Care Systems Pvt. Ltd.,
Chennai
2. Extension letter issued by NABET to M/s. Hubert

Copy to:

1. M/s. Centre for Environment, Health and Safety
Centre for Environment Health & Safety, Annamalai University,
Chidambaram – 608 002.
2. M/s. Hubert Enviro Care Systems Pvt. Ltd.,
A-21, IIrd Phase, Behind Lions Club School,
Thiru Vi Ka Industrial Estate, Guindy, Chennai – 600 032.
3. M/s. ITCOT Consultancy and Services Limited,
50-A, Greams Road, Chennai.

Wild Life Report

Form for seeking recommendation of Standing Committee of NBWL/SBWL.

PART - I & II
(To be filled up by User Agency)**A. General Details****A-1. Project Details**

(i). Forest Clearance Required?: No

(ii). Proposal No. : FP/TN/IND/945/2020

(iii). Name of Project: Development of Manallur Industrial Park, Gummadipoondi Taluk, District Thiruvallur, Tamil Nadu by M/s State Industries Promotion Corporation of Tamil Nadu (SIPCOT)

(iv). Short narrative of the Project : 1. The proposed project location of Manallur is in Thiruvallur District. Its nearness to Chennai and direct access to Karnataka and Andhra Pradesh by NH Roads, Ports and Railways is the major advantageous reason for the present proposal of SIPCOT. 2. The land is vacant, government owned and waste

(v). State : Tamil Nadu

(vi). Category of the Project : Industry

(vii). Shape of project land : Linear

(viii). Distance of the project from the boundary of the Protected Area (in km.): 5.77

(ix). Estimated cost of the Project (Rupees in lacs) : 0

(x). Total period for which clearance is required (in year): 20

(xi). Total Project Area (in ha.): 279.995

(xii). Project Area under Protected Area (in ha.): 0

(xiii). Project Area under Non-Protected Area (in ha.): 279.995

(xiv). Project Area under Wildlife Sanctuaries (in ha.): 0

(xiv). Project Area outside Wildlife Sanctuaries(in ha.): 0

(xv). Project Area inside Conservation Reserve(in ha.): 0

(xvi). Project Area outside Conservation Reserve(in ha.): 0

(xvii). Project Area inside National Park(in ha.): 0

(xviii). Project Area outside National Park(in ha.): 0

(xix). Project Area inside Ecologically Sensitive Zone(in ha.): 0

(xx). Project Area outside Ecologically Sensitive Zone(in ha.): 279.995

A-2 Details of User Agency

(i). Name : STATE INDUSTRIES PROMOTION CORPORATION OF TAMILNADU LIMITED (SIPCOT)

(ii). Address1 : 19-A, Rukmani Lakshminipathy Road, Egmore, Chennai

(iii). Address2 : NIL

(iv). State : Tamil Nadu

(v). District : Chennai

(vi). Pin : 600008

(vii). Landmark : Egmore

(viii). Email address : projects@sipcot.in

(ix). Landline Telephone No. : 28554787

(x). Fax No. : 28553746

(xi). Mobile No. : 9000099100

(xii). Website (if any) : www.sipcot.in


J. KUMARAGURUBARAN, I.A.S.
 Managing Director
 State Industries Promotion Corporation of Tamil Nadu Limited
 19-A, Rukmani Lakshminipathy Road,
 Egmore, Chennai-600 008.

(xiii). Legal status of User Agency : State PSU

A-1 Details of Person Making Application

(i). First Name: Kumaragurubaran

(ii). Middle Name: NIL

(iii). Last Name: J

(iv). Gender: Male

(v). Designation: Managing Director

(vi). Address 1: 19-A, Rukmani Lakshminipathy Road, Egmore, Chennai

(vii). Address 2: NIL

(viii). State: Tamil Nadu

(ix). District: Chennai

(x). Pin: 600008

(xi). Landmark: Egmore

(xii). Email Address: md@ipcor.in

(xiii). Landline Telephone No.: 28554514

(xiv). Fax No.: 04428553746

(xv). Mobile No.: 9342042722

(xvi). Upload a copy of documents in support of the competence/authority of the person making this application to make application on behalf of the User Agency: Signature copy of documents in support of the competence

B. Details of Land required for the Project

B-1. Details of Protected Area

B-1.1

No. of Divisions involved in Protected Area

forestclearance.in/ADMIN/UsageAgency_report_w.aspx?pid=FP/TM/IND/4945/2020


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Division wise details of land			
S.no	Division Name	Protected Area Name	Project Area under Protected Area
1.	Wildlife Warden, Chennai	Public WLS	0

D-1.2 Details of Districts involved

District wise breakup			
S.no	District Name	Project Area under Protected Area(ha.)	Project Area under Non-Protected Area(ha.)
1.	Tiruvallur	0	279.995

E-1.3 Component wise breakup

Component wise breakup			
S.no	Component	Project Area under Protected Area(ha.)	Project Area under Non-Protected Area(ha.)
1	Manufactur Industrial Park	0	279.995

C. Maps of protected area

Division 1 : Wildlife Warden, Chennai												
(i). Project Area under Protected Area (in ha.) : NIL												
(ii). Nature of the Project : Linear												
(iii). No. of Segments : One												
<table border="1"> <thead> <tr> <th colspan="3">Patch/Segment wise details</th> </tr> <tr> <th>Segments</th> <th>Protected Area of segment(in ha.)</th> <th>KML file of protected area of segment</th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>0</td> <td> View File</td> </tr> </tbody> </table>				Patch/Segment wise details			Segments	Protected Area of segment(in ha.)	KML file of protected area of segment	1.	0	 View File
Patch/Segment wise details												
Segments	Protected Area of segment(in ha.)	KML file of protected area of segment										
1.	0	 View File										
(iv). copy of Survey of India Toposheet indicating boundary of protected area: <u>Annexure Survey of India Toposheet</u>												
(v). scanned copy of the Geo-referenced map of the protected area prepared by using DGPS or Total Station: <u>Annexure scanned copy of the Geo-referenced map</u>												

Information for mapping are present in protected area and details of

MURUGURUBARAN, I.A.S.,
 Managing Director
 State Industries Promotion Corporation of Tamil Nadu Limited
 19-A, Rajawadi Lakshmiapathy Road,
 Egmore, Chennai-600 008.

(i). copy of memo containing justification for locating the Project in protected area: Annexure Justification

(ii). Whether a copy of map indicating location of alternative examined is required to be provided: Yes

(a). copy of map indicating location of alternative examined: Annexure alternative examined

E. Employment likely to be generated

(i). Whether project is likely to generate employment?: Yes

(a). Permanent/Regular Employment(Number of persons): 5000

(b). Temporary Employment(Number of person-days): 365

E. Displacement of People due to the project, if any

(i). Whether project involve displacement?: No

G. Status of Environmental clearance

(i). Whether the Project requires Clearance under the Environment (Protection) Act 1986?: Yes

(a). Status of the Environmental Clearance to the Project: EC under process

(ii). Environmental Clearance File No.: 27-59/2015-1A.113(P)

H. Whether proposal is for investigation/survey

(H-1). Whether proposal is for investigation/survey?: No

Details of Divisions involved		
S.No	Time Required (in Days)	physical disturbance needed within the PA like(tree cutting, earth work etc.)
NIL		

(H-2). Details of the Bio diversity Impact Assessment report in case the proposal involves use of more than 50 ha. NP/WLS

(a). Copy of the Bio diversity Impact Assessment report: Annexure Copy of Bio diversity Impact Assessment report

(H-3). Information on the projects undertaken by the proponent agency in the past in Protected Areas

(e). Upload file: Annexure Information on the projects undertaken by the recipient agency in the past in Protected Areas

(H-4). Details regarding compliance of the conditions on each proposal

(a). Upload file: Annexure Details regarding compliance of the conditions on each proposal

(H-5). Whether any matter related to the project is sub judice in any court of law?: No

Documents		
S.No	Uploaded Additional Info. Files	Remarks
1	<u>Additional info.</u>	Overall signed documents

Print page


J. KUMARAGURUBARAN, I.A.S.,
 Managing Director
 State Industries Promotion Corporation of Tamil Nadu Limited
 18-A, Palmsani Lakshminagar Road,
 Egmore, Chennai-600 002.



CHENNAI METROPOLITAN WATER SUPPLY
AND SEWERAGE BOARD

MANAGING DIRECTOR

Lr.No.CMWSSB/CE(O&M)II/STP(N)/45TTRO - KOD/039/SIPCOT-MANALLUR, Date: 30.01.2020

To,

The Managing Director,
SIPCOT,
No.19 - A, Rukmani Lakshmi pathy Road,
Egmore,
Chennai - 600 008.

Sir,

Sub: CMWSS Board - C.E(O&M) II - S.E.(WWT&R) - "Design, Build and Operate for 15 years (DBO) a 45 MLD capacity Tertiary Treatment Reverse Osmosis (TTRO) Kodungaiyur expandable to 60 MLD including supply, laying and maintenance of D.I. Transmission mains for conveyance of Product water to industries located in Manali - Minjur and Manali - Ennore corridor - Request received from SIPCOT to supply 20MLD TTRO water to SIPCOT industrial park at Manallur from Kodungaiyur TTRO plant - Confirmation on supply to SIPCOT industrial park at Manallur from Kodungaiyur TTRO plant - Reg.

Ref: 1) SIPCOT Lr.No.CD/Water Supply/MNL/2019, Dated :27.12.2019
2) SIPCOT Lr.No.CD/Water Supply/MNL/2019, Dated :29.01.2020

The Managing Director, SIPCOT, has requested to extend the supply of 20MLD TTRO water from TTRO plant at Kodungaiyur to the proposed SIPCOT industrial park at Manallur and other parks in the vicinity and also to furnish letter of confirmation for the supply of TTRO Water in order to obtain Environmental clearance for the proposed industrial complex at Manallur, vide reference 1st and 2nd cited respectively.

Your requirement of 20MLD of TTRO water has already been factored in the estimation and we hereby convey our acceptance to supply 20 MLD of Tertiary Treated water to SIPCOT industries including 5MLD for the proposed SIPCOT industrial park at Manallur and 15 MLD for other parks in the vicinity from the expandable 60MLD TTRO plant at Kodunagiur on completion of entire works in all respects.


30/01/2020
MANAGING DIRECTOR



CHENNAI METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD

No.1, Pumping Station Road, Chintadripet, Chennai - 600 002.

MANAGING DIRECTOR

Lr. No. CMWSSB/O&M II/WT&T/ROII/SIPCOT/01/2020, Dt. 20.05.2020

To

The Managing Director
SIPCOT No.19-A,
Rukmani Lakshmi pathy Road,
Post Box No.7223
Egmore,
Chennai-600 008

Sir,

Sub: CMWSSB - O&M II - WT&T- RO II - Establishment of Industrial park at Manallur - Obtaining environmental clearance – Supply of 1.3 MLD fresh water to the proposed Industrial park – No objection to utilize the water supplied to Thervoykandigai SIPCOT issued - Reg.

Ref: Lr.No. Projects/EIA/Fresh water supply/ Manallur/2020 dated 12.05.2020

In the reference cited above, it is informed that it has been proposed to establish an Industrial park at Manallur, SIPCOT and is in the process of obtaining Environmental clearance from MoEF & CC, Govt. of India, New Delhi for the proposed Manallur Industrial Park. In the first phase, an extent of 279.995 Hectares is to be developed and the water requirement is 6.3 MLD out of which 5 MLD is proposed from TTRO water and 1.3 MLD of fresh water is required.

In this regard, it is informed that CMWSSB has developed infrastructure to supply 14 MLD of raw water from Redhills Lake to SIPCOT Industrial Park at Thervoykandigai as deposit work. SIPCOT may develop infrastructure to convey the required quantity of 1.3 MLD of water from Thervoykandigai pump house to Manallur SIPCOT from the overall allocation of 14 MLD to Thervoykandigai SIPCOT.


20/5/2020
Managing Director.

ANNEXURE - II

APL 154351



செருக்கம்



நில எடுப்பு - திருவள்ளூர் மாவட்டம் - சூப்பிப்பூண்டி வட்டம் - மாநல்லூர் கிராமம் - புல எண்: 226/2 மற்றும் சில - சுமார் 2.98.5 ஏக்கர் பரப்பளவு கொண்ட புத்தசெய் பட்டா நிலம் - சிப்காட் தொழில் பூங்கா தேவைக்காக - தமிழ்நாடு தொழிலியல் துறைமன்றத்தின் தலைநில எடுப்புச் சட்டம் 1997 (தமிழ்நாடு சட்டம் 10/99) இன் கீழ் நில எடுப்பு செய்வது - தமிழ்நாடு ஒப்பந்த வரங்கல் - ஆணை வெளியிடப்படுகிறது.

தொழில் (சிப்காட்-நில) துவர

அரசு ஆணை (நிலை) எண்.119

நாள்: 07.06.2013

விஜயவடும்

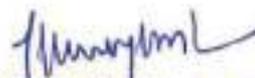
வையாசி 24, திருவள்ளூர் ஆண்டு 2044
படிக்கப்பட்டது:

1. திருவள்ளூர் மாவட்ட ஆட்சித் தலைவரின் கடித எண் 37468/2009/எப்.1, நாள் 21.04.2012.
2. முதன்மைச் செயலர் மற்றும் நிலநிர்வாக ஆணையரின் கடித எண்.எம்2/28363/2012, நாள் 18.12.2012.

ஆணை:-

திருவள்ளூர் மாவட்டம், சூப்பிப்பூண்டி வட்டம், மாநல்லூர் கிராமத்தில் தொழில் பூங்கா ஒன்று புதிதாக உருவாக்குவதற்காக, சுமார் 2.98.5 ஏக்கர் பரப்பளவு உள்ள புத்தசெய் பட்டா நிலங்களும் 300.76.5 ஏக்கர் அரசு பூம்போக்கு நிலங்களும் தமிழ்நாடு தொழில் நோக்கங்களுக்கான நில எடுப்புச் சட்டம் 1997 (தமிழ்நாடு சட்டம் 10/99) இன் கீழ் நில எடுப்பு / நில உரிமை மாற்றம் செய்து தகுமாறு சிப்காட் நிறுவனத்தின் தலைவர் மற்றும் மேலாண்மை இயக்குநர் அவர்கள் கேட்டுக் கொண்டதாகவும், அதன் அடிப்படையில் 300.76.5 ஏக்கர் அரசு பூம்போக்கு நிலங்களுக்கு ஏற்கனவே நில நிர்வாக ஆணையர் வழியாக சிப்காட் நிறுவனத்திற்கு நில உரிமை மாற்றம் செய்வதற்கு அரசுக்கு முன்மொழிவுகள் அனுப்பப்பட்டுள்ளதாக மாவட்ட ஆட்சித் தலைவர் அவர்கள் தெரிவித்துள்ளார் என்றும், மேலும் நில உரிமை மாற்றம் செய்ய உத்தேசித்துள்ள நிலங்களின் ஊடே அமைந்துள்ள புத்தசெய் பட்டா புல எண்கள் 226/2, 235/1, 235/2 மற்றும் 233/3 ஆகியவற்றிலுள்ள 2.98.5 ஏக்கர் பரப்பளவுள்ள நிலம் தொடர்ச்சியாக உள்ளதால் மேற்கண்ட புல எண்களை நில எடுப்பிலிருந்து விலக்களிக்க முடியாது என்றும் எனவே அவற்றை நில எடுப்பு செய்வது அவசியமாகிறது என்றும், பார்வை ஒன்றில் படிக்கப்பட்ட கடிதத்தில் மாவட்ட ஆட்சித்தலைவர் அவர்கள் தெரிவித்துள்ளார்.

2. திருவள்ளூர் மாவட்ட ஆட்சித்தலைவரின் கோரிக்கையினை ஏற்று திருவள்ளூர் மாவட்டம், சூப்பிப்பூண்டி வட்டம், மாநல்லூர் கிராமம் புல எண்கள் 226/2, 235/1, 235/2 மற்றும் 233/3-இல் உள்ள சுமார் 2.98.5 ஏக்கர் பரப்பளவு உள்ள நிலத்தினை சிப்காட் தொழில்பூங்காவிற்கு தெரிவு செய்யப்பட்டுள்ள அரசு பூம்போக்கு நிலங்களின் ஊடே வருவதால் அவற்றை நில எடுப்புச் செய்வதற்கு ஏதுவாக நிர்வாக ஒப்பளிப்பு ஆணை வரங்கும்படி முதன்மைச் செயலர் மற்றும் நில நிர்வாக ஆணையர் அவர்கள் பார்வை இரண்டில் படிக்கப்பட்ட கடிதத்தில் அரசுக்கு பரிந்துரை செய்துள்ளார்.


J. KUMARAGURUBARAN, I.A.S.,
Managing Director
State Industries Promotion Corporation of Tamil Nadu Limited
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3. முதன்மைச் செயலர் மற்றும் நில நிர்வாக ஆணையர் அவர்களின் பரிந்துரையினை ஏற்று திருவள்ளூர் மாவட்டம், சும்பிடிப்பூண்டி வட்டம், மாநல்லூர் கிராமம் புல எண்கள் 226/2 (0.18.0 ஏக்கர்), 235/1 (0.815 ஏக்கர்), 235/2 (1.06.0 ஏக்கர்) மற்றும் 233/3 (0.03.0 ஏக்கர்) மொத்தம் 2.98.5 ஏக்கர் (7.37 ஏக்கர்) நிலங்கள் ஏற்கனவே சிப்காட் திருவனத்திற்கு நில உரிமை மாற்றம் செய்ய உத்தேசித்துள்ள அரசு புறம்போக்கு நிலங்களின் ஊடே வருவதால் அந்த நிலங்களான சிப்காட் தொழில் பூங்காவின் தேவைக்காக தமிழ்நாடு தொழிலியல் நோக்கங்களுக்கான நிலஒதுப்புச் சட்டம் 1997 (கு.நா. சட்டம் 10/99)-இன் கீழ் நில எடுப்பு செய்வதற்கும் மேலும் திருவள்ளூர் மாவட்ட ஆட்சியர் இந்நில எடுப்பு நடவடிக்கையை தொடர்வதற்கு முன்பாக நகர்ப்புற நில உச்சவரம்பு மற்றும் நிலச் சீர்திருத்தச் சட்டத்தில் கவாப்படலில்லை என்பதற்கான தடையில்லாத் சான்று பெற வேண்டும் என்ற நிபந்தனையுடனும், நிர்வாக ஒப்பளிப்பு வழங்கி அரசு ஆணையிடுகிறது.

(ஆளுநரின் ஆணைப்படி)

நா.ச. பழனிப்பன்
அரசு முதன்மைச் செயலாளர்

பெறுநர்
முதன்மைச் செயலர் மற்றும் நில நிர்வாக ஆணையர்,
சேப்பாக்கம், சென்னை-600 005.
முதன்மைச் செயலர்/தலைவர் மற்றும் மேலாண்மை இயக்குநர்,
சிப்காட், 19-ஏ ருக்மணி வட்கம்பிதி சாலை,
எழும்பூர், சென்னை-600 008.
மாவட்ட ஆட்சித்தலைவர், திருவள்ளூர் மாவட்டம்.
மாவட்ட வருவாய் அலுவலர், திருவள்ளூர் மாவட்டம்.

நகல்
வருவாய் (நி.எ.2) துறை, சென்னை-9.
இ.கோ / உதிரி நகல்.

(ஆணைப்படி அனுப்பப்படுகிறது)

பு.ச. பழனிப்பன்
நி.நி. அலுவலர் (9/6)/12
h.f.
10/6/13.


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ABSTRACT



Land Alienation - Tiruvallur District - Gummidipoondi Taluk - Manattur Village - S.No.203/1, etc. - An extent of 203.35.5 hectare out of total extent of 219.14.5 hectare and Soorapoondi Village - S.No.1, etc. - An extent of 79.72.5 Hectare - Alienation in favour of State Industries Promotion Corporation of Tamil Nadu for the formation of Multipurpose Special Economic Zone / Industrial Park - Orders - Issued.

Revenue and Disaster Management Department, Land Disposal Wing,
LD 5(2) Section

G.O.(Ms) No.285

Dated 3.8.2018

விவரம்: 3.8.2018

சிறப்பு: 2049

Read:-

1. From the District Revenue Officer, Tiruvallur letter No.14888/2008/B2, dated 28.12.2010, 28.10.2011 and 7.11.2014.
2. From the Additional Chief Secretary / Commissioner of Land Administration Letter No.83/17048/09, dated 26.9.2014 and 16.12.2014.

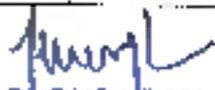
In the letter second read above, the Additional Chief Secretary and Commissioner of Land Administration has stated that, the District Revenue Officer, Tiruvallur has reported as follows:-

- a) In G.O (Ms) No.264, Revenue (LD7) Department dated 23.05.2008, the Government have issued orders for in principle allotment of 500 acres of Government Peramboke lands in Manattur and Soorapoondi Villages of Gummidipoondi Taluk, Thiruvallur District for the purpose of formation of multipurpose SEZ and Industrial Park and also 25 acres for the purpose of Housing Developing Schemes.
- b) On behalf of the requisitioning agency the Principal Secretary / Chief Managing Director / State Industries Promotion Corporation of Tamil Nadu has given an application in the specific format, an undertaking to abide by the conditions to be imposed and consent to pay the land cost.
- c) The land proposed for alienation and its classification are as detailed below.


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Manjalur Village :

Sl. No	S.No.	Extent in hectares	Classification	Remarks
1.	203/1	1.45.0	Punjai Anadeenam	Vacant
2.	203/3	0.33.0	Punjai Anadeenam	Black Top Road
	203/5	0.11.0	Punjai Anadeenam	Mud Road
3.	204/1	0.19.0	Punjai Anadeenam	Mud Road
	204/2	3.75.0	Punjai Anadeenam	Vacant
4.	207/1	0.28.5	Kallaankuthu	Mud Road
	207/2	3.44.0	Kallaankuthu	Percolation pond
5.	208	3.38.5	Kallaankuthu	Vacant
6.	209/1	2.76.5	Kallaankuthu	Vacant
	209/2	0.32.5	Kallaankuthu	Black Top Road
	209/3	0.74.5	Kallaankuthu	Vacant
7.	210/1	0.20.0	Kallaankuthu	Vacant
	210/2	0.17.5	Kallaankuthu	Black Top Road
	210/3	3.01.0	Kallaankuthu	Vacant
8.	211	4.54.0	Kallaankuthu	Vacant
9.	212/1	0.29.0	Kallaankuthu	Vacant
	212/2	0.23.5	Kallaankuthu	Black Top Road
	212/3	2.88.0	Kallaankuthu	Vacant
10.	213	3.01.5	Kallaankuthu	Mango - 228, Gowva - 1, Teak - 1, Sappotta - 5, Ucaliptus - 38, Mango saplings - 192, coconut - 24, well, oil Engine
11.	214	2.81.5	Kallaankuthu	Mango saplings - 210
12.	215	3.37.5	Kallaankuthu	Naga tree - 5, Banana, Coconut - 92, Teak - 48


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13.	216/1	1.98.5	Kallaankuthu	Vacant
	216/2	0.37.0	Kallaankuthu	Black Top Road
	216/3	0.72.0	Kallaankuthu	Mango Tree - 34, Amla - 37, Coconut - 5, Small Concrete building with bore well
14.	217/1	0.28.0	Kallaankuthu	Vacant
	217/2	0.18.0	Kallaankuthu	Black Top Road
	217/3	3.55.5	Kallaankuthu	Vacant
15.	218/1	3.24.5	Kallaankuthu	Vacant
	218/2	0.22.0	Kallaankuthu	Black Top Road
	218/3	0.34.0	Kallaankuthu	Vacant
16.	219/1	3.69.5	Kallaankuthu	Vacant
17.	220/1	3.76.0	Kallaankuthu	Vacant
18.	223/1	4.24.0	Kallaankuthu	Villiyar colony & Pathway to Sanaputhur village
	223/4	0.69.0	Kallaankuthu	Vacant
19.	224	4.09.5	Kallaankuthu	Govt-Kalam, Mango
20.	225/1	3.73.5	Kallaankuthu	Vacant
21.	226/1	3.78.5	Kallaankuthu	Vacant
22.	227/1	2.82.5	Kallaankuthu	Vacant
	227/2	0.31.0	Kallaankuthu	Black Top Road
	227/3	0.87.0	Kallaankuthu	Vacant
23.	228	4.04.0	Kallaankuthu	Vacant
24.	229	4.05.0	Kallaankuthu	Vacant
25.	230	4.01.5	Kallaankuthu	Vacant
26.	231	4.04.5	Kallaankuthu	Vacant
27.	232	2.39.0	Kallaankuthu	Vacant
28.	233/1	2.14.5	Kallaankuthu	Vacant
29.	233/2	0.22.5	Kallaankuthu	Black Top Road
30.	234/1	2.08.5	Kallaankuthu	Vacant
	234/2	0.38.0	Kallaankuthu	Black Top Road
	234/3	1.58.0	Kallaankuthu	Vacant
31.	235/3	2.22.0	Kallaankuthu	Mango - 22, Neem - 21, Coconut-3, Cashew - 16, Kattuva-2, Building - 2


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32.	236	4.14.5	Kallaankuthu	Vacant
33.	237/1	0.06.5	Kallaankuthu	Vacant
	237/2	0.09.5	Kallaankuthu	Black Top Road
	237/3	3.92.5	Kallaankuthu	Vacant
34.	238	4.04.5	Kallaankuthu	Nagai - 1, Gowva - 16, Coconut-107, Borewell - 1
35.	239	4.06.5	Kallaankuthu	Coconut - 31, Gowva - 72, Mango saplings - 459, Amla - 58
36.	240	3.26.0	Kallaankuthu	Vacant
37.	241	4.05.0	Kallaankuthu	Vacant
38.	242	4.04.5	Kallaankuthu	Vacant
39.	243	4.01.0	Kallaankuthu	Vacant
40.	244	4.18.5	Kallaankuthu	Vacant
41.	245	2.81.5	Kallaankuthu	Banyan - 2, Neem - 29, Pungan -19, palm - 1, Coconut - 41, Mango - 29, Sappota - 19
42.	248	1.76.0	Kallaankuthu	Mango, Eucalyptus
43.	249	4.04.0	Kallaankuthu	Mango, Teak and Borewell
44.	250	3.77.0	Kallaankuthu	Vacant
45.	252	3.36.0	Kallaankuthu	Vacant
46.	253	4.06.5	Kallaankuthu	Vacant
47.	270/1	13.69.0	Kallaankuthu	Vacant
	270/4	0.41.0	Kallaankuthu	Hindu Mayanam
	270/5	0.31.0	Kallaankuthu	Christian Mayanam
	270/6	0.67.5	Kallaankuthu	Black Top Road
	270/7	1.18.5	Kallaankuthu	Vacant
	270/8	1.19.0	Kallaankuthu	Vacant
48.	273	4.85.0	Kuttai	Vacant
	274/1	24.58.5	Unassessed waste	Vacant
	274/27	0.91.0	Unassessed waste	House site assignment area
	274/28	0.95.5	Unassessed waste	Black Top Road
		10.47.0	Unassessed waste	Vacant
	Total	219.14.5		

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Soorapondi Village :

Sl. No.	S.No.	Extent in hectares	Classification	Remarks
1.	1	4.53.5	Kallaankuthu	Vacant
2.	2	3.21.5	Kallaankuthu	Vacant
3.	3	3.53.5	Kallaankuthu	Vacant
4.	4	4.18.0	Kallaankuthu	Mango
5.	5	2.93.0	Kallaankuthu	Mango
6.	6/2	4.27.0	Kallaankuthu	Mango
7.	9/1	0.07.5	Nanjai Anadeenam	Mango - 5
8.	9/3	0.18.0	Nanjai Anadeenam	Mango - 9
9.	9/5	0.15.5	Nanjai Anadeenam	Mango - 7
10.	9/6	0.14.5	Nanjai Anadeenam	Mango - 7
11.	9/11	0.22.5	Nanjai Anadeenam	Mango - 20
12.	10/4	0.16.0	Nanjai Anadeenam	Mango - 8
13.	10/9	0.15.5	Nanjai Anadeenam	Mango - 7
14.	12/2	0.16.0	Nanjai Anadeenam	Mango - 8
15.	12/3	0.15.0	Nanjai Anadeenam	Mango - 7
16.	12/4	0.14.0	Nanjai Anadeenam	Mango - 7
17.	12/5	0.15.0	Nanjai Anadeenam	Mango - 7
18.	12/6	0.15.5	Nanjai Anadeenam	Mango - 7
19.	12/7	0.15.5	Nanjai Anadeenam	Mango - 7
20.	12/8	0.15.5	Nanjai Anadeenam	Mango - 7
21.	12/9	0.15.5	Nanjai Anadeenam	Mango - 7
22.	12/10	0.22.0	Nanjai Anadeenam	Mango - 11
23.	12/11	0.04.5	Nanjai Anadeenam	Mango - 2
24.	12/12	0.02.0	Nanjai Anadeenam	Mango - 2
25.	12/13	0.01.5	Nanjai Anadeenam	Mango - 2
26.	12/14	0.03.5	Nanjai Anadeenam	Mango - 4
27.	12/15	0.22.0	Nanjai Anadeenam	Mango - 11
28.	12/16	0.04.5	Nanjai Anadeenam	Mango - 4
29.	12/17	0.07.0	Nanjai Anadeenam	Mango - 7
30.	13/1	0.31.5	Nanjai Anadeenam	Mango - 31
31.	13/2	0.79.5	Nanjai Anadeenam	Mango - 79
32.	13/3	0.03.5	Nanjai Anadeenam	Mango - 4
33.	13/4	0.15.0	Nanjai Anadeenam	Mango - 14
34.	13/5	0.05.5	Nanjai Anadeenam	Mango - 5
35.	13/6	0.04.5	Nanjai Anadeenam	Mango - 4
36.	13/7	0.05.0	Nanjai Anadeenam	Mango - 5
37.	13/8	0.05.0	Nanjai Anadeenam	Mango - 5
38.	13/9	0.04.5	Nanjai Anadeenam	Mango - 4
39.	15	3.79.0	Punjai Anadeenam	Vacant


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40.	16/1	2.79.0	Punjai Anadeenam	Percolation pond and well
41.	37/1	1.54.0	Punjai Anadeenam	Vacant
42.	38	3.94.0	Kallaankuthu	Well - 1
43.	39	3.82.0	Kallaankuthu	Vacant
44.	40	3.15.5	Kallaankuthu	Vacant
45.	41	3.65.5	Kallaankuthu	Vacant
46.	42	3.98.5	Kallaankuthu	Vacant
47.	43	3.46.5	Kallaankuthu	Vacant
48.	44	4.29.0	Kallaankuthu	Vacant
49.	45	3.09.0	Kallaankuthu	Vacant
50.	46	2.78.0	Kallaankuthu	Vacant
51.	47	4.78.0	Kallaankuthu	Vacant
52.	48	4.19.0	Kallaankuthu	Vacant
53.	49	2.28.5	Kallaankuthu	Vacant
54.	56/2	1.48.0	Kallaankuthu	Eucaliptus tree & 2 Concrete house.
Total		79.72.5		

- d) The statutory A1-Notices have been published in Manallur and Soorapoondi Villages on 15.8.2009 and 18.4.2010 respectively and no objections have been received.
- e) The statements of Village Administrative Officer / Public of the Manallur and Soorapoondi have been obtained.
- f) The filled in questionnaire in Form I to VII with recommendation of the District Revenue Officer, Tiruvallur thereon have been enclosed.
- g) The resolution of the concerned Village Panchayat have been obtained.
- h) The District Revenue Officer, Tiruvallur has inspected the suit lands on 5.2.10 and 16.8.14 and reported the following ground realities in suit lands.
- In land measuring an extent of 4.24.0 Hectare in S.No.223/1 around 65 families belongs to Irular (Villiyar) community have been living for the past 25 years and resettlement and rehabilitation of this families are difficult process.
 - A percolation pond is situated in S.No.207.
 - In S.No.270/4 and 270/5, a Hindu Mayanam and Christian Burial ground are situated and being utilized by public. Further an encroachment by way of concrete building is also exist in S.No.270/1.

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- Admist of proposed Poramboke lands, patta lands measuring an extent of 0.18.0 Hectare in S.No.226/2, 0.81.5 Hectare in S.No.235/1, 1.60.0 Hectare in S.No.235/2 and an extent of 0.93.0 Hectare in S.No.233/3 exist.
- A black Top road (Thar road) bisects the proposed land. This road has been utilized by the public of Madarpakkam to approach Sanaputhur Village. Though, it is not a plan marked detail, on ground reality, it is under the usage of public.
- There are various kinds of trees, such as Mango, Coconut, Gouva, Neem, Palm trees, etc standing in the suit land, for which the tree value has been worked out as Rs.19,19,253/-
- Apart from this, no other Structures, Places of worship, monuments are exists. No HT/LT line passing through the suit land.

2. As regards the fixation of land cost, the District Revenue Officer, Tiruvallur has collected the sale statistics from the concerned Sub-Registrar's Office for the period from 01.07.2013 to 31.07.2014. During this period, 50 sales have taken place and all the sales have been discarded for various reasons, except the sale in Sl.No.19, where in, an extent of 0.98 acre in S.No.262/3C was sold to Rs.7,84,000/- vide Document No.6785/2011 Dated 26.12.2013. Accordingly, the value of 1.00 acre of land works out to Rs.8,00,000/- per acre.

3. The revised Guide Line Value as on 01.04.2012 has also been registered as Rs.8,00,000/- per acre. Based on this, the tentative land cost for the proposed land is worked out as follows:

Value of 1.00 acre of land	=Rs.	8,00,000/-
Value of 1.00 Hectare of land	=Rs.	19,77,000/-
Value of 293.72.0 Hectare of land	=Rs.	58,06,84,440/-
12% Notional increase for 2013	=Rs.	6,50,36,657/-

	=Rs.	64,57,21,097/-
12% Notional increase for 2014	=Rs.	7,74,86,532/-

	Total	=Rs. 72,32,07,629/-
Tree value	=Rs.	19,19,253/-

	Total	=Rs. 72,51,26,882/-

4. Finally, the District Revenue Officer, Tiruvallur has recommended the proposal for alienation of land to an extent of 213.99.5 Hectare of Government Poramboke lands


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in S.No.203/1 etc., of Manallur Village and an extent of 79.72.5 Hectare of Government Poramboke lands in S.No.1 etc., of Soorapoondi Village, Gummidipoondi Taluk, Tiruvallur District, in favour of SIPCOT on collection of Double the land cost and other charges with usual terms and conditions as laid down under RSO 24(6), for the purpose of formation of SEZ/IT Park.

5. The Additional Chief Secretary and Commissioner of Land Administration has stated that among the lands identified for alienation, an extent of 4.24.0 Hectare of land in S.No.223/1 has been excluded from the alienation, for the reason that a Villiyar (Tirular) colony exists on this land with 55 families and the land is also situated at the edge of the project area. Similarly, an extent of 0.91.0 Hectare of land in S.No.274/27 has also been excluded from the alienation, as it forms a residential area and is situated at the corner of the project area. It is seen from the combined sketch, a Kuttai (Chintala Gunta) measuring an extent of 4.85.0 Hectare in S.No.273 is also seen at one end of the project site and have been proposed for alienation. This part of the land may also be excluded as it is a water course and is essential to maintain the ground water level. Further, there are patta lands also spread over the project area, for which, the requisitioning agency has got an "in principle" order to go in for acquisition.

6. The Additional Chief Secretary and Commissioner of Land Administration has further stated that, in this case, the District Revenue Officer, Tiruvallur has recommended for alienation, on collection of Double the land cost. But, as per the Guide Lines Issued in Government Letter (Ms) No.477 Revenue Department, dated.23.8.07, Single Market Value is being fixed and collected from the SIPCOT for the Government lands alienated to implement their project. Hence, single market value has been adopted for fixing the land cost for the proposed lands and the Additional Chief Secretary / Commissioner of Land Administration has stated that originally, the SIPCOT has sought for alienation of 219.14.5 hectare of Government Poramboke lands in S.No.203/1 etc of Manallur Village and 79.72.5 hectare of Government Poramboke lands in Soorapoondi Village, Gummidipoondi Taluk, Tiruvallur District for formation of Special Economic Zone / Industrial Park.

7. Among the lands identified for alienation, the lands situated in the following Survey Numbers have been suggested to be excluded from alienation for the reason noted therein:-

Sl.No.	S.No.	Classification	Extent (in hectares)	Reason for exclusion
1.	223/1	Kalankuthu	4.24.0	Villiyar Colony and Pathway to Sanaputhur Village
2.	274/27	Unassessed Waste	0.91.0	Residential area assignment of House site
3.	273	Kuttai	4.85.0	Water Course
		Total	10.00.0	


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8. Accordingly, the Additional Chief Secretary/ Commissioner of Land Administration has forwarded the proposal to the Government for alienation of land to an extent of 209.14.5 hectare as against the original extent of 219.14.5 hectare in Manallur Village and an extent of 79.72.5 hectare of land in Soorapoondi Village in favour of SIPCOT.

9. The District Collector, Tiruvallur has inspected the lands in question and recommended to exclude the lands in S.No.223/1; 274/27 and 273. Further, he has also opted to retain the lands in which pathway leading to Sanaputhur Village for the reason that the restriction of Public on this road may cause inconvenience to public and also stated that relocation of mayanam and cemetery is not advisable as people are using these places and may cause inconvenience and also adversely affect their sentimental feeling. Hence, he has suggested to exclude the following Survey Numbers, the total area of 15.79.0 hectare of land from the original extent of 219.14.5 hectare.

Sl.No.	S.No	Classification	Extent (in hectare)	Present Use
1.	203/5	Dry Assessed Waste	0.11.0	Sanaputhur Village Road to Agriculture land Road
2.	204/1	Dry Assessed Waste	0.19.0	
3.	207/1	Kallanguthu	0.28.5	
4.	203/3	Dry Assessed Waste	0.33.0	Sanaputhur Village to Gummidipoondi link Tar Road
5.	209/2	Kallanguthu	0.32.5	
6.	210/2	Kallanguthu	0.17.5	
7.	212/2	Kallanguthu	0.23.5	
8.	216/2	Kallanguthu	0.37.0	
9.	217/2	Kallanguthu	0.18.0	
10.	218/2	Kallanguthu	0.22.0	
11.	227/2	Kallanguthu	0.31.0	
12.	233/2	Kallanguthu	0.22.5	
13.	234/2	Kallanguthu	0.38.0	
14.	237/2	Kallanguthu	0.09.5	
15.	270/6	Kallanguthu	0.67.5	
16.	274/28	Un Assessed Waste	0.96.5	
17.	270/4	Kallanguthu	0.41.0	Hindu mayanam
18.	270/5	Kallanguthu	0.31.0	Christian Cemetry
19.	274/27	Un assessed Waste	0.91.0	Residential Area (part)
20.	223/1	Kallanguthu	4.24.0	Viliyar Colony and Sanaputhur Village Road
21.	273	Kuttai	4.65.0	Kuttai
		Total	15.79.0	


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10. The Additional Chief Secretary and Commissioner of Land Administration has stated that, the reasons brought out by the District Collector, Tiruvallur for retaining the above lands are worth consideration as the ground reality and because of Public Inconvenience to be caused, the existing road might be retained and also the mayanam as well. Further, the formation of road by separate subdivision on the above lands will not affect the project. Hence, the Additional Chief Secretary/ Commissioner of Land Administration has recommended the proposal to Government as formulated by the District Collector, Tiruvallur for Issuing necessary orders in favour of SIPCOT for the formation of Special Economic Zone / Industrial Park.

11. The Government, after careful examination, have decided to accept the proposal of District Revenue Officer, Tiruvallur as recommended by the Additional Chief Secretary / Commissioner of Land Administration and accordingly order to alienate the land to an extent of 203.35.5 Hectare (219.14.5-15.79.0) out of total extent of 219.14.5 Hectare in S.No.203/1, etc. of Manallur Village and an extent of 79.72.5 Hectare of land in S.No.1, etc. of Soorapoondi Village, Gummidipoondi Taluk, Tiruvallur District in favour of State Industries Promotion Corporation of Tamil Nadu for the formation of multipurpose Special Economic Zone / Industrial Park on collection of Single Market Value or Guide Line Value whichever is higher as the land cost prevailing on the date of alienation after adjusting the amount of Rs.70 crores paid by State Industries Promotion Corporation of Tamil Nadu with usual terms and conditions as laid down under RSO 24 as annexed to this order with the following special conditions.

Conditions:

- (i) Stone charges, sub division charges and tree value of Rs.8,83,882.00 should be collected from the requisitioning body.
- (ii) The requisitioning body should abide by all the conditions imposed by the Government.
- (iii) The land should be used only for the purpose for which it is alienated.
- (iv) The requisitioning body should return the land or part thereof to the Revenue Department if it is no longer required.

Special Conditions:

- a) The "in principle order" Issued for this project on 23.05.2008 requires major revision. Administrative Sanction has to be issued by the Industries Act for the patta lands which have to be acquired. The District Collector has to co-ordinate this exercise with the requisitioning body.

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- b) The District Collector, Tiruvallur shall issue the Inevitability Certificate at the time of land acquisition of patta lands.

12. The Additional Chief Secretary / Commissioner of Land Administration and the District Collector, Tiruvallur District are requested to take further action as per the orders issued in paragraph 11 above and the District Collector, Tiruvallur District is also instructed to make necessary changes in the Revenue Records within a month.

(BY ORDER OF THE GOVERNOR.)

ATULYA MISRA
PRINCIPAL SECRETARY TO GOVERNMENT

To

The Additional Chief Secretary / Commissioner of
Land Administration, Chepauk, Chennai-5.

The District Collector, Tiruvallur District.

State Industries Promotion Corporation of Tamil Nadu (SIPCOT)

19-A, Rukmani Lakshmi Pathy Road,

Egmore, Chennai - 600 008.

Copy to

The Industries Department, Secretariat, Chennai-9.

The E & F Department, Secretariat, Chennai-9.

The Rural Development and Panchayat Raj Department, Secretariat, Chennai-9.

The Finance (Revenue and Disaster Management) Department,
Secretariat, Chennai-9.

The Special Personal Assistant to Hon'ble Minister

(Revenue and Disaster Management), Secretariat, Chennai-9.

The Special Personal Assistant to Hon'ble Chief Minister, Secretariat, Chennai-9.

The Special Personal Assistant to Hon'ble Deputy Chief Minister,
Secretariat, Chennai-9.

The Special Personal Assistant to Hon'ble Minister (Industries),
Secretariat, Chennai-9.

The Special Personal Assistant to Hon'ble Minister, (Forest), Secretariat, Chennai-9.

The Special Personal Assistant to Hon'ble Minister;

(MA & RD, Impr. Spl. Prog.) Secretariat, Chennai-9.

The Private Secretary to Principal Secretary to Government,

(Revenue and Disaster Management Department), Secretariat, Chennai-9.

Stock file / Spare Copy.

//Forwarded by Order//


Section Officer
3-9-2018
9.2.18


J. KUMARAGURUBARAN, I.A.S.,
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Annexure
Conditions laid down under RSO 24(6)

(1) **Condition for the grant of State land:-**

(1) The land shall be used by the State Industries Promotion Corporation of Tamil Nadu for the formation of Multipurpose Special Economic Zone / Industrial Park and for no other purpose.

(2) The Government may resume the land wholly or in part with any buildings there on in the event of the infringement of any of the conditions of the grant. In the event of such resumption, no compensation shall be payable for any improvements that may have been effected or other works that may have been executed on the land by the grantee and the grantee shall not be entitled to the repayment of any amount that may have been paid to the Government for the grant. If there are buildings on the land the Government may direct the grantee to remove them.

The land, if utilized for commercial purposes, when the grant is made free of land value, the beneficiary shall be liable to pay the market value of the land either totally or for the portion converted into commercial purposes as decided by the Government.

(3) The Government may resume the land wholly or in part, with any buildings thereon if in the opinion of the Government the land is required for a public purpose or for conducting mining operations. In the event of such resumption or in the event of the acquisition of the land for any reason, the compensation payable for the land and trees, shall in no case exceed the amount paid for them by the grantee or their value at the time of resumption or acquisition whichever may be less.

(4) In the event of resumption under condition (3), if there are buildings on the land the Government shall pay compensation for them in accordance with the provisions of conditions (5).

(5) In the event of the resumption of the land under condition (3) or in the event of the acquisition of the land for any reason the compensation payable for buildings or other improvements shall in no case exceed the amount paid for them by the grantee at the time of grant or their value at the time of resumption or acquisition whichever may be less together with the initial cost or the value at the time of resumption or acquisition, whichever may be less of any buildings erected or other improvements effected on the land by grantee in accordance with the terms of the grant. The amount of any grant made by the Government towards the cost of the buildings or other improvements shall be deducted from the compensation payable under this condition.

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(6) In the event of the grantee refusing to remove the buildings, when so directed under condition (2), the Government may remove them and realize the cost of the removal by the sale of the materials.

(7) In the event of the voluntary relinquishment of the land by the grantee, no compensation shall be payable for any improvements that may have been effected or for works that may have been executed on the land by the grantee but the grantee shall be entitled to the repayment of any amount that may have been paid to the Government, for the grant or the value of the land at the time of relinquishment, whichever may be less.

(8) The Government reserve to themselves the right to all sandalwood trees and their branches and roots which exist at the time of grant as well as those which may grow subsequently on the land and the Government shall be at liberty to cut or dig out any such trees or their roots and branches and remove them from the land and dispose of them at their pleasure. The grantee shall not be entitled to cut or remove them or cause them to be or removed without permission of the collector of the district.

(9) The grantee shall take all reasonable measures to the satisfaction of the Collector of the district for the protection of the sandalwood trees from theft or damage and for the careful protection of the immature trees growing on the land.

(10) The grantee shall take steps to see that the marks made by the officers of the Government on the sandalwood trees are preserved and are not tampered with.

(11) In the event of the infringement of, or failure to observe, any of the conditions (8) to (10), the grantee shall pay to the Government such compensation as is determined by the Collector of the district for any loss or damage caused by such infringement or failure on his part. The Government shall also be at liberty to resume the land and re-enter on it and the whole land shall thereupon vest absolutely in the Government. In that case the grantee shall not be entitled to any compensation whatever.

Note:- When lands are placed at the disposal of a person, an institution or a local body in the districts noted below, the conditions (8) to (11) above relating to the reservation of sandalwood trees should be scored out:-

Chengalpattu, Thanjavur, Chennai

When the lands are placed at the disposal of the institution on payment of the cost of the land, the said cost should be paid within a period of 30 days from the


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date of issue of orders. In cases of failure, compound interest at the prevailing rates will have to be paid by the beneficiary, till the cost of the land is fully paid.

G.O.Ms.No.3410, Revenue, dated 7.9.1956
 B.P.Ms.No.1316, dated 20.9.1956
 G.O.Ms.No.3646, Revenue, dated 26.7.1957
 B.P.Ms.No.1009, dated 2.8.1957

These conditions are not intended to be exhaustive and it is open to the authority competent to sanction such grants to impose such additional conditions as it may think fit. The conditions need not be very stringent when land is granted on payment of value. Where the disposal of land is ordered free of charge to local bodies for public purposes, an additional condition should be inserted reserving the right to the Government to collect the value of the land in the event of the local bodies deriving a substantial income from it. Whenever it is proposed to place land at the disposal of a school, the question whether the land is in a locality accessible to members of all communities should be examined. One of the conditions of grant should be that the school shall be open to members of all communities. In the case of grants of land for school playgrounds and other purposes where the erection of any expensive buildings would be inconsistent to the object of the grant, the further condition should be imposed that the grant shall be liable to forfeiture without any compensation if buildings are erected on the land without the previous sanction of the State Government or other competent authority. In all cases a condition should be imposed prohibiting the construction without the previous permission of the collector or buildings other than those to be specified and providing that no compensation shall be payable in the event of resumption or acquisition or any building erected without such permission. If the condition is considered unsuitable in any particular case, e.g. where the extent is petty and there is a building already on the site, the reasons for omitting the condition should be fully explained. In order that these conditions, which should be set out in full in every case, may be duly enforced a register of all land granted should be maintained in every village and Taluk office in the form prescribed in the village and Taluk accounts.

(12) In cases where the land granted is more than 50 cents in extent, the grantee shall plant and maintain at least 5 suitable trees per acre within one year from the date of grant.

Govt.Memo.No.608121/60-2B, Revenue, dated 13.8.1963,
 B.P.Ms.No.1833, dated 30.9.1963.

(ii) Lands acquired at the cost of the grantee:- In the case of land acquired at the cost of private institutions or associations under the provision of the Land Acquisition Act, for educational or other public purposes and placed at the disposal of

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the institutions or associations, the following conditions should be imposed in the place of conditions; (1) to (7) in the previous sub-paragraph:-

(1) The land shall be used for and for no other purpose.

(2) The Government may resume the land wholly or in part, with any buildings thereon, if, in their opinion, the land is required for a public purpose or for conducting mining operations. In the event of such resumption, the compensation payable for the land and trees shall be the amount paid for them by the grantee at the time of the acquisition, including the 30 percent solatium, or the value at the time of resumption together with 30 percent thereof, whichever may be less. If there are buildings on the land, the Government shall pay compensation for them in accordance with provision of condition (3).

(3) In the event of the resumption of the land under condition (2) the compensation payable for the buildings and other improvements shall be the amount paid for them by the grantee at the time of the acquisition including the 30 percent solatium or their value at the time of resumption by the Government together with 30 percent thereof, whichever may be less, together with the initial cost of the value at the time of resumption, whichever may be less, of any buildings erected and other improvement effected on the land by the grantee in accordance with the terms of the grant plus 15 percent of such cost or value.

(4) In the event of the infringement of any of the conditions of the alienation, or in the event of the voluntary relinquishment of the land by the grantee, the Government may resume the land if it is required for a public purpose or if the Government considered the land should be returned to the original owner. If the Government decide not to exercise its power and inform the grantee accordingly, the latter may dispose of the land in any manner he likes, subject to his repaying to the Government the amount of any grant made by them towards the cost of the lands and of the buildings or other improvements. In the event of the resumption of the land under this condition, the compensation payable to the grantee shall be the value of the land at the time of acquisition (less the 30 percent awarded for compulsory acquisition) or its value at the time of resumption whichever may be less, together with the value of buildings and other improvements, at the time of resumption. If there are buildings on the land, which the Government do not require the grantee shall remove them at his cost. In the event of the grantee refusing to remove the buildings, the Government may remove them and realize the cost of the removable by the sale of the materials.

(5) The amount of any grant made by the Government towards the cost of the land or the buildings or other improvements shall be deducted from the compensation payable under conditions (2), (3) and (4).


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Note:- The following should be added at the end of the order of placing at the disposal of land above the signature of the officer executing the grant:-

" In witness whereof, I, (name and designation) acting for and on behalf of and by order and direction of the Governor of Tamil Nadu have hereunto set my hand this day of

B.P.Press 124, dated 14.11.1941
G.O.Ms.3410, Revenue, dated 7.9.1956
B.P.Ms.No. 1316, dated 20.9.1956

Before ordering resumption of the land, the concerned authority shall give a reasonable opportunity to the beneficiary and hear him, if necessary. However, in the case of emergency, the land may be resumed by the competent authority specifically recording the reasons there for.

ATULYA MISRA
PRINCIPAL SECRETARY TO GOVERNMENT

//True copy//


Section Officer
2.3.2019
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5.2.8


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அனுப்பநர்

திருமதிமகேஸ்வரி ரவிக்குமார் இ.ஆ.ய.,
மாவட்ட ஆட்சித்தலைவர்
திருவள்ளூர் மாவட்டம்
திருவள்ளூர்

பெறுநர்

வட்டாட்சியர்
கும்மிடிப்பூண்டி

ந.க. 14398 / 2018 / ஆ2 நாள். 10.06.2019

அய்யா,

பொருள் : நில உரிமை மாற்றம் - திருவள்ளூர் மாவட்டம் - கும்மிடிப்பூண்டி வட்டம் - எண்.11 மாநெல்லூர் கிராம புலஎண்.203/1 மற்றும் பல எண்.10 சூர்ப்பூண்டி கிராம புல எண். 1 மற்றும் பல - பஸ்தோக்கு சிறப்பு பொருளாதார மண்டலம் / தொழிற்புண்கள் அமைக்கும் பொருட்டு சிப்காட் தொழில் வளாக திட்டத்திற்கு நில உரிமை மாற்றம் செய்ய அரசாணை வரப்பெற்றது - நில உரிமை மாற்றம் செய்தல் - தொடர்பாக.

- பார்வை : 1) அரசாணை (பல்வகை) எண். 285 வருவாய் மற்றும் பேரிடர் மேலாண்மை துறை, நில முடிவு பிரிவு, நிழு 5(2) பிரிவு நாள். 03.08.2018
- 2) மாவட்ட ஆட்சியரின் நேர்முக உதவியாளர் (நிலம்) திருவள்ளூர் அவர்களின் கடித ந.க.14898/2018/ஆ2 நாள் 18.09.2018.
- 3) வட்டாட்சியர் கும்மிடிப்பூண்டி அவர்களின் கடிதம் எண் ந.க.4797/ஆ1/2018 நாள்.14.11.2018 மற்றும் 31.12.2018
- 4) பொன்னேரி கோட்டாட்சியர் அவர்களின் கடிதம் எண்.ந.க. 4479/2018/ஆ2 நாள்.31.12.2018
- 5) இவ்வறுவலக கடித எண்.ந.க.14888/2018/ஆ2 நாள்.19.02.2019
- 6) கூடுதல் தலைமைச் செயலர் / நில திருவாக ஆணையர் அவர்களது கடித எண்.பி3/4643/2019 நாள்.27.05.2019
- 7) மேலாண்மை இயக்குநர், தமிழ்நாடு தொழில் வளச்சிக் கழகம் அவர்களது நேர்முக கடிதம் எண். LA/Manallur / 2008 நாள்.01.06.2019

பார்வையில் காணும் கடிதங்களின் மீது துணிகளின் கவனம் கொண்டு விவரமாகிடுவர்.

2) திருவள்ளூர் மாவட்டம், கும்மிடிப்பூண்டி வட்டம், எண்.11 - மாநெல்லூர் கிராம புல எண்.203/1 மற்றும் பல, எண்.10 - சூர்ப்பூண்டி கிராம புல எண். 1 மற்றும் பல ஆகியவற்றில் அடங்கிய மொத்த விஸ்தீரணம் 283.08.0 ஹெக்டேர்ஸ் பஸ்தோக்கு சிறப்பு பொருளாதார மண்டலம் / தொழிற்புண்கள் அமைக்கும் பொருட்டு சிப்காட் தொழில் வளாக திட்டத்திற்கு நிலஉரிமை மாற்றம் செய்ய பிரேரணை அனுப்பப்பட்டு ஒரு சில புலங்கள் நீங்கலாக, ஒரு சில

சுருபு
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19-A, Rukmani Lakshminpathy Road,
Egmore, Chennai-600 008.

நிபந்தனைகளுக்குட்பட்டு கேட்புத்துறையினால் சிங்கட் நிறுவனத்திற்கு நில உரிமை மாற்றம் செய்து பார்வை (1)-ல் காணும் அரசாணையின்படி உத்தரவிடப்பட்டுள்ளது. மேற்படி அரசாணையில் நில உரிமை மாற்றம் செய்யும் நிலங்களுக்கு நிலஉரிமை மாற்றம் செய்யப்படும் நாளின் ஒற்றை சந்தை மதிப்பு அல்லது அரசின் வழிகாட்டி மதிப்பு ஆகியவற்றில் எது அதிகமோ அந்த மதிப்பில் ஏற்கெனவே சிங்கட் நிறுவனம் செலுத்தியுள்ள ரூ.70/- கோடியினை கழித்து மீதமுள்ள தொகையினை வசூலித்துவிடும் நில உரிமை மாற்றம் செய்திட ஆணையிடப்பட்டுள்ளது.

அதன்போல் நில உரிமை மாற்றம் செய்யப்படவுள்ள நிலங்களின் தற்போதய நிலை மற்றும் மேற்படி நிலங்களுக்கு நிலமதிப்பு நிர்ணயம் செய்வது தொடர்பாக வட்டாட்சியர் மற்றும் வருவாய் கோட்டாட்சியர், மாவட்ட வருவாய் அலுவலர் ஆகியோர்கள் புலத்தணிக்கை மேற்கொண்டபோது மேலும் சிலபுலங்களில் வீடுகள், கட்டிடங்கள் மற்றும் கல்லறைகள் மூலம் ஆக்ரமணங்கள் இருப்பதும், அத்துவிட உயர்கல்வித்துறைக்கு நிலமாற்றம் செய்யும் புலத்திற்கு அணுகுபாதை ஒதுக்கீடு செய்தது உட்பட 3.085 ஹெக்டேர்ஸ் நிலங்களை நிலஉரிமை மாற்றம் செய்வதிலிருந்து விலக்களிக்க கோரியும், விலக்களித்தபின்பு உள்ள மொத்த விஸ்தீரணம் 279.99.5 ஹெக்டேர்ஸ் நிலங்களுக்கு நிலமதிப்பாக ரூ.92,71,19,200/- (ரூபாய் தொள்ளாற்று இரண்டு கோடியே எழுபத்து ஓராயிரத்து பத்தொன்பதாயிரத்து இருநூறு மட்டும்) நிர்ணயம் செய்ததில் ஏற்கெனவே சிங்கட் நிறுவனத்தினரால் செலுத்தியுள்ள ரூ.70/- கோடியினை கழித்து மீதமுள்ள ரூ.22,71,19,200/-ளை (ரூபாய் இருபத்து இரண்டு கோடியே எழுபத்து ஓராயிரத்து பத்தொன்பதாயிரத்து இருநூறு மட்டும்) வசூலிக்கலாம் என தெரிவித்து திருத்திய அரசாணை பெற்று வழங்கிடக் கோரி பார்வை (5)-ல் கண்டுள்ள இவ்வலுவலக கடித்தின்படி நில நிருவாக ஆணையருக்கு பிரேரணை அனுப்பப்பட்டுள்ளது.

அதனடிப்படையில் ஆக்ரமணம் கண்டறியப்பட்டுள்ள புலங்களை தவித்து மீதமுள்ள புலங்களுக்கு நில உரிமை மாற்றம் செய்து திருத்திய அரசாணை வழங்கவும் மொத்த நிலப்பரப்பிலிருந்து ஏற்கெனவே கேட்புத்துறையினரால் செலுத்தப்பட்ட நில மதிப்பினை கழித்து மீதமுள்ள நில மதிப்பினை வசூலித்துக் கொண்டும் வருவாய் நிலை எண்.24-ன் கீழ் வழக்கம்ள்ள அனைத்து நிபந்தனைகளுக்குட்பட்டு மேற்படி புலத்தினை பஸ்தோக்கு சிறப்பு பொருளாதார மண்டலம் / தொழிற்புண்கள் அமைக்கும் பொருட்டு சிங்கட் தொழில் வளாக திட்டத்திற்கு நில உரிமை மாற்றம் செய்ய திருத்திய அரசாணையை அரசிடமிருந்து பெற்று வழங்குமாறு பார்வை (6)-ல் கண்டுள்ள நில நிருவாக ஆணையர் அவர்களது கடித்தில் கோரப்பட்டுள்ளது.

இந்நிலையில் இப்புலங்களை நில உரிமை மாற்றம் செய்வது தொடர்பாக பிரேரணை ஏற்கெனவே பல ஆண்டுகளாக நிலுவையில் உள்ள நிலையில், ஏற்கெனவே சிங்கட் நிறுவனம் சென்னைக்கு அருகில் மிகவும் குறைந்த நிலங்களை வைத்துக்கொண்டு தொழில்

நிறுவனங்களுக்கு நிலம் வழங்குவதில் பற்றாக்குறை உள்ள நிலையில் திருத்திய அரசாணை பெறுவது வலத்தாமத்தினை ஏற்படுத்தும் எனவும், மேலும் அருகிலுள்ள மாநிலங்கள் தொழில்முனைவோர்களை ஈர்க்க அதிக வசதிகளை செய்துதருவதால், மேற்படி மாநெல்லூர் மற்றும் சூரப்பூண்டி நிலங்கள் அந்நிறுவனங்களுக்கு பொருத்தமானதாக இருக்கும் எனவும், ஆக்ரமணம் உள்ள பகுதிகளை தவிர்த்து மீதமுள்ள நிலங்களை சிப்காட் நிறுவனத்திற்கு நில உரிமை மற்றும் செய்து தருமாறும், மேற்படி நிலங்களுக்கு அரசால் நிர்ணயம் செய்யும் தொகையினை செலுத்த சிப்காட் நிறுவனம் தயாராக உள்ளதாகவும் சிப்காட் மேலாண்மை இயக்குநர் பார்வை (7)-ல் கண்டுள்ள தனது நேர்முக கடிதத்தில் தெரிவித்துள்ளார்.

இந்நேர்வில் சிப்காட் மேலாண்மை இயக்குநர் கோரிக்கை மற்றும் உடனடியாக தொழிற்புயங்க அமைக்க வேண்டிய அலகியத்தின் அடிப்படையிலும், பார்வை (6)-ல் கண்டுள்ள நில நிருவாக ஆணையர் அவர்கள் திருத்திய அரசாணை கோரி அரசுக்கு பரிந்துரை செய்துள்ள நிலையில் திருத்திய அரசாணை நிறுவனத்தில் வைத்து, சிப்காட் நிறுவனத்திற்கு ஏற்கெனவே விலக்களிக்க கோரி பிளேனை அனுப்பியுள்ள 3.08.5 ஹெக்டேர்ஸ் நிலங்களை கவித்து மீதமுள்ள நிலங்களை வருவாய் நிலை ஆணை எண்.24-ன்படி வழக்கமான அணைத்து நிபந்தனைகளுக்குட்பட்டு சிப்காட் நிறுவனத்திடம் ஒப்படைத்து அதன் விவரத்தினை இவ்வலுவலகத்திற்கு தெரிவிக்குமாறு கேட்டுக்கொள்கிறேன்.

நங்கள் உண்மையுள்ள,
ஓம்/-மகேஸ்வரி சலிக்குமார்,
மாவட்ட ஆட்சித்தலைவர்,
திருவள்ளூர்.

//உத்தரவின்படி//


மாவட்ட ஆட்சியத்தலைவர்
திருவள்ளூர் 16/19

நகல் :

- 1) கூடுதல் தலைமைச் செயலர் / நில நிருவாக ஆணையர்
ஸ்திரலகம், சேப்பாக்கம், சென்னை - 5.
- 2) அரசு கூடுதல் தலைமைச் செயலர், வருவாய் மற்றும் பேரிடர் மேலாண்மைத்துறை
தலைமைச் செயலகம், சென்னை - 9
- 3) மேலாண்மை இயக்குநர்,
சிப்காட்,
எண்.19A, ருக்மணி வடகயிலி சாலை
எழும்பூர், சென்னை - 8


J. KUMARAGURUBARAN, I.A.S.
Managing Director
State Industries Promotion Corporation of Tamilnadu Limited
19-A, Rajmuni Lakshmiyee Road,
Egmore, Chennai-400 008.

LAND DELIVERY RECEIPT

REF :	1. G.O.Ms. No. 285, Revenue and Disaster Management Department, Land Disposal Wing, LD 5(2) Section, dated. 03.08.2019
	2. The District Collector, Thiruvallur letter No. 14888/2018/A2, Dated, 19.02.2019 & 10.06.2019

District: Thiruvallur **Taluk : Gummdipoondi**

Village : Manallur

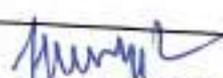
Sl. No.	Survey No.	Net extent H/o. To SIPCOT	Classification	Remarks
1	203/1	1.450	Punjai anadeenam	
2	204/2	3.750	Punjai anadeenam	
3	207/2	3.440	Kallankuthu	
4	208	3.385	Kallankuthu	
5	209/1	2.765	Kallankuthu	
6	209/3	0.745	Kallankuthu	
7	210/1	0.200	Kallankuthu	
8	210/3	3.475	Kallankuthu	
9	211	4.540	Kallankuthu	
10	212/1	0.290	Kallankuthu	
11	212/3	2.880	Kallankuthu	
12	213	3.015	Kallankuthu	
13	214	2.815	Kallankuthu	
14	215	3.375	Kallankuthu	
15	216/1	1.985	Kallankuthu	
16	218/3	0.710	Kallankuthu	
17	217/1	0.280	Kallankuthu	
18	217/3	3.555	Kallankuthu	
19	218/1	3.245	Kallankuthu	
20	218/3	0.340	Kallankuthu	
21	219/1	3.695	Kallankuthu	

J. KUMARAGURUBARAN, I.A.S.

Managing Director

State Industries Promotion Corporation of Tamil Nadu Limited
16-A, Rajmuni Lakshmiapathy Road,
Egmore, Chennai-600 038.

Sl. No.	Survey No.	Net extent H/o. To SIPCOT	Classification	Remarks
22	220/1	3.760	Kallankuthu	
23	223/4	0.690	Kallankuthu	
24	224	4.095	Kallankuthu	
25	225/1	3.735	Kallankuthu	
26	226/1	3.785	Kallankuthu	
27	227/1	2.825	Kallankuthu	
28	227/3	0.870	Kallankuthu	
29	228	4.040	Kallankuthu	
30	229	4.050	Kallankuthu	
31	230	4.015	Kallankuthu	
32	231	4.045	Kallankuthu	
33	232	2.390	Kallankuthu	
34	233/1	2.145	Kallankuthu	
35	234/1	2.085	Kallankuthu	
36	234/3	1.580	Kallankuthu	
37	236/3	2.190	Kallankuthu	
38	238	4.145	Kallankuthu	
39	237/1	0.085	Kallankuthu	
40	237/3	3.925	Kallankuthu	
41	238	4.045	Kallankuthu	
42	239	4.065	Kallankuthu	
43	240	3.280	Kallankuthu	
44	241	4.050	Kallankuthu	
45	242	4.045	Kallankuthu	
46	243	4.010	Kallankuthu	
47	244	4.165	Kallankuthu	
48	245	2.815	Kallankuthu	
49	248	1.760	Kallankuthu	


J. KUMARAGURUBARAN, I.A.S.,
 Managing Director
 State Industries Promotion Corporation of Tamil Nadu Limited
 18-A, Pukkani Lakshminagar Road,
 Egmore, Chennai-600 006.

Sl. No.	Survey No.	Net extent H/o. To SIPCOT	Classification	Remarks
50	249	4.040	Kallankuthu	
51	250	3.770	Kallankuthu	
52	252	3.360	Kallankuthu	
53	253	4.065	Kallankuthu	
54	270/1	13.665	Kallankuthu	
55	270/8	1.170	Kallankuthu	
56	274/1	24.585	Unassessed waste	
57	274/28	10.470	Unassessed waste	
TOTAL		201.750		

HANDED OVER

 ZONAL ENGINEER
 GUMMIDIPOONDI


TAKEN OVER
 ASSISTANT ENGINEER
 SIPCOT INDL. COMPLEX
 GUMMIDIPOONDI

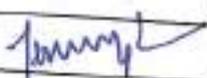

J. KUMARAGURUBARAN, I.A.S.,
 Managing Director
 State Industries Promotion Corporation of Tamil Nadu Limited
 19-A, Rajaram Lakshmi Pathy Road,
 Egmore, Chennai-600 008.

LAND DELIVERY RECEIPT

REF : 1. G.O.Ms. No. 285, Revenue and Disaster Management Department, Land Disposal Wing, LD 5(2) Section, dated, 03.06.2019
 2. The District Collector, Thiruvallur letter No. 14888/2018/A2, Dated, 19.02.2019 & 10.06.2019

District: Thiruvallur
 Village : Soorapoondi
 Taluk : Gummidipoondi

Sl. No.	Survey No.	Extent in hectares (Handed over)	Classification	Remarks
1	1	4.535	Kallankuthu	
2	2	3.215	Kallankuthu	
3	3	3.535	Kallankuthu	
4	4	4.160	Kallankuthu	
5	5	2.930	Kallankuthu	
6	6/2	4.270	Kallankuthu	
7	9/1	0.075	Nanjai annadeenam	
8	9/3	0.160	Nanjai annadeenam	
9	9/5	0.155	Nanjai annadeenam	
10	9/6	0.145	Nanjai annadeenam	
11	9/11	0.225	Nanjai annadeenam	
12	10/1	0.160	Nanjai annadeenam	
13	10/9	0.155	Nanjai annadeenam	
14	12/2	0.160	Nanjai annadeenam	
15	12/3	0.150	Nanjai annadeenam	
16	12/4	0.140	Nanjai annadeenam	
17	12/5	0.150	Nanjai annadeenam	
18	12/6	0.155	Nanjai annadeenam	
19	12/7	0.155	Nanjai annadeenam	
20	12/8	0.155	Nanjai annadeenam	
21	12/9	0.155	Nanjai annadeenam	
22	12/10	0.220	Nanjai annadeenam	
23	12/11	0.045	Nanjai annadeenam	
24	12/12	0.020	Nanjai annadeenam	
25	12/13	0.015	Nanjai annadeenam	
26	12/14	0.035	Nanjai annadeenam	


J. KUMARA GURUBARAN, I.A.S.,
 Managing Director

State Industries Promotion Corporation of Tamil Nadu Limited
 19-A, Rukmani Lakshmi Pathy Road,
 Egmore, Chennai-600 006.

Sl. No.	Survey No.	Extent in hectares	Classification	Remarks
27	12/15	0.220	Nanjai annadeenam	
28	12/16	0.045	Nanjai annadeenam	
29	12/17	0.070	Nanjai annadeenam	
30	13/1	0.315	Nanjai annadeenam	
31	13/2	0.795	Nanjai annadeenam	
32	13/3	0.035	Nanjai annadeenam	
33	13/4	0.150	Nanjai annadeenam	
34	13/5	0.055	Nanjai annadeenam	
35	13/6	0.045	Nanjai annadeenam	
36	13/7	0.050	Nanjai annadeenam	
37	13/8	0.050	Nanjai annadeenam	
38	13/9	0.045	Nanjai annadeenam	
39	15	3.790	Punjai annadeenam	
40	16/1	2.790	Punjai annadeenam	
41	37/1	1.540	Punjai annadeenam	
42	38	3.940	Kallankuthu	
43	39	3.820	Kallankuthu	
44	40	3.155	Kallankuthu	
45	41	3.655	Kallankuthu	
46	42	3.985	Kallankuthu	
47	43	3.465	Kallankuthu	
48	44	4.290	Kallankuthu	
49	45	3.090	Kallankuthu	
50	46	2.780	Kallankuthu	
51	47	4.280	Kallankuthu	
52	48	4.190	Kallankuthu	
53	49	2.285	Kallankuthu	
Total		78.245		

HANDED OVER

ZONAL DEPUTY TALSILDAAR
GUMMIDIPOONDI

TAKEN OVER

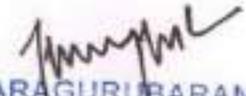
ASSISTANT ENGINEER
SIPCOT INCL. COMPLEX
GUMMIDIPOONDI

J. KUMARAGURUBARAN, I.A.S.,
Managing Director

State Industries Promotion Corporation of Tamil Nadu Limited
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Annexure -5a Line of activities Proposed for SIPCOT Manaliur Industrial Park

No.	Industry sector	Type of Industry	Pollution potential	Schedule as per EIA Notification and its amendments	Category as per CPCB	Area details
1	EC Category Chemical – Non Pharma	Synthetic acrylic polymers and resins	W12, Group A1G, HW1, HW4	5(f)	Red	10 % of plotted area – 47.95 Acres (19.41 Ha)
2		Synthetic resins and water proofing compounds	W12, Group A1G, HW1, HW4	5(f)	Red	
3	Non EC category- E Vehicle and its components manufacturing industries	Electronic and electrical parts manufacturing industries	W11, A1F Group, HW1, HW4	Nil	Red	47.72% of plotted area - 227.51 Acres (92.11 Ha)
4		Electronic and electrical parts assembling industries	Complete dry process	Nil	White	
5	Non EC category- Chemical	Tyre, tube and rubber components	W12, Group A2F1, HW1, HW4	Nil	Red	42.28 % of plotted area - 201.27 Acres (81.49 Ha)
6		Synthetic detergents and soaps (excluding formulation) having waste water generation < 100KLD	W12, Group A1G	Nil	Orange	
7		Paints and varnishes (mixing & blending)	Group A1G, W12, HW1, HW4	Nil	Orange	
8		Printing ink manufacturing	W12, Group A1G, HW1, HW4	Nil	Orange	
9		Spray painting, paint baking, paint shipping	Group A1G, HW1, HW4	Nil	Orange	
10	Non EC category- Automobile &	Automobile manufacturing	A1C; W11; HW3 & HW4	Nil	Red	

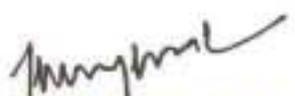

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No.	Industry sector	Type of Industry	Pollution potential	Schedule as per EIA Notification and its amendments	Category as per CPCB	Area details
11	accessories Manufacturing	Automobile parts manufacturing	A1C; W11; HW3 & HW4	Nil	Red	
12	Non EC category- Engineering & Fabrication	Foundry units <5 MT/Hr	A2F1, W15	Nil	Orange	
13		Steel and steel products using furnaces	A2F1, W15	Nil	Orange	
14		Fabrication Industries - dry process	Nil	Nil	White	
15	Non EC category- Glass and Ceramics	Fibre glass production and processing	A2F1, HW1, HW4	Nil	Red	
16		Manufacturing of glass (except Lead glass)	Group A2F1, HW1, HW4	Nil	Orange	
17		Glass ceramics, earthen potter and tile manufacturing	Group A2F2, W12	Nil	Orange	
18	Non EC category- Plastics Manufacturing	Reprocessing of waste plastics	Group A2F2, W12	Nil	Orange	
19		Polythene and plastic processed products manufacturing (virgin products)	Group A1F, W17,	Nil	Green	

Source: As per CPCB classification of industries dated February 29, 2016

Water Pollution

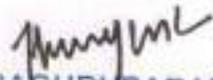
- a) W11 - Waste-water which is polluted and the pollutants are -
- not easily biodegradable (very high strength waste waters having BOD > 5000 mg/l); or
 - toxic; or


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- both toxic and not easily biodegradable. (Presence of criteria water pollutants having prescribed standard limits up-to 10 mg/l or having BOD > 5000 mg/l).
- b) W12 - Non-toxic high strength polluted waste-water having BOD in the range of 1000-5000 mg/l and the pollutants are biodegradable. (Presence of criteria water pollutants having prescribed standard limits from 11 mg/l to 250 mg/l and having BOD strength in the range of 1000-5000 mg/l).
- c) W15 - Waste-water generated from the physical unit operations / processes and which is polluted due to presence of TDS (total dissolved solids) of inorganic nature and of natural origin like fresh-water RO rejects, boiler blow-downs, brine solution rejects etc. (Presence of criteria water pollutants having prescribed standard limits more than 250 mg/l).

Air Pollution

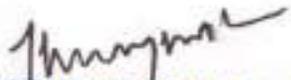
- a) A1A - Presence of criteria air pollutants having prescribed standard limits up - to 2 mg/Nm³
- b) A1B - Presence of criteria air pollutants having prescribed standard from 3 to 10 mg/Nm³
- c) A1C - Presence of criteria air pollutants having prescribed standard from 11 to 50 mg/Nm³
- d) A1D - Presence of criteria air pollutants having prescribed standard from 51 to 250 mg/Nm³
- e) A1E - Presence of criteria air pollutants having prescribed standard from 251 mg/Nm³ & above.
- f) A1F - Generation of fugitive emissions of Particulate Matters which are:
 - Not generated as a result of combustion of any kind of fossil-fuel.
 - Generated due to handling / processing of materials without involving the use of any kind of chemicals.
 - Which can be easily contained / controlled with simple conventional methods
- g) A1G - Generation of Odours which are:
 - Generated due to application of binding gums / cements / adhesives / enamels
 - Which can be easily contained / controlled with simple conventional methods


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- h) A2F1 – All such industries in which the daily consumption of coal/fuel is more than 24 MT/day and the particular (Particulate/gaseous/process) emissions from which can be controlled only with high level equipment's / technology like ESPs, Bag House Filters, High Efficiency chemical wet scrubbers etc.
- i) A2F2 – All such industries in which the daily consumption of coal/fuel is from 12 MT/day to 24 MT/day and the particular (Particulate/gaseous/process) emissions from which can be controlled with suitable proven technology.

Hazardous waste

- a) HW1 – Land disposable HW which requires special care & treatment for stabilization before disposal.
- b) HW2 – Incinerable HW
- c) HW3 – Land disposable HW which doesn't require treatment & stabilization before disposal. High volume low effect wastes such as fly-ash, phosphogypsum, red-mud, slags from pyro-metallurgical operations, mine tailings and ore beneficiation rejects)
- d) HW4 – Recyclable HW, which are easily recyclable with proven technologies


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TENTATIVE LAYOUT FOR PROPOSED SIPCOT INDUSTRIAL PARK

Annexure-5 b

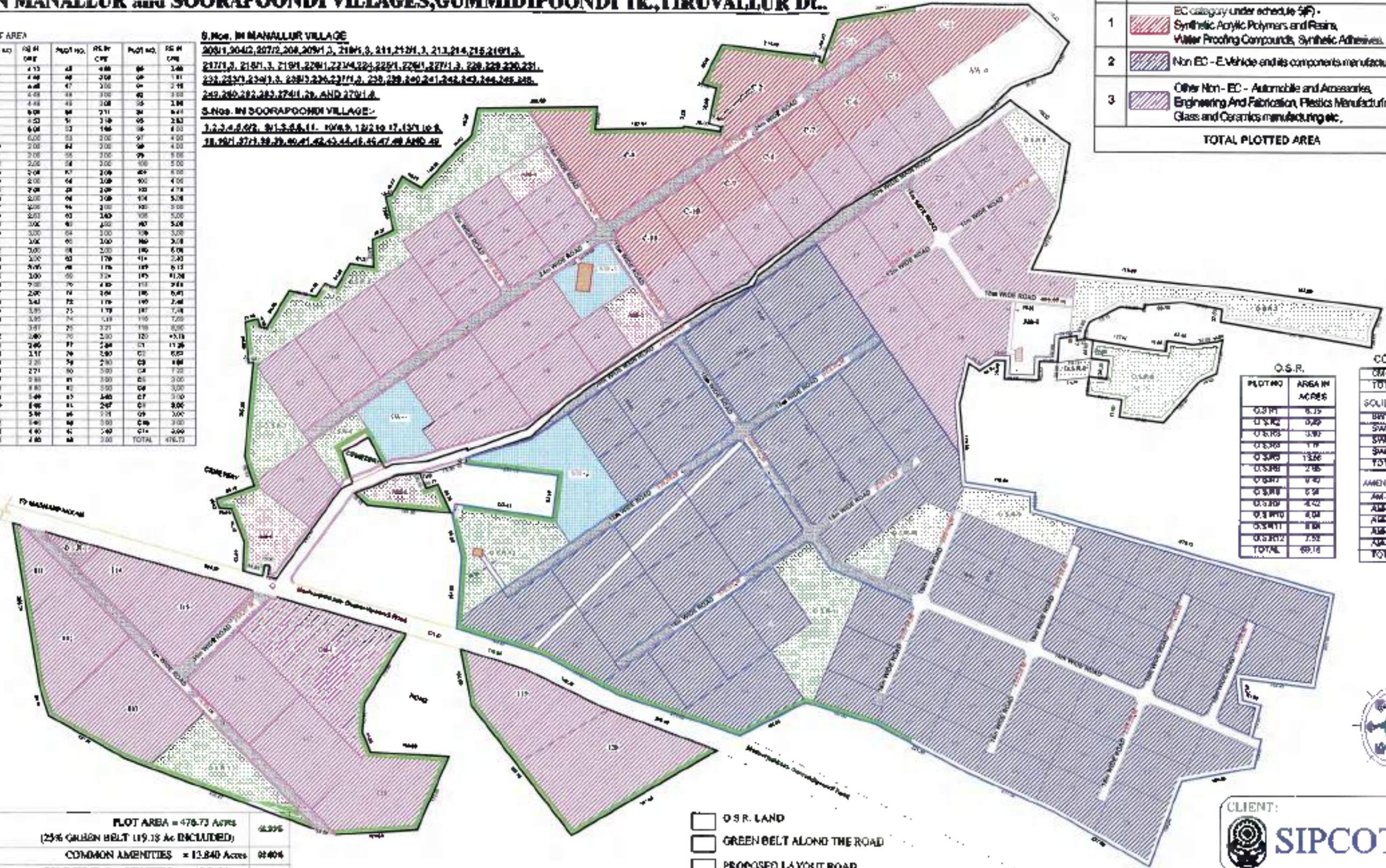
IN MANALLUR and SOORAPOONDI VILLAGES, GUMMIDIPOONDI TK, TRUVALLUR Dt.

PLOT AREA			
PLOT NO	PG M	PGT NO	PG M
1	4.15	43	4.88
2	4.48	46	5.08
3	4.28	47	5.05
4	4.28	48	5.05
5	4.48	49	5.08
6	4.08	50	4.85
7	4.25	51	5.05
8	4.04	52	4.85
9	4.05	53	4.85
10	4.05	54	4.85
11	4.05	55	4.85
12	4.05	56	4.85
13	4.05	57	4.85
14	4.05	58	4.85
15	4.05	59	4.85
16	4.05	60	4.85
17	4.05	61	4.85
18	4.05	62	4.85
19	4.05	63	4.85
20	4.05	64	4.85
21	4.05	65	4.85
22	4.05	66	4.85
23	4.05	67	4.85
24	4.05	68	4.85
25	4.05	69	4.85
26	4.05	70	4.85
27	4.05	71	4.85
28	4.05	72	4.85
29	4.05	73	4.85
30	4.05	74	4.85
31	4.05	75	4.85
32	4.05	76	4.85
33	4.05	77	4.85
34	4.05	78	4.85
35	4.05	79	4.85
36	4.05	80	4.85
37	4.05	81	4.85
38	4.05	82	4.85
39	4.05	83	4.85
40	4.05	84	4.85
41	4.05	85	4.85
42	4.05	86	4.85
43	4.05	87	4.85
44	4.05	88	4.85
TOTAL			476.73

S.Nos. IN MANALLUR VILLAGE
 205/1, 204/2, 207/2, 208, 209/1, 2, 210/1, 3, 211, 212/1, 3, 213, 214, 215, 216/1, 3,
 217/1, 3, 218/1, 3, 219/1, 220/1, 221/4, 222, 223/1, 224/1, 227/1, 3, 228, 229, 230, 231,
 232, 233/1, 234/1, 3, 235/3, 236, 237/1, 3, 238, 239, 240, 241, 242, 243, 244, 245, 246,
 249, 250, 252, 253, 274/1, 2, 3, AND 275/1, 3.

S.Nos. IN SOORAPOONDI VILLAGE:-
 1, 2, 3, 4, 5, 6/2, 8, 11, 12, 13, 14, 15, 16, 17, 18/1, 19, 2,
 21, 22/1, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51

LIST OF INDUSTRIES		
S.NO	DESCRIPTION	AREA
1	EC category under schedule 5(F) - Synthetic Acrylic Polymers and Resins, Water Proofing Compounds, Synthetic Adhesives.	47.95 Acres
2	Non EC - E.Vehicle and its components manufacturing	227.51 Acres
3	Other Non-EC - Automobile and Accessories, Engineering And Fabrication, Plastics Manufacturing, Glass and Ceramics manufacturing etc.,	201.27 Acres
TOTAL PLOTTED AREA		476.73 Acres



O.S.R.		COMMERCIAL	
PLOT NO	AREA IN ACRES	CM1	CM2
O.S.R1	8.15	13.84	13.84
O.S.R2	0.89	SOLID WASTE	
O.S.R3	0.80	SW1	4.53
O.S.R4	1.17	SW2	1.81
O.S.R5	13.28	SW3	3.37
O.S.R6	2.18	SW4	1.80
O.S.R7	0.40	AMENITIES	
O.S.R8	0.58	AM1	4.96
O.S.R9	4.02	AM2	1.84
O.S.R10	4.04	AM3	2.87
O.S.R11	8.68	AM4	7.00
O.S.R12	7.52	AM5	3.47
TOTAL	69.18	TOTAL	13.84

PLOT AREA = 476.73 Acres	100%
(25% GREEN BELT (119.18 Ac INCLUDED))	25.00%
COMMON AMENITIES = 13.84 Acres	2.90%
COMMERCIAL ACTIVITIES = 13.84 Acres	2.90%
SOLID WASTE MANAGEMENT = 24.06 Acres	5.05%
ROAD, STORM WATER DRAIN = 38.86 Acres	8.15%
O.S.R. AREA (TO 12) = 69.18 Acres	14.51%
GREEN BELT 3m ALONG ROAD/SIDE = 15.94 Acres	3.34%
GREEN BELT ALONG PERIPHERY OF SITE = 39.17 Acres	8.22%
TOTAL AREA = 691.58 Acres	

Road Layout	
Width of Road	3.00, 4.50, 6.00
10m Wide Road	119.18
5m Wide Road	24.06
3m Wide Road	15.94
2m Wide Road	39.17

- O.S.R. LAND
- GREEN BELT ALONG THE ROAD
- PROPOSED LAYOUT ROAD
- COMMON AMENITIES
- COMMERCIAL ACTIVITIES
- SOLID WASTE MANAGEMENT
- EXCLUDED FROM PROJECT SITE

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CLIENT: **SIPCOT**

SURVEYED BY: **RELIABLE CONSULTANTS**
 GIS, LAYOUT MAPPING

OFFICE: PLOT NO. 05/4, 2nd STREET, LAKSHMI NAGAR,
 ANNAPURNA - CHENNAI-600 091
 MOBILE: 984074050, 984057952
 E-MAIL: reliableconsultants@gmail.com or
 reliable@reliable.com
 WEBSITE: www.reliableconsultants.com

Google image of Project site



J. Kumaragurubaran
J. KUMARAGURUBARAN, I.A.S.,
Managing Director
State Industries Promotion Corporation of Tamilnadu Limited
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Egmore, Chennai-600 008.

MINUTES OF THE PUBLIC HEARING CONDUCTED ON 03.07.2019 FOR THE "MANALLUR INDUSTRIAL PARK" PROPOSED TO BE DEVELOPED IN 286.065 HECTARE IN MANALLUR & SOORAPOONDI VILLAGES, GUMMIDIPOONDI TALUK, TIRUVALLUR DISTRICT BY M/S. STATE INDUSTRIES PROMOTION CORPORATION OF TAMILNADU LTD (SIPCOT)

- Name of the Project** : "Manallur Industrial Park" proposed to be developed by M/s. State Industries Promotion Corporation of Tamilnadu Ltd (SIPCOT) in 286.065 hectare in Manallur & Soorapoondi Villages, Gummidipoondi taluk, Tiruvallur district for member Industries falling under the category of (i) synthetic organic chemical under category 5(f) and (ii) Integrated Pain Industry under category 5(h).
- Venue** : M/s K.V.C Mahal (A/C), Sathiyavedu Road, (Near Sivan Koil) Madarpakkam, Gummidipoondi, Taluk, Tiruvallur District
- Date & Time** : 3rd July, 2019, 11.00 AM.
- Present** : 1. **Tmt . Mageswari Ravikumar I.A.S**
District Collector, Thiruvallur District, Tamilnadu.
2. **Er. P.Ravichandiran ME.,**
District Environmental Engineer,
TNPC Board, Gummidipoondi.

The list of project proponent and the public attended the public hearing is enclosed as annexure-I.

The District Environmental Engineer, Tamilnadu Pollution Control Board, Gummidipoondi, Thiruvallur District has welcomed the District Collector, officials and the public for the Public Hearing. He said that the M/s. State Industries Promotion Corporation of Tamilnadu Ltd (SIPCOT) has proposed to be develop the "Manallur

Industrial Park" in 286.065 hectare in Manallur & Soorapoondi Villages, Gummidipoondi taluk, Tiruvallur district for member Industries falling under the category of (i) synthetic organic chemical under category 5(f) and (ii) Integrated Pain Industry under category 5(h) for which Environmental Clearance is required from the Ministry of Environment, forest and Climate Change (MoEF &CC), Government of India (GoI), under EIA Notification, 2006. Accordingly the Public Hearing is arranged. He also added that, the public notice informing the Public Hearing was published in two news paper namely "The Indian Express(Tamilnadu)" & "Dhinamani (Chennai)" through DIPR, Govt of TamilNadu and also through local body in the nearby Villages.

**Dr.Nehru Kumar, Project Consultant,
Centre for Environment, Health & Safety, Annamalai University.**

On behalf of M/s. State Industries Promotion Corporation of Tamilnadu Ltd, the consultant has presented in detail about the activity of the proposed Manallur Industrial Park of the SIPCOT including the details about the type of industries to be located, source of water, quantity of water requirement, details of solid waste to be generated, details of waste water to be generated and its mode of conveyance, treatment & disposal and details about the source of emission and the air pollution control measures proposed.

Following the presentation, the public were invited to express their views, concerns and questions, if any by clearly indicating their name and the village, to which he/she belongs to. The views, concerns and queries of the public followed by the clarification from the project proponent are detailed below.

Thiru Ravi. Soorapundi

It is informed that no forest land is available in the vicinity of the proposed site but forest land is available. Whether the Manallur Industrial Park was started or yet to be started by the SIPCOT. The industries such as M/s. ARS Power & Kevin Steel located in the vicinity have made bore well for a depth up to 1000 feet. But in the proposed site it is reported that the bore well by the individual unit is refused. How the water will come in

the Matherpakkam area. What is the necessity of the SIPCOT in this area, it should be established based on the public's need. Already one SIPCOT is existing in the Gummidipoondi then what is the necessity of the one more SIPCOT in this area. It is informed that the biomedical waste will be dumped below the ground but it will be released during raining days and it will affect the health and livelihood of the nearby public. **Hence we no need the Manallur Industrial Park**

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Mrs. Vettriselvi, Manallur.

My residence is located adjacent to this SIPCOT. Development of SIPCOT in the healthy & wealthy village is not acceptable. Large area of agricultural land is available in the vicinity of the proposed site. Agriculture will be affected due to the Industries. Already Gummidipoondi SIPCOT is available within a distance of 30 KM. for that red alert has been given. The proposed SIPCOT is located adjacent to their agricultural land and it will affect the three season harvesting in that area. Air pollution is caused due to heavy lorry transportation and in the evening after 5 PM and night hours the transport gets affected due to this smoke. It is informed that employment opportunity will be available due to the development of SIPCOT, but opportunities are given only to the other state people. Due to industrial development ground water is over exploited and also gets contaminated and affects the children's health. **Hence we no need the Manallur Industrial Park.**

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Gunasekar, Mannallur

The industries which are not affecting the surrounding Environment can be acceptable, but the surrounding environments already get polluted due to the operation of the existing industries. Due to heavy air pollution, white washed wall gets blackened within a week. Due to air pollution, public gets affected by the disease like cancer, typhoid etc. It is informed that employment opportunity will be available due to the

development of SIPCOT, but only security & scavengers post only given to the few local people. There is no possibility of developing Non Polluting Industries in this Manallur SIPCOT, hence we no need the Manallur Industrial Park in our area.

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Prem, Pathirivedu

It reported that the animals and forest will not be affected but there is no protection to the human. Also the industries proposed in this area will be Chemical Industries only and it will affect the Environment. The Great Thiruvalluvar said that there is no world without water, but we are suffering due to contamination of water. **Hence we no need the Manallur Industrial Park.**

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Chittibabu, Pathirivedu

There is no adequate announcement well in advance regarding the "Manallur Industrial Park" proposed to be developed by SIPCOT and the conduction of public hearing in this regard. No awareness has been given to the public in this regard. It was reported that Public Notice was given in the Daily news Papers, but necessary local announcement by way of "Dom, Dom", in the public hearing meeting without hearing the public views, it is reported that SIPCOT is being developed. The conduction of public hearing meeting is not known to many of the people in the surroundings. After 7 Pm vision of root gets affected due to Air Pollution. Agriculture gets affected. The duty of the Government is to protect the public, instead of that the government affect the livelihood of the people in the name of industrial development. **Hence we no need the Manallur Industrial Park.**

Dr.Nehru Kumar, Project Consultant:

Public Notice was given in the Daily news Papers and necessary local announcement made through Auto with loud speaker system. Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

108.Thiru E.Sambath Mannallur

There is no adequate announcement well in advance regarding the "Manallur Industrial Park" proposed to be developed by SIPCOT and the conduction of public hearing, women has not able to participated in the public hearing programme. It is not correct to discuss about the development of SIPOCT without having adequate toilet facilities and without solving the discrepancy in the 100 day employment scheme.

The District Environmental Engineer has intervned and requested to speak only about this project.

There is no action taken on the resolution passed in the Village Saba regarding pollution due to M/s Kevin Steel. It is a rice bowl and setting up the SIPCOT by sacrificing the Agriculture is not acceptable one. There is lot of Palm & cashew tree and it is proposed to setting up the SIPCOT by destroying the above trees. There are 5000 nos of cattle are available in this area and there will not be sufficient land for grazing. There is no solution for water problems but this public hearing is being conducted for establishing new SIPCOT. Agriculture gets affected due to industrialization. The desilting work has not been done in the two lakes located within the proposed site. Due to heavy harvesting of paddy the village is named as **Mannallur**. There is no adequate land allotment for burial ground & disposal of Municipal Solid Waste instead of that all the Porombok land are allotted for this proposal. Instead of developing the SIPCOT importance may be given to Agriculture. Already enough numbers of SIPCOT are avilable in this area there is no need of that **Manallur Industrial Park**.

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Nalan, Madarapakkam

The Govt has to provide all the basic amenities for the living things. This proposal will not affect the mankind. There is lot of SIPCOT are available in this area and what are the development was made for the development of this people?. Most of the families were shifted from this area, since there is no basic amenities and transport available even this 2019. Already we are suffered by lot, from existing SIPCOT and don't push us to death trench by developing this SIPCOT. Hence we no need the Manallur Industrial Park.

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru A.Saravanan, Mannallur

Most of the people are not aware of this public hearing. It should be informed through Village Panchayat. Advertisement through news papers will not reach. Its is proposed to develop SIPCOT in an extent of 286 Ha. but there is no way to development of Agriculture. Desilting of Lakes will improve the agriculture. Due to the operation of M/s Chitrakoot Industries; the public in Gummidipoondi area gets more affected. Similarly it will happen in this area also. Due to heavy industrialization lot of dieses are happening and public suffered lot. In the event of closing most of the industries in the Gummidipoondi SIPCOT there is no need of this proposed SIPCOT.

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Jagankumar, Mannallur

As per EIA Notification 2006, this "Manallur Industrial Park" is categorized as category "A" type. The category "A" type is dangerous & poisonous. It is proposed to develop Syntactic Organic Chemical Industries in this area. The waste generated cannot be recycled. There are more nos of SIPCOT, SIDCO & CRZ prone area. Water and food material are supplied by this area to Tiruvallur District. Tanjore is a rice bowl of Tamil Nadu like that Manallur is the rice bowl of Tiruvallur District. There is no welfare of the nearby public in this project. The cost invested in the project can be utilized for public

for better development of agriculture and thereby increasing the groundwater table. This project cost may be spent on development of green belt in that project area. **Hence we no need the Manallur Industrial Park**

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi

Thiru Vadivel, Mannallur.

It is reported that the details of industries to be located within the proposed site not able to be furnished right now, but the air pollution is reported as 52 %. It is also reported that value is within the standard prescribed by the Govt. After industrializations whether the above 52 % can be increased or not. What is the assurance for that? It is informed that employment opportunity will be available due to the development of SIPCOT, but opportunities are given only to the other state people. More than 5000 people have registered in the employment exchange office. If the proposed land is given to the public, we will develop the agriculture and give employment to more people and develop our livelihood. **Hence we no need the Manallur Industrial Park.**

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi

Thiru Sukumar, Mannallur.

Agriculture is the backbone of the Country. Development of agriculture is the development of nation. The proposed area is the catchment area for the Bootheri Lake. If the Industrial park is developed, how the water will comes to this lake. It is reported that the approval has been obtained from MoEF &CC in 2015, but there is no adequate announcement well in advance regarding the "Manallur Industrial Park" proposed to be developed by SIPCOT and the conduction of public hearing. Already three lakes and one water harvesting pond is located within the proposed site and green belt also developed in some area. But it is reported that no water bodies within the proposed site. How the water will come to this area. **Hence we no need the Manallur Industrial Park.**

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Karthik, Nagarajkandigai

It is reported in the assembly that 12 places were highly polluted. Gummidipoondi is one among that. In the Gummidipoondi area lot of emission after 6 PM and heavy pollution. It can be tolerated by the adult and can't by children. Since the over exploitation of ground water, by the industries there is a possibilities of sea water instruction. Hence we are strongly objecting this proposal, which will affect the public livelihood.

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Anandharaj, New Gummidipoondi

Already air gets polluted in the Gummidipoondi area due to the operation of Industries such as KTV Oil, Chirahoot steel. Due to air pollution Physical exercise such as walking, running result in casualty. Groundwater gets polluted. 12 people death happened due to this air pollution. Many people get affected by the disease like vomiting, faint etc. Pollution happened more than 3-4 times the standard prescribed by the Govt. Hence we no need the Manallur Industrial Park which will affect the public livelihood.

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Srinivasan, Mannallur

There is no way to burial ground, due to the development of SIPCOT what kind of development can be happened to the public. What is the assurance for that?

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

The public hearing meeting was concluded with intimation that the audio & video of the views, concerns and queries of the public followed by the clarification from the project proponent were recorded and it will be sent to the Ministry of Environment, forest and Climate Change (MoEF &CC), Government of India (GoI).

Further, details of person participated in the public hearing along with written submission and compact disc containing audio & video recording with photographs of the public hearing are enclosed herewith.


District Environmental Engineer,
TNPC Board, Gummidipoondi.


District Collector,
Thiruvallur District


Annexure -6b

Issues Raised in Public Hearing and Reply with commitment

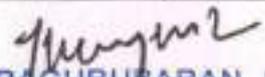
Public Consultation:

The proposed project falls under Schedule 7(c), category A, as per EIA Notification 2006 and its amendments. As per the ToR extension issued vide F.No. 21-59/2015-IA.III (Pt.) dated 13th November 2018, Public Hearing was conducted for the project on 03/07/2019 at K.V.C.Mahal, Sathyavedu Road (Near Sivan Koil), Madarpakkam, Gummidipoondi Taluk, Thiruvallur District, under the chairmanship of Tmt. Mageswari Ravikumar I.A.S -District Collector, Thiruvallur district, assisted by District Environmental Engineer -Er.P.Ravichandran M.E.

Public Hearing Proceedings is enclosed as **Annexure -6a**. The query raised during Public Hearing and the reply along with commitment are given in table below.

Table 1 Issues raised during Public Hearing and reply

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
1	Thiru. Ravi Soorapoondi	It is informed that no forest land is available in the vicinity of proposed site, but forest land is available.	There is no forest land within the Industrial Park area. The nearest forest is Nemalur RF which is 1.13 Km towards WSW. A detail of Reserve Forests within the study area with distance and direction from project site boundary is given in Table 2-1 of EIA document.	
		Whether Manallur Industrial Park is started or yet to be started by SIPCOT.	The Industrial Park is yet to start.	

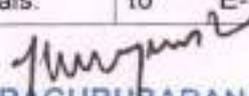

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S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		<p>The industries such as M/s.ARS Power and Kevin Steel located in the vicinity, have made bore well for a depth up to 1000 ft. But in the proposed site it is reported that the bore well by individual unit is refused. How the water will come in Matherpakkam area.</p>	<p>No borewell will be permitted in the proposed Industrial Park. The same will be stipulated as a condition in the Allotment Order and Lease Deed.</p> <p>The fresh water and TTRO water will be sourced from CMWSSB.</p>	
		<p>What is the necessity of SIPCOT in this area, it should be established based on public's need? Already one SIPCOT is existing in Gummidipoondi, then what is the necessity for one more SIPCOT in this area?</p>	<p>Considering the demand for industrial space near Chennai/Andhra Border, the site is selected. The entire extent of land in Gummidipoondi Industrial Complex has already been allotted to the industries and in Thervoykandigai Industrial Park only few plots are vacant.</p>	
		<p>It is informed that the Bio medical wastes will be dumped, below ground, but it will be released during rainy days and it will affect the health and livelihood of nearby Public. Hence we don't need the Manallur Industrial park.</p>	<p>No biomedical waste will be generated from proposed project.</p>	



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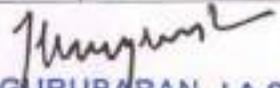
S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
2	Mrs. Vettriselvi Manallur	My residence is located adjacent to this SIPCOT. Development of SIPCOT in healthy and wealthy village is not acceptable. Large area of agricultural land is available in the vicinity of the proposed site. Agriculture will be affected due to the industries. Already Gummidipoondi SIPCOT is available within a distance of 30 Km, for that red alert is given. The proposed SIPCOT is adjacent to their agricultural land and it will affect the three season harvesting in that area.	The project has been reworked as 10% of EC Category viz. Non-Pharma 5(f) Categories and the balance 90% will be Non-EC Category industries viz. Automobile and its auxiliary industries, E-Vehicle, etc., Every member industry will have the required APC measures and the Ambient air quality as per the Statutory standards will be maintained.	
		Air pollution is caused due to heavy lorry transportation and in the evening after 5 PM and night hours, the transport gets affected due to this smoke.	SIPCOT will provide proper paved roads within the Industrial park to prevent dust emissions. The individual industries will adapt to low Sulphur diesel vehicles so that air pollution due to transportation is minimised.	
		It is informed that employment opportunity will be available due to the development of SIPCOT, but opportunities are given only to the other state people.	The Industrial Park will provide direct employment to 5000 people as per the TN Government guidelines. Employment will be provided as per the skills, preference will be given to locals.	As part of CER Activity, Skill development centre will be established for providing training related to E-Vehicle/ auto


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S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
				components repairing, etc to local people at cost of Rs.25 lakhs .
		Due to the industrial development, ground water is over exploited and gets contaminated and affects children's health. Hence we don't need Manallur Industrial park.	No borewell will be permitted in the proposed Industrial Park. The same will be stipulated as a condition in the Allotment Order and Lease Deed	As a part of CER activity, Health camps will be conducted once in six months by SIPCOT at Manallur and Soorapoondi villages to ensure the health condition of local people. The cost for the same will be around Rs.15 Lakhs.
3	Thiru. Gunasekar - Manallur	The industries which are not affecting the surrounding environment can be acceptable, but the surrounding environment already gets polluted due to operation of existing industries.	The project has been reworked as 10% of EC Category viz. Non-Pharma 5(f) Categories and the balance 90% will be Non-EC Category industries viz. Automobile and its auxiliary industries, E-Vehicle, etc.,	


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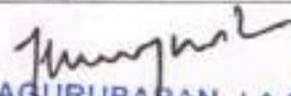
S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		<p>Due to heavy air pollution, whitewashed walls get blackened within a week.</p> <p>Due to air pollution, the public gets affected by diseases like cancer, Typhoid etc.</p>	<p>SIPCOT will ensure and monitor that all the industries proposed within this Industrial Park have their APC measures and ZLD Concept along with proper storage area for Hazardous wastes.</p>	<p>As a part of CER activity, Health camps will be conducted once in six months by SIPCOT at Manallur and Soorapoondi villages to ensure the health condition of local people. The cost for the same will be around Rs.15 Lakhs</p>
		<p>It is informed that employment opportunity will be available due to the development of SIPCOT, but security and Scavengers post is only given to local people.</p>	<p>The Industrial Park will provide direct employment to 5000 people as per the TN Government guidelines.</p> <p>As per the skill requirements of the job, local people will be considered and preferred.</p>	<p>As part of CER Activity, Skill development centre will be established for providing training related to E-Vehicle/ auto components repairing, etc to local people at cost of Rs.25 lakhs .</p>
		<p>There is no possibility of developing non polluting industries in this Manallur SIPCOT. Hence we don't need the Manallur Industrial Park in our area.</p>	<p>SIPCOT will ensure and monitor that all the industries proposed within this Industrial Park have their APC measures and ZLD Concept along with proper storage area for Hazardous wastes.</p>	


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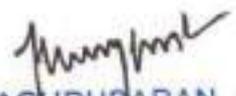
S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
4	Thiru. Prem Pathirivedu	It is informed that animals and forests will not be affected but there is no protection to the Human. Also the industries proposed in this area will be chemical industries only and it will affect the environment.	The project has been reworked as 10% of EC Category viz. Non-Pharma 5(f) Categories and the balance 90% will be Non-EC Category industries viz. Automobile and its auxiliary industries, E-Vehicle, etc.,	
		The great Thiruvalluvar said "There is no world without water" but we are suffering due to contamination of water. Hence we don't need Manallur Industrial Park.	There will not be ground water extraction for the project. Entire Water requirement for the proposed IP will be met from CMWSSB and recycling of treated wastewater. Individual industries will be mandated for Zero liquid discharge concept to reduce the consumption of fresh water and maximise recycling of treated sewage/ effluent as applicable.	
5	Thiru. Chittibabu - Pathirivedu	There is no adequate announcement well in advance regarding the Manallur Industrial park proposed to be developed by SIPCOT and the conducting of Public Hearing in this regard. No awareness was given to the Public in this regard. It was reported that Public notice was given in the news papers, but necessary local	TNPCB has given Advertisement in English (Indian Express) and Tamil (Thina Mani) newspapers on 01.06.2019. Apart from this, announcement regarding Public hearing was made through loud speaker system by auto.	


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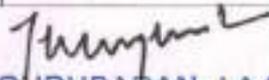
S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		<p>announcement in the way of "Dom Dom.</p> <p>In the public meeting, without hearing the public views, it is reported that SIPCOT is being developed.</p> <p>The conduction of Public Hearing meeting is not known to many of the people in the surroundings.</p>		
		<p>After 7 PM, vision of route gets affected due to air pollution. Agriculture gets affected. The duty of the Government is to protect the public, instead, the Government affects the livelihood of the people, in the name of industrial development.</p> <p>Hence we don't need, Manallur Industrial Park.</p>	<p>In the proposed Industrial Park, individual industries will be mandated to provide all pollution control measures as per CPCB/TNPCB norms to minimise the effect of the project on the nearby agricultural land and communities. Apart from this 243.437 Acres (35.20% of area) of land is proposed for green belt development which will act as buffer.</p>	<p>As a part of CER activity, Health camps will be conducted once in six months by SIPCOT at Manallur and Soorapoondi villages to ensure the health condition of local people. The cost for the same will be around Rs.15 Lakhs.</p>
6	Thiru. E.Sambath-Mannallur	<p>There is no adequate announcement well in advance regarding the "Manalur Industrial Park", proposed to be developed by SIPCOT and conducting of Public Hearing. Women were not able to participate in the Public Hearing</p>	<p>TNPCB has given Advertisement in English (Indian Express) and Tamil (Thina Mani) newspapers on 01.06.2019. Apart from this, announcement regarding Public hearing was made through loud speaker system by auto.</p>	


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S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		Programme.		
		It is not correct to discuss about the development of SIPCOT, without having adequate Toilet facilities and without solving the discrepancy in the 100 day employment programme.	SIPCOT will provide 5 no. of toilets each at Manallur and Soorapoondi. Further, Skill development Centre will also be provided for training local people related to E - Vehicle/ auto components repairing, etc.	As a part of CER activity, 10 no. of common toilets will be constructed. 5 Nos at Manallur Village and 5 Nos at Soorapoondi village. Total cost recurred towards construction, operation and maintenance of 10 common toilets will be Rs. 25 Lakhs. Further, Skill development centre will be established for providing training related to evehicle/ auto components repairing,etc to local people at cost of Rs.25 lakhs .


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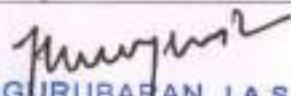
S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		There is no action taken on the resolution passed in the village Saba due to M/s.Kavin Steel. It is rice bowl and setting up SIPCOT by sacrificing the agriculture is not acceptable one.	In the proposed Industrial Park, individual industries will be mandated to provide all pollution control measures as per CPCB/ TNPCB norms to minimise the effect of the project on the nearby agricultural land and communities. Apart from this 243.437 Acres (35.20% of area) of land is proposed for green belt development which will act as buffer.	
		There is lot of Palm and Cashew trees and it is proposed to set up the SIPCOT by destroying the above trees. There are 5000 number of cattle available in the area and there will not be sufficient land for grazing.	Total number of trees at site is 2153 nos. The trees are as follows: Mango tree – 1294, Guava tree – 89, Sapota tree – 24, Coconut tree – 471 Eucalyptus – 38, Amla – 95, Cashew – 16 Banyan tree – 2, Papaya tree – 19, Neem tree – 50, Palm tree – 1, Teak – 48 and Naga – 6 The trees available along the periphery of site and OSR area will be retained to the maximum extent. As per the proposed green belt about 1.1 lakhs trees will be developed in the proposed green belt by SIPCOT and the allotted industries.	


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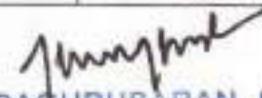
S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		<p>There is no solution for water problems and the Public hearing is being conducted for establishing new SIPCOT. Agriculture gets affected due to industrialization.</p>	<p>There will not be any ground water abstraction for the project. Entire Water requirement will be met from CMWSSB and recycling of treated wastewater.</p>	<p>As a part of CER Activity, 75 KLD of water will be provided for Manallur villages by SIPCOT along with 75 KLD water storage tank also Sewerage system will be provided. Cost towards the same will be around Rs.50 Lakhs.</p>
		<p>Desilting has not been done in the two lakes located within the proposed site. Due to heavy harvesting of Paddy, the village is named Manallur.</p>	<p>Desilting will be undertaken by SIPCOT in the two nearby lakes.</p>	<p>As a part of CER activity desilting will be undertaken in the nearby 2 lakes. The Cost for same will be around Rs.15 lakhs.</p>
		<p>There is no adequate land allotment for "Burial Ground" and disposal of Municipal Solid waste. Instead of that, all the Poremboke land is allotted for this proposal. Instead of developing SIPCOT, importance may be given to agriculture.</p>	<p>As per the Thiruvallur Collector Letter dated 10.06.2019, the burial ground is excluded from the proposed Industrial Park area and SIPCOT will provide and maintain access road for the burial ground.</p>	


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S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		Already enough number of SIPCOTs are available in this area. There is no need of Manallur Industrial park.	Nearby SIPCOT Industrial Complex/ Park are Gummidipoondi and Thervoykandigai. Almost entire extent of the land in Gummidipoondi Industrial Complex has already been allotted to industries. Further, only few plots are available in Thervoykandigai Industrial Park. Considering the demand for industrial space near Chennai/Andhra Border, the site is selected.	
7	Thiru. Nalan - Madarapakkam	The Government has to provide all the basic amenities for living things. This proposal will not affect mankind. There are lot of SIPCOT available in the area and what are the developments made for this people?	It was mentioned to the Participant that such issues will be addressed with the guidance of district administration to the extent possible. SIPCOT will provide basic amenities to nearby villages such as water supply, sanitation, health care, etc. under CER.	SIPCOT will earmark Rs.3.75 crores for undertaking the following CER Activities in Manallur, Soorapoondi, Ramachandrapuram, Madharapakkam, Sathyavedu, Irukulam villages: <ul style="list-style-type: none"> • Construction of toilets • Providing water supply and sewerage system • Conducting Health camps

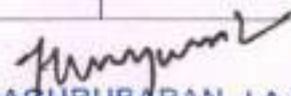

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S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
				<ul style="list-style-type: none"> • Desliting of two nearby lakes • PC with a printer and scanner to the Government schools. • Drinking water dispensers for the Government schools. • Class room furniture for the Government schools. • Sports equipments for the Government schools. • Solar lighting facilities for the Government schools. • Providing Medical equipments for primary health centre. • Providing trolleys to

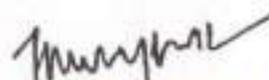


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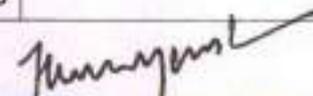
S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
				<p>Local Panchayat for transport of Municipal Solid Waste</p> <ul style="list-style-type: none"> • Solid Waste Disposal Bins • Construction of Rainwater Harvesting Pits • Avenue Plantation • Solar lighting facilities • Scientific Support/Awareness to farmers • Skill development for youth
		<p>Most of the families were shifted from this area, since there is no basic amenities and transport available even in 2019.</p>	<p>It was mentioned to the Participant that such issues will be addressed with the guidance of district administration to the extent possible.</p> <p>Due to development of this Industrial Park, transportation facilities and basic amenities will improve in the nearby vicinity.</p>	


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S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		Already we are suffering a lot from existing SIPCOT and don't push us to death trench by developing this SIPCOT. We don't need Manallur Industrial Park.	To minimise the impact due to proposed IP, proper Air Pollution Control Measures, Zero Liquid Discharge Concept, waste minimisation measures will be mandated to individual industries to minimise the effect of pollution due to proposed project. Apart from this 35.20% of green belt area is proposed as buffer.	
8	Thiru Saravanan - Manallur	A. Most of the people are not aware of this Public Hearing. It should be informed through village Panchayat. Advertisement through news papers will not reach. It is proposed to develop SIPCOT in an extent of 286 Ha, but there is no way for development of agriculture. Desilting of lakes will improve agriculture.	TNPCB has given Advertisement in English (Indian Express) and Tamil (Thina Mani) newspapers on 01.06.2019. Apart from this, announcement regarding Public hearing was made through loud speaker system by auto. The present proposal is for industrial development and the member was told that GoTN also execute exclusive projects for agricultural projects with grants.	As a part of CER activity desilting will be undertaken in the nearby 2 lakes .Cost for Desilting will be around Rs.15 lakhs.


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S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		<p>Due to operation of M/s.Chitrakoot Industries, the public in Gummidipoondi area gets more affected. Similarly it will happen in this area also.</p> <p>Due to heavy industrialisation, lots of diseases occur and public suffer a lot.</p>	<p>Proper Air Pollution Control Measures, Zero Liquid Discharge Concept, waste minimisation measures will be mandated to individual industries to minimise the effect of pollution due to proposed project. Apart from this 35.20% of green belt area is proposed as buffer. Hence the impact due to the proposal will be minimal.</p>	
		<p>In the event of closing most of the industries in Gummidipoondi SIPCOT, there is no need for this proposed SIPCOT.</p>	<p>Nearby SIPCOT Industrial Complex/ Park are Gummidipoondi and Thervoykandigai. Almost entire extent of the land in Gummidipoondi Industrial Complex has already been allotted to industries. Further, only few plots are available in Thervoykandigai Industrial Park.</p> <p>Considering the demand for industrial space near Chennai/Andhra Border, the site is selected.</p>	
9	Thiru. Jagankumar - Manellur	<p>As per EIA Notification 2006, this "Manallur Industrial park is categorised as Category A. The Category A type is dangerous and poisonous. It is proposed to develop Synthetic Organic Chemicals in the area. The waste generated cannot be recycled.</p>	<p>The project has been reworked as 10% of EC Category viz. Non-Pharma 5(f) Categories and the balance 90% will be Non-EC Category industries viz. Automobile and its auxiliary industries, E-Vehicle, etc.,</p> <p>Proper Air Pollution Control Measures, Zero</p>	


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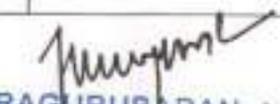
S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
			Liquid Discharge Concept, waste minimisation measures will be mandated to individual industries to minimise the effect of pollution due to proposed project. Apart from this 35.20% of green belt area is proposed as buffer. Hazardous waste generated for individual industries will be properly stored and disposed as per Hazardous and other wastes (Management handling and Transboundary movement) amendment rules 2016.	
		There are more number of SIPCOT, SIDCO & CRZ prone area.	Nearby SIPCOT Industrial Complex/ Park are Gummidipoondi and Thervoykandigai. Almost entire extent of the land in Gummidipoondi Industrial Complex has already been allotted to industries. Further, only few plots are available in Thervoykandigai Industrial Park. Considering the demand for industrial space near Chennai/Andhra Border, the site is selected.	


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S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		<p>Water and food material are supplied by this area to Thiruvallur District. Tanjore is the rice bowl of Tamil Nadu, like that Manellur is the rice bowl of Thiruvallur District.</p> <p>There is no welfare for the nearby public due to the project.</p> <p>The cost utilised in the project can be utilised for better development of agriculture and thereby increasing the ground water table. This project cost may be spent on the development of green belt in that project area. Hence we don't need to Manallur Industrial park.</p>	<p>There will be an opportunity for job at different cadres and work force upon establishment of this Industrial Park.</p> <p>This project will have positive impact on the socio economic status of the surrounding human environment and increased inflow to the Tamil Nadu Government.</p> <p>Proposed Industrial Park will help in revenue generation for the State as well as to the Country.</p>	<p>SIPCOT will provide 10 no. of common toilets (5 in Manallur Village and 5 in Soorapoondi village), 75 KL water supply to Manallur village, Health camps at Manallur and Soorapoondi Villages as part of CER activities.</p>
10	Thiru. Vadivel - Manellur	<p>It is reported that the details of industries to be located within the proposed site is not able to furnish right now, but the air pollution is reported as 52%. It is also reported that the value is within the standard prescribed by the Government.</p> <p>After industrialization, whether the 52% can be increased or not. What is the assurance for that?</p>	<p>SIPCOT will ensure and monitor that all the industries proposed within this Industrial Park have their APC measures and ZLD Concept along with proper storage area for Hazardous wastes.</p>	


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 Managing Director
 State Industries Promotion Corporation of Tamilnadu Limited
 19-A, Rukmani Lakshmi pathy Road,
 Egmore, Chennai-600 008.

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		<p>It is informed that employment opportunities will be available due to the development of SIPCOT, but opportunities are given only to other state people. More than 5000 people have registered in the employment exchange office.</p> <p>If the proposed land is given to Public, we will develop agriculture and give employment to more people and develop our livelihood. Hence we don't need Manallur Industrial Park.</p>	<p>The Industrial Park will provide direct employment to 5000 people as per the TN Government guidelines.</p> <p>As per the skill requirements of the job local people will be considered and preferred.</p>	<p>As part of CER Activity, Skill development centre will be established for providing training related to E vehicle/ auto components repairing, etc to local people at cost of Rs.25 lakhs .</p>
11	Thiru.Sukumar - Manellur	<p>Agriculture is the backbone of our country. Development of agriculture is the development of nation. The proposed area is catchment area for the Bootheri lake. If the Industrial Park is developed, how water will come to this lake?</p> <p>It is reported that, the approval has been obtained from MoEF&CC in 2015, but there is no adequate announcement well in advance regarding the "Manallur Industrial Park" proposed to be developed by SIPCOT and the condition of Public Hearing.</p>	<p>The participant was told that no water source in the project area will be sourced for water requirement of the proposed IP.</p> <p>The existing drainage system will not be disturbed due to the proposed Industrial Park by development of appropriate storm water management system.</p> <p>Terms of Reference was obtained for this project in 2015. Public Hearing is conducted as a part of the conditions in Terms of Reference issued by MoEF&CC.</p>	<p>There are two water bodies adjacent to the project site. As a part of CER activity, the lakes will be desilted and will be used for storage of rainwater during monsoon</p>

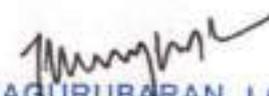


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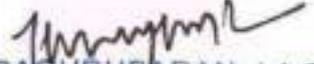
S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
		<p>Already 3 lakes and one rain water harvesting pond is located within the proposed site and green belt also developed in some area. But it is given that no water bodies within the proposed site. How the water will come to this area.</p> <p>Hence we don't need the Manallur Industrial Area.</p>	<p>Water bodies are excluded from the project site and the revised layout is enclosed as Annexure -5b. As per the revised layout there is no water body within the site. The water body near the site will not be affected and 15 m green belt is proposed along the periphery of the project site.</p>	
12	Thiru. Karthik - Nagarajkandigai	<p>It is reported in the assembly that 12 places were highly polluted. Gummidipoondi is one among them. In Gummidipoondi area lot of emissions after 6 PM and heavy pollution. It can be tolerated by adult, but not by children.</p>	<p>SIPCOT will ensure and monitor that all the industries proposed within this Industrial Park have their APC measures and ZLD Concept along with proper storage area for Hazardous wastes.</p>	<p>As a part of CER activity, Health camps will be conducted once in six months by SIPCOT at Manallur and Soorapoondi villages to ensure the health condition of local people. The cost for the same will be around Rs.15 Lakhs.</p>
		<p>Since the ground water is over exploited by the industries, there is a possibility of sea water intrusion. Hence we are strongly objecting the proposal, which will affect the public livelihood.</p>	<p>No ground water abstraction will be allowed for the project. Entire water requirement will be met from CMWSSB and recycling of treated wastewater.</p>	


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S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
13	Thiru. Anandharaj - New Gommidiipoondi	Already air gets polluted in the Gummidipoondi area due to operation of industries such as KTV Oil, Chitrakoot Steel. Due to air pollution, physical exercises such as walking, result in casualty.	SIPCOT will ensure and monitor that all the industries proposed within this Industrial Park have their APC measures and ZLD Concept along with proper storage area for Hazardous wastes.	As a part of CER activity, Health camps will be conducted once in six months by SIPCOT at Manallur and Soorapoondi villages to ensure the health condition of local people. The cost for the same will be around Rs.15 Lakhs.
		Ground water gets polluted. 12 people died due to this pollution. Many people are affected by vomiting, faint etc. Pollution level is 3-4 times more than Government's, prescribed limit. Hence we don't need the Manallur Industrial Park, which will affect the public livelihood.	No ground water abstraction will be allowed for the project. Entire water requirement will be met from CMWSSB and recycling of treated wastewater.	
14	Thiru. Srinivasan - Manallur	There is no way to the burial ground, due to the development of SIPCOT.	SIPCOT will provide and maintain roads for burial ground. The layout is revised accordingly.	


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S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
				<ul style="list-style-type: none"> • Class room furniture for the Government schools. • Sports equipments for the Government schools. • Solar lighting facilities for the Government schools. • Providing Medical equipments for primary health centre. • Providing trolleys to Local Panchayat for transport of Municipal Solid Waste • Solid Waste Disposal Bins • Construction of Rainwater Harvesting Pits • Avenue Plantation


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 Eramba, Chennai - 600 011

S.No	Issue Raised by	Issue	Reply by SIPCOT	Commitment on fund allocation
				<ul style="list-style-type: none"> • Solar lighting facilities • Scientific Support/Awareness to farmers • Skill development for youth

Note:

As seen above, SIPCOT is allocating **INR 3.75 Crores** for the above mentioned **CER activities**.


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Annexure- 7a Manallur IP water requirement calculation

Sl. No	Description	Total Water (KLD)	Fresh Water (KLD)	Water from TTRO (KLD)	Recycled Water (KLD)	Sewage Generation (KLD)	Effluent generation (KLD)	ATFD	Treatment Method
1	Domestic water								
	Domestic	150	150	-	-	135	-		STP
	Flushing	75	-	-	75	75	-		STP
2	Green Belt	3450	-	3315	135	-	-		-
3	Process								
	10% EC Category industries	2948	400	423	2125	-	2358	294	ETP
	90% Non-EC Category industries	1500	275	380	845	-	1050		ETP
4	Utilities	429	-	221	208	-	63.8		ETP
5	To Manallur village water supply (CER)	75	75	-	-	65*	-		STP
	Total (KLD)	8627	900	4339	3388	275	3472	294	
	Total (MLD)	8.63	0.9	4.34	3.39	0.275	3.47	0.294	

Note:

- *Sewage of 65 KLD will be treated in separate STP and treated sewage will be used for avenue plantation in Manallur Village.
- TTRO water will be filtered and disinfected and used by individual industries.
- Loss (1.43 MLD)

Concept:

1. Domestic water

- Water requirement as per National Building Code, for industries water requirement is 45 l/day (30 l/day for domestic and 15 l/day for flushing)

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- b. 90% of domestic water is taken as sewage and 100 % of flushing water is taken as sewage
- c. Domestic water requirement is calculated for 5000 manpower.

2. Green Belt

- a. Water requirement for green belt – 35 KLD/hectare
- b. Total Area of green belt – 243.437 acres (98.56 hectare)
- c. Out of which Water from TTRO will be use for green belt in OSR area and road side and along periphery of the site.
- d. Recycled water from individual industries will be used for Green belt in individual industries.

3. Process

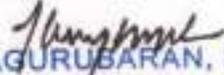
- a. Process water for 10% EC category (11 nos. of industry) is taken for Non-Pharma synthetic organic compounds industry average norms. Quantity of effluent generated is taken for Non-Pharma synthetic organic compounds industry is 80% of process water requirement.
- b. Process water for 90% of Non-EC Category industry (428.78 acres) is calculated as 3.5 KLD/acre. 70% of process water requirement is taken as effluent.

4. Utilities

- a. Utilities water is taken for industry average norms. Quantity of effluent generated is taken for industry average norms.

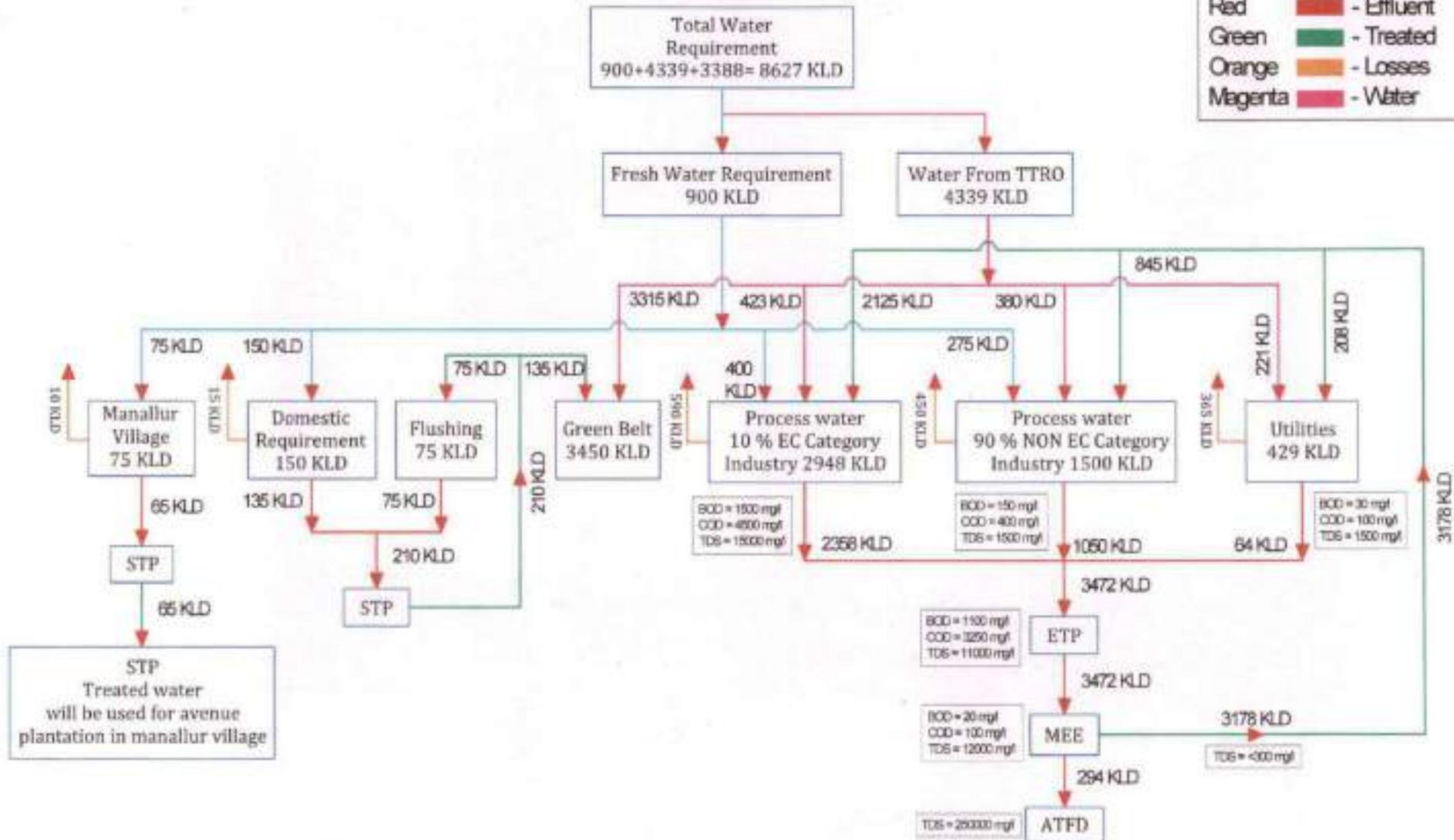
Summary

1. Total water requirement	=	8.63 MLD
2. Fresh water requirement	=	0.9 MLD (SIPCOT has approval from CMWSSB for 1.3 MLD)
3. Water from TTRO	=	4.34 KLD (SIPCOT has approval from TTRO for 5 MLD)
4. Recycled water	=	3.39 MLD


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WATER BALANCE DRAWING

Blue	■	- Fresh Water
Red	■	- Effluent
Green	■	- Treated
Orange	■	- Losses
Magenta	■	- Water



NOTES:
1. Not To Scale.
2. For Planning Purpose Only.

TITLE:
WATER BALANCE DRAWING

CLIENT:
Ms. SIPOOT INDUSTRIAL PARK,
MANALLUR.

J. Kumaragurubaran
J. KUMARAGURUBARAN, I.A.S.,
Managing Director
State Industries Promotion Corporation of Tamil Nadu Limited
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Lakshminipathy Road,
Egmore, Chennai-600 008.

Annexure-8

Ground water table near project site

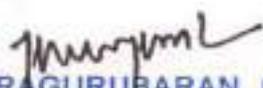
Ground water table was identified at four locations near the project site using peizometer on 14/02/2020. The details are given in table below.

Well No	Location	Latitude	Longitude	Ground depth
1.	Kundelimedu	13°27'19.71"N	80° 1'22.49"E	4 m
2.	Manellore	13°27'23.01"N	80° 1'1.52"E	3.5 m
3.	Sanapoothur	13°27'49.59"N	80° 2'12.11"E	4 m
4.	Soorapoondi	13°26'45.47"N	80° 2'42.43"E	2.2 m

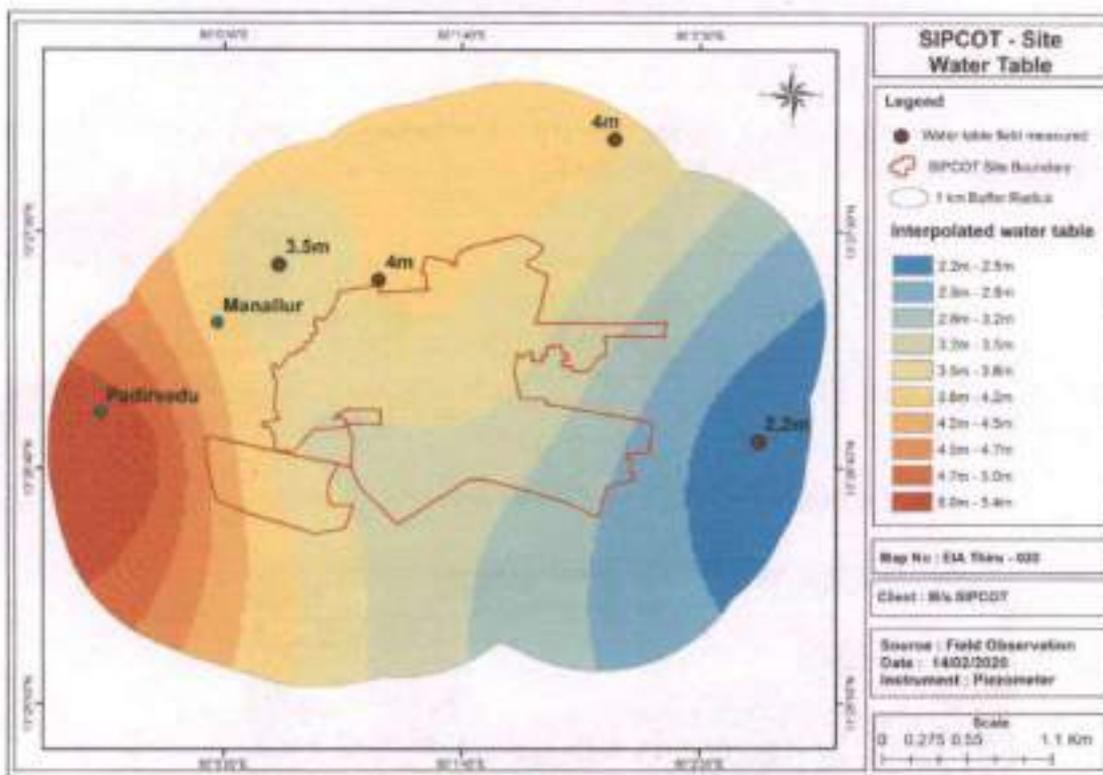
Photographs of ground water level monitoring



Based on the ground water table, the map was prepared for the project site and the same is given below.


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Water table map



The water table at site varies from 2.5 m to 4.2 m below ground level.

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State Industries Promotion Corporation of Tamil Nadu Limited

(A Government of Tamil Nadu Undertaking)

Regd. Office : 19-A, Rukmani Lakshmi Pathy Road, Post Box No. 7223, Egmore, Chennai - 600 008.
Phone : 28554787, Fax : 044-28513978, Website : www.sipcot.in

Projects/EIA/Manallur/2020

Date: 21.05.2020

The Member Secretary IA III
Ministry of Environment Forests and Climate Change
Indira Paryavaran Bhavan,
Vayu Wing, 3rd Floor, Aliganj,
Jor Bagh Road,
New Delhi - 110003

Sir,

Sub: Letter regarding allotment of industries in the proposed Manallur Industrial Park, Gummidipoondi Taluk, Thiruvallur District, Tamil Nadu.

- Ref.** 1 Proposal No. IA/TN/NCP/27117/2015 [F.No.21-59/2015-IA.III]
2 Minutes of 230th meeting of Expert Appraisal Committee for Projects related to Infrastructure Development, Industrial estate/ parks/ complexes/areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways projects held on 28 - 29 January, 2020- Agenda No.3.1

With reference to the above subject, we wish to confirm that only 10% of the plotted area (19.41 Ha), will be allotted to Non Pharma industries in 5(f) -ie Synthetic Acrylic polymers and resins, water proofing compounds, synthetic adhesives etc and rest of the 90% of plotted area (173.60 Ha), will be allotted to non EC category industries such as E vehicle and its components manufacturing, Automobile and accessories manufacturing, Engineering and fabrication, plastics manufacturing etc., falling under Red, Orange, Green and White category industries.

This letter is submitted for your kind perusal and records.

Yours faithfully,


Managing Director.



Quality Council of India
National Accreditation Board for
Education & Training



CERTIFICATE OF ACCREDITATION

Hubert Enviro Care Systems (P) Ltd.

A-21, III Phase, Behind Lions Club School, Thiruvika Industrial Estate,
Guindy, Chennai – 600 032

Accredited as **Category - A** organization under the QCI-NABET Scheme for Accreditation of EIA Consultant Organizations: Version 3 for preparing EIA-EMP reports in the following Sectors:

Sl. No	Sector Description	Sector (as per)		Cat
		NABET	MoEFCC	
1	Mining of minerals including opencast / underground mining	1	1 (a) (i)	A
2	Onshore oil and gas exploration, development & production	2	1 (b)	A
3	Thermal power plants	4	1 (d)	A
4	Metallurgical Industries (secondary metallurgy only)	8	3 (a)	B
5	Cement plants	9	3 (b)	B
6	Petroleum refining industry	10	4 (a)	A
7	Petrochemical complexes (industries based on processing of petroleum fractions & natural gas and/or reforming to aromatics)	18	5 (c)	A
8	Petrochemical based processing (processes other than cracking & reformation and not covered under the complexes)	20	5 (e)	A
9	Synthetic organic chemicals industry	21	5 (f)	A
10	Isolated storage & handling of Hazardous chemicals	28	6 (b)	B
11	Industrial estates/ parks/ complexes/areas, export processing Zones (EPZs), Special Economic Zones (SEZs), Biotech Parks, Leather Complexes	31	7 (c)	A
12	Common Municipal Solid Waste Management Facility (CMSWMF)	37	7 (i)	B
13	Building and construction projects	38	8 (a)	B
14	Townships and Area development projects	39	8 (b)	B

Note: Names of approved EIA Coordinators and Functional Area Experts are mentioned in RA AC minutes dated Nov. 03, 2017 posted on QCI-NABET website.

The Accreditation shall remain in force subject to continued compliance to the terms and conditions mentioned in QCI-NABET's letter of accreditation bearing no. QCI/NABET/ENV/ACD/18/0566 dated Feb. 16, 2018. The accreditation needs to be renewed before the expiry date by Hubert Enviro Care Systems (P) Ltd., Chennai following due process of assessment.


Sr. Director, NABET
Dated: Feb. 16, 2018

Certificate No.
NABET/ EIA/1619/ RA 0083

Valid till
13.10.2019

For the updated List of Accredited EIA Consultant Organizations with approved Sectors please refer to QCI-NABET website.

To

16 April 2020

Hubert Enviro Care Systems

18, 92nd Street, 18th Avenue,
Ashok Nagar, Chennai – 600083

Sub.: Extension of Validity of Accreditation between 15th March and 30th April 2020
till 30th June, 2020 - regarding

Dear Sir/Madam

In view of the outbreak of Corona Virus (COVID-19) and subsequent lockdown declared for its control vide order dated 24th March 2020, issued by Ministry of Home Affairs, Govt. of India, NABET hereby extends the Validity of your Accreditation till 30th June 2020.

As soon as, NABET office opens/resumes its operation necessary action regarding issuance of certificate/extension of validity letters / other may be initiated, therefore, ACO to ensure their complete application with NABET, if applicable.

Meanwhile, you may enclose this with your EIA reports along with the certificate/validity letter. The EAC/SEIAA/SEAC/Other are hereby requested to consider the same as a valid document for the preparation of EIA/EMP report.

With best regards.

Sd/-

(A K Jha)

Sr. Director, NABET

To

Hubert Enviro Care Systems

18, 92nd Street, 18th Avenue,
Ashok Nagar, Chennai – 600083

Sub.: Extension of Validity of Accreditation till Sept 29, 2020 - regarding

Dear Sir/Madam

In view of the outbreak of Corona Virus (COVID-19) and subsequent lockdown declared for its control vide order dated 24th March 2020, issued by Ministry of Home Affairs, Govt. of India, NABET hereby extends the Validity of your Accreditation till Sept 29, 2020.

As soon as, NABET office opens/resumes its operation necessary action regarding issuance of certificate/extension of validity letters / other may be initiated, therefore, ACO to ensure their complete application with NABET, if applicable.

Meanwhile, you may enclose this with your EIA reports along with the certificate/validity letter. The EAC/SEIAA/SEAC/Other are hereby requested to consider the same as a valid document for the preparation of EIA/EMP report.

With best regards.

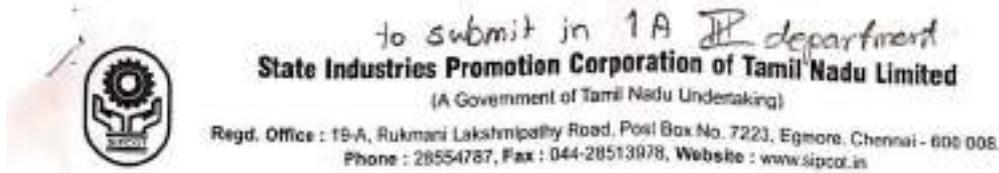
Sd/-

(A K Jha)

Sr. Director, NABET

Annexure -3

Letter regarding Change of Consultant –Acknowledgement from MoEF&CC



Projects/EIA/Manailur/2020 *IA 171*

The Member Secretary,
 Ministry of Environment, Forest & Climate Change,
 Indira Paryavaran Bhavan,
 Vayu Wing, 3rd Floor, Aliganj,
 Jor Bagh Road,
 New Delhi - 110003.

Date: 26.02.2020

Sir,

Sub: SIPCOT - Development of Industrial Park in Manailur and Soorepoondi villages of Gummidipoondi Taluk, Thiruvallur district, Tamil Nadu - Intimation on Change of Consultant - Regarding.

Ref: 1. Proposal No. IA/TN/NCP/27117/2015 [F.No.21-59/2015-IA.III]
 2. Minutes of 230th meeting of Expert Appraisal Committee for Projects related to Infrastructure Development, Industrial estate/ parks/ complexes/areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways projects held on 28 - 29 January, 2020- Agenda No.3.1

With reference to the above subject, we wish to bring to your kind notice that, we have appointed M/s. Hubert Enviro Care Systems Pvt. Ltd., Chennai, vide NABET Certificate No. NABET/EIA/1619/RA0083, valid till 19th April, 2020 as our consultant for submission of revised EIA/EMP report based on the MoM of 230th Meeting of EAC for Projects related to Infrastructure Development, Industrial estate/ parks/ complexes /areas, Export Processing Zones, Special Economic Zones, Biotech Parks, Leather Complexes and National Highways projects held on 28 - 29 January, 2020- Agenda No.3.1.

The Accreditation certificate and extension letter issued by NABET to HECS is enclosed for your kind reference.

P.T.O.

3. முதன்மைச் செயலர் மற்றும் நில நிர்வாக ஆணையர் அவர்களின் பரிந்துரையினை ஏற்று, திருவள்ளூர் மாவட்டம், சும்பிப்பூண்டி வட்டம், மாநல்லூர் கிராமம் புல எண்கள் 226/2 (0.18.0 ஏக்கர்), 235/1 (0.815 ஏக்கர்), 235/2 (1.06.0 ஏக்கர்) மற்றும் 233/3 (0.03.0 ஏக்கர்) மொத்தம் 2.98.5 ஏக்கர் (7.37 ஏக்கர்) நிலங்கள் ஏற்கனவே சிப்காட் நிறுவனத்திற்கு நில உரிமை மாற்றம் செய்ய உத்தேசித்துள்ள அரசு ஸ்தம்போக்கு நிலங்களின் ஊடே வருவதால் அந்தநிலங்களை சிப்காட் தொழில் பூங்காவின் தேவைக்காக தமிழ்நாடு தொழிலியல் நோக்கங்களுக்கான நிலளடுப்புச் சட்டம் 1997 (கு.நா. சட்டம் 10/99)-இன் கீழ் நில எடுப்பு செய்வதற்கும் மேலும் திருவள்ளூர் மாவட்ட ஆட்சியர் இந்தில எடுப்பு நடவடிக்கையை தொடர்வதற்கு முன்பாக நகர்ப்புற நில உச்சவரம்பு மற்றும் நிலச் சீர்திருத்தச் சட்டத்தில் கவரப்படவில்லை என்பதற்கான தடையில்லாச் சான்று பெற வேண்டும் என்ற நிபந்தனையுடனும், நிர்வாக ஒப்பளிப்பு வழங்கி அரசு ஆணையிடுகிறது.

(ஆளுநரின் ஆணைப்பு)

நா.ச. பழனிப்பன்
அரசு முதன்மைச் செயலாளர்

பெறுநர்
முதன்மைச் செயலர் மற்றும் நில நிர்வாக ஆணையர்,
சேப்பாக்கம், சென்னை-600 005.
முதன்மைச் செயலர்/தலைவர் மற்றும் மேலாண்மை இயக்குநர்,
சிப்காட், 19-ஏ ருக்மணி லக்ஷ்மிபதி சாலை,
எழும்பூர், சென்னை-600 008.
மாவட்ட ஆட்சித்தலைவர், திருவள்ளூர் மாவட்டம்.
மாவட்ட வருவாய் அலுவலர், திருவள்ளூர் மாவட்டம்.

நகல்
வருவாய் (தி.எ.2) துறை, சென்னை-9.
இ.கோ / உதிரி நகல்.

(ஆணைப்பு அனுப்பப்படுகிறது)

மா.நி.கு.சு.அ.பி.
பிரிவு அலுவலர் (19/6)/12
h.f.
20/6/13.


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ABSTRACT



Land Alienation - Tiruvallur District - Gummidipoondi Taluk - Manaliur Village - S.No.203/1, etc. - An extent of 203.35.5 hectare out of total extent of 219.14.5 hectare and Soorapoondi Village - S.No.1, etc. - An extent of 79.72.5 Hectare - Alienation in favour of State Industries Promotion Corporation of Tamil Nadu for the formation of Multipurpose Special Economic Zone / Industrial Park - Orders - Issued.

**Revenue and Disaster Management Department, Land Disposal Wing,
LD 5(2) Section**

G.O.(Ms) No.285

Dated 3.8.2018

விளாப்பி வருடம், ஆடி 18

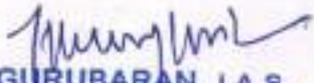
திருவள்ளூர், ஆண்டு 2049

Read:-

1. From the District Revenue Officer, Tiruvallur letter No.14888/2008/B2, dated 28.12.2010, 28.10.2011 and 7.11.2014.
2. From the Additional Chief Secretary / Commissioner of Land Administration Letter No.B3/17048/09, dated 26.9.2014 and 16.12.2014.

In the letter second read above, the Additional Chief Secretary and Commissioner of Land Administration has stated that, the District Revenue Officer, Tiruvallur has reported as follows:-

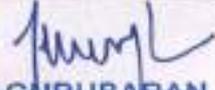
- a) In G.O (Ms) No.264, Revenue (LD7) Department dated 23.05.2008, the Government have issued orders for in principle allotment of 500 acres of Government Poramboke lands in Manaliur and Soorapoondi Villages of Gummidipoondi Taluk, Thiruvallur District for the purpose of formation of multipurpose SEZ and Industrial Park and also 25 acres for the purpose of Housing Developing Schemes.
- b) On behalf of the requisitioning agency the Principal Secretary / Chief Managing Director / State Industries Promotion Corporation of Tamil Nadu has given an application in the specific format, an undertaking to abide by the conditions to be imposed and consent to pay the land cost.
- c) The land proposed for alienation and its classification are as detailed below.


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Manallur Village :

Sl. No	S.No.	Extent in hectares	Classification	Remarks
1.	203/1	1.45.0	Punjai Anadeenam	Vacant
2.	203/3	0.33.0	Punjai Anadeenam	Black Top Road
	203/5	0.11.0	Punjai Anadeenam	Mud Road
3.	204/1	0.19.0	Punjai Anadeenam	Mud Road
	204/2	3.75.0	Punjai Anadeenam	Vacant
4.	207/1	0.28.5	Kallaankuthu	Mud Road
	207/2	3.44.0	Kallaankuthu	Percolation pond
5.	208	3.38.5	Kallaankuthu	Vacant
6.	209/1	2.76.5	Kallaankuthu	Vacant
	209/2	0.32.5	Kallaankuthu	Black Top Road
	209/3	0.74.5	Kallaankuthu	Vacant
7.	210/1	0.20.0	Kallaankuthu	Vacant
	210/2	0.17.5	Kallaankuthu	Black Top Road
	210/3	3.81.0	Kallaankuthu	Vacant
8.	211	4.54.0	Kallaankuthu	Vacant
9.	212/1	0.29.0	Kallaankuthu	Vacant
	212/2	0.23.5	Kallaankuthu	Black Top Road
	212/3	2.88.0	Kallaankuthu	Vacant
10.	213	3.01.5	Kallaankuthu	Mango - 228, Gowva - 1, Teak - 1, Sappotta - 5, Ucaliptus - 38, Mango saplings - 192, coconut - 24, well, oil Engine
11.	214	2.81.5	Kallaankuthu	Mango saplings - 210
12.	215	3.37.5	Kallaankuthu	Naga tree - 5, Banara, Coconut - 92, Teak - 48

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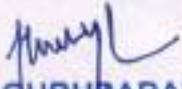

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13.	216/1	1.98.5	Kallaankuthu	Vacant
	216/2	0.37.0	Kallaankuthu	Black Top Road
	216/3	0.72.0	Kallaankuthu	Mango Tree - 34, Amla - 37, Coconut - 5, Small Concrete building with bore well
14.	217/1	0.28.0	Kallaankuthu	Vacant
	217/2	0.18.0	Kallaankuthu	Black Top Road
	217/3	3.55.5	Kallaankuthu	Vacant
15.	218/1	3.24.5	Kallaankuthu	Vacant
	218/2	0.22.0	Kallaankuthu	Black Top Road
	218/3	0.34.0	Kallaankuthu	Vacant
16.	219/1	3.69.5	Kallaankuthu	Vacant
17.	220/1	3.76.0	Kallaankuthu	Vacant
18.	223/1	4.24.0	Kallaankuthu	Villiyar colony & Pathway to Sanaputhur village
	223/4	0.69.0	Kallaankuthu	Vacant
19.	224	4.09.5	Kallaankuthu	Govt-Kalam, Mango
20.	225/1	3.73.5	Kallaankuthu	Vacant
21.	226/1	3.78.5	Kallaankuthu	Vacant
22.	227/1	2.82.5	Kallaankuthu	Vacant
	227/2	0.31.0	Kallaankuthu	Black Top Road
	227/3	0.87.0	Kallaankuthu	Vacant
23.	228	4.04.0	Kallaankuthu	Vacant
24.	229	4.05.0	Kallaankuthu	Vacant
25.	230	4.01.5	Kallaankuthu	Vacant
26.	231	4.04.5	Kallaankuthu	Vacant
27.	232	2.39.0	Kallaankuthu	Vacant
28.	233/1	2.14.5	Kallaankuthu	Vacant
29.	233/2	0.22.5	Kallaankuthu	Black Top Road
30.	234/1	2.08.5	Kallaankuthu	Vacant
	234/2	0.38.0	Kallaankuthu	Black Top Road
	234/3	1.58.0	Kallaankuthu	Vacant
31.	235/3	2.22.0	Kallaankuthu	Mango - 22, Neem - 21, Coconut-3, Cashew - 16, Kattuva-2, Building - 2


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32.	236	4.14.5	Kallaankuthu	Vacant
33.	237/1	0.06.5	Kallaankuthu	Vacant
	237/2	0.09.5	Kallaankuthu	Black Top Road
	237/3	3.92.5	Kallaankuthu	Vacant
34.	238	4.04.5	Kallaankuthu	Nagai - 1, Gowva - 16, Coconut-107, Borewell - 1
35.	239	4.06.5	Kallaankuthu	Coconut - 31, Gowva - 72, Mango saplings - 459, Amla - 58
36.	240	3.28.0	Kallaankuthu	Vacant
37.	241	4.05.0	Kallaankuthu	Vacant
38.	242	4.04.5	Kallaankuthu	Vacant
39.	243	4.01.0	Kallaankuthu	Vacant
40.	244	4.18.5	Kallaankuthu	Vacant
41.	245	2.81.5	Kallaankuthu	Banyan - 2, Neem - 29, Pungan -19, palm - 1, Coconut - 41, Mango - 29, Sappota - 19
42.	248	1.76.0	Kallaankuthu	Mango, Eucaliptus
43.	249	4.04.0	Kallaankuthu	Mango, Teak and Borewell
44.	250	3.77.0	Kallaankuthu	Vacant
45.	252	3.36.0	Kallaankuthu	Vacant
46.	253	4.06.5	Kallaankuthu	Vacant
47.	270/1	13.69.0	Kallaankuthu	Vacant
	270/4	0.41.0	Kallaankuthu	Hindu Mayanam
	270/5	0.31.0	Kallaankuthu	Christian Mayanam
	270/6	0.67.5	Kallaankuthu	Black Top Road
	270/7	1.18.5	Kallaankuthu	Vacant
	270/8	1.19.0	Kallaankuthu	Vacant
48.	273	4.85.0	Kuttai	Vacant
	274/1	24.58.5	Unassessed waste	Vacant
	274/27	0.91.0	Unassessed waste	House site assignment area
	274/28	0.96.5	Unassessed waste	Black Top Road
		10.47.0	Unassessed waste	Vacant
	Total	219.14.5		

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Soorapoondi Village :

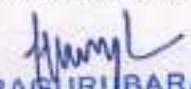
Sl. No.	S.No.	Extent in hectares	Classification	Remarks
1.	1	4.53.5	Kallaankuthu	Vacant
2.	2	3.21.5	Kallaankuthu	Vacant
3.	3	3.53.5	Kallaankuthu	Vacant
4.	4	4.18.0	Kallaankuthu	Mango
5.	5	2.93.0	Kallaankuthu	Mango
6.	6/2	4.27.0	Kallaankuthu	Mango
7.	9/1	0.07.5	Nanjai Anadeenam	Mango - 5
8.	9/3	0.18.0	Nanjai Anadeenam	Mango - 9
9.	9/5	0.15.5	Nanjai Anadeenam	Mango - 7
10.	9/6	0.14.5	Nanjai Anadeenam	Mango - 7
11.	9/11	0.22.5	Nanjai Anadeenam	Mango - 20
12.	10/4	0.16.0	Nanjai Anadeenam	Mango - 8
13.	10/9	0.15.5	Nanjai Anadeenam	Mango - 7
14.	12/2	0.16.0	Nanjai Anadeenam	Mango - 8
15.	12/3	0.15.0	Nanjai Anadeenam	Mango - 7
16.	12/4	0.14.0	Nanjai Anadeenam	Mango - 7
17.	12/5	0.15.0	Nanjai Anadeenam	Mango - 7
18.	12/6	0.15.5	Nanjai Anadeenam	Mango - 7
19.	12/7	0.15.5	Nanjai Anadeenam	Mango - 7
20.	12/8	0.15.5	Nanjai Anadeenam	Mango - 7
21.	12/9	0.15.5	Nanjai Anadeenam	Mango - 7
22.	12/10	0.22.0	Nanjai Anadeenam	Mango - 11
23.	12/11	0.04.5	Nanjai Anadeenam	Mango - 2
24.	12/12	0.02.0	Nanjai Anadeenam	Mango - 2
25.	12/13	0.01.5	Nanjai Anadeenam	Mango - 2
26.	12/14	0.03.5	Nanjai Anadeenam	Mango - 4
27.	12/15	0.22.0	Nanjai Anadeenam	Mango - 11
28.	12/16	0.04.5	Nanjai Anadeenam	Mango - 4
29.	12/17	0.07.0	Nanjai Anadeenam	Mango - 7
30.	13/1	0.31.5	Nanjai Anadeenam	Mango - 31
31.	13/2	0.79.5	Nanjai Anadeenam	Mango - 79
32.	13/3	0.03.5	Nanjai Anadeenam	Mango - 4
33.	13/4	0.15.0	Nanjai Anadeenam	Mango - 14
34.	13/5	0.05.5	Nanjai Anadeenam	Mango - 5
35.	13/6	0.04.5	Nanjai Anadeenam	Mango - 4
36.	13/7	0.05.0	Nanjai Anadeenam	Mango - 5
37.	13/8	0.05.0	Nanjai Anadeenam	Mango - 5
38.	13/9	0.04.5	Nanjai Anadeenam	Mango - 4
39.	15	3.79.0	Punjai Anadeenam	Vacant


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40.	16/1	2.79.0	Punjai Anadeenam	Percolation pond and well
41.	37/1	1.54.0	Punjai Anadeenam	Vacant
42.	38	3.94.0	Kallaankuthu	Well - 1
43.	39	3.82.0	Kallaankuthu	Vacant
44.	40	3.15.5	Kallaankuthu	Vacant
45.	41	3.65.5	Kallaankuthu	Vacant
46.	42	3.98.5	Kallaankuthu	Vacant
47.	43	3.46.5	Kallaankuthu	Vacant
48.	44	4.29.0	Kallaankuthu	Vacant
49.	45	3.09.0	Kallaankuthu	Vacant
50.	46	2.78.0	Kallaankuthu	Vacant
51.	47	4.28.0	Kallaankuthu	Vacant
52.	48	4.19.0	Kallaankuthu	Vacant
53.	49	2.28.5	Kallaankuthu	Vacant
54.	56/2	1.48.0	Kallaankuthu	Eucaliptus tree & 2 Concrete house.
Total		79.72.5		

- d) The statutory A1-Notices have been published in Manallur and Soorapoondi Villages on 15.8.2009 and 18.4.2010 respectively and no objections have been received.
- e) The statements of Village Administrative Officer / Public of the Manallur and Soorapoondi have been obtained.
- f) The filled in questionnaire in Form I to VII with recommendation of the District Revenue Officer, Tiruvallur thereon have been enclosed.
- g) The resolution of the concerned Village Panchayat have been obtained.
- h) The District Revenue Officer, Thiruvallur has inspected the suit lands on 5.2.10 and 16.8.14 and reported the following ground realities in suit lands.
- In land measuring an extent of 4.24.0 Hectare in S.No.223/1 around 65 families belongs to Irular (Villyar) community have been living for the past 25 years and resettlement and rehabilitation of this families are difficult process.
 - A percolation pond is situated in S.No.207.
 - In S.No.270/4 and 270/5, a Hindu Mayanam and Christian Burial ground are situated and being utilized by public. Further an encroachment by way of concrete building is also exist in S.No.270/1.

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- Admist of proposed Poramboke lands, patta lands measuring an extent of 0.18.0 Hectare in S.No.226/2, 0.81.5 Hectare in S.No.235/1, 1.60.0 Hectare in S.No.235/2 and an extent of 0.93.0 Hectare in S.No.233/3 exist.
- A black Top road (Thar road) bisects the proposed land. This road has been utilized by the public of Madarpakkam to approach Sanaputhur Village. Though, it is not a plan marked detail, on ground reality, it is under the usage of public.
- There are various kinds of trees, such as Mango, Coconut, Gouva, Neem, Palm trees, etc standing in the suit land, for which the tree value has been worked out as Rs.19,19,253/-
- Apart from this, no other Structures, Places of worship, monuments are exists. No HT/LT line passing through the suit land.

2. As regards the fixation of land cost, the District Revenue Officer, Tiruvallur has collected the sale statistics from the concerned Sub-Registrar's Office for the period from 01.07.2013 to 31.07.2014. During this period, 50 sales have taken place and all the sales have been discarded for various reasons, except the sale in Sl.No.19, where in, an extent of 0.98 acre in S.No.262/3C was sold to Rs.7,84,000/- vide Document No.6785/2011 Dated 26.12.2013. Accordingly, the value of 1.00 acre of land works out to Rs.8,00,000/- per acre.

3. The revised Guide Line Value as on 01.04.2012 has also been registered as Rs.8,00,000/- per acre. Based on this, the tentative land cost for the proposed land is worked out as follows:

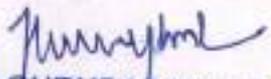
Value of 1.00 acre of land	=Rs.	8,00,000/-
Value of 1.00 Hectare of land	=Rs.	19,77,000/-
Value of 293.72.0 Hectare of land	=Rs.	58,06,84,440/-
12% Notional increase for 2013	=Rs.	6,50,36,657/-

	=Rs.	64,57,21,097/-
12% Notional increase for 2014	=Rs.	7,74,86,532/-

	=Rs.	72,32,07,629/-
Tree value	=Rs.	19,19,253/-

	Total	=Rs. 72,51,26,882/-

4. Finally, the District Revenue Officer, Tiruvallur has recommended the proposal for alienation of land to an extent of 213.99.5 Hectare of Government Poramboke lands


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in S.No.203/1 etc., of Mannallur Village and an extent of 79.72.5 Hectare of Government Poramboke lands in S.No.1 etc., of Soorapoondi Village, Gummidipoondi Taluk, Tiruvallur District, in favour of SIPCOT on collection of Double the land cost and other charges with usual terms and conditions as laid down under RSO 24(6), for the purpose of formation of SEZ/IT Park.

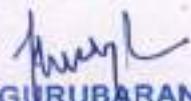
5. The Additional Chief Secretary and Commissioner of Land Administration has stated that among the lands identified for alienation, an extent of 4.24.0 Hectare of land in S.No.223/1 has been excluded from the alienation, for the reason that a Villiyar (Irular) colony exists on this land with 65 families and the land is also situated at the edge of the project area. Similarly, an extent of 0.91.0 Hectare of land in S.No.274/27 has also been excluded from the alienation, as it forms a residential area and is situated at the corner of the project area. It is seen from the combined sketch, a Kuttai (Chintala Gunta) measuring an extent of 4.85.0 Hectare in S.No.273 is also seen at one end of the project site and have been proposed for alienation. This part of the land may also be excluded as it is a water course and is essential to maintain the ground water level. Further, there are patta lands also spread over the project area, for which, the requisitioning agency has got an "in principle" order to go in for acquisition.

6. The Additional Chief Secretary and Commissioner of Land Administration has further stated that, in this case, the District Revenue Officer, Tiruvallur has recommended for alienation, on collection of Double the land cost. But, as per the Guide Lines Issued in Government Letter (Ms) No.477 Revenue Department, dated.23.8.07, Single Market Value is being fixed and collected from the SIPCOT for the Government lands alienated to implement their project. Hence, single market value has been adopted for fixing the land cost for the proposed lands and the Additional Chief Secretary / Commissioner of Land Administration has stated that originally, the SIPCOT has sought for alienation of 219.14.5 hectare of Government Poramboke lands in S.No.203/1 etc of Manallur Village and 79.72.5 hectare of Government Poramboke lands in Soorapoondi Village, Gummidipoondi Taluk, Tiruvallur District for formation of Special Economic Zone / Industrial Park.

7. Among the lands identified for alienation, the lands situated in the following Survey Numbers have been suggested to be excluded from alienation for the reason noted therein:-

Sl.No.	S.No.	Classification	Extent (in hectares)	Reason for exclusion
1.	223/1	Kalankuthu	4.24.0	Villiyar Colony and Pathway to Sanaputhur Village
2.	274/27	Unassessed Waste	0.91.0	Residential area assignment of House site
3.	273	Kuttai	4.85.0	Water Course
		Total	10.00.0	

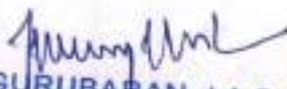
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8. Accordingly, the Additional Chief Secretary/ Commissioner of Land Administration has forwarded the proposal to the Government for alienation of land to an extent of 209.14.5 hectare as against the original extent of 219.14.5 hectare in Manallur Village and an extent of 79.72.5 hectare of land in Soorapoondi Village in favour of SIPCOT.

9. The District Collector, Tiruvallur has inspected the lands in question and recommended to exclude the lands in S.No.223/1; 274/27 and 273. Further, he has also opted to retain the lands in which pathway leading to Sanaputhur Village for the reason that the restriction of Public on this road may cause inconvenience to public and also stated that relocation of mayanam and cemetery is not advisable as people are using these places and may cause inconvenience and also adversely affect their sentimental feeling. Hence, he has suggested to exclude the following Survey Numbers, the total area of 15.79.0 hectare of land from the original extent of 219.14.5 hectare.

Sl.No.	S.No	Classification	Extent (in hecatre)	Present Use
1.	203/5	Dry Assessed Waste	0.11.0	Sanaputhur Village Road to Agriculture land Road
2.	204/1	Dry Assessed Waste	0.19.0	
3.	207/1	Kallanguthu	0.28.5	
4.	203/3	Dry Assessed Waste	0.33.0	Sanaputhur Village to Gummidipoondi link Tar Road
5.	209/2	Kallanguthu	0.32.5	
6.	210/2	Kallanguthu	0.17.5	
7.	212/2	Kallanguthu	0.23.5	
8.	216/2	Kallanguthu	0.37.0	
9.	217/2	Kallanguthu	0.18.0	
10.	218/2	Kallanguthu	0.22.0	
11.	227/2	Kallanguthu	0.31.0	
12.	233/2	Kallanguthu	0.22.5	
13.	234/2	Kallanguthu	0.38.0	
14.	237/2	Kallanguthu	0.09.5	
15.	270/6	Kallanguthu	0.67.5	
16.	274/28	Un Assessed Waste	0.96.5	
17.	270/4	Kallanguthu	0.41.0	Hindu mayanam
18.	270/5	Kallanguthu	0.31.0	Christian Cemetry
19.	274/27	Un assessed Waste	0.91.0	Residential Area (part)
20.	223/1	Kallanguthu	4.24.0	Villiyar Colony and Sanaputhur Village Road
21.	273	Kuttai	4.85.0	Kuttai
		Total	15.79.0	


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10. The Additional Chief Secretary and Commissioner of Land Administration has stated that, the reasons brought out by the District Collector, Tiruvallur for retaining the above lands are worth consideration as the ground reality and because of Public inconvenience to be caused, the existing road might be retained and also the mayanam as well. Further, the formation of road by separate subdivision on the above lands will not affect the project. Hence, the Additional Chief Secretary/ Commissioner of Land Administration has recommended the proposal to Government as formulated by the District Collector, Tiruvallur for issuing necessary orders in favour of SIPCOT for the formation of Special Economic Zone / Industrial Park.

11. The Government, after careful examination, have decided to accept the proposal of District Revenue Officer, Tiruvallur as recommended by the Additional Chief Secretary / Commissioner of Land Administration and accordingly order to alienate the land to an extent of 203.35.5 Hectare (219.14.5-15.79.0) out of total extent of 219.14.5 Hectare in S.No.203/1, etc. of Manallur Village and an extent of 79.72.5 Hectare of land in S.No.1, etc. of Soorapoondi Village, Gummidipoondi Taluk, Tiruvallur District in favour of State Industries Promotion Corporation of Tamil Nadu for the formation of multipurpose Special Economic Zone / Industrial Park on collection of Single Market Value or Guide Line Value whichever is higher as the land cost prevailing on the date of alienation after adjusting the amount of Rs.70 crores paid by State Industries Promotion Corporation of Tamil Nadu with usual terms and conditions as laid down under RSO 24 as annexed to this order with the following special conditions.

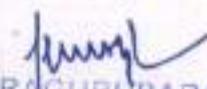
Conditions:

- (i) Stone charges, sub division charges and tree value of Rs.8,83,882.00 should be collected from the requisitioning body.
- (ii) The requisitioning body should abide by all the conditions imposed by the Government.
- (iii) The land should be used only for the purpose for which it is alienated.
- (iv) The requisitioning body should return the land or part thereof to the Revenue Department if it is no longer required.

Special Conditions:

- a) The "in principle order" issued for this project on 23.05.2008 requires major revision. Administrative Sanction has to be issued by the Industries Act for the patta lands which have to be acquired. The District Collector has to co-ordinate this exercise with the requisitioning body.

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- b) The District Collector, Tiruvallur shall issue the Inevitability Certificate at the time of land acquisition of patta lands.

12. The Additional Chief Secretary / Commissioner of Land Administration and the District Collector, Tiruvallur District are requested to take further action as per the orders issued in paragraph 11 above and the District Collector, Tiruvallur District is also instructed to make necessary changes in the Revenue Records within a month.

(BY ORDER OF THE GOVERNOR)

ATULYA MISRA
PRINCIPAL SECRETARY TO GOVERNMENT

To

The Additional Chief Secretary / Commissioner of
Land Administration, Chepauk, Chennai-5.

The District Collector, Tiruvallur District.

✓ State Industries Promotion Corporation of Tamil Nadu (SIPCOT)
19-A, Rukmani Lakshmiipathy Road,
Egmore, Chennai - 600 008.

Copy to

The Industries Department, Secretariat, Chennai-9.

The E & F Department, Secretariat, Chennai-9.

The Rural Development and Panchayat Raj Department, Secretariat, Chennai-9.

The Finance (Revenue and Disaster Management) Department,
Secretariat, Chennai-9.

The Special Personal Assistant to Hon'ble Minister
(Revenue and Disaster Management), Secretariat, Chennai-9.

The Special Personal Assistant to Hon'ble Chief Minister, Secretariat, Chennai-9.

The Special Personal Assistant to Hon'ble Deputy Chief Minister,
Secretariat, Chennai-9.

The Special Personal Assistant to Hon'ble Minister (Industries),
Secretariat, Chennai-9.

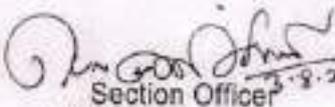
The Special Personal Assistant to Hon'ble Minister, (Forest), Secretariat, Chennai-9.

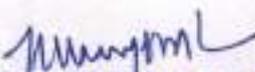
The Special Personal Assistant to Hon'ble Minister,
(MA & RD, Impn. Spl. Prog.) Secretariat, Chennai-9.

The Private Secretary to Principal Secretary to Government,
(Revenue and Disaster Management Department), Secretariat, Chennai-9.

Stock file /Spare Copy.

//Forwarded by Order//


Section Officer
3.8.2018
3.8.18


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Annexure
Conditions laid down under RSO 24(6)

(I) Condition for the grant of State land:-

(1) The land shall be used by the State Industries Promotion Corporation of Tamil Nadu for the formation of Multipurpose Special Economic Zone / Industrial Park and for no other purpose.

(2) The Government may resume the land wholly or in part with any buildings there on in the event of the infringement of any of the conditions of the grant. In the event of such resumption, no compensation shall be payable for any improvements that may have been effected or other works that may have been executed on the land by the grantee and the grantee shall not be entitled to the repayment of any amount that may have been paid to the Government for the grant. If there are buildings on the land the Government may direct the grantee to remove them.

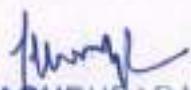
The land, if utilized for commercial purposes, when the grant is made free of land value, the beneficiary shall be liable to pay the market value of the land either totally or for the portion converted into commercial purposes as decided by the Government.

(3) The Government may resume the land wholly or in part, with any buildings thereon if in the opinion of the Government the land is required for a public purpose or for conducting mining operations. In the event of such resumption or in the event of the acquisition of the land for any reason, the compensation payable for the land and trees, shall in no case exceed the amount paid for them by the grantee or their value at the time of resumption or acquisition whichever may be less.

(4) In the event of resumption under condition (3), if there are buildings on the land the Government shall pay compensation for them in accordance with the provisions of conditions (5).

(5) In the event of the resumption of the land under condition (3) or in the event of the acquisition of the land for any reason the compensation payable for buildings or other improvements shall in no case exceed the amount paid for them by the grantee at the time of grant or their value at the time of resumption or acquisition whichever may be less together with the initial cost or the value at the time of resumption or acquisition, whichever may be less of any buildings erected or other improvements effected on the land by grantee in accordance with the terms of the grant. The amount of any grant made by the Government towards the cost of the buildings or other improvements shall be deducted from the compensation payable under this condition.

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(6) In the event of the grantee refusing to remove the buildings, when so directed under condition (2), the Government may remove them and realize the cost of the removal by the sale of the materials.

(7) In the event of the voluntary relinquishment of the land by the grantee, no compensation shall be payable for any improvements that may have been effected or for works that may have been executed on the land by the grantee but the grantee shall be entitled to the repayment of any amount that may have been paid to the Government, for the grant or the value of the land at the time of relinquishment, whichever may be less.

(8) The Government reserve to themselves the right to all sandalwood trees and their branches and roots which exist at the time of grant as well as those which may grow subsequently on the land and the Government shall be at liberty to cut or dig out any such trees or their roots and branches and remove them from the land and dispose of them at their pleasure. The grantee shall not be entitled to cut or remove them or cause them to be or removed without permission of the collector of the district.

(9) The grantee shall take all reasonable measures to the satisfaction of the Collector of the district for the protection of the sandalwood trees from theft or damage and for the careful protection of the immature trees growing on the land.

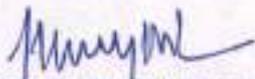
(10) The grantee shall take steps to see that the marks made by the officers of the Government on the sandalwood trees are preserved and are not tampered with.

(11) In the event of the infringement of, or failure to observe, any of the conditions (8) to (10), the grantee shall pay to the Government such compensation as it determined by the Collector of the district for any loss or damage caused by such infringement or failure on his part. The Government shall also be at liberty to resume the land and re-enter on it and the whole land shall thereupon vest absolutely in the Government. In that case the grantee shall not be entitled to any compensation whatever.

Note:- When lands are placed at the disposal of a person, an institution or a local body in the districts noted below, the conditions (8) to (11) above relating to the reservation of sandalwood trees should be scored out:-

Chengalpattu, Thanjavur, Chennai

When the lands are placed at the disposal of the institution on payment of the cost of the land, the said cost should be paid within a period of 30 days from the


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date of issue of orders. In cases of failure, compound interest at the prevailing rates will have to be paid by the beneficiary, till the cost of the land is fully paid.

G.O.Ms.No.3410, Revenue, dated 7.9.1956
 B.P.Ms.No.1316, dated 20.9.1956
 G.O.Ms.No.3646, Revenue, dated 26.7.1957
 B.P.Ms.No.1009, dated 2.8.1957

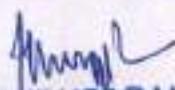
These conditions are not intended to be exhaustive and it is open to the authority competent to sanction such grants to impose such additional conditions as it may think fit. The conditions need not be very stringent when land is granted on payment of value. Where the disposal of land is ordered free of charge to local bodies for public purposes, an additional condition should be inserted reserving the right to the Government to collect the value of the land in the event of the local bodies deriving a substantial income from it. Whenever it is proposed to place land at the disposal of a school, the question whether the land is in a locality accessible to members of all communities should be examined. One of the conditions of grant should be that the school shall be open to members of all communities. In the case of grants of land for school playgrounds and other purposes where the erection of any expensive buildings would be inconsistent to the object of the grant, the further condition should be imposed that the grant shall be liable to forfeiture without any compensation if buildings are erected on the land without the previous sanction of the State Government or other competent authority. In all cases a condition should be imposed prohibiting the construction without the previous permission of the collector or buildings other than those to be specified and providing that no compensation shall be payable in the event of resumption or acquisition or any building erected without such permission. If the condition is considered unsuitable in any particular case, e.g. where the extent is petty and there is a building already on the site, the reasons for omitting the condition should be fully explained. In order that these conditions, which should be set out in full in every case, may be duly enforced a register of all land granted should be maintained in every village and Taluk office in the form prescribed in the village and Taluk accounts.

(12) In cases where the land granted is more than 50 cents in extent, the grantee shall plant and maintain at least 5 suitable trees per acre within one year from the date of grant.

Govt.Memo.No.608121/60-28, Revenue, dated 13.8.1963,
 B.P.Ms.No.1833, dated 30.9.1963.

(ii) Lands acquired at the cost of the grantee:- In the case of land acquired at the cost of private institutions or associations under the provision of the Land Acquisition Act, for educational or other public purposes and placed at the disposal of

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the institutions or associations, the following conditions should be imposed in the place of conditions; (1) to (7) in the previous sub-paragraph:-

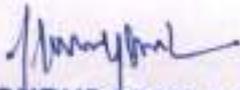
(1) The land shall be used for and for no other purpose.

(2) The Government may resume the land wholly or in part, with any buildings thereon, if, in their opinion, the land is required for a public purpose or for conducting mining operations. In the event of such resumption, the compensation payable for the land and trees shall be the amount paid for them by the grantee at the time of the acquisition, including the 30 percent solatium, or the value all the time of resumption together with 30 percent thereof, whichever may be less. If there are buildings on the land, the Government shall pay compensation for them in accordance with provision of condition (3).

(3) In the event of the resumption of the land under condition (2) the compensation payable for the buildings and other improvements shall be the amount paid for them by the grantee at the time of the acquisition including the 30 percent solatium or their value at the time of resumption by the Government together with 30 percent thereof, whichever may be less, together with the initial cost of the value at the time of resumption, whichever may be less, of any buildings erected and other improvement effected on the land by the grantee in accordance with the terms of the grant plus 15 percent of such cost or value.

(4) In the event of the infringement of any of the conditions of the alienation, or in the event of the voluntary relinquishment of the land by the grantee, the Government may resume the land if it is required for a public purpose or if the Government considered the land should be returned to the original owner. If the Government decide not to exercise its power and inform the grantee accordingly, the latter may dispose of the land in any manner he likes, subject to his repaying to the Government the amount of any grant made by them towards the cost of the lands and of the buildings or other improvements. In the event of the resumption of the land under this condition, the compensation payable to the grantee shall be the value of the land at the time of acquisition (less the 30 percent awarded for compulsory acquisition) or its value at the time of resumption whichever may be less, together with the value of buildings and other improvements, at the time of resumption. If there are buildings on the land, which the Government do not require the grantee shall remove them at his cost. In the event of the grantee refusing to remove the buildings, the Government may remove them and realize the cost of the removable by the sale of the materials.

(5) The amount of any grant made by the Government towards the cost of the land of the buildings or other improvements shall be deducted from the compensation payable under conditions (2), (3) and (4).


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Note:- The following should be added at the end of the order of placing at the disposal of land above the signature of the officer executing the grant:-

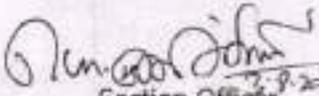
" In witness whereof, I, (name and designation) acting for and on behalf of and by order and direction of the Governor of Tamil Nadu have hereunto set my hand this day of

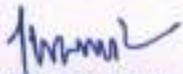
B.P.Press 124, dated 14.11.1941
G.O.Ms.3410, Revenue, dated 7.9.1956
B.P.Ms.No. 1316, dated 20.9.1956

Before ordering resumption of the land, the concerned authority shall give a reasonable opportunity to the beneficiary and hear him, if necessary. However, in the case of emergency, the land may be resumed by the competent authority specifically recording the reasons there for.

ATULYA MISRA
PRINCIPAL SECRETARY TO GOVERNMENT

//True copy//


Section Officer
3.8.18


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1



அனுப்பநர்

திருமதி.மகேஸ்வரி ரவிக்குமார் இ.ஆ.ப.,
மாவட்ட ஆட்சித்தலைவர்
திருவள்ளூர் மாவட்டம்
திருவள்ளூர்

பெறுநர்

வட்டாட்சியர்
கும்மிடிப்பூண்டி

ந.க. 14888 / 2018 / ஆ2 நாள்.10.06.2019

அய்யா,

பொருள் : நில உரிமை மாற்றம் - திருவள்ளூர் மாவட்டம் - கும்மிடிப்பூண்டி வட்டம் - எண்.11 மாநெல்லூர் கிராம புலஎண்.203/1 மற்றும் பல எண்.10 சூரப்பூண்டி கிராம புல எண். 1 மற்றும் பல - பல்நோக்கு சிறப்பு பொருளாதார மண்டலம் / தொழிற்பூங்கா அமைக்கும் பொருட்டு சிப்காட் தொழில் வளாக திட்டத்திற்கு நில உரிமை மாற்றம் செய்ய அரசாணை வரப்பெற்றது - நில உரிமை மாற்றம் செய்தல் - தொடர்பாக.

- பார்வை :
- 1) அரசாணை (பல்வகை) எண். 285 வருவாய் மற்றும் பேரிடர் மேலாண்மை துறை, நில முடிவு பிரிவு, நி.மு 5(2) பிரிவு நாள். 03.08.2018
 - 2) மாவட்ட ஆட்சியரின் நேர்முக உதவியாளர் (நிலம்) திருவள்ளூர் அவர்களின் கடித ந.க.14888/2018/ஆ2 நாள் 19.09.2018.
 - 3) வட்டாட்சியர் கும்மிடிப்பூண்டி அவர்களின் கடிதம் எண் ந.க.4797/ஆ1/2018 நாள்.14.11.2018 மற்றும் 31.12.2018
 - 4) பொன்னேரி கோட்டாட்சியர் அவர்களின் கடிதம் எண்.ந.க. 4479/2018/ஆ2 நாள்.31.12.2018
 - 5) இவ்வலுவலக கடித எண்.ந.க.14888/2018/ஆ2 நாள்.19.02.2019
 - 6) கூடுதல் தலைமைச் செயலர் / நில நிருவாக ஆணையர் அவர்களது கடித எண்.பி3/4643/2019 நாள்.27.05.2019
 - 7) மேலாண்மை இயக்குநர், தமிழ்நாடு தொழில் வளர்ச்சிக் கழகம் அவர்களது நேர்முக கடிதம் எண். LA/Manallur / 2008 நாள்.01.06.2019

பார்வையில் காணும் கடிதங்களின் மீது தங்களின் கவனம் கொணர விழுகிறேன்.

2) திருவள்ளூர் மாவட்டம், கும்மிடிப்பூண்டி வட்டம், எண்.11 - மாநெல்லூர் கிராம புல எண்.203/1 மற்றும் பல, எண்.10 - சூரப்பூண்டி கிராம புல எண். 1 மற்றும் பல ஆகியவற்றில் அடங்கிய மொத்த விஸ்தீரணம் 283.08.0 ஹெக்டேர்ஸ் பல்நோக்கு சிறப்பு பொருளாதார மண்டலம் / தொழிற்பூங்கா அமைக்கும் பொருட்டு சிப்காட் தொழில் வளாக திட்டத்திற்கு நிலஉரிமை மாற்றம் செய்ய பிரேரணை அனுப்பப்பட்டு ஒரு சில புலங்கள் நீங்கலாக, ஒரு சில

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நிபந்தனைகளுக்குட்பட்டு கேட்புத்துறையான சிப்காட் நிறுவனத்திற்கு நில உரிமை மாற்றம் செய்து பார்வை (1)-ல் காணும் அரசாணையின்படி உத்தரவிடப்பட்டுள்ளது. மேற்படி அரசாணையில் நில உரிமை மாற்றம் செய்யும் நிலங்களுக்கு நிலஉரிமை மாற்றம் செய்யப்படும் நாளின் ஒற்றை சந்தை மதிப்பு அல்லது அரசின் வழிகாட்டி மதிப்பு ஆகியவற்றில் எது அதிகமோ அந்த மதிப்பில் ஏற்கெனவே சிப்காட் நிறுவனம் செலுத்தியுள்ள ரூ.70/- கோடியினை கழித்து மீதமுள்ள தொகையினை வசூலித்தபின்பு நில உரிமை மாற்றம் செய்திட ஆணையிடப்பட்டுள்ளது.

அதன்பேரில் நில உரிமை மாற்றம் செய்யப்படவுள்ள நிலங்களின் தற்போதய நிலை மாற்றம் மேற்படி நிலங்களுக்கு நிலமதிப்பு நிர்ணயம் செய்வது தொடர்பாக வட்டாட்சியர் மற்றும் வருவாய் கோட்டாட்சியர், மாவட்ட வருவாய் அலுவலர் ஆகியோர்கள் புலத்தணிக்கை மேற்கொண்டபோது மேலும் சிலபுலங்களில் வீடுகள், கட்டிடங்கள் மற்றும் கல்லறைகள் மூலம் ஆக்ரமணங்கள் இருப்பதும், அதுதவிர உயர்கல்வித்துறைக்கு நிலமாற்றம் செய்யும் புலத்திற்கு அணுகுபாதை ஒதுக்கீடு செய்து உட்பட 3.08.5 ஹெக்டேர்ஸ் நிலங்களை நிலஉரிமை மாற்றம் செய்வதிலிருந்து விலக்களிக்க கோரியும், விலக்களித்தபின்பு உள்ள மொத்த விஸ்தீரணம் 279.99.5 ஹெக்டேர்ஸ் நிலங்களுக்கு நிலமதிப்பாக ரூ.92,71,19,200/- (ரூபாய் தொன்னூற்று இரண்டு கோடியே எழுபத்து ஓராயிரத்து பத்தொன்பதாயிரத்து இருநூறு மட்டும்) நிர்ணயம் செய்ததில் ஏற்கெனவே சிப்காட் நிறுவனத்தினரால் செலுத்தியுள்ள ரூ.70/- கோடியினை கழித்து மீதமுள்ள ரூ.22,71,19,200/-னை (ரூபாய் இருபத்து இரண்டு கோடியே எழுபத்து ஓராயிரத்து பத்தொன்பதாயிரத்து இருநூறு மட்டும்) வசூலிக்கலாம் என தெரிவித்து திருத்திய அரசாணை பெற்று வழங்கிடக் கோரி பார்வை (5)-ல் கண்டுள்ள இவ்வலுவலக கடித்தின்படி நில நிருவாக ஆணையருக்கு பிரேரணை அனுப்பப்பட்டுள்ளது.

அதனடிப்படையில் ஆக்ரமணம் கண்டறியப்பட்டுள்ள புலங்களை தவிர்த்து மீதமுள்ள புலங்களுக்கு நில உரிமைமாற்றம் செய்து திருத்திய அரசாணை வழங்கவும் மொத்த நிலப்பரப்பிலிருந்து ஏற்கெனவே கேட்புத்துறையினரால் செலுத்தப்பட்ட நில மதிப்பினை கழித்து மீதமுள்ள நில மதிப்பினை வசூலித்துக் கொண்டும் வருவாய் நிலை எண்.24-ன் கீழ் வழக்கமான அனைத்து நிபந்தனைகளுக்குட்பட்டு மேற்படி புலத்தினை பல்நோக்கு சிறப்பு பொருளாதார மண்டலம் / தொழிற்பூங்கா அமைக்கும் பொருட்டு சிப்காட் தொழில் வளாக திட்டத்திற்கு நில உரிமை மாற்றம் செய்ய திருத்திய அரசாணையை அரசிடமிருந்து பெற்று வழங்குமாறு பார்வை (6)-ல் கண்டுள்ள நில நிருவாக ஆணையர் அவர்களது கடிதத்தில் கோரப்பட்டுள்ளது.

இந்நிலையில் இப்புலங்களை நில உரிமை மாற்றம் செய்வது தொடர்பாக பிரேரணை ஏற்கெனவே பல ஆண்டுகளாக நிலுவையில் உள்ள நிலையில், ஏற்கெனவே சிப்காட் நிறுவனம் சென்னைக்கு அருகில் மிகவும் குறைந்த நிலங்களை வைத்துக்கொண்டு தொழில்

நிறுவனங்களுக்கு நிலம் வழங்குவதில் பற்றாக்குறை உள்ள நிலையில் திருத்திய அரசாணை பெறுவது காலத்தாமத்தினை ஏற்படுத்தும் எனவும், மேலும் அருகிலுள்ள மாநிலங்கள் தொழில்முனைவோர்களை ஈர்க்க அதிக வசதிகளை செய்து தருவதால், மேற்படி மாநெல்லூர் மற்றும் சூரப்பூண்டி நிலங்கள் அந்நிறுவனங்களுக்கு பொருத்தமானதாக இருக்கும் எனவும், ஆக்ரமணம் உள்ள பகுதிகளை தவிர்த்து மீதமுள்ள நிலங்களை சிப்காட் நிறுவனத்திற்கு நில உரிமை மாற்றம் செய்து தருமாறும், மேற்படி நிலங்களுக்கு அரசால் நிர்ணயம் செய்யும் தொகையினை செலுத்த சிப்காட் நிறுவனம் தயாராக உள்ளதாகவும் சிப்காட் மேலாண்மை இயக்குநர் பார்வை (7)-ல் கண்டுள்ள தளது நேர்முக கடிதத்தில் தெரிவித்துள்ளார்.

இந்நேர்வில் சிப்காட் மேலாண்மை இயக்குநர் கோரிக்கை மற்றும் உடனடியாக தொழிற்பூங்கா அமைக்க வேண்டிய அவசியத்தின் அடிப்படையிலும், பார்வை (6)-ல் கண்டுள்ள நில நிருவாக ஆணையர் அவர்கள் திருத்திய அரசாணை கோரி அரசுக்கு பரிந்துரை செய்துள்ள நிலையில் திருத்திய அரசாணை நிலுவையில் வைத்து, சிப்காட் நிறுவனத்திற்கு ஏற்கெனவே விலக்களிக்க கோரி பிரேரணை அனுப்பியுள்ள 3.08.5 ஹெக்டேர்ஸ் நிலங்களை தவிர்த்து மீதமுள்ள நிலங்களை வருவாய் நிலை ஆணை எண்.24-ன்படி வழக்கமான அனைத்து நிபந்தனைகளுக்குட்பட்டு சிப்காட் நிறுவனத்திடம் ஒப்படைத்து அதன் விவரத்தினை இவ்வலுவலகத்திற்கு தெரிவிக்குமாறு கேட்டுக்கொள்கிறேன்.

தங்கள் உண்மையுள்ள,
ஓம்/-மகேஸ்வரி ரவிக்குமார்,
மாவட்ட ஆட்சித்தலைவர்,
திருவள்ளூர்.

//உத்தரவின்படி//

மாவட்ட ஆட்சியருக்காக,
திருவள்ளூர், 16/19

நகல் :

- 1) கூடுதல் தலைமைச் செயலர் / நில நிருவாக ஆணையர் எழிலகம், சேப்பாக்கம், சென்னை - 5.
- 2) அரசு கூடுதல் தலைமைச் செயலர், வருவாய் மற்றும் பேரிடர் மேலாண்மைத்துறை தலைமைச் செயலகம், சென்னை - 9
- 3) மேலாண்மை இயக்குநர், சிப்காட்
எண். 19A, ருக்மணி வட்கமிபதி சாலை
எழும்பூர், சென்னை - 8

J. KUMARAGURUBARAN, I.A.S.,
Managing Director
State Industries Promotion Corporation of Tamilnadu Limited
19-A, Rukmani Lakshmi Pathy Road,
Egmore, Chennai-600 008.

LAND DELIVERY RECEIPT

REF :

1. G.O.Ms. No. 285, Revenue and Disaster Management Department, Land Disposal Wing, LD 5(2) Section, dated. 03.08.2019

2. The District Collector, Thiruvallur letter No. 14888/2018/A2, Dated. 19.02.2019 & 10.06.2019

District: Thiruvallur

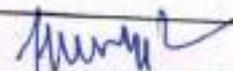
Taluk : Gummdipoondi

Village : Manallur

Sl. No.	Survey No.	Net extent H/o. To SIPCOT	Classification	Remarks
1	203/1	1.450	Punjai anadeenam	
2	204/2	3.750	Punjai anadeenam	
3	207/2	3.440	Kallankuthu	
4	208	3.385	Kallankuthu	
5	209/1	2.765	Kallankuthu	
6	209/3	0.745	Kallankuthu	
7	210/1	0.200	Kallankuthu	
8	210/3	3.475	Kallankuthu	
9	211	4.540	Kallankuthu	
10	212/1	0.290	Kallankuthu	
11	212/3	2.880	Kallankuthu	
12	213	3.015	Kallankuthu	
13	214	2.815	Kallankuthu	
14	215	3.375	Kallankuthu	
15	216/1	1.985	Kallankuthu	
16	216/3	0.710	Kallankuthu	
17	217/1	0.280	Kallankuthu	
18	217/3	3.555	Kallankuthu	
19	218/1	3.245	Kallankuthu	
20	218/3	0.340	Kallankuthu	
21	219/1	3.695	Kallankuthu	

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Sl. No.	Survey No.	Net extent H/o. To SIPCOT	Classification	Remarks
22	220/1	3.760	Kallankuthu	
23	223/4	0.690	Kallankuthu	
24	224	4.095	Kallankuthu	
25	225/1	3.735	Kallankuthu	
26	226/1	3.785	Kallankuthu	
27	227/1	2.825	Kallankuthu	
28	227/3	0.870	Kallankuthu	
29	228	4.040	Kallankuthu	
30	229	4.050	Kallankuthu	
31	230	4.015	Kallankuthu	
32	231	4.045	Kallankuthu	
33	232	2.390	Kallankuthu	
34	233/1	2.145	Kallankuthu	
35	234/1	2.085	Kallankuthu	
36	234/3	1.580	Kallankuthu	
37	235/3	2.190	Kallankuthu	
38	236	4.145	Kallankuthu	
39	237/1	0.065	Kallankuthu	
40	237/3	3.925	Kallankuthu	
41	238	4.045	Kallankuthu	
42	239	4.065	Kallankuthu	
43	240	3.280	Kallankuthu	
44	241	4.050	Kallankuthu	
45	242	4.045	Kallankuthu	
46	243	4.010	Kallankuthu	
47	244	4.185	Kallankuthu	
48	245	2.815	Kallankuthu	
49	248	1.760	Kallankuthu	



J. KUMARAGURUBARAN, I.A.S.,
 Managing Director
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 Egmore, Chennai-600 008.

Sl. No.	Survey No.	Net extent H/o. To SIPCOT	Classification	Remarks
50	249	4.040	Kallankuthu	
51	250	3.770	Kallankuthu	
52	252	3.360	Kallankuthu	
53	253	4.065	Kallankuthu	
54	270/1	13.665	Kallankuthu	
55	270/8	1.170	Kallankuthu	
56	274/1	24.585	Unassessed waste	
57	274/29	10.470	Unassessed waste	
TOTAL		201.750		

HANDED OVER

ZONAL DEPUTY COMMISSIONER
GUMMIDIPOONDI

TAKEN OVER
ASSISTANT ENGINEER
SIPCOT INDL. COMPLEX
GUMMIDIPOONDI

J. KUMARAGURUBARAN, I.A.S.,
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LAND DELIVERY RECEIPT

REF :

1. G.O.Ms. No. 285, Revenue and Disaster Management Department, Land-Disposal Wing, LD 5(2) Section, dated. 03.08.2019

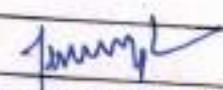
2. The District Collector, Thiruvallur letter No. 14888/2018/A2, Dated. 19.02.2019 & 10.06.2019

District: Thiruvallur

Taluk : Gummidpoondi

Village : Soorapoondi

Sl. No.	Survey No.	Extent in hectares (Handed over)	Classification	Remarks
1	1	4.535	Kallankuthu	
2	2	3.215	Kallankuthu	
3	3	3.535	Kallankuthu	
4	4	4.180	Kallankuthu	
5	5	2.930	Kallankuthu	
6	6/2	4.270	Kallankuthu	
7	9/1	0.075	Nanjai annadeenam	
8	9/3	0.180	Nanjai annadeenam	
9	9/5	0.155	Nanjai annadeenam	
10	9/6	0.145	Nanjai annadeenam	
11	9/11	0.225	Nanjai annadeenam	
12	10/4	0.160	Nanjai annadeenam	
13	10/9	0.155	Nanjai annadeenam	
14	12/2	0.160	Nanjai annadeenam	
15	12/3	0.150	Nanjai annadeenam	
16	12/4	0.140	Nanjai annadeenam	
17	12/5	0.150	Nanjai annadeenam	
18	12/6	0.155	Nanjai annadeenam	
19	12/7	0.155	Nanjai annadeenam	
20	12/8	0.155	Nanjai annadeenam	
21	12/9	0.155	Nanjai annadeenam	
22	12/10	0.220	Nanjai annadeenam	
23	12/11	0.045	Nanjai annadeenam	
24	12/12	0.020	Nanjai annadeenam	
25	12/13	0.015	Nanjai annadeenam	
26	12/14	0.035	Nanjai annadeenam	


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Sl. No.	Survey No.	Extent in hectares	Classification	Remarks
27	12/15	0.220	Nanjai annadeenam	
28	12/16	0.045	Nanjai annadeenam	
29	12/17	0.070	Nanjai annadeenam	
30	13/1	0.315	Nanjai annadeenam	
31	13/2	0.795	Nanjai annadeenam	
32	13/3	0.035	Nanjai annadeenam	
33	13/4	0.150	Nanjai annadeenam	
34	13/5	0.055	Nanjai annadeenam	
35	13/6	0.045	Nanjai annadeenam	
36	13/7	0.050	Nanjai annadeenam	
37	13/8	0.050	Nanjai annadeenam	
38	13/9	0.045	Nanjai annadeenam	
39	15	3.790	Punjai annadeenam	
40	16/1	2.790	Punjai annadeenam	
41	37/1	1.540	Punjai annadeenam	
42	38	3.940	Kallankuthu	
43	39	3.820	Kallankuthu	
44	40	3.155	Kallankuthu	
45	41	3.655	Kallankuthu	
46	42	3.985	Kallankuthu	
47	43	3.465	Kallankuthu	
48	44	4.290	Kallankuthu	
49	45	3.090	Kallankuthu	
50	46	2.780	Kallankuthu	
51	47	4.280	Kallankuthu	
52	48	4.190	Kallankuthu	
53	49	2.285	Kallankuthu	
Total		78.245		

HANDED OVER

ZONAL DEPUTY TAI SILDAR
GUMMIDIPOONDI

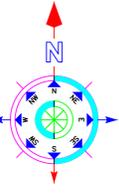
TAKEN OVER

ASSISTANT ENGINEER
SIPCOT INDL. COMPLEX
GUMMIDIPOONDI

J. KUMARAGURUBARAN, I.A.S.,
Managing Director

State Industries Promotion Corporation of Tamilnadu Limited
19-A, Rukmani Lakshmi Pathy Road,
Egmore, Chennai-800 008.

TENTATIVE LAYOUT FOR PROPOSED SIPCOT INDUSTRIAL PARK IN MANALLUR and SOORAPOONDI VILLAGES, GUMMIDIPOONDI Tk., TIRUVALLUR Dt..



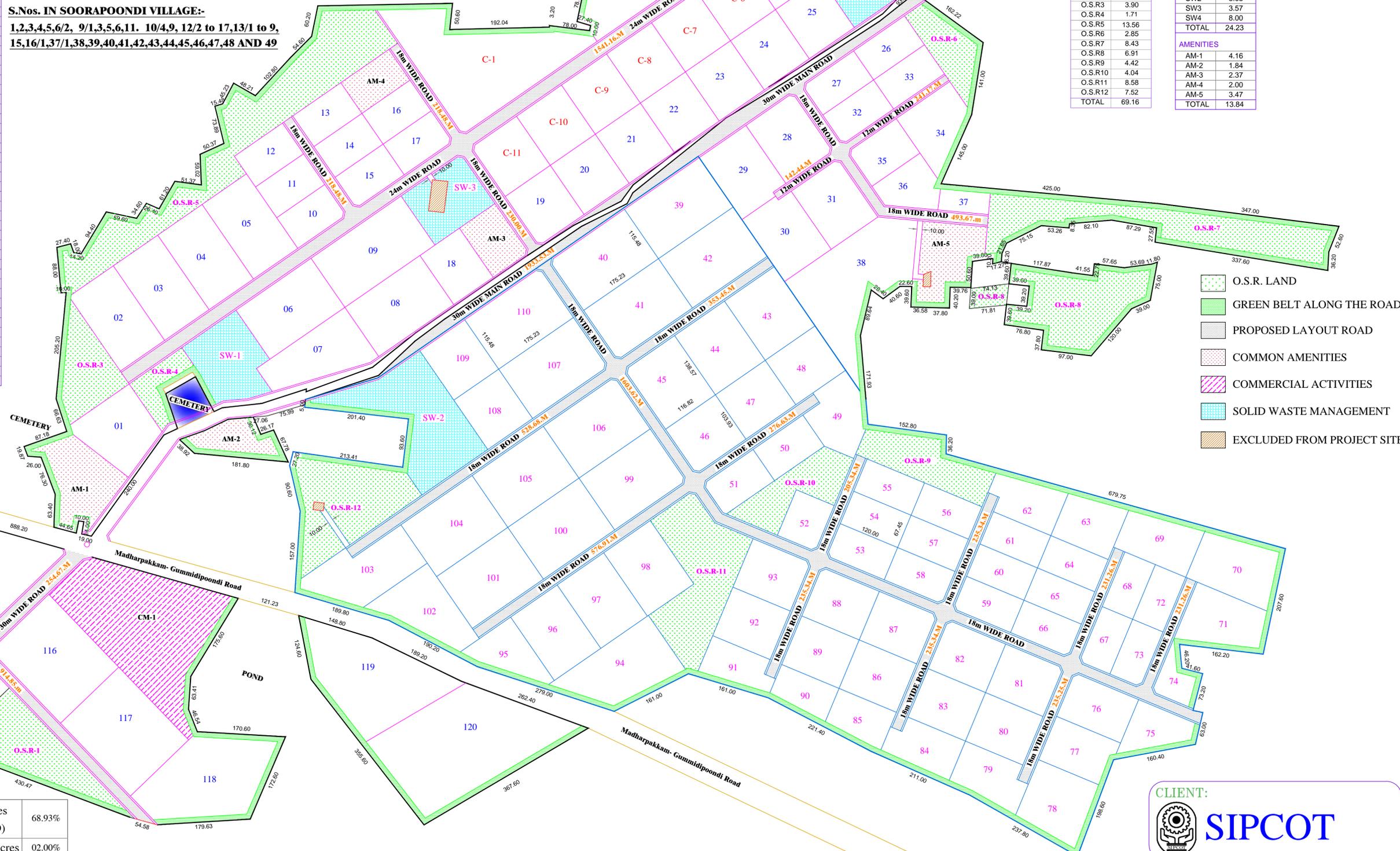
PLOT AREA			
PLOT NO.	RE IN CRE.	PLOT NO.	RE IN CRE.
1	4.13	45	4.00
2	4.49	46	3.00
3	4.49	47	3.00
4	4.49	48	3.00
5	4.49	49	3.06
6	5.00	50	2.11
7	4.52	51	2.10
8	5.00	52	1.85
9	6.00	53	2.00
10	2.00	54	2.00
11	2.00	55	2.00
12	2.00	56	2.00
13	2.00	57	2.00
14	2.00	58	2.00
15	2.00	59	2.00
16	2.00	60	2.00
17	2.00	61	2.00
18	2.63	62	2.63
19	3.00	63	2.82
20	3.00	64	2.00
21	3.00	65	2.00
22	3.00	66	2.00
23	3.00	67	1.79
24	3.00	68	1.79
25	3.00	69	3.21
26	2.00	70	4.13
27	2.00	71	3.61
28	3.67	72	1.79
29	3.85	73	1.79
30	3.85	74	1.19
31	3.67	75	2.21
32	2.00	76	3.00
33	2.00	77	2.84
34	3.17	78	3.90
35	2.25	79	2.90
36	2.21	80	3.00
37	0.98	81	3.00
38	8.80	82	3.00
39	5.00	83	3.00
40	5.00	84	2.67
41	5.00	85	2.21
42	5.00	86	3.00
43	4.00	87	3.00
44	4.00	88	3.00
TOTAL		476.73	

S.Nos. IN MANALLUR VILLAGE
 203/1,204/2,207/2,208,209/1,3, 210/1,3, 211,212/1,3, 213,214,215,216/1,3,
 217/1,3, 218/1,3, 219/1,220/1,223/4,224,225/1,226/1,227/1,3, 228,229,230,231,
 232,233/1,234/1,3, 235/3,236,237/1,3, 238,239,240,241,242,243,244,245,248,
 249,250,252,253,274/1,29, AND 270/1,8.

S.Nos. IN SOORAPOONDI VILLAGE:-
 1,2,3,4,5,6/2, 9/1,3,5,6,11. 10/4,9, 12/2 to 17,13/1 to 9,
 15,16/1,37/1,38,39,40,41,42,43,44,45,46,47,48 AND 49

PLOT NO.	AREA IN ACRES.
O.S.R.1	6.35
O.S.R.2	0.89
O.S.R.3	3.90
O.S.R.4	1.71
O.S.R.5	13.56
O.S.R.6	2.85
O.S.R.7	8.43
O.S.R.8	6.91
O.S.R.9	4.42
O.S.R.10	4.04
O.S.R.11	8.58
O.S.R.12	7.52
TOTAL	69.16

COMMERCIAL	
CM-1	13.84
TOTAL	13.84
SOLID WASTE	
SW1	4.63
SW2	8.03
SW3	3.57
SW4	8.00
TOTAL	24.23
AMENITIES	
AM-1	4.16
AM-2	1.84
AM-3	2.37
AM-4	2.00
AM-5	3.47
TOTAL	13.84



- O.S.R. LAND
- GREEN BELT ALONG THE ROAD
- PROPOSED LAYOUT ROAD
- COMMON AMENITIES
- COMMERCIAL ACTIVITIES
- SOLID WASTE MANAGEMENT
- EXCLUDED FROM PROJECT SITE

PLOT AREA = 476.73 Acres (25% GREEN BELT 119.18 Ac INCLUDED)	68.93%
COMMON AMENITIES = 13.84 Acres	02.00%
COMMERCIAL ACTIVITIES = 13.84 Acres	02.00%
SOLID WASTE MANAGEMENT = 24.06 Acres	03.48%
ROAD , STORM WATER DRAIN = 38.86 Acres	05.63%
O.S.R. AREA 1 TO 12 = 69.16 Acres	10.00%
GREEN BELT 3m ALONG ROAD SIDE = 15.94 Acres	02.30%
GREEN BELT ALONG PERIPHERY OF SITE = 39.157 Acres	05.66%
TOTAL AREA = 691.587 Acres	

ROAD LENGTH:-	
INDUSTRIAL PARK	
30 M ROAD	2188.20.M
24 M ROAD	1541.18.M
18 M ROAD	7024.44.M
12 M ROAD	383.61.M
10 M ROAD	227.66.M

Item	Area in Acres	Percentage
GREEN BELT	69.160	14.51%
O.S.R. AREA 1 TO 12	119.180	25.00%
25% GREEN BELT IN PLOT AREA	15.940	3.34%
GREEN BELT 3m ALONG ROAD SIDE	39.157	8.21%
GREEN BELT ALONG PERIPHERY OF SITE	243.437	51.00%
TOTAL IN ACRES	352.00%	74.00%

CLIENT:
SIPCOT

SURVEYED BY:
RELIABLE CONSULTANTSS
 GIS, LAND MAPPING
 REGD.OFF.: PLOT NO.105/4, 5th STREET, LAKSHMI NAGAR,
 MADIPAKKAM, CHENNAI-600 091
 MOBILE: 9840070050,9840579526.
 EMAIL: reliableconsultantss@yahoo.co.in
 csprabagar@gmail.com
 WEB: www.reliableconsultantss.com



CHENNAI METROPOLITAN WATER SUPPLY
AND SEWERAGE BOARD

MANAGING DIRECTOR

Lr.No.CMWSSB/CE(O&M)II/STP(N)/45TTRO - KOD/039/SIPCOT-MANALLUR, Date: 30.01.2020

To,

The Managing Director,
SIPCOT,
No.19 - A, Rukmani Lakshmi pathy Road,
Egmore,
Chennai - 600 008.

Sir,

Sub: CMWSS Board - C.E.(O&M) II - S.E.(WWT&R) - *Design, Build and Operate for 15 years (DBO) a 45 MLD capacity Tertiary Treatment Reverse Osmosis (TTRO) Kodungaiyur expandable to 60 MLD including supply, laying and maintenance of D.I. Transmission mains for conveyance of Product water to industries located in Manali - Minjur and Manali - Ennore corridor - Request received from SIPCOT to supply 20MLD TTRO water to SIPCOT industrial park at Manallur from Kodungaiyur TTRO plant - Confirmation on supply to SIPCOT industrial park at Manallur from Kodungaiyur TTRO plant - Reg.

Ref: 1) SIPCOT Lr.No.CD/Water Supply/MNL/2019, Dated :27.12.2019
2) SIPCOT Lr.No.CD/Water Supply/MNL/2019, Dated :29.01.2020

The Managing Director, SIPCOT, has requested to extend the supply of 20MLD TTRO water from TTRO plant at Kodungaiyur to the proposed SIPCOT industrial park at Manallur and other parks in the vicinity and also to furnish letter of confirmation for the supply of TTRO Water in order to obtain Environmental clearance for the proposed industrial complex at Manallur, vide reference 1st and 2nd cited respectively.

Your requirement of 20MLD of TTRO water has already been factored in the estimation and we hereby convey our acceptance to supply 20 MLD of Tertiary Treated water to SIPCOT industries including 5MLD for the proposed SIPCOT industrial park at Manallur and 15 MLD for other parks in the vicinity from the expandable 60MLD TTRO plant at Kodunagiyyur on completion of entire works in all respects.


30/01/2020
MANAGING DIRECTOR



CHENNAI METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD
No.1, Pumping Station Road, Chintadripet, Chennai - 600 002.

MANAGING DIRECTOR

Lr. No. CMWSSB/O&M II/WT&T/ROII/SIPCOT/01/2020, Dt. 20.05.2020

To

The Managing Director
 SIPCOT No.19-A,
 Rukmani Lakshmi Pathy Road,
 Post Box No.7223
 Egmore,
 Chennai-600 008

Sir,

Sub: CMWSSB - O&M II - WT&T- RO II - Establishment of Industrial park at Manallur - Obtaining environmental clearance – Supply of 1.3 MLD fresh water to the proposed Industrial park – No objection to utilize the water supplied to Thervoykandigai SIPCOT issued - Reg.

Ref: Lr.No. Projects/EIA/Fresh water supply/ Manallur/2020 dated 12.05.2020

In the reference cited above, it is informed that it has been proposed to establish an Industrial park at Manallur, SIPCOT and is in the process of obtaining Environmental clearance from MoEF & CC, Govt. of India, New Delhi for the proposed Manallur Industrial Park. In the first phase, an extent of 279.995 Hectares is to be developed and the water requirement is 6.3 MLD out of which 5 MLD is proposed from TTRO water and 1.3 MLD of fresh water is required.

In this regard, it is informed that CMWSSB has developed infrastructure to supply 14 MLD of raw water from Redhills Lake to SIPCOT Industrial Park at Thervoykandigai as deposit work. SIPCOT may develop infrastructure to convey the required quantity of 1.3 MLD of water from Thervoykandigai pump house to Manallur SIPCOT from the overall allocation of 14 MLD to Thervoykandigai SIPCOT.


 20/5/2020
 Managing Director.

Annexure 12

District level Base maps and Thematic Maps Superimposing site

Base Maps and Thematic Maps for the District

Base maps for the district showing physical features such as Topo map, land use, drainage and geomorphology were prepared and given in Figures 1,2 , 3 and 4 respectively. Thematic maps with reference to Environmental Sensitivity (Figure 5), Monuments (Figure 6), water bodies (Figure 7) and water table (Figure 8) were prepared. Apart from this Ambient Air Quality Index maps were prepared for PM₁₀, PM_{2.5}, SO₂ and NO_x and the map are enclosed in this report (from Figures 9 to 12).

As per the map PM₁₀ range at site is 72.2 to 75.0 µg/m³.

PM 2.5 from 31.0 to 31.7 µg/m³

SO₂ from 10.9 to 11.8 µg/m³

NO_x from 21.9 to 24.0 µg/m³

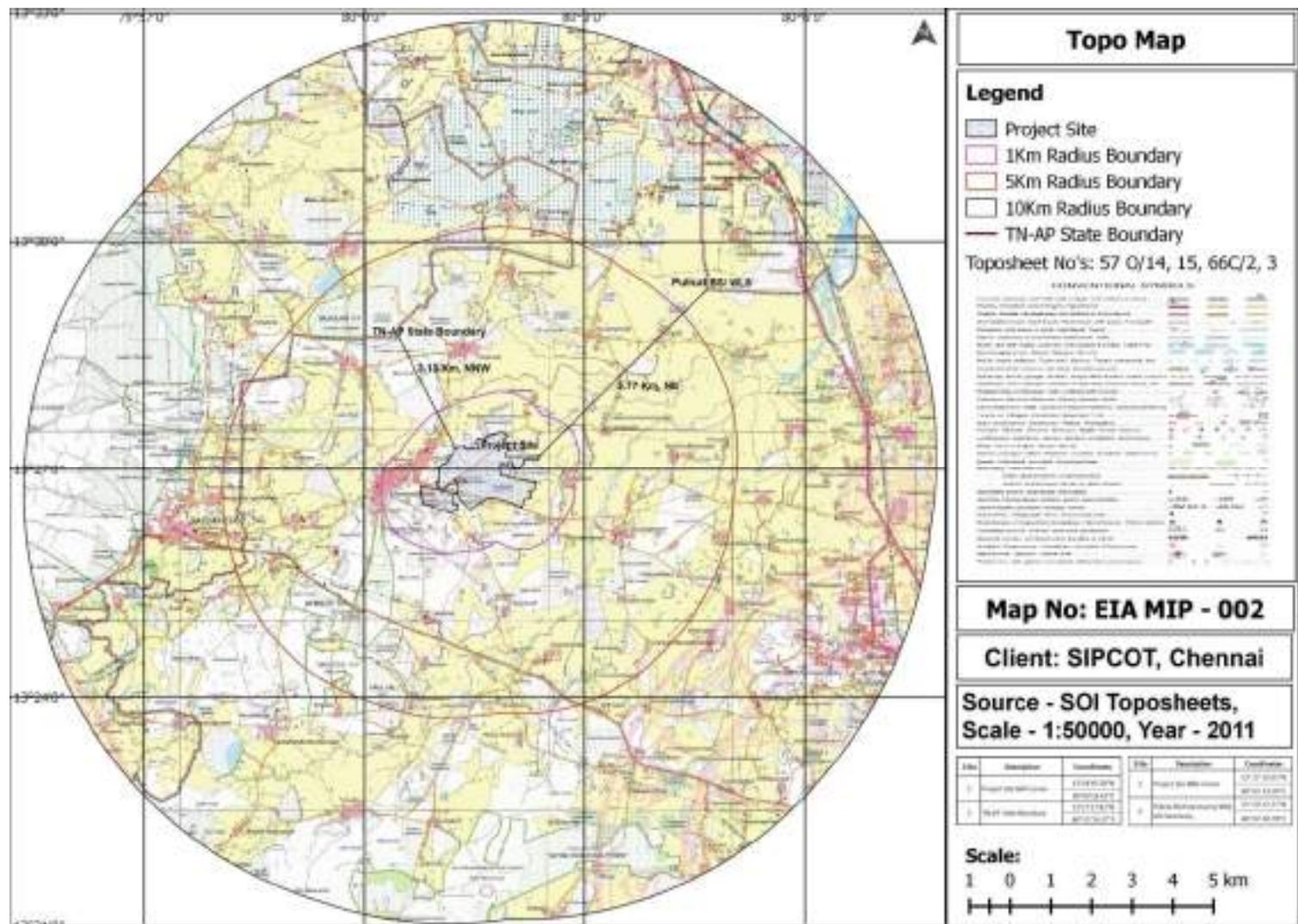


Figure 1 Topomap showing the project site, distance between Inter state Boundary and Pulicat Lake Wildlife Sanctuary

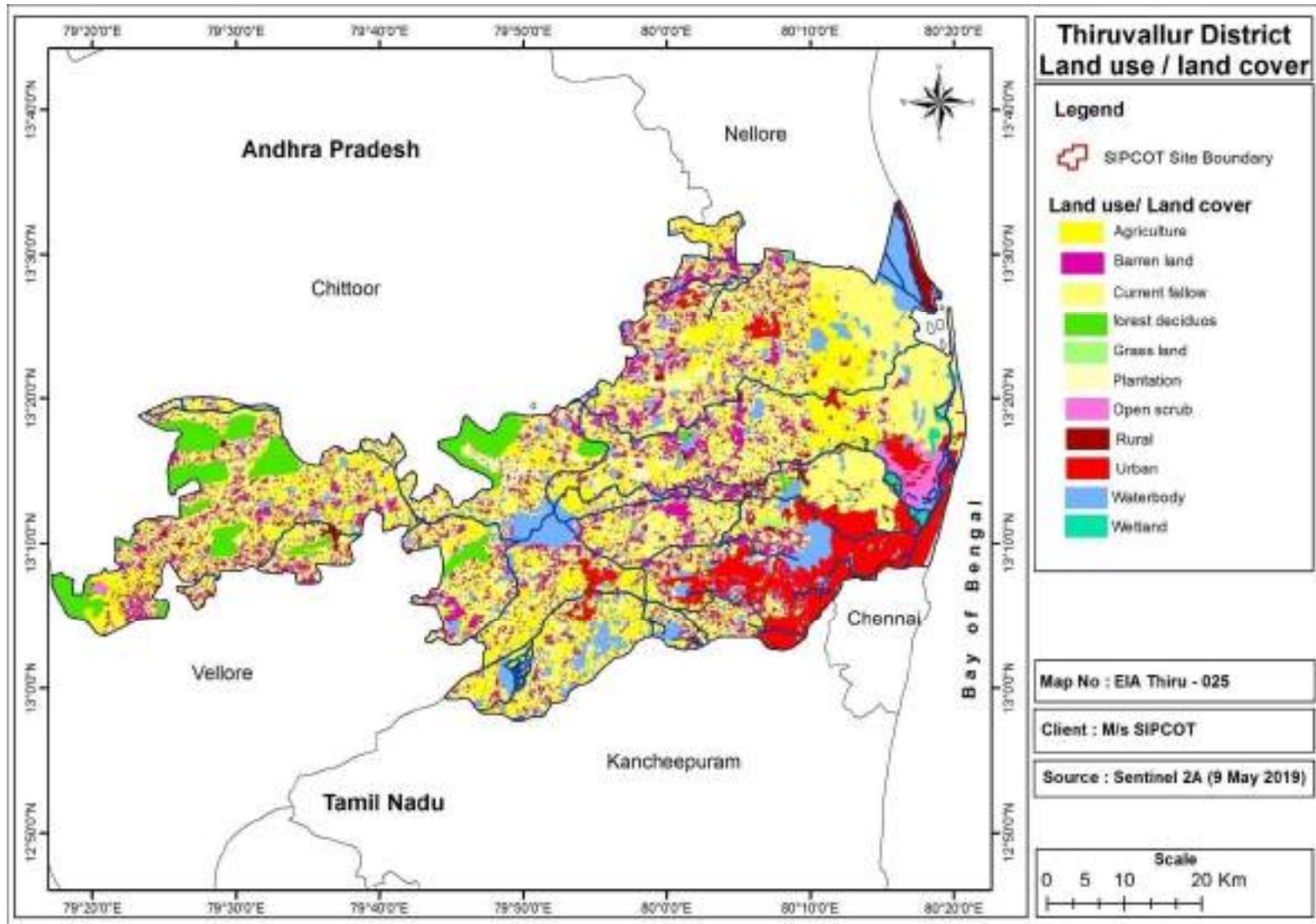


Figure 2 Land use Map of the District showing the project site

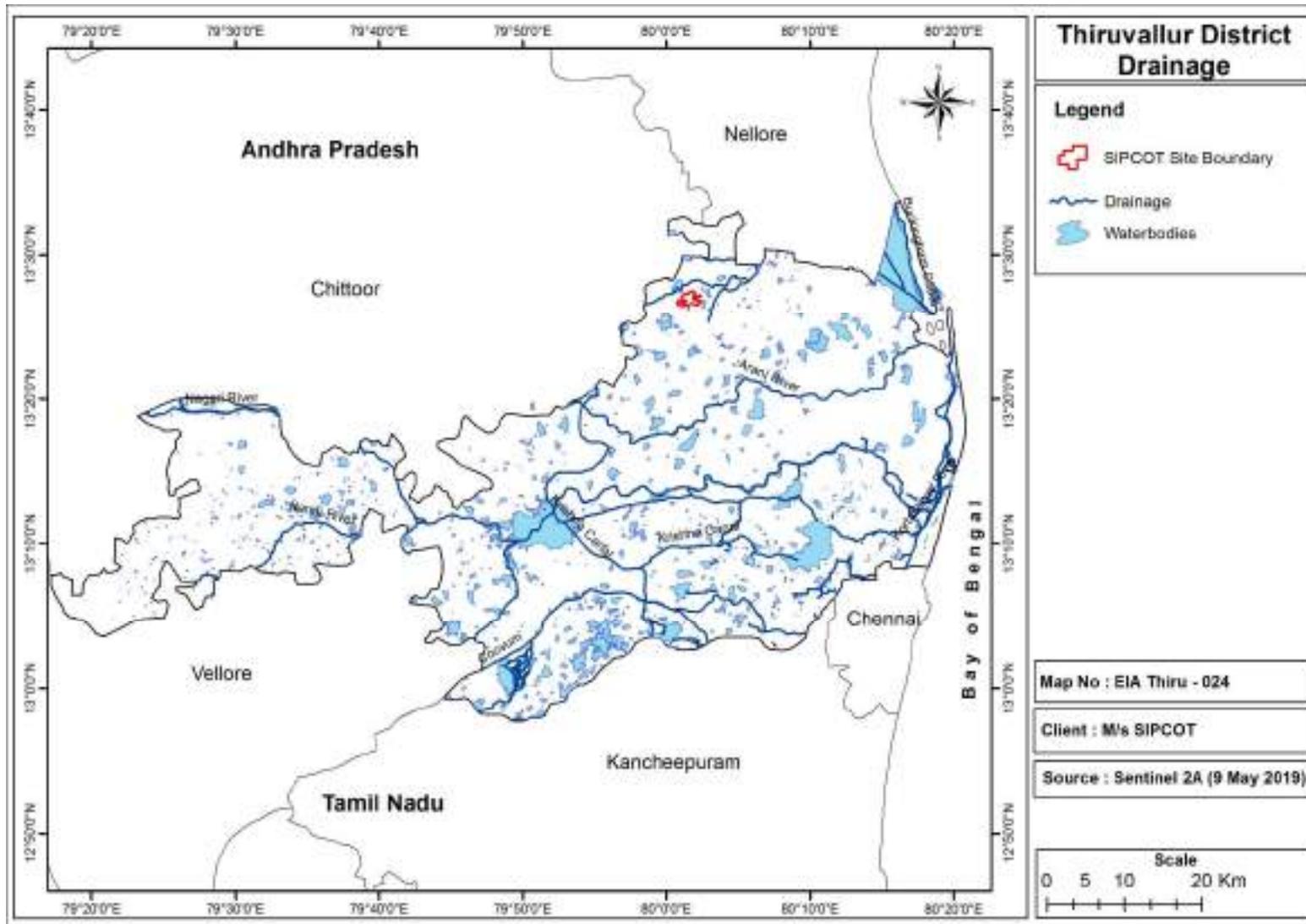


Figure 3 Drainage map of the district showing the project site

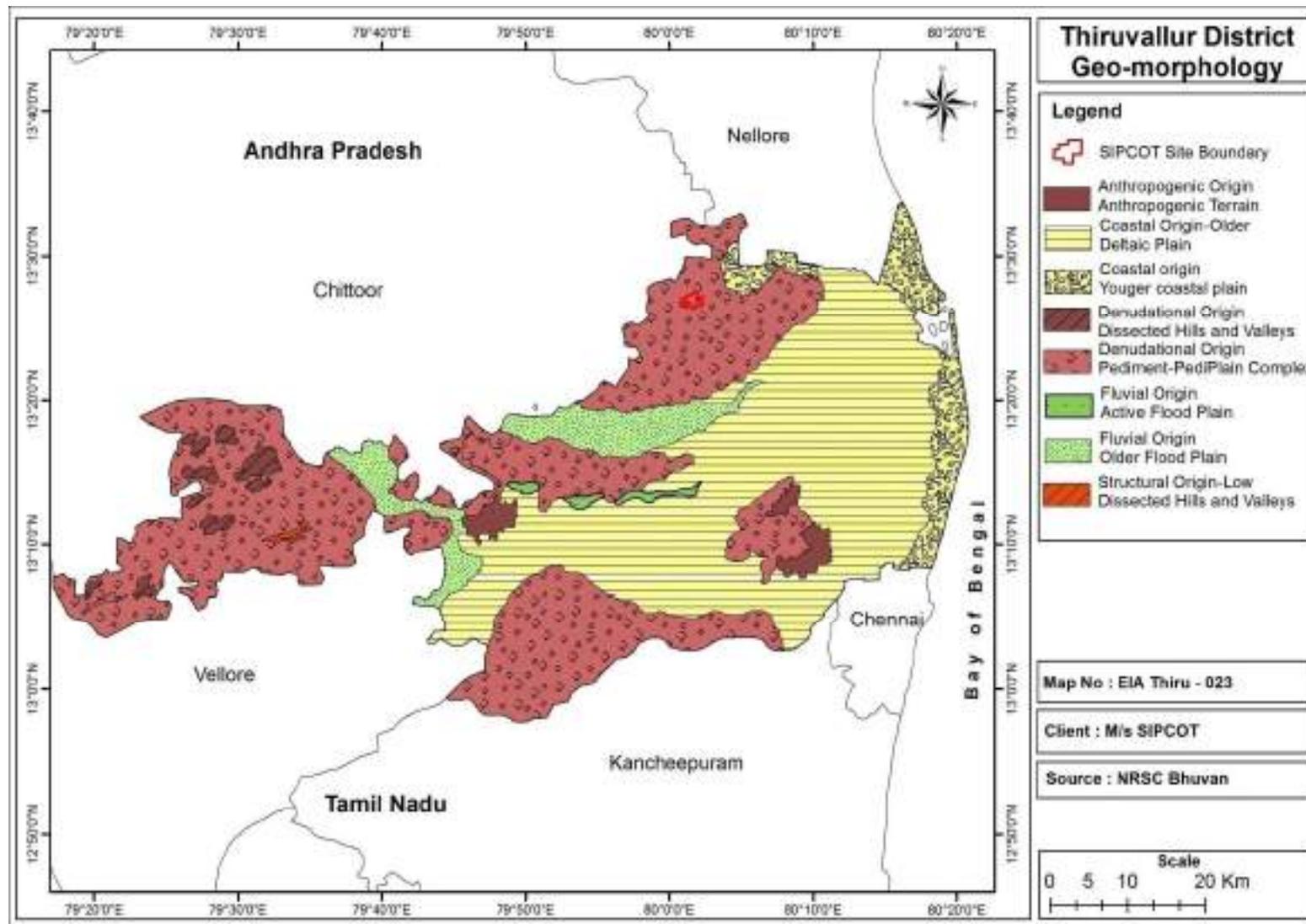


Figure 4 Geomorphology map of the district showing the project site

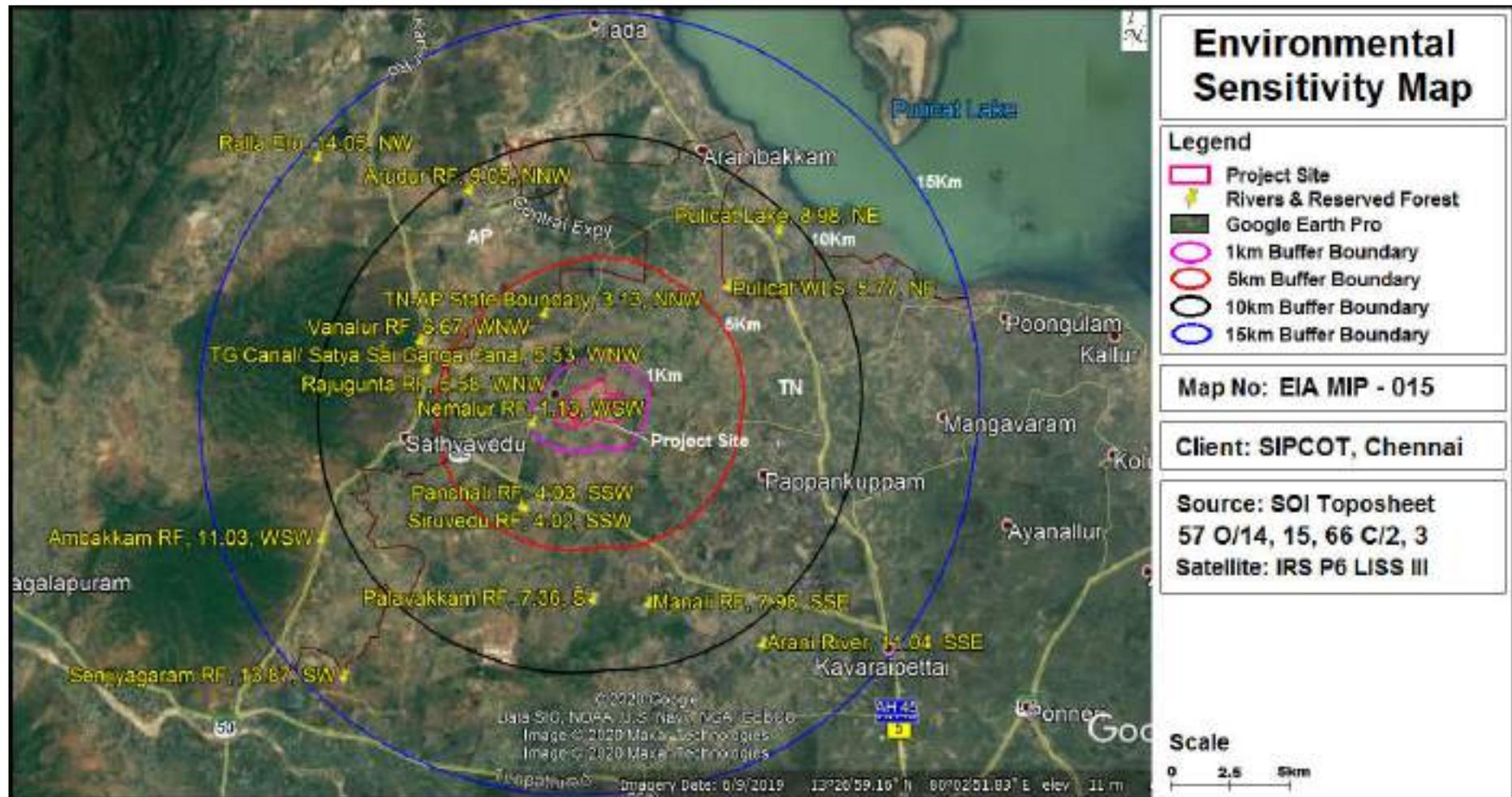


Figure 5 Environmental Sensitivity map of the study area withing 10km radius



Figure 6 Monuments withing 10km radius

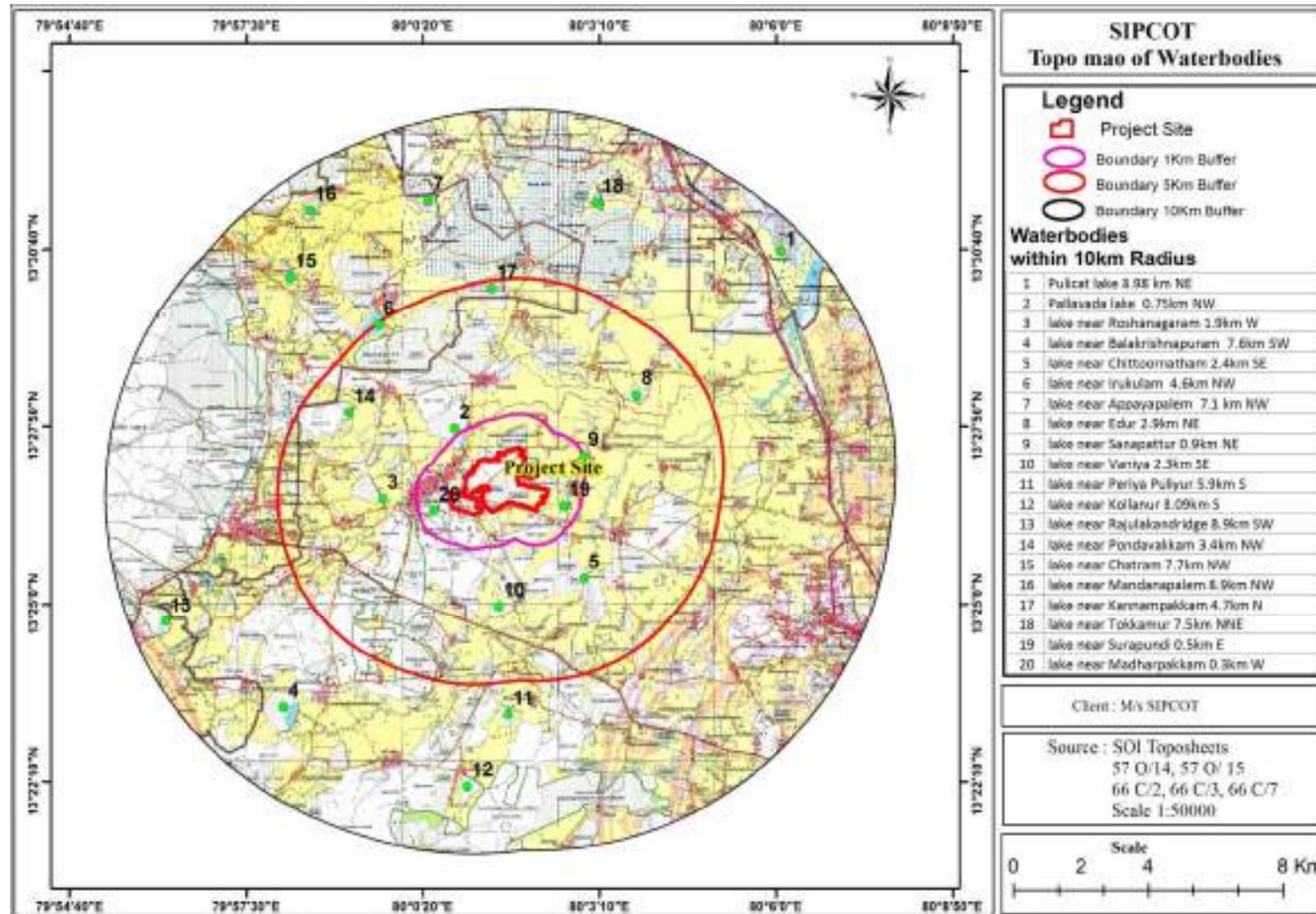


Figure 7 Waterbodies within the study area of 10km radius

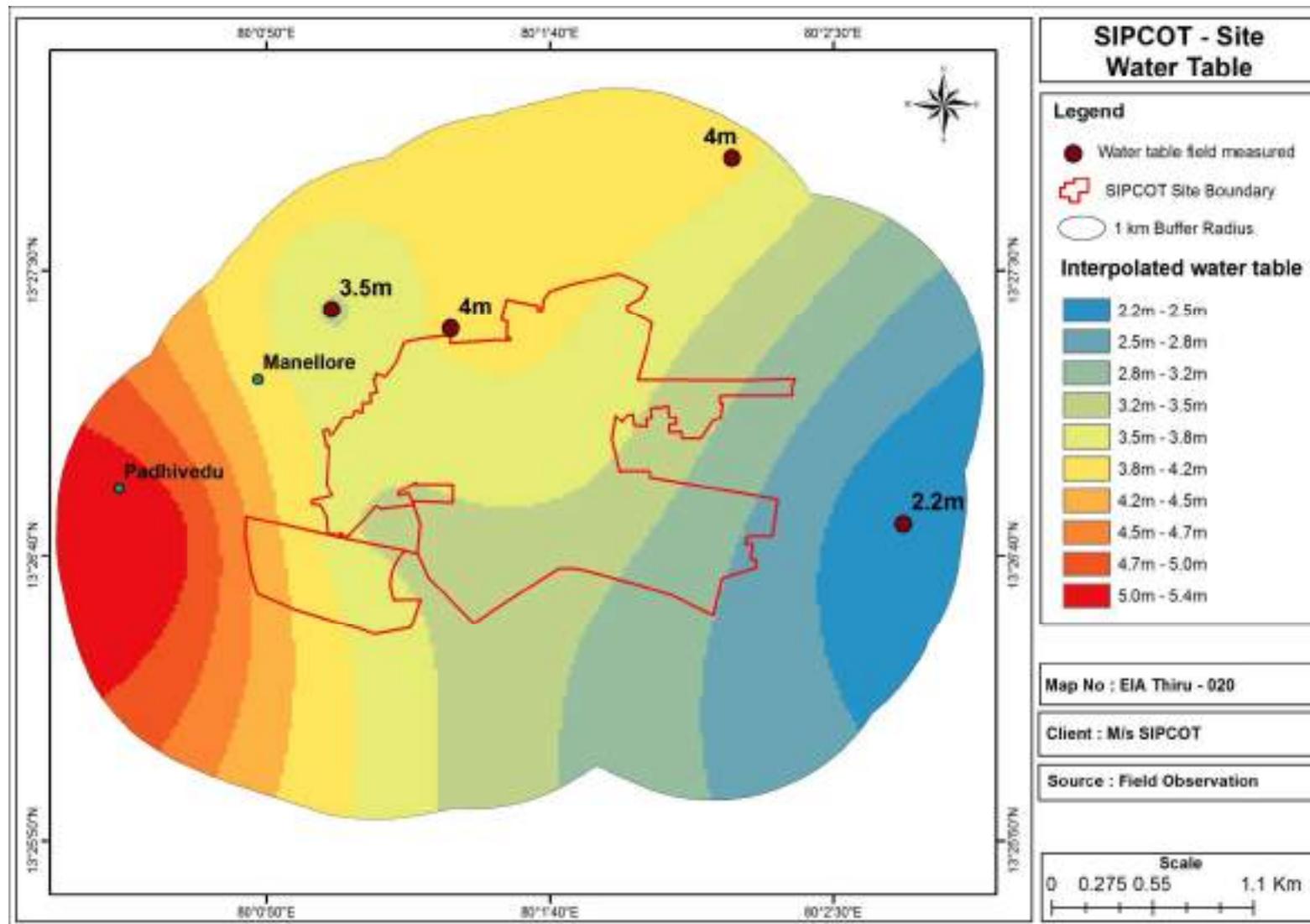


Figure 8 Water table map of the study area within 1km radius (based on Piezometric Survey by HECS)

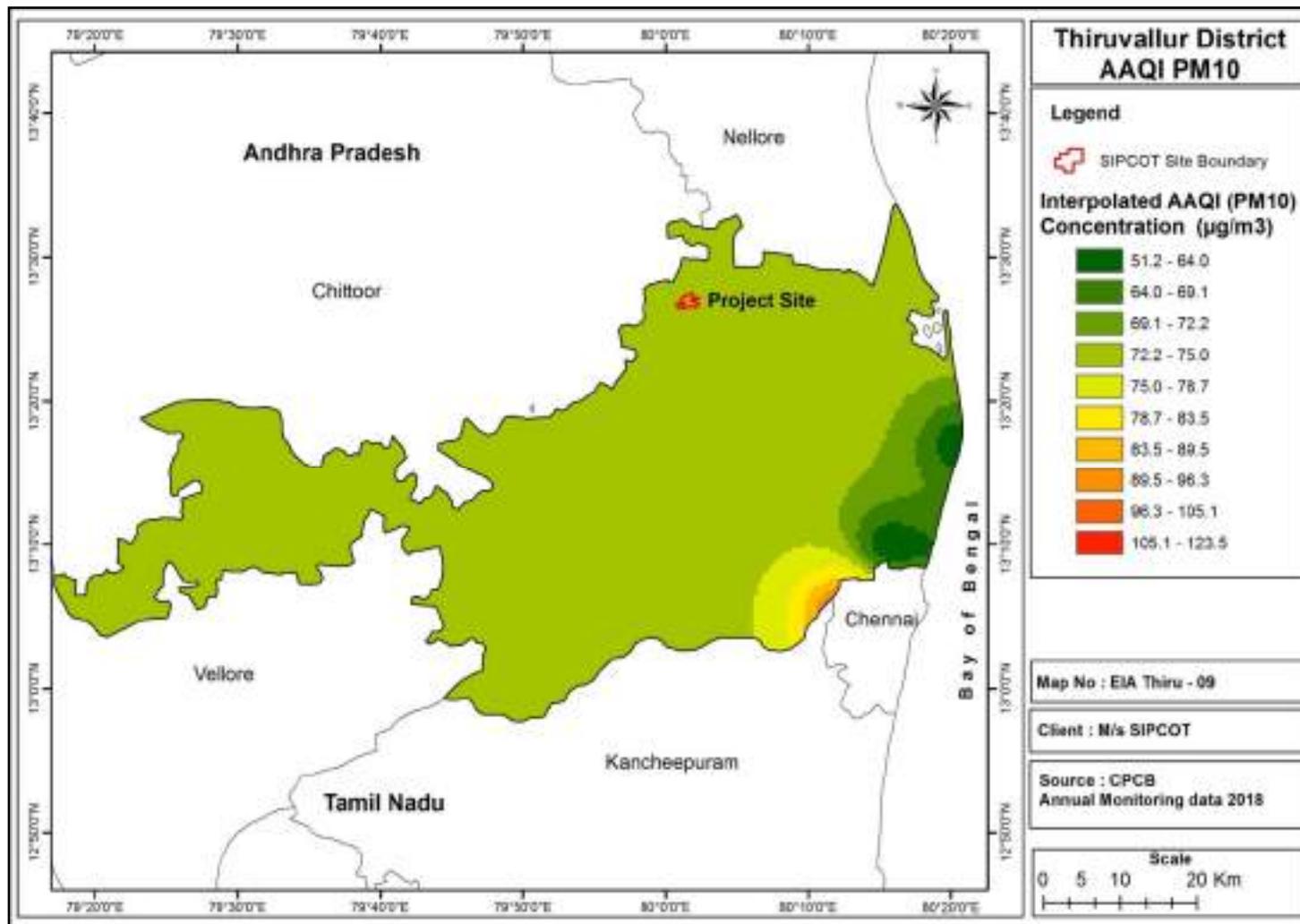


Figure 9 Ambient Air quality Index for PM₁₀ showing the project site

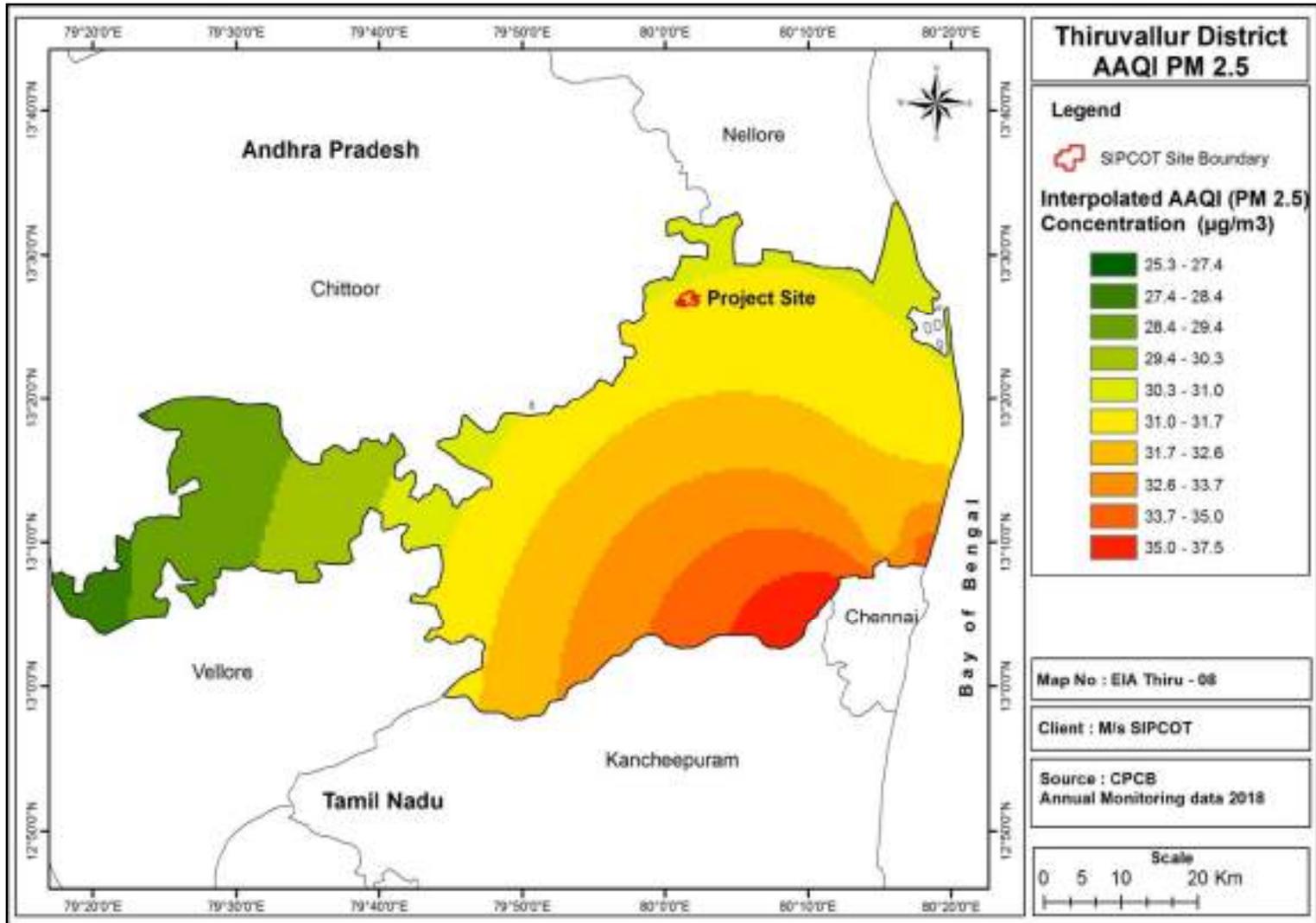


Figure 10 Ambient Air Quality Index for PM_{2.5} showing project site

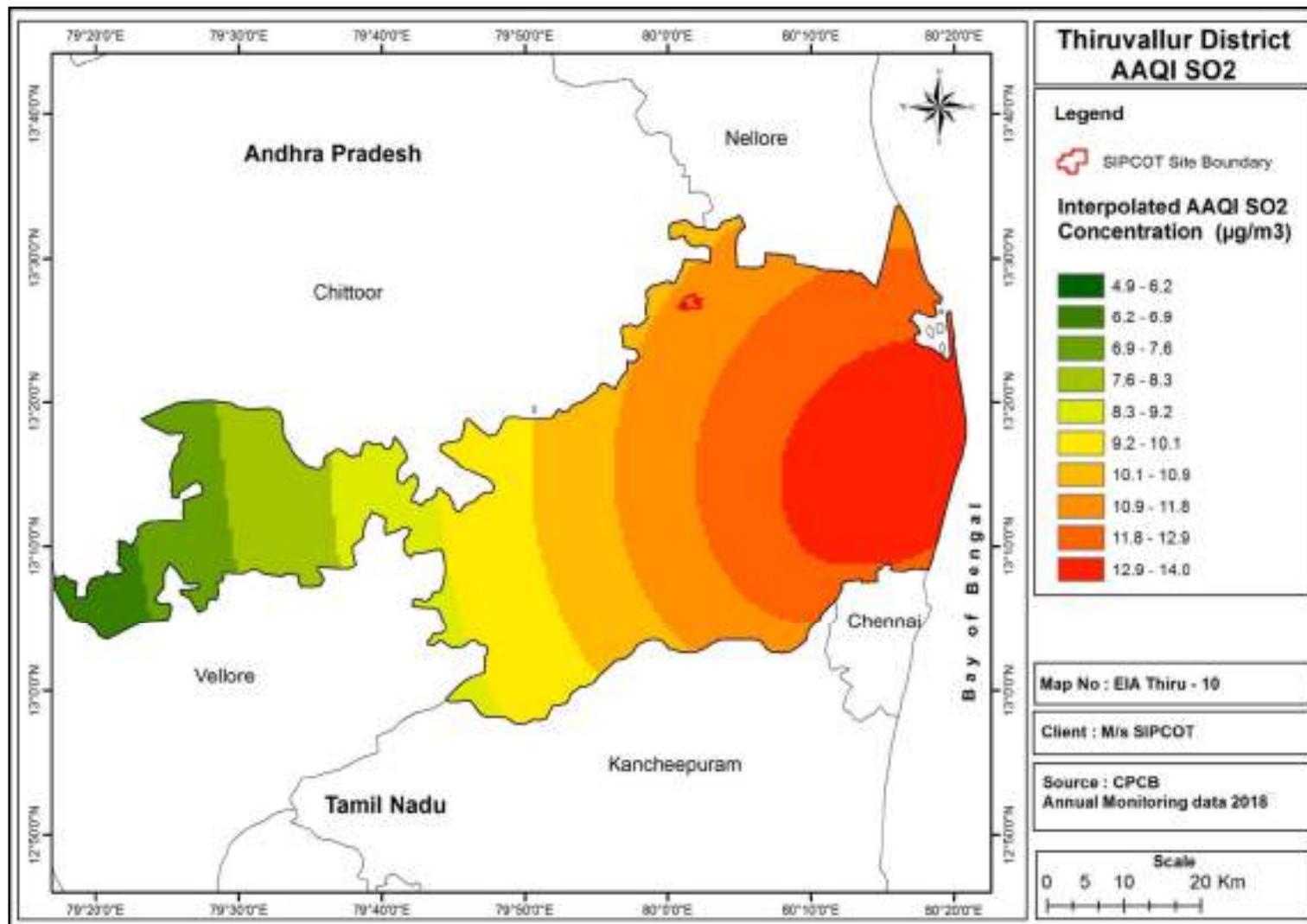


Figure 11 Ambient Air Quality Index for SO₂ showing project site

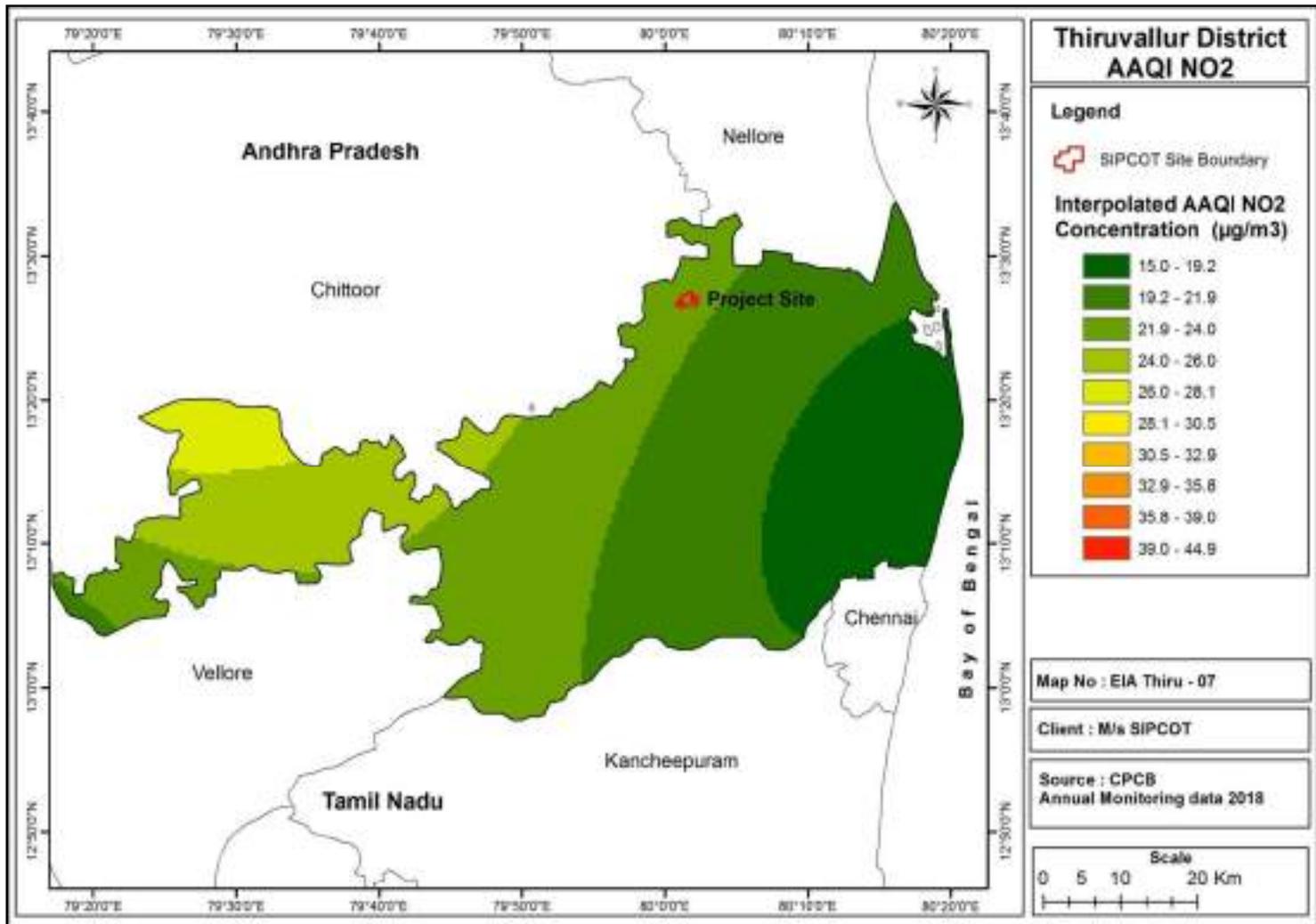


Figure 12 Ambient Air Quality Index Map for NO_x showing project site

TENTATIVE LAYOUT FOR PROPOSED SIPCOT INDUSTRIAL PARK

IN MANALLUR and SOORAPOONDI VILLAGES, GUMMIDIPOONDI Tk., TIRUVALLUR Dt..

PLOT AREA

PLOT NO.	RE IN CRE.	PLOT NO.	RE IN CRE.	PLOT NO.	RE IN CRE.
1	4.13	45	4.00	89	3.00
2	4.49	46	3.00	90	1.91
3	4.49	47	3.00	91	2.19
4	4.49	48	3.00	92	3.00
5	4.49	49	3.06	93	3.00
6	5.00	50	2.11	94	5.44
7	4.52	51	2.10	95	2.52
8	5.00	52	1.85	96	4.00
9	6.00	53	2.00	97	4.00
10	2.00	54	2.00	98	4.00
11	2.00	55	2.00	99	5.00
12	2.00	56	2.00	100	5.00
13	2.00	57	2.00	101	5.00
14	2.00	58	2.00	102	4.06
15	2.00	59	2.00	103	4.79
16	2.00	60	2.00	104	5.00
17	2.00	61	2.00	105	5.00
18	2.63	62	2.63	106	5.00
19	3.00	63	2.82	107	5.00
20	3.00	64	2.00	108	3.00
21	3.00	65	2.00	109	3.00
22	3.00	66	2.00	110	5.00
23	3.00	67	1.79	111	2.43
24	3.00	68	1.79	112	8.17
25	3.00	69	3.21	113	11.38
26	2.00	70	4.13	114	3.50
27	2.00	71	3.61	115	8.43
28	3.67	72	1.79	116	7.49
29	3.85	73	1.79	117	7.49
30	3.85	74	1.19	118	7.69
31	3.67	75	2.21	119	8.90
32	2.00	76	3.00	120	13.10
33	2.00	77	2.84	C1	11.26
34	3.17	78	3.90	C2	6.67
35	2.25	79	2.90	C3	1.80
36	2.21	80	3.00	C4	7.22
37	0.98	81	3.00	C5	3.00
38	8.80	82	3.00	C6	3.00
39	5.00	83	3.00	C7	3.00
40	5.00	84	2.67	C8	3.00
41	5.00	85	2.21	C9	3.00
42	5.00	86	3.00	C10	3.00
43	4.00	87	3.00	C11	3.00
44	4.00	88	3.00	TOTAL	476.73

S.Nos. IN MANALLUR VILLAGE

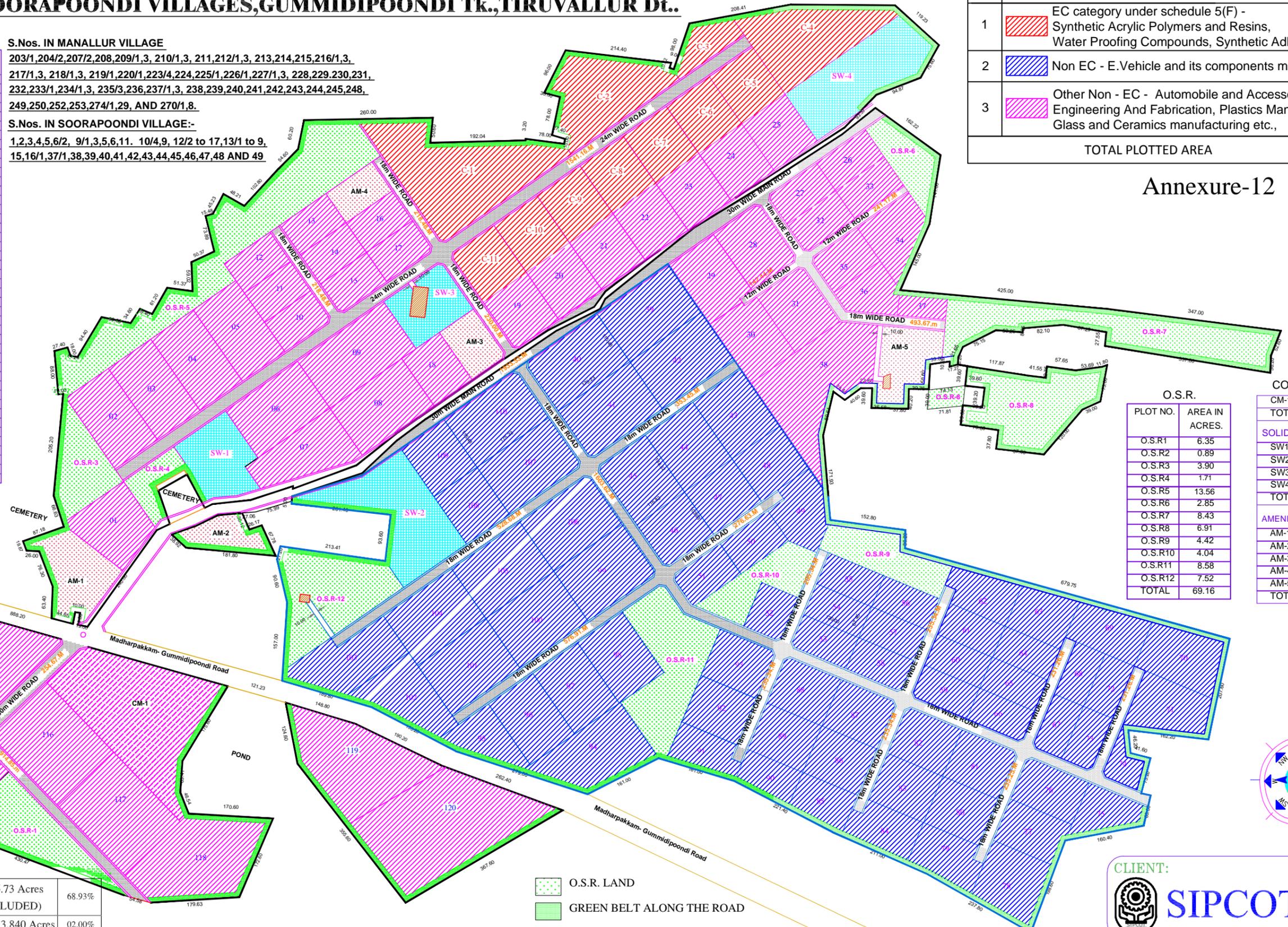
203/1, 204/2, 207/2, 208, 209/1, 3, 210/1, 3, 211, 212/1, 3, 213, 214, 215, 216/1, 3, 217/1, 3, 218/1, 3, 219/1, 220/1, 223/4, 224, 225/1, 226/1, 227/1, 3, 228, 229, 230, 231, 232, 233/1, 234/1, 3, 235/3, 236, 237/1, 3, 238, 239, 240, 241, 242, 243, 244, 245, 248, 249, 250, 252, 253, 274/1, 29, AND 270/1, 8.

S.Nos. IN SOORAPOONDI VILLAGE:-

1, 2, 3, 4, 5, 6/2, 9/1, 3, 5, 6, 11, 10/4, 9, 12/2 to 17, 13/1 to 9, 15, 16/1, 37/1, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48 AND 49

LIST OF INDUSTRIES		
S.NO	DESCRIPTION	AREA
1	EC category under schedule 5(F) - Synthetic Acrylic Polymers and Resins, Water Proofing Compounds, Synthetic Adhesives.	47.95 Acr
2	Non EC - E.Vehicle and its components manufacturing	227.51 Acr
3	Other Non - EC - Automobile and Accessories, Engineering And Fabrication, Plastics Manufacturing, Glass and Ceramics manufacturing etc.,	201.27 Ac
TOTAL PLOTTED AREA		476.73 Ac

Annexure-12



O.S.R.		COMMERCIAL	
PLOT NO.	AREA IN ACRES.		
O.S.R.1	6.35	CM-1	13.84
O.S.R.2	0.89	TOTAL	13.84
O.S.R.3	3.90	SOLID WASTE	
O.S.R.4	1.71	SW1	4.63
O.S.R.5	13.56	SW2	8.03
O.S.R.6	2.85	SW3	3.57
O.S.R.7	8.43	SW4	8.00
O.S.R.8	6.91	TOTAL	24.23
O.S.R.9	4.42	AMENITIES	
O.S.R.10	4.04	AM-1	4.16
O.S.R.11	8.58	AM-2	1.84
O.S.R.12	7.52	AM-3	2.37
TOTAL	69.16	AM-4	2.00
		AM-5	3.47
		TOTAL	13.84

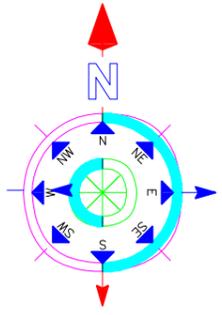
PLOT AREA = 476.73 Acres	68.93%
(25% GREEN BELT 119.18 Ac INCLUDED)	
COMMON AMENITIES = 13.840 Acres	02.00%
COMMERCIAL ACTIVITIES = 13.840 Acres	02.00%
SOLID WASTE MANAGEMENT = 24.060 Acres	03.48%
ROAD , STORM WATER DRAIN = 38.860 Acres	05.63%
O.S.R. AREA 1 TO 12 = 69.160 Acres	10.00%
GREEN BELT 3m ALONG ROAD SIDE = 15.940 Acres	02.30%
GREEN BELT ALONG PERIPHERY OF SITE = 39.157 Acres	05.66%
TOTAL AREA = 691.587 Acres	

ROAD LENGTH:-	
INDUSTRIAL PARK	Area in Acres
30 M ROAD	2188.20M
24 M ROAD	1541.18M
18 M ROAD	7024.44M
12 M ROAD	383.61M
10 M ROAD	227.66M

GREEN BELT	Area in Acres
O.S.R. AREA 1 TO 12	69.16
25% GREEN BELT IN PLOT AREA	119.18
GREEN BELT 3m ALONG ROAD SIDE	15.94
GREEN BELT ALONG PERIPHERY OF SITE	39.157
TOTAL IN ACRES	243.437

35.20% of Developable Area

- O.S.R. LAND
- GREEN BELT ALONG THE ROAD
- PROPOSED LAYOUT ROAD
- COMMON AMENITIES
- COMMERCIAL ACTIVITIES
- SOLID WASTE MANAGEMENT
- EXCLUDED FROM PROJECT SITE



CLIENT:
SIPCOT

SURVEYED BY:
RELIABLE CONSULTANTSS
 GIS, LAND MAPPING
 REGD.OFF.: PLOT NO.105/4, 5th STREET, LAKSHMI NAGAR, MADIPAKKAM, CHENNAI-600 091
 MOBILE: 9840070050, 9840579526.
 EMAIL: reliableconsultantss@yahoo.co.in, asrabagar@gmail.com
 WEB: www.reliableconsultantss.com

MINUTES OF THE PUBLIC HEARING CONDUCTED ON 03.07.2019 FOR THE "MANALLUR INDUSTRIAL PARK" PROPOSED TO BE DEVELOPED IN 286.065 HECTARE IN MANALLUR & SOORAPOONDI VILLAGES, GUMMIDIPOONDI TALUK, TIRUVALLUR DISTRICT BY M/S. STATE INDUSTRIES PROMOTION CORPORATION OF TAMILNADU LTD (SIPCOT)

- Name of the Project** : "Manallur Industrial Park" proposed to be developed by M/s. State Industries Promotion Corporation of Tamilnadu Ltd (SIPCOT) in 286.065 hectare in Manallur & Soorapoondi Villages, Gummidipoondi taluk, Tiruvallur district for member Industries falling under the category of (i) synthetic organic chemical under category 5(f) and (ii) Integrated Pain Industry under category 5(h).
- Venue** : M/s K.V.C Mahal (A/C), Sathiyavedu Road, (Near Sivan Koil) Madarpakkam, Gummidipoondi, Taluk, Tiruvallur District.
- Date & Time** : 3rd July, 2019. 11.00 AM.
- Present** :
1. **Tmt . Mageswari Ravikumar I.A.S**
District Collector, Thiruvallur District, Tamilnadu.
2. **Er. P.Ravichandiran ME.,**
District Environmental Engineer,
TNPC Board, Gummidipoondi.

The list of project proponent and the public attended the public hearing is enclosed as annexure-I.

The District Environmental Engineer, Tamilnadu Pollution Control Board, Gummidipoondi, Thiruvallur District has welcomed the District Collector, officials and the public for the Public Hearing. He said that the M/s. State Industries Promotion Corporation of Tamilnadu Ltd (SIPCOT) has proposed to be develop the "Manallur

Industrial Park" in 286.065 hectare in Manallur & Soorapoondi Villages, Gummidipoondi taluk, Tiruvallur district for member Industries falling under the category of (i) synthetic organic chemical under category 5(f) and (ii) Integrated Pain Industry under category 5(h) for which Environmental Clearance is required from the Ministry of Environment, forest and Climate Change (MoEF &CC), Government of India (GoI), under EIA Notification, 2006. Accordingly the Public Hearing is arranged. He also added that, the public notice informing the Public Hearing was published in two news paper namely "The Indian Express(Tamilnadu)" & "Dhinamani (Chennai)" through DIPR, Govt of TamilNadu and also through local body in the nearby Villages.

**Dr.Nehru Kumar, Project Consultant,
Centre for Environment, Health & Safety, Annamalai University.**

On behalf of M/s. State Industries Promotion Corporation of Tamilnadu Ltd, the consultant has presented in detail about the activity of the proposed Manallur Industrial Park of the SIPCOT including the details about the type of industries to be located, source of water, quantity of water requirement, details of solid waste to be generated, details of waste water to be generated and its mode of conveyance, treatment & disposal and details about the source of emission and the air pollution control measures proposed.

Following the presentation, the public were invited to express their views, concerns and questions, if any by clearly indicating their name and the village, to which he/she belongs to. The views, concerns and queries of the public followed by the clarification from the project proponent are detailed below.

Thiru Ravi. Soorapundi

It is informed that no forest land is available in the vicinity of the proposed site but forest land is available. Whether the Manallur Industrial Park was started or yet to be started by the SIPCOT. The industries such as M/s. ARS Power & Kevin Steel located in the vicinity have made bore well for a depth up to 1000 feet. But in the proposed site it is reported that the bore well by the individual unit is refused. How the water will come in

the Matherpakkam area. What is the necessity of the SIPCOT in this area, it should be established based on the public's need. Already one SIPCOT is existing in the Gummidipoondi then what is the necessity of the one more SIPCOT in this area. It is informed that the biomedical waste will be dumped below the ground but it will be released during raining days and it will affect the health and livelihood of the nearby public. **Hence we no need the Manallur Industrial Park**

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Mrs. Vettriselvi, Manallur.

My residence is located adjacent to this SIPCOT. Development of SIPCOT in the healthy & wealthy village is not acceptable. Large area of agricultural land is available in the vicinity of the proposed site. Agriculture will be affected due to the Industries. Already Gummidipoondi SIPCOT is available within a distance of 30 KM. for that red alert has been given. The proposed SIPCOT is located adjacent to their agricultural land and it will affect the three season harvesting in that area. Air pollution is caused due to heavy lorry transportation and in the evening after 5 PM and night hours the transport gets affected due to this smoke. It is informed that employment opportunity will be available due to the development of SIPCOT, but opportunities are given only to the other state people. Due to industrial development ground water is over exploited and also gets contaminated and affects the children's health. **Hence we no need the Manallur Industrial Park.**

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Gunasekar, Mannallur

The industries which are not affecting the surrounding Environment can be acceptable, but the surrounding environments already get polluted due to the operation of the existing industries. Due to heavy air pollution, white washed wall gets blackened within a week. Due to air pollution, public gets affected by the disease like cancer, typhoid etc. It is informed that employment opportunity will be available due to the

development of SIPCOT, but only security & scavengers post only given to the few local people. There is no possibility of developing Non Polluting Industries in this Manallur SIPCOT, hence we no need the Manallur Industrial Park in our area.

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Prem, Pathirivedu

It reported that the animals and forest will not be affected but there is no protection to the human. Also the industries proposed in this area will be Chemical Industries only and it will affect the Environment. The Great Thiruvalluvar said that there is no world without water, but we are suffering due to contamination of water. Hence we no need the Manallur Industrial Park.

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Chittibabu, Pathirivedu

There is no adequate announcement well in advance regarding the "Manallur Industrial Park" proposed to be developed by SIPCOT and the conduction of public hearing in this regard. No awareness has been given to the public in this regard. It was reported that Public Notice was given in the Daily news Papers, but necessary local announcement by way of "Dom, Dom", in the public hearing meeting without hearing the public views, it is reported that SIPCOT is being developed. The conduction of public hearing meeting is not known to many of the people in the surroundings. After 7 Pm vision of root gets affected due to Air Pollution. Agriculture gets affected. The duty of the Government is to protect the public, instead of that the government affect the livelihood of the people in the name of industrial development. Hence we no need the Manallur Industrial Park.

Dr.Nehru Kumar, Project Consultant:

Public Notice was given in the Daily news Papers and necessary local announcement made through Auto with loud speaker system. Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

108.Thiru E.Sambath Mannallur

There is no adequate announcement well in advance regarding the "Manallur Industrial Park" proposed to be developed by SIPCOT and the conduction of public hearing, women has not able to participated in the public hearing programme. It is not correct to discuss about the development of SIPOCT without having adequate toilet facilities and without solving the discrepancy in the 100 day employment scheme.

The District Environmental Engineer has intervned and requested to speak only about this project.

There is no action taken on the resolution passed in the Village Saba regarding pollution due to M/s Kevin Steel. It is a rice bowl and setting up the SIPCOT by sacrificing the Agriculture is not acceptable one. There is lot of Palm & cashew tree and it is proposed to setting up the SIPCOT by destroying the above trees. There are 5000 nos of cattle are available in this area and there will not be sufficient land for grazing. There is no solution for water problems but this public hearing is being conducted for establishing new SIPCOT. Agriculture gets affected due to industrialization. The desilting work has not been done in the two lakes located within the proposed site. Due to heavy harvesting of paddy the village is named as **Mannallur**. There is no adequate land allotment for burial ground & disposal of Municipal Solid Waste instead of that all the Porombok land are allotted for this proposal. Instead of developing the SIPCOT importance may be given to Agriculture. Already enough numbers of SIPCOT are available in this area there is no need of that **Manallur Industrial Park**.

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Nalan, Madarapakkam

The Govt has to provide all the basic amenities for the living things. This proposal will not affect the mankind. There is lot of SIPCOT are available in this area and what are the development was made for the development of this people?. Most of the families were shifted from this area, since there is no basic amenities and transport available even this 2019. Already we are suffered by lot, from existing SIPCOT and don't push us to death trench by developing this SIPCOT. **Hence we no need the Manallur Industrial Park.**

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru A.Saravanan, Mannallur

Most of the people are not aware of this public hearing. It should be informed through Village Panchayat. Advertisement through news papers will not reach . Its is proposed to develop SIPCOT in an extent of 286 Ha. but there is no way to development of Agriculture. Desilting of Lakes will improve the agriculture .Due to the operation of M/s Chitrakoot Industries; the public in Gummidipoondi area gets more affected. Similarly it will happen in this area also. Due to heavy industrialization lot of dieses are happening and public suffered lot. In the event of closing most of the industries in the Gummidipoondi SIPCOT there is no need of this proposed SIPCOT.

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Jagankumar, Mannallur

As per EIA Notification 2006, this "Manallur Industrial Park" is categorized as category "A" type. The category "A" type is dangerous & poisonous. It is proposed to develop Syntactic Organic Chemical Industries in this area . The waste generated cannot be recycled. There are more nos of SIPCOT, SIDCO & CRZ prone area . Water and food material are supplied by this area to Tiruvallur District. Tanjore is a rice bowl of Tamil Nadu like that Manallur is the rice bowl of Tiruvallur District. There is no welfare of the nearby public in this project. The cost invested in the project can be utilized for public

for better development of agriculture and thereby increasing the groundwater table. This project cost may be spent on development of green belt in that project area. **Hence we no need the Manallur Industrial Park**

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi

Thiru Vadivel, Mannallur.

It is reported that the details of industries to be located within the proposed site not able to be furnished right now, but the air pollution is reported as 52 %. It is also reported that value is within the standard prescribed by the Govt. After industrializations whether the above 52 % can be increased or not. What is the assurance for that? It is informed that employment opportunity will be available due to the development of SIPCOT, but opportunities are given only to the other state people. More than 5000 people have registered in the employment exchange office. If the proposed land is given to the public, we will develop the agriculture and give employment to more people and develop our livelihood. **Hence we no need the Manallur Industrial Park.**

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi

Thiru Sukumar, Mannallur.

Agriculture is the backbone of the Country. Development of agriculture is the development of nation. The proposed area is the catchment area for the Bootheri Lake. If the Industrial park is developed, how the water will comes to this lake. It is reported that the approval has been obtained from MoEF &CC in 2015, but there is no adequate announcement well in advance regarding the "Manallur Industrial Park" proposed to be developed by SIPCOT and the conduction of public hearing. Already three lakes and one water harvesting pond is located within the proposed site and green belt also developed in some area. But it is reported that no water bodies within the proposed site. How the water will come to this area. **Hence we no need the Manallur Industrial Park.**

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Karthik, Nagarajkandigai

It is reported in the assembly that 12 places were highly polluted. Gummidipoondi is one among that. In the Gummidipoondi area lot of emission after 6 PM and heavy pollution. It can be tolerated by the adult and can't by children. Since the over exploitation of ground water, by the industries there is a possibilities of sea water instruction. Hence we are strongly objecting this proposal, which will affect the public livelihood.

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Anandharaj, New Gummidipoondi

Already air gets polluted in the Gummidipoondi area due to the operation of Industries such as KTV Oil, Chirahoot steel. Due to air pollution Physical exercise such as walking, running result in casualty. Groundwater gets polluted. 12 people death happened due to this air pollution. Many people get affected by the disease like vomiting, faint etc. Pollution happened more than 3-4 times the standard prescribed by the Govt. Hence we no need the Manallur Industrial Park which will affect the public livelihood.

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

Thiru Srinivasan, Mannallur

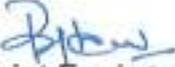
There is no way to burial ground, due to the development of SIPCOT what kind of development can be happened to the public. What is the assurance for that?

Dr.Nehru Kumar, Project Consultant:

Views are recorded and it will be sent to MoEF&CC, Gol, New Delhi.

The public hearing meeting was concluded with intimation that the audio & video of the views, concerns and queries of the public followed by the clarification from the project proponent were recorded and it will be sent to the Ministry of Environment, forest and Climate Change (MoEF &CC), Government of India (Gol).

Further, details of person participated in the public hearing along with written submission and compact disc containing audio & video recording with photographs of the public hearing are enclosed herewith.


District Environmental Engineer,
TNPC Board, Gummidipoondi.


District Collector,
Thiruvallur District


1

2

Annexure -15

Disaster Management Plan

Accident can occur in every industry inspite of efforts to prevent them. Frequently they give rise to suffering and damage, the extent of which is, in part, determined by the potential for loss, surrounding the event. Some of the industries coming up in the Industrial Park have high potential for loss and there have been cases, where loss, measured in both human and monetary terms, has been severe. It is equally true to say that there have been other cases where, because of effective action taken at the time, the full potential loss has been largely avoided. Effective action, in these cases, has been possible due to the existence of pre-planned and practiced procedures for handling major emergencies utilizing the combined resources of the industry concern and outside services.

Section 41-B(4) of the Factories Act, 1948 requires that every occupier of a Hazardous and Non-hazardous factory shall draw up and onsite emergency plan and detailed disaster control measures for the factory and make known to the workers and the general public in the vicinity, the safety measures required to be taken in the event of an emergency.

1.1 Disaster Management Plan

The individual Industries will have their own disaster management plan. However the generic DMP is been given below:

Despite of all efforts made accidents do occur which need immediate attention. The risks involved in this project have been identified and their mitigation measures have been proposed. But when serious accidents occur, negligence could result in loss of life. Accordingly following plan of disaster management has been evolved.

1.1.1 Major activities

Broadly Disaster Management Plan mainly include

- Pre- Emergency Preparedness,
- Emergency actions and
- Post Emergency activities

These activities are aimed at facing any emergency so that at the required time there is no disaster and everything is handled in a very effective manner.

a) Pre-emergency preparedness

The activities falling in this category are carried out in a normal situation without any reference to any particular accident/ hazard. They are of a precautionary nature. These normally included:

- Internal safety
- Non-destructive testing
- Fire fighting system testing
- Mock drills
- Training
- Productive equipment
- Communication
- Emergency lights
- Emergency control Room
- Assembly points
- Liaison with state authorities
- Hospital activities
- Outside shelters

b) Emergency actions

During emergency, the staff at various levels is expected to work in coordinated manner with pre-assigned duties to meet the emergency situation and bring normally with the help of the resources available within and outside the premises. Availability and correct use of different means of communication and control is very important during emergency time. Duties of various persons shall be defined properly.

c) Post Emergency Procedures

After the emergency is over investigations are required to be made to establish the reasons for emergency and preventative measures needed for future happenings. These activities include:

- a) Collection of records
- b) Conducting enquiries
- c) Making insurance claims, if any,
- d) Preparation of enquiry report and suggestion
- e) Implementation of enquiry report and recommendations
- f) Rehabilitation of affected persons.

1.1.2 Emergency Plan

This includes following actions

a. Site layout

Site plan of the Industrial park along with individual industries plan will be kept at a conveniently approachable place. The plan will show the storage site of the various materials along with the details of the surrounding areas. This gives a layout of the Buildings and other facilities like roads, open and work areas etc.

b. Emergency control centre

The Control Centre will be established within the premises which will be marked on the site plan. It will be the focal point from where all operations to handle the emergency will be directed and coordinated. It will have internal and external telephone communications along with list of essential telephone numbers and list of key persons and their addresses.

c. Assembly point

Assembly area will be earmarked for the people to get together in case of emergency which will be away from material storage. A list of all the employees will be available at this site so that their roll call could be taken and missing person, if any, could be located.

d. Emergency alarm system

An audible emergency alarm system will be installed in the premises. It will be operated from at least 4 different points spread over the entire area and clearly marked as "Emergency Area Switch". The system will be tested regularly. The alarm will signify to the persons & staff that the emergency has occurred and emergency services should be put in operation. The Public Address System will also be activated and specific instructions for eventualities will be passed on to the staff.

e. Service & control

a) Emergency Services-This includes Fire fighting, First Aid and rescue teams. Alternative source of power supply for operating fire pumps and communication with local bodies and fire brigade etc. Will be given.

b) Control Centre-The control centre could be either in Security room or Fire Station and will have:

- i. Adequate number of Internal and external telephones.
- ii. Layout Plan of the colony buildings showing:
 - o Sources of safety equipment.
 - o Fire hydrant system and alternate supply source
 - o Stock of other fire fighting materials
 - o Assembly points & first aid centres.
 - o Surrounding habitation within ½ km distance.
- iii. Additional work plans which may illustrated during emergency
 - o Areas vulnerable / endangered
 - o Deployment of emergency vehicles and personnel
 - o Areas where particular problems arise e.g. fractured pipe-line.
 - o Areas to be evacuated.
- iv. Normal roll of employees.
- v. List of key persons and their addresses with telephone numbers.
- vi. Notepads, pencils, etc to record messages received and instructions to be passed on through runners.
- vii. A tape recorder on which the incident and actions, being taken and progress could be recorded.
- viii. Roll call

1.1.3 Key Personnel and their duties

Following persons will be designated for emergency situation

- i. Site Controller
- ii. Incident Controller
- iii. Personnel/ Administrative Managers
- iv. Communication Officers
- v. Telephone operators
- vi. Engineer incharge and Electrician
- vii. Fire pump attendants
- viii. First Aid

Their duties are given as under:-

i) Site controller

General Manager or his nominated deputy will retain overall responsibility for the premises and its personnel. As soon as he is informed of the emergency,

he shall proceed to the control room and meet the communication officer. His duties shall be:

- a. Assess the magnitude of the situation and decide if people need to be evacuated from their assembly points.
- b. Exercise direct operational control over areas other than the affected.
- c. Maintain a continuous review of possible development and assess, in consultation with incident Controller and other key personnel, as to whether evacuation of persons is required.
- d. Liaise with senior officials of Police, Fire Brigade and Medical and provide advice on possible effects on areas outside the Industrial Park.
- e. Control rehabilitation of affected areas on discontinuation of emergency.
- f. Issue authorized statements to news media, and ensures that evidence is preserved for enquiries to be conducted by statutory authorities.

ii) Incident controller

Manager or Officer of similar rank nominated will act as Incident Controller. On hearing of an emergency he will rush to the incident point and take overall charge and report to site controller. On arrival he will assess the scale of emergency and decide if major emergency exists or is likely and inform the communication officer accordingly. His duties will be:

- a) Direct all operations within the affected area with the priorities for safety of personnel minimize damage, property and environment and minimize loss of materials.
- b) Till the arrival of Site Controller, assume the duties of his post and in particular direct the evacuation of the persons from areas likely to be adversely affected by the emergency.
- c) Ensure that all key personnel and outside help is called in.
- d) Provide advice and information to the Fire and Security officer and the local Fire Service as and when they arrive.
- e) Ensure that all non-essential workers/ staff of the areas affected are evacuated to the appropriate assembly points and the areas are searched for casualties.
- f) In the event of failure of electric supply and thereby PAS and Internal telephones, setup communication point and establish contact with Emergency Control Centre.

- g) Report on all significant developments to the communication officer.
- h) Have regard to the need of preservation of evidence so as to facilitate any enquiry into the causes and circumstances which caused or escalated the emergency.

iii) Personnel / Administrative Manager

He will also work as Liaison Officer and will be stationed at the main entrance (Gate House) during the emergency. Under the direction of the site controller, he will handle police, press and other enquiries, receive reports from roll-call leaders from assembly points and pass on the absentee information to the incident controller. His responsibilities shall include.

- a. To ensure that casualties receive adequate attention/ to arrange additional help, if required and inform relatives.
- b. To control traffic movements into the premises and ensuring that alternate transport is available when need arises.

iv) Communication officer

On hearing the alarm, he will proceed to Control Centre and maintain communication with the Incident Controller. He will:-

- a) Advise the Site Controller of the situation, recommending (if necessary) evacuation of persons from assembly points.
- b) Recruit suitable staff to act as runners between the Incident Controller and himself if the telephone and other system of communication fails due to whatsoever reasons.
- c) Maintain prior agreed inventory in the control centre.
- d) Maintain a log of the incident on tape.
- e) In case of prolonged emergency involving risk to outside areas by wind-blown materials – contact local meteorological office to receive early notification of changes in weather conditions.

v) Telephone operator

On hearing the emergency alarm, he will immediately contact site controller and on his advice call the local Fire Brigade or mutual aid scheme members. In case the PAS, Internal / external telephone system becomes inoperative he shall inform the Communication Officer through a messenger / runner. In case fire is detected and the alarm is not in operation, he shall receive information

about location from the person who detected the fire and thereafter immediately consult the Incident Controller and make announcement on PAS or telephone telling the staff about location of the incident and to evacuate to their assembly points. He will continue to operate the switch board advising the callers that staffs are not available and pass all calls connected with the incident to the Communication Officer.

vi) Engineer in-charge and electrician

They will report to the scene of the incident and close down the services as requested by the Incident Controller.

vii) Fire – pump attendants

Two persons identified will work as fire-pump attendants. On hearing the fire alarm, they will immediately proceed to pump house to ensure that pumps are operating and stand by to maintain them. At the end of emergency they will be relieved of their duty by the Fire and Security officers.

viii) First aid teams

The Manager shall keep the roll call lists for the Fire and First-aid team on duty. Roll call leaders shall check their rolls as members of the services and report for emergency duty. Names of any unaccounted for absentees will be informed to the Fire and Security Officer. Members of the First – aid teams will report to the Incident Controller on hearing of the alarm and follow his directions.

ix) Fire brigade personnel

The duty Fire – Brigade personnel under the command of the Fire and Security Officer shall be responsible for fire fighting and rescue. On hearing the alarm, they shall proceed to the place of incident, if known, otherwise to the Fire station. The men at Fire station shall find out the location of the emergency, the equipment and proceed to the site of occurrence. At the site, all the squad members will respond to the direction given by the Incident Controller.

Wild Life Report

Form for seeking recommendation of Standing Committee of NBWL/SBWL.

PART - I & II
(To be filled up by User Agency)**A. General Details****A-1. Project Details**

(i). Forest Clearance Required?: No

(ii). Proposal No. : FP/TN/IND/4945/2020

(iii). Name of Project: Development of Manallur Industrial Park, Guannidipoondi Taluk, District Thiruvallur, Tamil Nadu by M/s State Industries Promotion Corporation of Tamil Nadu (SIPCOT)

(iv). Short narrative of the Project : 1. The proposed project location of Manallur is in Thiruvallur District. Its nearness to Chennai and direct access to Karnataka and Andhra Pradesh by NH Roads, Ports and Railways is the major advantageous reason for the present proposal of SIPCOT. 2. The land is vacant, government owned and unutilized.

(v). State : Tamil Nadu

(vi). Category of the Project : Industry

(vii). Shape of project land : Linear

(viii). Distance of the project from the boundary of the Protected Area (in km.): 5.77

(ix). Estimated cost of the Project(Rupees in lacs) : 0

(x). Total period for which clearance is required (in year): 20

(xi). Total Project Area(in ha.): 279.995

(xii). Project Area under Protected Area (in ha.): 0

(xiii). Project Area under Non-Protected Area (in ha.): 279.995

(xiv). Project Area inside Wildlife Sanctuaries(in ha.): 0

- (xiv). Project Area outside Wildlife Sanctuaries(in ha.): 0
- (xv). Project Area inside Conservation Reserve(in ha.): 0
- (xvi). Project Area outside Conservation Reserve(in ha.): 0
- (xvii). Project Area inside National Park(in ha.): 0
- (xviii). Project Area outside National Park(in ha.): 0
- (xix). Project Area inside Ecologically Sensitive Zone(in ha.): 0
- (xx). Project Area outside Ecologically Sensitive Zone(in ha.): 279.995

A-2. Details of User Agency

(i). Name : STATE INDUSTRIES PROMOTION CORPORATION OF TAMILNADU LIMITED (SIPCOT)

(ii). Address1 : 19-A, Rukmani Lakshmiipathy Road, Egmore, Chennai

(iii). Address2 : NIL

(iv). State : Tamil Nadu

(v). District : Chennai

(vi). Pin : 600008

(vii). Landmark : Egmore

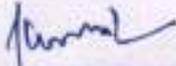
(viii). Email address : projects@sipcot.in

(ix). Landline Telephone No. : 28554787

(x). Fax No. : 28553746

(xi). Mobile No. : 9600099100

(xii). Website (if any) : www.sipcot.in


J. KUMARAGURUBARAN, I.A.S.,
 Managing Director
 State Industries Promotion Corporation of Tamilnadu Limited
 19-A, Rukmani Lakshmiipathy Road,
 Egmore, Chennai-600 008.

(xiii). Legal status of User Agency : State PSU

A-3. Details of Person Making Application

(i). First Name: Kumaragurubaran

(ii). Middle Name: NIL

(iii). Last Name: J

(iv). Gender: Male

(v). Designation: Managing Director

(vi). Address 1: 19-A, Rukmani Lakshmi pathy Road, Egmore, Chennai

(vii). Address 2: NIL

(viii). State: Tamil Nadu

(ix). District: Chennai

(x). Pin: 600008

(xi). Landmark: Egmore

(xii). Email Address: md@sipcot.in

(xiii). Landline Telephone No.: 28554514

(xiv). Fax No.: 04428553746

(xv). Mobile No.: 9842042722

(xvi). Upload a copy of documents in support of the competence/authority of the person making this application to make application on behalf of the User Agency: Annexure copy of documents in support of the competence

B. Details of Land required for the Project

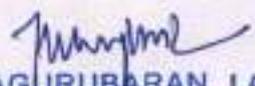
B-1. Details of Protected Area

B-1.1

No. of Divisions involved in Protected Area

forestclearance ric.in/Admin/Useragency_report_w.aspx?pid=FP/TN/IND/4945/2020

J. KUMARAGURUBARAN, I.A.S.,
Managing Director
State Industries Promotion Corporation of Tamil Nadu Limited
19-A, Rukmani Lakshmi Pathy Road,
Egmore, Chennai-600 008


J. KUMARAGURUBARAN, I.A.S.,
Managing Director
State Industries Promotion Corporation of Tamil Nadu Limited
19-A, Rukmani Lakshmi Pathy Road,
Egmore, Chennai-600 008.

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Division wise details of land			
S.no	Division Name	Protected Area Name	Project Area under Protected Area
1.	Wildlife Warden, Chennai	Pulicat WLS	0

B-1.2 Details of Districts involved

District wise breakup			
S.no	District Name	Project Area under Protected Area(ha.)	Project Area under Non-Protected Area(ha.)
1.	Tiruvallur	0	279.995

B-1.3 Component wise breakup

Component wise breakup			
S.no	Component	Project Area under Protected Area(ha.)	Project Area under Non-Protected Area(ha.)
1	Manallur Industrial Park	0	279.995

C. Maps of protected area

Division I : Wildlife Warden, Chennai			
(i). Project Area under Protected Area (in ha.) : NIL			
(ii). Nature of the Project : Linear			
(iii). No. of Segments : One			
Patch/Segment wise details			
Segments	Protected Area of segment(in ha.)	KML file of protected area of segment	
1.	0	 View File	
(iv). copy of Survey of India Toposheet indicating boundary of protected area: Annexure Survey of India Toposheet			
(v). scanned copy of the Geo-referenced map of the protected area prepared by using DGPS or Total Station: Annexure scanned copy of the Geo-referenced map			

D.

Justification for locating the Project in protected area and details of **K. KUMARAGURUBARAN, I.A.S.,**
 examined **Managing Director**

State Industries Promotion Corporation of Tamilnadu Limited
 19-A, Rukmani Lakshmiipathy Road,
 Egmore, Chennai-600 008. 4/6

(i). copy of note containing justification for locating the Project in protected area: Annexure justification

(ii). Whether a copy of map indicating location of alternative examined is required to be provided: Yes

(a). copy of map indicating location of alternative examined: Annexure alternative examined

E. Employment likely to be generated

(i). Whether project is likely to generate employment?: Yes

(a). Permanent/Regular Employment(Number of persons): 5000

(b). Temporary Employment(Number of person-days): 365

E. Displacement of People due to the project, if any

(i). Whether project involve displacement?: No

G. Status of Environmental clearance

(i). Whether the Project requires Clearance under the Environment (Protection) Act 1986?: Yes

(a). Status of the Environmental Clearance to the Project : EC under process

(ii). Environmental Clearance File No.: 21-59/2015-IA.III(PG)

H. Whether proposal is for investigation/survey

(H-1). Whether proposal is for investigation/survey?: No

Details of Divisions involved		
S.no	Time Required (in Days)	physical disturbance needed within the PA like(tree cutting,earth work etc.)
NIL		

(H-2). Details of the Bio diversity Impact Assessment report in case the proposal involves use of more than 50 ha. NP/WLS.

(a). Copy of the Bio diversity Impact Assessment report: Annexure Copy of Bio diversity Impact Assessment report

(H-3). Information on the projects undertaken by the proponent agency in the past in Protected Areas.

(a).Upload file: Annexure Information on the projects undertaken by the proponent agency in the past in Protected Areas

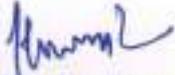
(H-4). Details regarding compliance of the conditions on each proposal

(a).Upload file: Annexure Details regarding compliance of the conditions on each proposal

(H-5). Whether any matter related to the project is sub judice in any court of law?: No

Documents		
S.No	Uploaded Additional Info. Files	Remarks
1	<u>Additional Info.</u>	Overall signed documents

Print page


J. KUMARAGURUBARAN, I.A.S.,
 Managing Director
 State Industries Promotion Corporation of Tamilnadu Limited
 19-A, Rukmani Lakshmi pathy Road,
 Egmore, Chennai-600 008.

நக.எண்.வ2/1335/2020

வன உயிரினக்காப்பாளர் அலுவலகம்,
வன உயிரினக்கோட்டம்,
சென்னை, நாள்: 27.05.2020.

பொருள்: தடையில்லாச்சான்று - பழவேற்காடு பறவைகள் சரணாலயம் அருகிலுள்ள திருவள்ளூர் மாவட்டம், சும்மிடிபூண்டி வட்டம், மனலூர் மற்றும் குரப்பூண்டி கிராமத்தில் தொழிற் பூங்கா அமைக்க - அனுமதி கேட்டது - தொடர்பாக.

பார்வை: M/s.State Industries Promotion Corporation of Tamil Nadu Limited, Egmore, Chennai-8, Ref.No.Projects/EIA/NOC/Manallur/2020, dated.22.05.2020.

மேற்காணும் பொருள் தொடர்பாக, பார்வையில் காணும் கடிதம் இத்துடன் இணைத்து அனுப்பப்படுகிறது. அக்கடிதத்தில் M/s.State Industries Promotion Corporation of Tamil Nadu Limited, அவர்களால் பழவேற்காடு பறவைகள் சரணாலயம் அருகிலுள்ள திருவள்ளூர் மாவட்டம், சும்மிடிபூண்டி வட்டம், மனலூர் மற்றும் குரப்பூண்டி கிராமத்தில் தொழிற் பூங்கா அமைக்க ^{தகவல்} கேட்கப்பட்டுள்ளது. எனவே மேற்படி இடத்தினை ஆய்வு/களத்தணிக்கை மேற்கொண்டு அதன் விபரத்தினை இவ்வலுவலகத்திற்கு சமர்ப்பிக்குமாறு வனச்சரக அலுவலர், சரணாலயச்சரகம் கேட்டுக்கொள்ளப்படுகிறார்.

இணைப்பு :- மேற்கூறியவாறு

ஓம்/-சி.ஹ.பத்மா,
வன உயிரினக்காப்பாளர்,
சென்னை.

பெறுநர்
வனச்சரக அலுவலர்,
சரணாலயச்சரகம்,
சென்னை-32.

நகல் - M/s. State Industries Promotion Corporation of Tamil Nadu Limited, No.19-A, Rukmani Lakshmi pathy Road, Post Box No.7223, Egmore, Chennai-600008. (Telephone No.044-28554787)

மேற்படி இடத்தினை களத்தணிக்கை மேற்கொள்ள வனச்சரக அலுவலர், சரணாலயச்சரகம் அவர்களை தொடர்பு கொள்ளுமாறு இதன் மூலம் தெரிவிக்கப்படுகிறது. தொடர்பு எண் - 8610491722.

/உண்மை நகல் / உத்தரவுப்படி/

கண்காணிப்பாளர்
27/5/20

Letter from Wildlife Warden regarding Site Visit

Letter No : 2/1335/2020

Wildlife Warden Office
Wildlife Range
Chennai, Date: 27/05/2020

Subject: NOC for proposed development of Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District located near Pulicat Bird Sanctuary.

Reference: M/s. State Industries Promotion Corporation of Tamil Nadu Limited, Egmore Chennai-8, Ref. No Projects /EIA NOC/ Manallur 2020 dated 20/05/2020

With reference to the above subject, the NOC application is enclosed. M/s. State Industries Promotion Corporation of Tamil Nadu Limited has requested for NOC for proposed development of Industrial Park at Manallur and Soorapoondi Villages, Gummidipoondi Taluk, Thiruvallur District located near Pulicat Bird Sanctuary. In this regard it is requested to undertake site inspection and submit the details to this office of Wildlife Warden.

Enclosure : As above

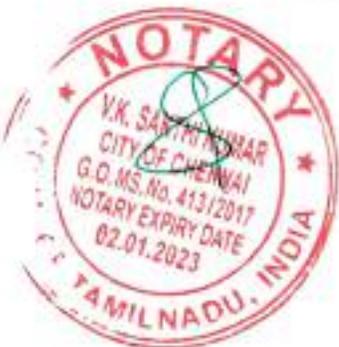
C.H.Padma
Wildlife Warden
Chennai

To
Forest Range Officer
Sanctuary Range
Chennai-32

Copy - M/s. State Industries Promotion Corporation of Tamil Nadu Limited, No 19-A Rukmani Lakshmi pathy Road, Post Box No 7223 ,Egmore Chennai-8 (Phone No 044 - 28554787)

For inspection of above mentioned land, please contact Forest Range Officer, Sanctuary Range, Phone No 8610491722.

[TRUE TRANSLATION FROM TAMIL TO ENGLISH]

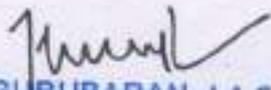


V.K. Sakthi Kumar
28-7-2020
V. K. SAKTHI KUMAR, B.A., B.L.,
ADVOCATE & NOTARY PUBLIC
Res: New No. 9, Konnur High Road,
5th Lane, Ayanavaram,
Chennai - 600 023, Enroll No: 330/35
PH: 98412 65851

Supervisor

NBWL RO - SITE INSPECTION




J. KUMARAGURUBARAN, I.A.S.,
Managing Director
State Industries Promotion Corporation of Tamilnadu Limited
19-A, Rukmani Lakshmiipathy Road,
Egmore, Chennai-600 008.