

**REPORT OF THE EXPERT COMMITTEE CONSTITUTED BY
NATIONAL GREEN TRIBUNAL, PRINCIPAL BENCH, NEW DELHI
IN THE MATTER OF O.A. NO.37 OF 2015**

S.P.MUTHURAMAN Vs. UNION OF INDIA & OTHERS

**AS PER ORDER, DATED 07.07.2015 OF HON'BLE TRIBUNAL
AND HON'BLE TRIBUNAL's ORDER, DATED 01.09.2015**

March 2016

Before the National Green Tribunal, Principal Bench, New Delhi

**In
Original Application
No.37 of 2015**

In the matter of

S.P. Muthuraman

.....Petitioner

Vs.

Union of India & Others

.....Respondent

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ABBREVIATIONS

<i>AC:</i>	<i>Air Conditioner</i>
<i>ASI:</i>	<i>Archeological Survey of India</i>
<i>BOD:</i>	<i>Biochemical Oxygen Demand</i>
<i>CFL:</i>	<i>Compact Fluorescent Lamp</i>
<i>CMDA:</i>	<i>Chennai Metropolitan Development Authority</i>
<i>CMWSSB:</i>	<i>Chennai Metropolitan Water Supply and Sewerage Board</i>
<i>CPCB:</i>	<i>Central Pollution Control Board</i>
<i>CRZ:</i>	<i>Coastal Regulation Zone</i>
<i>Cum:</i>	<i>Cubic Meter</i>
<i>EAC:</i>	<i>Expert Appraisal Committee</i>
<i>EC:</i>	<i>Environmental Clearance</i>
<i>ECBC:</i>	<i>Energy Conservation Building Code</i>
<i>EIA:</i>	<i>Environmental Impact Assessment</i>
<i>FBBR:</i>	<i>Fluidized Bed Bio Reactor</i>
<i>GCC:</i>	<i>Greater Chennai Corporation</i>
<i>GPS:</i>	<i>Global Positioning System</i>
<i>IAF:</i>	<i>Indian Air Force</i>
<i>IIT:</i>	<i>Indian Institute of Technology</i>
<i>IR:</i>	<i>Infra Red</i>
<i>Kg:</i>	<i>Kilogram</i>
<i>KL:</i>	<i>Kilo Liter</i>
<i>KLD:</i>	<i>Kilo Liter per Day</i>
<i>KVA:</i>	<i>Kilo Volt Amps</i>
<i>KW:</i>	<i>Kilo Watt</i>
<i>KWPA:</i>	<i>Kilo Watt per Annum</i>
<i>LED:</i>	<i>Light Emitting Diode</i>
<i>M³:</i>	<i>Cubic Meter</i>
<i>MBBR:</i>	<i>Moving Bed Bio Reactor</i>
<i>MLD:</i>	<i>Million Liters per Day</i>
<i>MoEF:</i>	<i>Ministry of Environment and Forests</i>
<i>MoEF&CC:</i>	<i>Ministry of Environment, Forests and Climate change</i>
<i>MSB:</i>	<i>Multi Storeyed Building</i>

<i>NGT:</i>	<i>National Green Tribunal</i>
<i>NOC:</i>	<i>No Objection Certificate</i>
<i>OSR:</i>	<i>Open Space Reservation</i>
<i>P.P:</i>	<i>Project Proponent</i>
<i>PVB:</i>	<i>Poly Vinyl Butyral</i>
<i>PWD:</i>	<i>Public Works Department</i>
<i>PWT:</i>	<i>Private Water Tankers</i>
<i>RCC:</i>	<i>Reinforced Cement Concrete</i>
<i>RMC:</i>	<i>Ready Mix Concrete</i>
<i>Rs:</i>	<i>Rupees</i>
<i>RWH:</i>	<i>Rain Water Harvesting</i>
<i>SBR:</i>	<i>Sequential Batch Reactor</i>
<i>SEIAA:</i>	<i>State Environment Impact Assessment Authority</i>
<i>sqm:</i>	<i>Square Meter</i>
<i>SST:</i>	<i>Secondary Settling Tank</i>
<i>STP:</i>	<i>Sewage Treatment Plant</i>
<i>TNPCB:</i>	<i>Tamil Nadu Pollution Control Board</i>
<i>TOR:</i>	<i>Terms of Reference</i>
<i>UF:</i>	<i>Ultra Filtration</i>
<i>UPVCC:</i>	<i>Un-Plasticized Poly Vinyl Chloride</i>
<i>UV:</i>	<i>Ultra Violet</i>
<i>VFD:</i>	<i>Variable Frequency Drives</i>
<i>VVVF:</i>	<i>Variable Voltage Variable Frequency Drive</i>

EXECUTIVE SUMMARY

The National Green Tribunal (Principal Bench) in OA No. 37 of 2015 in the matter of S.P. Muthuraman Vs. Union of India & others vide its orders dated July 07, 2015 and September 01, 2015, constituted a Committee with the directions to inspect all the projects in question and submit a comprehensive report covering the following:

- Illegal and unauthorized acts and activities carried out by the Respondents
- Ecological and environmental damage done by these projects
- Installation of STPs
- Other anti-pollution devices by the Project Proponent
- Proposed point of discharge of sewage and any other untreated waste
- Source of water during operation phase and otherwise
- Use of energy efficient devices
- Ecologically and environmentally sensitive areas
- Details of alteration of land its effect on the natural topography
- Effect on natural drainage system
- Adequacy of rainwater harvesting system
- Adequacy of parking area and if at all they have been provided
- Collection and disposal of municipal solid waste at the project site
- Compliance of conditions stated in the planning permission and other permissions granted by various authorities
- Adequacy of suggestions made by the SEIAA in its meetings to address concerns regarding environment and ecology
- Whether demolition or raising of additional structures are required in the interest of environment *and ecology*

The report of the Committee covers all these aspects/ issues and the status is tabulated in Table 1. This is further supplemented by detailed reports of all the 06 project proponents attached as Annexure-VIII to XIII with this report.

(1) The Committee found that construction work at all the sites have been initiated without obtaining the Environmental Clearance from SEIAA, Tamilnadu and Consent to Establish from Tamilnadu SPCB.

(2) All the projects are consistent with the land use pattern as specified in the Master Plan, 2008.

(3) The Committee observed that the arrangements for solid waste management and rainwater harvesting are inadequate in all cases.

(4) The Green belt has not been developed properly by any of the proponents.

(5) The arrangement for reuse and recycling of treated sewage needs to be improved and verified during actual operation. No provision for recycling/reuse of treated sewage has been made by M/s SAS Realtors Pvt. Ltd.

(6) The sewage treatment plant designed are likely to meet the standards prescribed by CMWSSB of BOD- 20 mg/l and SS- 30 mg/l, but seem inadequate to meet the norms of bathing water quality i.e. BOD < 3.0 mg/l specified by the SEIAA. To maintain uniformity the proposed norms of MoEF&CC for the treated sewage quality should be specified. The sewage treatment plant created by M/s. Y. Pondurai, M/s SAS Realtors and M/s Ruby Manoharan Property Developers Ltd. does not have proper and safe access to the units for proper operation and maintenance. The plant design is inadequate to meet the norms, prescribed by SEIAA.

The STP at M/s Jones Foundation Pvt. Ltd. though operational is not attached with Activated Carbon and Sand Filter units and is inadequate to meet the norms prescribed by SEIAA. The STP at M/s SPR&RG Construction Pvt. Ltd. under installation needs up-gradation to meet the norms prescribed by SEIAA.

The STP at M/s Dugar Housing Ltd. is still to be constructed but needs redesigning to meet the requirement for treatment of additional sewage and the norms prescribed by SEIAA.

(7) M/s SAS Realtors Pvt. Ltd. has installed solar panels to meet the hot water requirement. M/s Jones Foundation Pvt. Ltd. proposes to install solar panels for lighting requirement, while the other proponents have not made any effort.

(8) Water was supplied during the construction phase through tankers. In the operational phase M/s Ruby Manoharan Property Developers Pvt. Ltd. has proposed to meet the water supply requirement from the wells within its premises, the permission for which is still awaited. The other 05 proponents i.e. M/s Y. Pondurai, M/s SAS Realtors Pvt. Ltd., M/s Jones Foundation Pvt. Ltd., M/s SPR & RG Constructions Pvt. Ltd. and M/s Dugar Housing Ltd. propose to source their water supply from CMWSSB supplies. Necessary water supply line from CMWSSB to project site is still to be operationalized.

(9) The entire treated sewage is proposed to be recycled by M/s Y. Pondurai. The plumbing system for recycling could not be verified, in absence of colour coding of the pipelines.

The excess sewage in case of M/s Ruby Manoharan Property Developers Pvt. Ltd. is to be used for Avenue Plantation for which no conveyance system has been provided. In case of M/s Jones Foundation Pvt. Ltd., M/s SAS Realtors Pvt. Ltd., M/s SPR & RG Constructions Pvt. Ltd. and M/s Dugar Housing Ltd. the excess sewage is to be disposed through CMWSSB sewerage system for which no connectivity exists.

(10) The parking area requirement at M/s Y. Pondurai and M/s Dugar Housing Ltd. is inadequate, considering the norms specified by SEIAA.

(11) No major change in topography is observed in any case.

(12) The flow gradient has been changed towards the road side in all cases except for M/s SPR & RG Constructions Pvt. Ltd.


There is a need for due priority to the management of solid waste and sewage, use of solar energy and rain water harvesting. There is a need for categorisation of buildings and construction projects based on their size and land use. The issues of solid waste management, treatment of sewage, rainwater harvesting, green belt development need to be mandated in a manner so that, the environmental objectives are met. In order to ensure that the Building Permissions are granted by the local authorities only with due Environmental considerations, there is a need to integrate the environmental concerns in the Building Permissions itself.


The Committee feels that the entire process of granting permissions need to be transparent and preferably online wherever, possible. For bringing transparency in the process of granting permissions, procedure needs to be streamlined and check list prepared and placed on website facilitating, better coordination amongst the concerned Departments, while ensuring uniformity in approach.


To ensure that the environmental issues are properly attended, the developer should be responsible for operating the environmental facilities including STP, management of MSW, rainwater harvesting, etc. till such time the system stabilises. A mechanism need to be put in place to ensure that the facilities created for treatment of sewage, solid waste management, rain water harvesting, etc. are sustainable in the long run.

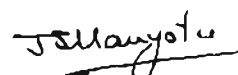
The Committee constituted by the Hon'ble Tribunal submits its final report in compliance to the Hon'ble Tribunals Order dated July 7, 2015 and September 1, 2015 and Hon'ble Supreme Court Order dated January 20, 2016.


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Central Pollution Control
Board,
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(Shri A.K. Mehta I.A.S),
Joint Secretary, MoEF&CC,
Govt. of India.

Table 1 : Project Details

S. No.	Project Details / Proponents	M/s Y.Pondurai	M/s. Ruby Manoharan Property Developers Pvt. Ltd.	M/s. Jones Foundations Pvt. Ltd.	M/s. SPR and RG Construction Pvt. Ltd.	M/s. Dugar Housing Ltd.	M/s. SAS Realtors Pvt. Ltd.
1.	No. of Dwelling/ Commercial units	Commercial unit – 1	206	329	1050	295	166
	• No. of habitants	Residential unit- 1 5000 (Floating Population)	1133	2195	6038	2842	913
2.	Height of the building permitted (in meters)	54.463	60.00	29.08	60.00	60.00	60.00
	• Permitted FSI	2.5	2.5	1.5	2.5	2.5	2.5
	• Actual height of the building (in meters)	54.46	48.0	29.08	43.85	45.00	58.96
	• * Actual FSI (including Premium FSI)	2.83	3.497	1.54	3.17	3.48	3.496
3.	Water supply requirement (KLD)	30	95	159	483	199	118
	• Source of water supply	CMWSSB	Ground water	CMWSSB	CMWSSB	CMWSSB	CMWSSB
	• Permission granting authority	CMWSSB	SGWB	CMWSSB	CMWSSB	CMWSSB	CMWSSB
	• Whether permission granted	No (Under Process)	No	No	No	No	Under Process
	• Connectivity with CMWSSB sewer system	No	No	No	No	No	No
	• Source from where water proposed to be procured	CMWSSB	Ground water	CMWSSB	CMWSSB	CMWSSB	CMWSSB
4.	Expected sewage generation (KLD)	84	124	206.4	615	266	93
	• Capacity of treatment system (KLD)	100	130	220	700	280	120

	Treatment technology	FBBR Technology	MBBR Technology	FBBR	SBR	Extended Aeration	Extended Aeration
	<ul style="list-style-type: none"> Treatment technology Units of STP 	Bar Chamber, Equalization Tank, Aeration Tank, Secondary Settling Tank, Clarified Water Tank, Treated Water Tank, Sludge Holding Tank, Activated Carbon Filter, Pressure Sand Filter	Bar screen, equalization tank, Aeration tank, Settling tank, sludge holding tank, Filter press, Final treated water tank, Pressure sand filter, Activated carbon filter, UV disinfection, Ultra Filtration.	Bar screen, collection tank, Aeration tank, Settling tank, Dual media filter, Activated carbon filter, UV disinfection, Ultra Filtration.	Bar screen, equalization tank, Aeration tank, Settling tank, clarifier, clarifier water tank, sludge holding tank, Filter press, Final treated water tank, Pressure sand filter, Activated carbon filter, UV disinfection, Ultra Filtration.	Bar screen, equalization tank, Aeration tank, Settling tank, clarifier, clarifier water tank, Pressure sand filter, Activated carbon filter, UV disinfection, Ultra Filtration	Bar screen, collection & equalization tank, Aeration tank, clarifier, water tank, Pressure sand filter and Activated carbon filter
5.	Adequacy of STP to meet the norms(BOD) 20 mg/l, SS 30 mg/l)	Likely to meet	Likely to meet	Likely to meet	Likely to meet	Likely to meet	Likely to meet
6.	Adequacy of STP to meet bathing water quality based on Inspection on 22.02.2016	Unlikely to meet	Unlikely to meet	Unlikely to meet	Under construction (details of mechanical system are not known)	STP should be redesigned considering the additional 04 floors	Unlikely to meet
7.	Use of treated water proposed						
	i. Gardening (KLD)	4	5	12	19	10	3
	ii. Flushing others (KLD)	60	48	79	254	108	20
	iii. Excess disposal to CMWSSB system (KLD)	Nil	65	111	358	135	53

	v. Other uses (KLD)	HVAC – 16	Nil	Nil	Nil	Nil	Nil
8.	Present mode of disposal of treated sewage (Supporting documents)	Proposed Zero Liquid Discharge	Local Panchayat	CMWSSB	CMWSSB	CMWSSB	CMWSSB
9.	Availability of green belt area in m ²						
	o Within the premises	1496	1546.81	2837.61	5380	2700.06	700
	o Panchayat land	Nil	Nil	Nil	3700 m ²	Nil	Nil
	o OSR area	Nil	Nil	1189.76	--	1189.74	--
	• Panchayat permission for disposal of treated effluent	--	Avenue plantation	--	--	--	--
10.	Rain water harvesting system						
	a. Roof top run off (m ³) Potential	4305.86	1596.75	10931.30	9548.00	2700.06	2540.00
	b. Surface runoff (m ³)	3218.26	3030.83		19046.00	4592.39	4345.00
	c. Storage capacity	Rain water storage 46 KL (not provided) Recharge pits- 19 Nos. proposed (all not provided)	15 Nos. of Recharging Pits Sumps – 04 Nos. x 12 KL	Storage Sump- 10 KL x 6 Nos. Recharging Pits- 32 Nos.	04 Nos. of recharging pits sump of 1000 KL capacity (Proposed, yet to be constructed)	Storage sump - 160 KL, 14 Nos. of Recharging pits (Proposed, yet to be constructed)	48 No of Recharge pits & sumps 2 x 100 KL (Proposed, no provision of roof top storage made & all pits not provided) Inadequate
	d. Adequacy of Rain water harvesting based on inspection on 22.02 2016	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate	Inadequate
11.	Point of disposal of excess storm water	Storm Water Drain	External Storm Water drainages Connected	Excess storm water is discharged in to existing 2 wells	External storm water drain	External storm water drain, Not connected	Connectivity to external (p.183) storm water drainage Not connected
	• Connectivity to storm water drainage or other system for disposal of extra storm water	Not connected	Not connected	Not connected	Not connected	Not connected	Not connected
12.	• No. of bore/dug wells	Nil	2	2	3	1	Nil
	• Ground water table	7 m	3.71 to 4.5 m	6.09 m below GL	2 m	07 m	10 m from the ground level
13.	Parking	CP – 437, TWP – 437	CP – 132, TWP – 170	CP – 201 & TWP – 200	CP – 1064, TWP – 255	CP – 357, TWP – 386	CP-244
	o Parking provided						

	<ul style="list-style-type: none"> o Requirement of parking as per CMDA norms o Requirement of parking as per MoEF norms o Level of parking o Adequacy of Parking as per SEIAA 	CP - 416, TWP - 412	CP - 132, TWP - 156	CP-201 & TWP -185	CP - 1020, TWP - 164	CP - 299, TWP - 382	219 nos.
		CP- 874			CP-1020	CP- 401	
		MLCP, Surface Parking, Double Basement Parking	Basement Parking, Stilt Floor Parking, Surface Parking	STILT PARKING	Basement & Surface Parking	Basement , Surface Parking, Stilt Floor Parking	Two basements and Stilt floor
		Inadequate (874-437= 437 needed)	Adequate	Adequate	Adequate	Inadequate (401-357=44 needed)	Adequate
14.	Change in topography	No major change	No major change	Plain	No major change	No Major Change	No major change
15	Change in drainage pattern	No major change	No major Change	No major change	No major change	No major change	No major change
16.	Excavation/ construction below ground level	Yes	Yes	Yes	Yes	Yes	Yes
18.	Solid waste generation (kg/day)	1002	680	892.5	4600	1705	515
	o Bio-degradable fraction	251	408	357	3200	1023	309
	o Non bio-degradable fraction	750	272	535.6	1310	682	206
	o Recyclable fraction	STP sludge - 3	STP sludge- 28	STP sludge-24	STP sludge-67	STP sludge 28	STP sludge-10
	o Remarks	No proper treatment facility constructed	No proper treatment facility constructed	No proper treatment facility constructed	No proper treatment facility constructed	No proper treatment facility constructed	No proper treatment facility constructed
19.	Mode of disposal of solid waste	Proposed through Corporation	Proposed OWC	Organic waste convertor	Proposed through corporation	Proposed through corporation	Proposed through corporation
	o Bio-degradable fraction	Recyclers STP sludge- Manure	Authorised Recycle	Corporation of Chennai	Through authorized recyclers	Through authorized recyclers	Through authorized recyclers
	o Non bio-degradable fraction						

	o Recyclable fraction	STP sludge manure	STP sludge Manure	STP sludge	Dried sludge from STP will be used as manure for green belt	Dried sludge from STP will be used as manure for green belt	Dried sludge from STP will be used as manure for green belt
20.	Energy saving measures						
	o LED/CFL	10000	Yes	596 LED	Yes	Yes	Yes
	o Gearless lifts	-	Yes	VVF Lifts	Yes	Yes	VFVD
	o Solar panels	SPL - 12	Yes		Yes	Yes	Yes
	o Others				---	---	Usage of UPVC windows with ET 150 glass, RMC with fly ash mix content and fly ash bricks.
21.	Adequacy of suggestions of SEIAA	The conditions stipulated by SEIAA in the Environmental Clearance are generic and cover wide spectrum of environment. The condition need to be more specific for effective implementation and monitoring. The conditions with respect to the quantum of energy saving, use of fly ash bricks, rain water storage capacity, area for green belt etc. should be specific and precise to bring uniformity in the conditions imposed (details at para 4.2 of the report)					
22.	Whether demolition or raising of additional structures is required	All the projects are located in the approved areas and meet the Building Height and FSI norms prescribed. All the project proponents have been granted Environmental clearance. Modification of STP is required to provide adequate head space & accessibility in the case of M/S Y. Pondurai, M/s. Ruby manoharan Property Developers Pvt. Ltd. The STP of M/s. SAS Realtors Pvt. Ltd requires substantial modification, while M/s. Dugar Housing Limited requires redesigning. Structural modifications are required to be carried out accordingly					

Note: * Actual FSI conforms to the norm after consideration of premium FSI factor

1.0 TRIBUNAL'S ORDER AND SCOPE OF THE COMMITTEE

An original application No. 37 of 2015 titled as "S.P. Muthuraman Vs. Union of India & Others" was filed before the National Green Tribunal, inter-alia, challenging the legality and correctness of the three Office Memoranda i.e. O.M. dated 16.11.2010, O.M. dated 12.12.2012 and O.M. dated 27.06.2013 on various grounds including that these Office Memoranda are contrary and violative of EIA Notification 2006 and Environment (Protection) Act, 1986. The said Application also raised issue with regard to unauthorized and illegal construction activities carried out by certain Builders without obtaining the mandatory Environmental Clearance (EC).

M.A. Nos. 232, 281, 282, 166, 97,110 and 291 all of 2015 were filed for implement by different builders. These applications were allowed by the Hon'ble NGT's Orders dated 12.02.2015 and 01.04.2015 respectively and seven (07) respondents were directed to be impleaded as contesting respondents.

The Hon'ble National Green Tribunal (NGT) Principal Bench, New Delhi in the Original Application No. 37 of 2015 in the matter of S.P. Muthuraman Vs Union of India & Others passed orders, dated 07.07.2015, thereby constituting a Committee to inspect the projects in question and submit a comprehensive report to the Tribunal relating to:

- *Illegal and unauthorized acts and activities carried out by the Respondents.*
- *Ecological and environmental damage done by these projects.*
- *Installation of STPs*
- *Other anti-pollution devices by the Project Proponent*
- *Proposed point of discharge of sewage and any other untreated waste.*
- *Source of water during operation phase and otherwise,*
- *Use of energy efficient devices,*
- *Ecologically and environmentally sensitive areas*
- *Details of alteration of land its effect on the natural topography*

- *Effect on natural drainage system*
- *Adequacy of rainwater harvesting system*
- *Adequacy of parking area and if at all they have been provided.*
- *Collection and disposal of municipal solid waste at the project site.*
- *Compliance of conditions stated in the planning permission and other permissions granted by various authorities*
- *Adequacy of suggestions made by the SEIAA in its meetings to address concerns regarding environment and ecology*
- *Whether demolition or raising of additional structures are required in the interest of environment and ecology*

The Hon'ble NGT in its Order dated 01.09.2015 directed that Sh. A.K. Mehta, Joint Secretary, MoEF&CC shall be the Chairman of the Committee constituted vide Order dated 07.07.2015 and will see the entire work of the Committee and submission of the final report to the Tribunal. The Hon'ble NGT also directed that the report shall be signed by all the members including the Chairperson. Copy of the order of the Hon'ble NGT is annexed at **Annexure-I**.

The Hon'ble Supreme Court of India in its order, dated 24.09.2015 stayed the judgment(s) and order(s), passed by Hon'ble Tribunal in O.A. No. 37 of 2015 in the Civil Appeal preferred by M/s Dugar Housing Limited, etc. Copy of the order of the Hon'ble Supreme Court enclosed at **Annexure-II**.

An application was moved by MoEF&CC before the Hon'ble Supreme Court on 03.11.2015 seeking clarification whether the effect and applicability of the order dated 24.09.2015 passed by the Hon'ble Supreme Court in Civil Appeals No. 7192-7193 of 2015 was in Rem or in respect of Appellants who have approached the Hon'ble Supreme Court by way of the aforesaid Court Appeals. Copy of the application enclosed at **Annexure-III**.

The Hon'ble Supreme Court stayed the judgment(s) and order(s) passed by the Hon'ble NGT in the matter of OA No. 37/2015 on 16-11-2015 on the

Appeal filed by M/s Jones Foundation Pvt. Ltd. Copy of the order of Hon'ble Supreme Court is enclosed at **Annexure-IV**.

The Hon'ble Supreme Court while hearing the Civil Appeal no. 7191-7192 and Civil Appeal No. 7193-7194 on 23.11.2015 held that the order dated 24.09.2015 passed by the Hon'ble Supreme Court for which clarification was sought is for the present appellants only. The Hon'ble Supreme Court also stayed the judgment(s) and order(s) passed by the Hon'ble Tribunal on the Appeals filed by M/s Y. Pondurai, M/s Ruby Manoharan Property Developer Pvt. Ltd. and M/s SAS Realtors Pvt. Ltd. Copy of Hon'ble Supreme Court's Order enclosed are at **Annexures V & VI**.

Further, the Hon'ble NGT Principal Bench, New Delhi in its order, dated 24.11.2015 in M.A. No. 1001/2015 in O.A. No. 37 of 2015, O.A. No. 452 of 2015, O.A. No.453 of 2015, O.A. No.464 of 2015 and M.A. No. 1064 of 2015 in O.A. No. 37 of 2015 in the matter of S.P. Muthuraman vs Union of India and Others and Y. Pondurai Vs. Union of India & Others, etc. directed MoEF&CC to produce the report before the Tribunal positively before the next date of hearing.

The stay orders, dated 24.09.2015, 16.11.2015 and 23.11.2015 of the Hon'ble Supreme Court of India would therefore operate in respect of the appellant in that Appeal only. Accordingly, the report of M/s SSM Builders and Promoters was filed before the Tribunal, Principal Bench on 20.12.2015.

The Hon'ble Supreme Court in its Order dated January 20th, 2016 in the Civil Appeal No.37397/2015 in the matter of Satilila Sehkari Awas Samiti Ltd. Vs. Union of India & Ors Etc. etc. directed the Committee appointed by the Tribunal vide its Order dated July 7, 2015 and September 1, 2015 to take up the assignment and complete the same as early as possible and submit a copy of the report to the Hon'ble Supreme Court also. Copy of Hon'ble Supreme Court's Order enclosed is at **Annexures VII**.

This final report in respect of the following six Project Proponents is being submitted with reference to the tasks assigned to the Committee by Hon'ble NGT and in compliance of the Hon'ble Tribunal's order dated July 7, 2015 and Hon'ble Supreme Court's Order dated January 20, 2016.

- M/s. Y. Pondurai,
- M/s. Ruby Manoharan Property Developers Pvt. Ltd.,
- M/s. Jones Foundations Pvt. Ltd.,
- M/s. SAS Realtors Pvt. Ltd.,
- M/s. Dugar Housing Ltd.,and
- M/s. SPR and RG Construction Pvt. Ltd.

2.0 ACTIONS TAKEN BY THE COMMITTEE

The Committee constituted by the Hon'ble Tribunal held its 1st meeting on 27.07.2015 in the office of the Director, Department of Environment, Govt. of Tamil Nadu, and Chennai to formulate strategy for ensuring compliance with the directions of the Hon'ble NGT. The following three members of the Expert Committee visited the project sites between 03.08.2015 and 05.08.2015 to collect the basic data with regard to status of the project including clearances obtained, status of their implementation etc.

- Dr. H. Malleshappa, Director, Department of Environment, Govt. of Tamil Nadu
- Thiru. M. Sivashanmugam, Chief Planner, CMDA, Chennai.
- Dr. S.V. Reddy, Scientist 'F' MoEF&CC, Regional Office, Southern Zone, Chennai

All the members of the Expert Committee except for Mr. M. Sivashanmugam visited the site again on 13.08.2015 and 14.08.2015, mainly examined the STPs, water supply systems, waste water disposal system, solid waste disposal facilities etc.

The Committee examined the documents collected from various agencies like Chennai Metropolitan Development Authority (CMDA), State Environment Impact Assessment Authority (SEIAA), Project Proponent and other agencies and also assessed and evaluated the adequacy of proposed Sewage

Treatment Plants, Water Harvesting Systems and Solid Waste Management measures during its meeting from August 18-21, 2015 and August 27-30, 2015. The Committee also had discussion with the Project Proponents during this period.

The Committee under the Chairmanship of Shri A. K. Mehta, Joint Secretary, and MoEF&CC held its meeting on 07.09.2015, 30.11.2015 and 01.12.2015 to formulate strategy for ensuring compliance with the directions of Hon'ble Tribunal and submission of the final report. The three members of the Expert Committee from Chennai could not attend the meeting of the Committee on 30.11.2015 & 01.12.2015. Another meeting of the Committee, under the Chairmanship of Shri A.K.Mehta, Joint Secretary, and MoEF&CC was held on 16.12.2015 to finalize the report. Except for Mr.M.Sivashanmugam, CMDA all other 05 members were present. Mr.V.Kumar, Deputy Planner, CMDA, Chennai attended the meeting and provided required information. The Committee submitted the report of M/s. SSM Builders and Promoters to the Hon'ble NGT on December 20th, 2015.

The Committee under the Chairmanship of Sh. A.K. Mehta, Joint Secretary, MoEF&CC, held its meeting in Chennai on February 22, 2016 to finalize the report. The Committee members visited the sites of all the six Appellants i.e.(i) M/s Y. Pondurai, (ii) M/s. Ruby Manoharan Property Developers Pvt. Ltd., (iii) M/s. Jones Foundations Pvt. Ltd., (iv) M/s. SAS Realtors Pvt. Ltd., (v) M/s. Dugar Housing Ltd. and (vi) M/s. SPR and RG Construction Pvt. Ltd. on February 22, 2016. The Committee under Chairmanship of Sh. A.K. Mehta, Joint Secretary, MoEF&CC, had another meeting in Delhi on 01.03.2016 to discuss the draft report and to finalize the Committee report.

3.0 Project Proponent

The Committee inspected all the 06 project sites with reference to the tasks assigned by Hon'ble NGT and prepared detailed report for each of the Project Proponent. The status of permissions required to be obtained by the Project Proponents while initiating the construction activity are detailed in table 1 while the project details are presented in Table-2.

3.1. SYNOPSIS:

3.1.1. M/s Y. Pondurai:

The project of M/s Y. Pondurai is spread over an area of 9995.00 sqm with built up area of 42947.31 sqm, having 01 commercial unit with expected floating population of 5000. The building height is 54.463 meters and with an FSI of 2.83 (including premium FSI of 0.4). The Arignar Anna Zoological Park is about 26.51 KM and Guindy National Park about 11.50 from the project site. The Puzhal Lake is about 5 km, Ambattur Lake about 4.5 km and Retteri Lake about 4.25 km from the project site, while the Cholavaram Reserved Forest is about 14.5 km and Nanmangalam Reserved Forest is about 18.5 km from the Project site.

The construction at site was started in January, 2014 and the Project Proponent applied for Environmental Clearance (EC) on 28.2.2014 after a month of starting the construction at site, though, as per the EIA Notification 2006 it is mandatory for all the Project Proponents to obtain Environmental Clearance before starting of construction work or preparation of land. As the built-up area of the project is less than 1,50,000 sqm, TOR was not applicable. EC was granted by SEIAA on 31.12.2015. CMDA accorded the Planning Permission on 31.12.2013, while the Building Permission was granted by Greater Chennai Corporation on 28.02.2014. NOCs from other departments as required are also obtained. However, Consent to Establish/Operate from Tamil Nadu Pollution Control Board is yet to be obtained. The details of permissions obtained and the conditions specified therein are envisaged in the detailed report annexed as **Annexure VIII**.

M/s Y. Pondurai initiated construction at the site without obtaining Environmental Clearance, thereby violating the mandatory requirement of obtaining the Environmental Clearance under Section 2 of the EIA Notification dated 14.9.2006 issued under Section 5 (3) of the Environment Protection Rules, 1986 from SEIAA, Tamil Nadu. Consent to Establish from Tamil Nadu Pollution Control Board was also not obtained before starting the construction work.

The total solid waste generation anticipated is 1002 Kg/day out of which about 251.55 Kg is biodegradable and the rest i.e., 750.45 Kg non-biodegradable. The solid waste generated comprises mostly of packaging materials. The bio-degradable portion of the domestic waste is proposed to be handed over to collection system while the non-biodegradable portion is proposed to be sent to authorized recyclers or local bodies for disposal. The nearest landfill site is Kodungaigur about 12 kms from the project site. The sludge from STP about 3 kg/day is to be dried and used as manure. The proponent could not provide permission of local bodies for collection of degradable portion of solid waste including bio-waste. In absence of any permission, the waste is likely to be disposed in an unscientific way.

STP having installed capacity of 100 KLD as against the expected sewage generation of 84 KLD has been installed. The unit has been given condition for zero liquid discharge by using 60 KLD of treated sewage for flushing, another 4 KLD of treated sewage for gardening and the remaining 16 KLD in HVAC. The unit shall not be able to reuse and recycle the entire treated sewage. In absence of non-availability of connectivity to the sewerage system, there is every possibility of the excess sewage being discharged on land, thereby causing soil and groundwater contamination. With just 42 trees to be planted and the landscape development, the 4 KLD of treated sewage earmarked cannot be utilized on daily basis including the rainy season. The unit has to probe other means to meet the conditions of Zero Liquid Discharge.

Permission from CMWSSB for discharging the treated sewage into their sewerage system is still awaited. The STP constructed does not have proper access for free movement to the units, making them inaccessible. The layout of the STP does not permit visualization of the operations. Other observations made are as follows:

- No provision has been made for storing roof top rain water.
- Development of Green Belt has not been accorded priority as no developed Green Belt was seen at the site.
- The accessibility to the units of Sewage Treatment Plant needs to be improved.
- The STP design is based on Chennai Metro Water Supply CMWSSB norms i.e. BOD 20 mg/l and SS 30 mg/l. The STP needs to be upgraded to treat this sewage to the bathing water quality norms as specified by SEIAA i.e. BOD less than 3 mg/l.
- Provision for additional parking space has to be made to meet the requirement of SEIAA.
- Proper storm water drainage system needs to be provided from the site for conveyance of excess storm water runoff to drain.
- The integrity of dual piping can be verified only after the system is functional.
- All plumbing line carrying raw wastes, untreated effluent, treated effluent etc. should be color coded.
- Completion Certificate (CC) has not been issued.

The details of the Project with respect to the permissions required/obtained and the tasks assigned to the Committee are envisaged in the detailed report annexed as **Annexure VIII**.

3.1.2. M/s. Ruby Manoharan Property Developers Pvt. Ltd:

The project of M/s. Ruby Manoharan Property Developers Pvt. Ltd. is spread over an area of 6173.40 sqm with built up area of 35017 sqm, having 206 dwelling units with 1133 occupants. The building height is 48 meters with an FSI of 3.50 (including premium FSI of 1.0). Nanmangalam Reserved Forest is across the road. There are no National Parks/Wildlife Sanctuaries/Zoos, Reservoirs/Lakes and protected forests within the vicinity of the project site.

The construction at site was started on January 30, 2013 and the Project Proponent applied for Environmental Clearance (EC) to SEIAA, a

mandatory requirement, before starting of construction work or preparation of land on 11.01.2013 before starting construction on 30.01.2013. As the built-up area of the project is less than 1,50,000 sqm, TOR was not applicable. EC was granted by SEIAA on 14.12.2015, when the construction works were already completed. CMDA accorded the Planning Permission on 04.01.2013, while the Building Permission was granted by President/Executive Officer, Vengaiwasal First Grade Panchayat on 24.01.2013 NOCs from other departments as required was also obtained. However, consent to Establish/Operate from Tamil Nadu Pollution Control Board is yet to be obtained. Completion Certificate (CC) has been issued by CMDA to the project on 04.01.2016. The details of permission obtained and the conditions specified therein are envisaged in the detailed report annexed as **Annexure IX**.

M/s. Ruby Manoharan Property Developers Pvt. Ltd initiated construction at the site without obtaining Environmental Clearance, thereby violating the mandatory requirement of obtaining the Environmental Clearance under Section 2 of the EIA Notification dated 14.9.2006 issued under Section 5 (3) of the Environment Protection Rules, 1986 from SEIAA, Tamil Nadu. Consent to Establish from Tamil Nadu Pollution Control Board has also not been obtained.

The bio-degradable fraction of the domestic waste (408 kg/day) is to be treated through organic waste converter and the sludge from STP used as manure. The non-biodegradable fraction (272 kg/day) is to be handed over to the authorized recyclers.

STP having treatment capacity of 130 KLD (against 80 KLD capacity of STP-vis-a-vis 75.96 KLD sewage generated accorded by CMWSSB) has been installed to treat the 124 KLD of sewage generated (as per EC condition). The STP does not have proper and safe access for free movement to the units. 48 KLD of treated sewage is proposed to be utilized for meeting the demand for toilet flushing; 5 KLD for gardening and the remaining 65 KLD for avenue plantation maintained by Thiruvanchery Panchyat. In absence of proper conveyance system the

treated sewage is proposed to be sent through tankers for plantation, which does not seem feasible in absence of any storage facility for treated sewage at the STP. Therefore, the possibility of the excess sewage being discharged on land, thereby, causing soil and groundwater contamination cannot be ruled out.

Other observations made are as below:

- Development of Green Belt has not been accorded priority as no developed Green Belt was seen at the site.
- The accessibility to the units of Sewage Treatment Plant needs to be improved.
- The STP design is based on Chennai Metro Water Supply CMWSSB norms i.e. BOD 20 mg/l and SS 30 mg/l. The STP needs to be upgraded to treat this sewage to the bathing water quality norms as specified by SEIAA i.e. BOD less than 3 mg/l.
- Proper storm water drainage system needs to be provided from the site for transporting excess storm water runoff to drain.
- The integrity of dual piping can be verified only after the system is functional.
- All plumbing lines carrying raw water, untreated effluent, treated effluent should be color coded.
- The details of land Avenue Plantation not provided. No conveyance system exists for conveyance of the excess sewage to land specified for avenue plantation.

The details of the Project with respect to the permissions required/obtained and the tasks assigned to the Committee are envisaged in the detailed report annexed as **Annexure IX**.

3.1.3. M/s. Jones Foundations Pvt. Ltd.

The project of M/s. Jones Foundations Pvt. Ltd. is spread over an area of 20888 sqm with built up area of 35848.88 sqm, having 329 dwelling units with 2195 occupants. The building height is 29.08 meters with an FSI of

1.54 (including premium FSI of 0.04). Guindy National Park is about 7.16 km from the Project site, while the Nanmangalam Reserved Forest is about 2.5 KM and Guindy Reserved Forest about 5.9 KM. There are no Wildlife Sanctuaries/Zoos, Reservoirs/Lakes and protected forest within the vicinity of the project site.

The construction at site was started on October 2012 and the Project Proponent applied for Environmental Clearance (EC) on 05.02.2014 after more than 18 months of starting the construction at site, though, as per the EIA Notification 2006 it is mandatory for all the Project Proponents to obtain environmental clearance before starting of construction work or preparation of land. As the built-up area of the project is less than 1,50,000 sqm, TOR was not applicable. EC was granted by SEIAA on 14/12/2015. CMDA accorded the Planning Permission on 03.08.2012, while the Building Permission was granted by Greater Chennai Corporation on 03.10.2012. NOCs from other departments as required was also obtained. However Consent to establish/Operate from Tamil Nadu Pollution Control Board is yet to be obtained. Completion Certificate has been issued by CMDA to the project on 25.01.2016. The details of permission obtained and the conditions specified therein are envisaged in the detailed report annexed as **Annexure X**.

M/s. Jones Foundations Pvt. Ltd. initiated construction at the site without obtaining Environmental Clearance, thereby violating the mandatory requirement of obtaining the Environmental Clearance under Section 2 of the EIA Notification dated 14.9.2006 issued under Section 5 (3) of the Environment Protection Rules, 1986 from SEIAA, Tamil Nadu. Consent to Establish from Tamil Nadu Pollution Control Board has also not been obtained.

The Bio-degradable fraction of domestic waste of 357 kg/day is proposed to be decomposed through organic waste converter, while the non-degradable fraction 535.6 kg/day will be sent to corporation of Chennai and the sludge from STP used as manure.

STP having treatment capacity of 220 KLD has been installed to treat the 206.4 KLD of sewage generated. 79 KLD of the treated sewage is to be utilized for meeting the demand of toilet flushing while 12 KLD is to be used for gardening purposes and the excess treated sewage of 111 KLD is to be discharged into the CMWSSB system. In absence of non-availability of trunk sewer, there is possibility of excess sewage being discharged on land, thereby causing soil and groundwater contamination. Till connectivity with the CMWSSB system is available the treated sewage is proposed to be disposed through tankers to Perungudi STP. Solar Panels are proposed to be installed for street lights.

Other observations made are as below:

- Development of Green Belt has not been accorded priority as no developed Green Belt was seen at the site.
- The integrity of dual piping can be verified only after the system is functional.
- Provision for storage of the treated sewage is required to be made, in case of transportation of the treated sewage through tankers to the CMWSSB, STP at Perungudi till connectivity with the CMWSSB system is available.
- The STP design is based on CMWSSB norms i.e. BOD 20 mg/l and SS 30 mg/l. The STP needs to be upgraded to treat this sewage to the bathing water quality norms as specified by SEIAA i.e. BOD less than 3 mg/l.
- Proper storm water drainage system needs to be provided from the site for transporting excess storm water runoff to drain.
- All plumbing lines carrying raw water, untreated effluent, treated effluent should be colour coded.

The details of the Project with respect to the permissions required/obtained and the tasks assigned to the Committee are envisaged in the detailed report annexed as **Annexure X**.

3.1.4. M/s. SAS Relators Pvt. Ltd.

The project of M/s. SAS Relators Pvt. Ltd. is spread over an area of 6985.0 sqm with built up area of 28330.95 sqm, having 166 dwelling units

with 913 occupants. The building height is 58.96 meters and with an FSI of 3.50 (including premium FSI of 1.0). There are no National Parks/Wildlife Sanctuaries/Zoos, Reservoirs/Lakes and reserved/protected forests within the vicinity of the project site except for the Porur Lake which is about 3.0 km from the site.

The construction at site was started on June 1, 2012 and the Project Proponent applied for Environmental Clearance (EC) on 13.03.2013 after more than 10 months of starting the construction, though, as per the EIA Notification 2006 it is mandatory for all the Project Proponents to obtain Environmental Clearance (EC) before starting of construction work or preparation of land. As the built-up area of the project is less than 1,50,000 sqm, TOR was not applicable. EC was granted by SEIAA on 14.12.2015. CMDA accorded the Planning Permission on 30.03.2012, while the Building Permission was granted by Greater Chennai Corporation on 23.5.2012. NOCs from other departments as required are also obtained. However Consent to Establish/Operate from Tamil Nadu Pollution Control Board is yet to be obtained. Completion Certificate has been issued by CMDA to the project on 30.12.2015. The details of permission obtained and the conditions specified therein are envisaged in the detailed report annexed as **Annexure XI**.

M/s. SAS Relators Pvt. Ltd. initiated construction at the site without obtaining Environmental Clearance, thereby violating the mandatory requirement of obtaining the Environmental Clearance under Section 2 of the EIA Notification dated 14.9.2006 issued under Section 5 (3) of the Environment Protection Rules, 1986 from SEIAA, Tamil Nadu. Consent to Establish from Tamil Nadu Pollution Control Board was also not obtained before starting the construction work.

The domestic waste (515 Kg/day) is to be disposed to the Greater Chennai Corporation and the STP sludge used as manure. STP having capacity of 95 KLD based on Extended Aeration System has been installed to treat the 93 KLD of sewage generated. 90 KLD of the treated sewage will be disposed to CMWSSB Sewage Network. No provision has been made for using the treated sewage for flushing in toilets (40 KLD) as

specified in the Environmental Clearance conditions. Permission from CMWSSB for discharging the treated sewage into their sewerage system is still awaited. The STP does not have proper access to the units, making them inaccessible. The layout of the STP does not permit visualization of the operations.

Till such time connectivity with the CMWSSB system is available, the treated sewage is proposed to be disposed through tankers to Nesapakkam STP. Solar Panels have been installed for meeting the hot water requirement for the kitchen/bathing.

Other observations made are as below:

- No provision has been made for harvesting roof top rain water.
- No provision has been made for recycling of treated sewage for flushing in toilet.
- Development of Green Belt has not been accorded priority as no developed Green Belt was seen at the site.
- For transportation of the treated sewage through tankers to the CMWSSB, STP at Nesapakkam in absence of the connectivity with the Chennai Metro CMWSSB sewerage system adequate storage facility of the treated sewage is required.
- The STP design is based on Chennai Metro Water Supply Sewerage Board (CMWSSB) norms i.e. BOD 20 mg/l and SS 30 mg/l. The STP needs to be upgraded to treat the sewage to the bathing water quality norms as specified by SEIAA i.e. BOD less than 3 mg/l. The accessibility to the units of Sewage Treatment Plant indicates that STP is unlikely to be operated and hence needs to be improved, so that their functioning can be seen.
- Proper storm water drainage system needs to be provided from the site for transporting excess storm water runoff to drain.
- All plumbing lines carrying raw water, untreated effluent, treated effluent should be colour coded.

The details of the Project with respect to the permissions required/obtained and the tasks assigned to the Committee are envisaged in the detailed report annexed as **Annexure XI**.

3.1.5. M/s. Dugar Housing Ltd.

The project of M/s. Dugar Housing Ltd. is spread over an area of 11789.00 sqm with built up area of 56153.22 sqm, (including 3400 sqm of commercial area) having 412 dwelling units with 2842 occupants. The building height is 45 meters with an FSI of 3.48 (including premium FSI of 0.98). There are no National Parks/Wildlife Sanctuaries/Zoos/Reservoirs and reserved/protected forests within the vicinity of the project site. The Puzhal Lake is about 1.0 km and Korattur Tank about 1.0 Kms from the site.

The construction at site was started on February 15, 2013 and the Project Proponent applied for Environmental Clearance (EC) on 04.06.2013 after more than 3 months of starting the construction at site, though as per the EIA Notification 2006 it is mandatory for all the Project Proponents to obtain environmental clearance before starting of construction work or preparation of land. As the built-up area of the project is less than 1,50,000 sqm, TOR was not applicable. EC was granted by SEIAA on 19.11.2015. CMDA accorded the Planning Permission on 28.01.2013, while the Building Permission was granted by Greater Chennai Corporation on 08.05.2013. NOCs from other departments as required was also obtained. However Consent to Establish from Tamil Nadu Pollution Control Board is yet to be obtained. As construction is under progress completion certificate has not been issued by CMDA. The details of permission obtained and the conditions specified therein are envisaged in the detailed report annexed as **Annexure XII**.

The proponent was granted planning permission for 295 units by CMDA with building height restricted to 10 floors. Subsequently the proponent requested for revised planning permission for constructing 14 floors. Though the proposal has been accepted in principle by CMDA, the revised planning permission is still awaited. Meanwhile the EC granted on 19.11.2015 by SEIAA envisage construction of 14 floors. The construction of additional floor necessitates re-examination of solid waste generation,

fresh water requirement, sewage generation, parking requirement, power demand etc.

M/s. Dugar Housing Ltd. initiated construction at the site without obtaining Environmental Clearance, thereby violating the mandatory requirement of obtaining the Environmental Clearance under Section 2 of the EIA Notification dated 14.9.2006 issued under Section 5(3) of the Environment Protection Rules, 1986 from SEIAA, Tamil Nadu. Consent to Establish from Tamil Nadu Pollution Control Board was also not obtained before starting the construction work.

The Proponent has proposed to install STP having installed capacity of 280 KLD as against the expected sewerage generation of 266 KLD. Part of the treated sewage is proposed to be utilized for meeting the demand of toilet flushing (108 KLD) while 10 KLD is proposed to be used for gardening purpose and the excess treated sewage of 135 KLD to be disposed through CMWSSB sewer line and till such connectivity is ensured the treated sewage will be sent through tankers to the nearby Koyambedu STP (having capacity of 94 MLD) permission for the same is awaited from CMWSSB. The capacity of sewage treatment plant proposed is inadequate to treat the estimated generation of 307 KLD of sewage, considering the demand exerted by the residents in the additional 04 floors proposed.

Other observations made are as below:

- No provision for harvesting roof top rain water has been made.
- No provision has been made for recycling of treated sewage for flushing in toilet.
- Development of Green Belt has not been accorded priority as no developed Green Belt was seen at the site.
- The Sewage Treatment Plant has not been constructed. The STP design is based on Chennai Metro Water Supply & Sewerage Board (CMWSSB) norms i.e. BOD 20 mg/l and SS 30 mg/l. The STP needs to be upgraded to treat the sewage to the bathing water quality norms as specified by SEIAA i.e. BOD less than 3 mg/l and also

consider the increased sewage generation from the 04 additional floors.

- For transportation of the treated sewage through tankers to the CMWSSB, STP at Koyambedu in absence of the connectivity with the CMWSSB sewerage system provision for storage of the treated sewage is required to be made at STP.
- Proper storm water drainage system need to be provided from the site for conveyance of the excess storm water to drains.
- Provision for additional parking space is required to be made in compliance with the requirement of EC conditions and to meet the demand of residents of the additional 04 floors being constructed.
- All plumbing lines carrying raw water, untreated effluent, treated effluent should be color coded.

The details of the Project with respect to the permissions required/obtained and the tasks assigned to the Committee are envisaged in the detailed report annexed as **Annexure XII**.

3.1.6. M/s. SPR and RG Construction Pvt. Ltd.

The project of M/s. SPR and RG Construction Pvt. Ltd. is spread over an area of 35786.05 sqm with built up area of 166479.79 sqm, having 1050 dwelling units with 6038 occupants. The building height is 43.85 meters and with an FSI of 3.25 (including premium FSI of 0.75). Guindy National Park is about 9.0 kms from the project site. No Wildlife Sanctuaries /Zoos, Reservoirs and reserved/protected forests within the vicinity of the project site. The Porur Lake is about 0.5 km from the site.

The construction at site was started on October 10, 2012 and the Project Proponent applied for Environmental Clearance (EC) on 10.06.2013 after more than 7 months of starting the construction at site, though, as per the EIA Notification 2006 it is mandatory for all the Project Proponents to obtain environmental clearance before starting of construction work or preparation of land. As the built-up area of the project is more than 1,50,000 sqm, TOR was applicable and the same was obtained on

07.10.2013. EC was granted by SEIAA on 19.11.2015. CMDA accorded the Planning Permission on 15.07.2012, while the Building Permission was granted by Greater Chennai Corporation on 04.09.2012. NOC from other departments as required was also obtained. However, Consent to Establish from Tamil Nadu Pollution Control Board is yet to be obtained.

The planning permission granted by CMDA on 20.07.2012 is for 982 dwelling units. Subsequently the proponent requested for revised planning permission for constructing additional units. Though the proposal has been considered, the revised planning permission is still awaited. Meanwhile the EC granted by SEIAA on 19.11.2015 envisages construction of 1050 dwelling units. The construction of additional 68 dwelling units, necessitates re-examination of solid waste generation, fresh water requirement, sewage generation, parking requirement, power demand etc.

The details of permission obtained and the conditions specified therein are envisaged in the detailed report annexed as **Annexure XIII**.

M/s. SPR and RG Construction Pvt. Ltd. initiated construction at the site without obtaining Environmental Clearance, thereby violating the mandatory requirement of obtaining the Environmental Clearance under Section 2 of the EIA Notification dated 14.9.2006 issued under Section 5(3) of the Environment Protection Rules, 1986 from SEIAA, Tamil Nadu. Consent to Establish from Tamil Nadu Pollution Control Board was also not obtained before starting the construction work.

The proposed domestic waste (3200 Kg/day) generated is to be disposed to the Greater Chennai Corporation and the dried sludge of 67 Kg to be used as manure. STP having capacity of 700 KLD has been installed to treat the 650 KLD of sewage generated. Part of the treated effluent is proposed to be utilized for meeting the demand of toilet flushing (250 KLD) while 19 KLD is to be used proposed for gardening purpose and the excess treated sewage of 35 KLD to be disposed to CMWSSB Sewage Network. The revised sewage generation, considering the 1050 dwelling units is estimated to be 652 KLD. The existing STP is adequate to take the additional sewage, considering the hydraulic loading

as its design capacity is 700KLD. Permission from CMWSSB for discharging the treated sewage into their sewerage system is still awaited. Till such time connectivity with the CMWSSB system is available the treated sewage is proposed to be disposed through tankers to Koyambedu STP. No provision has been made for harvesting roof top rain water.

Other observations made are as below:

- No provision has been made for harvesting of roof top rain water.
- Development of Green Belt has not been accorded priority as no developed Green Belt was seen at the site.
- For transportation of the treated sewage through tankers to the CMWSSB, STP at Koyambedu in absence of the connectivity with the CMWSSB sewerage system adequate storage facility of the treated sewage is required.
- The STP design is based on Chennai Metro Water Supply CMWSSB norms i.e. BOD 20 mg/l and SS 30 mg/l. The STP needs to be upgraded to treat the sewage to the bathing water quality norms as specified by SEIAA i.e. BOD less than 3 mg/l and also consider the increased sewage generation from the additional dwelling units.
- The fresh water requirement is estimated to be 815 KLD for the 6038 occupants (as specified in the EC) @ 135 LPCD. Considering recycling of 254 KLD of treated sewage for toilet flushing, the net fresh water requirement is 561 KLD (815 KLD-254 KLD) as against the 483 KLD proposed in the EC.
- Proper storm water drainage system need to be provided from the site for conveyance of the excess storm water to drains, thereby discarding possibility of flooding in and around the site.
- Provision for additional parking space is required to be made in compliance of the requirement of EC conditions and to meet the demand of residents of the additional dwelling units.
- All plumbing lines carrying raw water, untreated effluent, treated effluent should be color coded.

The details of the Project with respect to the permissions required/obtained and the tasks assigned to the Committee are envisaged in the detailed report annexed as **Annexure XIII**.

3.2 The Hon'ble Tribunals Order dated July, 07, 2015 specifies the directions to the Expert Committee Constituted. The information collected by the Committee during its visit to the sites of the Appellants and during discussion with the project proponents have been tabulated for each site and presented in **Table -3 to 8**.

4.0 Environmental Clearance

4.1 Environmental Clearance granted by SEIAA

Environmental Clearance has been granted by SEIAA to all these project proponents i.e.

- | | |
|--|------------|
| • M/s Y. Pondurai | 31.12.2015 |
| • M/s Jones Foundation Pvt. Ltd. | 14.12.2015 |
| • M/s Ruby Manoharan Property Developers Pvt. Ltd. | 14.12.2015 |
| • M/s SAS Realtors Pvt. Ltd. | 14.12.2015 |
| • M/s Dugar Housing Ltd. | 19.11.2015 |
| • M/s SPR & RG Construction Pvt. Ltd. | 19.11.2015 |

4.2 Review of EC conditions

The conditions stipulated by SEIAA in the Environmental Clearance (EC) are generic and cover wide spectrum of environmental issues. The conditions imposed need to be more specific and precise for their effective implementation and monitoring.

The EC conditions specify energy saving, use of fly ash bricks, rain water storage capacity, and area for green belt etc. but no bottom limits specified leaving it to the wisdom of the proponent. Monitorable targets need to be fixed for better implementation as well as conserving of natural resources. Some of the areas where such targets can be specified include;

- Percentage of energy saving using renewable energy sources and energy saving devices with respect to the total energy demand

- Percentage utilization of fly ash bricks with respect to the total requirement of bricks
- Only star rated fans/ ACs should be permitted
- Percentage area of the total plot area to be developed as green belt
- The entire sewage treated to the bathing water quality should be recycled back and not discharged in the city sewerage system
- 100 % of the roof top rain water harvested should be used in the project
- At least 60% of storm water runoff should be harvested for ground water recharging in areas where ground water table is low
- The entire wet garbage generated in the complex should be composted along with the tree leaves and other biomass
- At least 10% of the water consumption be reduced using pressure taps/ small capacity cisterns/ other such water conserving methods
- The open areas wherever required to be paved should be done with perforated blocks to increase ground water recharging

The conditions imposed in EC can be reviewed to incorporate use of resource conserving technologies in building construction and use of raw materials manufactured using Environment Friendly Technologies.

5.0 SUGGESTIONS

5.1 Conditions stipulated by CMDA

- i. CMDA shall give more emphasis on the environmental aspects including disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, etc. Environmental aspects be given the same priority, if not more than those given to parking, fire safety, etc., while designing the lay out and its approval.
- ii. The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006.
- iii. To have uniformity in approach so that violation of laws is avoided, a coordination mechanism between SEIAA, CMDA and other agencies need to be put into place.

- iv. Cases where no EIA is conducted, quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA.
- v. In case any deterioration in the ambient environment / ground water quality is observed, the proponent shall inform the status to TNPCB and SEIAA and also prepare a time bound action plan for remedial measures.
- vi. The proponent shall install piezo wells to monitor the ground water quality quarterly.
- vii. The surface run off shall be given pre-treatment to remove the sustainable solids oil and Greece, etc. by installing screen, settlers and other such units before using it for recharge.
- viii. Provision of proper drainage system need to be made in and around the premises for effective collection of storm water runoff and its disposal.

The Building permission should be integrated with the Environmental Clearance to ensure that the Building permissions granted are not devoid of environmental considerations. To bring transparency in permission granting; the procedure for granting building permission can be made online over the time.

5.2 Waste Water Management/Sewage Treatment

- i. The STPs constructed should provide safe access to the various units of STPs for safe movement in the area, adequate ventilation to avoid accumulation of gases such as Methane and Hydrogen Sulphide (H₂S), while ensuring easy maintenance and replacement of damaged equipment / accessories.
- ii. The project proponent should provide separate electricity meter for the sewage treatment plants and maintain daily record of the power consumed, essential to ensure 24X7 functioning of STPs.
- iii. The unit not having provision for discharge of treated sewage cannot be permitted to start operation unless proper arrangements are put in place for its safe handling.
- iv. In no case, the discharge of treated sewage on land can be permitted. Transportation of treated sewage through tankers equipped with GPS system (to monitor their movement to the existing STPs in the area) can be permitted in case adequate treatment capacity is available at STPs

installed by CMWSSB. The installation of GPS system will help ensuring, that the tankers are emptied at the STPs only.

- v. The project proponent having permission to discharge the excess treated sewage to existing CMWSSB STPs, should be permitted to discharge the treated effluent conforming to the prescribed effluent norms only.
- vi. Where, the project proponent do not have outlet provisions and are not able to recycle additional sewage back into the system, beyond the presently proposed limits, transporting of the treated sewage conforming to the specified norms for discharge to STP operated by CMWSSB Board through identified tankers fitted with GPS system for tracking their movements may be considered. The option can be permitted only after the project proponent develops adequate storage capacity for treated effluent.
- vii. To ensure that entire waste water generated is treated, online flow measurement system need to be installed both at the Inlet and Outlet of the STP, and the pumps/ valves integrated through software to provide the flow data.
- viii. The online system be installed to monitor the effluent quality at least for the basic parameters, such as pH, suspended solids and BOD for self-monitoring and self-regulations besides ensuring compliance of the norms. The data will be transferred directly from the analysis.
- ix. The project proponent should develop in-house laboratory for monitoring of the operating parameters of the sewage treatment plants and the treated effluent quality daily.
- x. The Sewage treatment plant shall be operated by the developer or his representative for at least 10 years after handing over to the residents.
- xi. The performance monitoring of STP shall be done at least once in a year to access the compliance status and its operational efficacy.
- xii. Regular inspection of the STP be undertaken to ensure safe disposal of the treated sewage.
- xiii. Color coding of pipelines in the STP's should be done.
- xiv. All the plumbing lines carrying raw water, untreated effluent/treated effluent etc. should be color coded.

- xv. The project proponent should not be permitted to operationalize the complexes till such time permission / connectivity for taking potable water from CMWSSB pipeline is received / connectivity ensured to avoid ground water abstraction.

5.3 Rain Water Harvesting

If provision for discharge of excess surface run off / rain water discharge are not available, flooding in the vicinity and stagnation of the discharged water in the low lying areas around the complex are inevitable. The project proponent should ensure that such situation does not occur either by increasing the capacity of rain water storage sumps or providing additional pits in the surface run off collection drain. 100% recycling of treated sewage to be ensured indicates where the sewage is treated to bathing water quality.

5.4 Green Belt Development

- i) Project proponent should plan for scientific green belt development, (exceptions are there for the landscape area or some places earmarked for plantation of trees). Maximum possible space should be left unpaved for recharging of ground water besides the proposed rain water harvesting system. The unpaved area should be covered with green top or any other pervious material to maintain permeability of soil.
- ii) Green belt should be developed all around the site boundary to act as a barrier for air and noise pollution. Ornamental plants / area left for landscape, covered with grass / shrubs and roof top garden shall not be considered in the areas mandatory for green belt development. Sufficient space has to be provided for each tree so that it does not choke to death because of the putting of cement concrete all around the tree.

5.5 Solid Waste Management

- i) The project proponent should prepare an action plan for ensuring segregation, collection, transportation, treatment and scientific disposal of Municipal Solid Waste. This action plan should be submitted to SEIAA and TNPCB for their approval.

- ii) Separate wet and dry bins must be provided at ground level for facilitating segregation of waste.
- iii) Organic Waster Composter with a minimum capacity 0.3 kg/treatment/day must be provided.
- iv) The project proponent should put in place a system for collection of discarded CFL & LED lamp.
- v) Separate space should be earmarked for storing of construction and demolition waste and its disposal at sites approved by local authorities.
- vi) The proponent should submit a plan for management of grit and STP sludge.
- vii) The leaves/biomass should be composted at site and used as manure.
- viii) Provision be made in the complex for collection of plastic waste, electronic waste, etc.

5.6 Traffic Management

- i. Once the complex is occupied, there is all possibility of traffic snarls around. The project proponents need to submit an action plan to avoid congestion on the road, increased concentration of air pollutants.
- ii. The project proponent should ensure regular sweeping of the roads inside and adjacent to the complex to avoid re-suspension of settled dust, thereby taking care of any possibility of increasing particulate matter levels.
- iii. CMDA norms specify the car parking requirement based on the area of the dwelling unit which is less than one vehicle per dwelling unit. Considering the growth of vehicular population, this criteria needs to be revisited to avoid parking of vehicles on the road thereby causing congestion outside the complex.

5.7 Energy Saving

- i. All common and staircase lighting should use solar power. The project proponent should reduce the power consumption by at least 20% by replacing CFL lamps with LED lamps, using energy efficient device (solar relay – Bureau of energy efficiency) providing insulated window or insulated glasses and adopting advance elevator and air conditioning technologies as below:-
- ii. Install Energy efficient elevators using gearless machines or regenerative drive technology.
- iii. Inverter technology based Air Conditioning machines should be installed.

- iv. For meeting hot water requirement in kitchen solar energy should be used.
- v. Installation of IR/Thermal switches in corridors/staircases to save energy needs to be promoted.
- vi. The project should obtain GRIHA or any other such rating.
- vii. Energy rating instruments like fans, lights etc., shall be used.

6.0 General Remarks

- i. In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building lay out modelled to incorporate the natural drainage as part of the system rather than redoing/ relaying of the natural drainage system as done presently in case of M/s. SSM Builders and Promoters where the natural open drain converted to a conduit in parts.
- ii. A systematic green belt development is necessary. In all future projects environmental issues like development of green belt, managing surface water runoff, its collection and recharge etc., provision of solid waste management, and orientation of the building for energy saving should be given priority while designing the layout and the number of dwelling units likely to come up.
- iii. In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site.
- iv. The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of renewable energy, green belt development for effective implementation and monitoring.
- v. Before permitting construction below the ground water table, a study should be conducted to assess the impact of construction activity on the natural recharging system of the area.

7.0 THE REPORT

This report has been compiled based on the information collected from site visits by the Committee members during August 2015, February 2016 and information received from CMDA, SEIAA, and Project Proponent etc. The Committee has made its best efforts to cover the entire scope of the works assigned by the Hon'ble Tribunal to assess the impacts of building construction on ecology and environment, the adequacy of sewage treatment plants, rain water harvesting system and the mechanism provided for collection and disposal of municipal solid wastes. This Report tries to address the issues raised by all stakeholders including that of the members of the Expert Committee, and the Applicant i.e. Mr. S.P. Muthuraman.

Table 2 : PERMISSIONS OBTAINED

S.No.	Permissions /Proponent	M/s Y.Pondurai	M/s. Ruby Manoharan Property Developers Pvt. Ltd.	M/s. Jones Foundations Pvt. Ltd.	M/s. SPR and RG Construction Pvt. Ltd.	M/s. Dugar Housing Ltd.	M/s. SAS Realtors Pvt. Ltd.
1.	Date of purchase of land	18.05.2012	23.02.2006	30.07.2010	14.07.2010	No information provided	29.10.2010
2.	<ul style="list-style-type: none"> Land use pattern applicable when land was purchased Land use pattern as per Master Plan 2008 	Industrial use	Residential	Residential	Primary Residential and Industrial	Primary Residential	Commercial and Industrial
3.	<ul style="list-style-type: none"> Date of submission of Application For EC (SEIAA) Date when EC granted 	28.02.2014	11.01.2013	05.02.2014	10.6.2013	04.06.2013	13.03.2013
4.	<ul style="list-style-type: none"> Date when EC granted Date of submission of application for Planning Permission (CMDA) Date when permission granted 	31.12.2015	14.12.2015	14.12.2015	19.11.2015	19.11.2015	14.12.2015
5.	<ul style="list-style-type: none"> Date of submission of application to CMWSSB For water sourcing 	27.08.2012	10.10.2011	19.05.2010	22.02.2011	25.05.2011	14.03.2011
		31.12.2013	04.01.2013	03.08.2012	20.07.2012	28.01.2013	30.03.2012
		01.09.2014	no information provided	29.01.2014	27.05.2013	no information provided	no information provided

	<ul style="list-style-type: none"> ○ For sewerage disposal 	no information provided	29.01.2014	27.05.2013	no information provided	no information provided	no information provided
	<ul style="list-style-type: none"> ○ When permission was granted 	no information provided	16.06.2014	04.06.2013	no information provided	no information provided	no information provided
6.	<ul style="list-style-type: none"> • Date of submission of application for Consent to Establish (TNPCB) 	Not applied	Not applied	Not applied	Not applied	Not applied	Not applied
	<ul style="list-style-type: none"> • Date of grant of Consent to Establish. 	-	-	-	-	-	-
7.	<ul style="list-style-type: none"> • Date of submission of application to AAI 	04.09.2012	01.08.2013	12.01.2011 & 07.03.2011	05.09.2011	12.05.2011	01.02.2011
	<ul style="list-style-type: none"> • Date of issue of permission 	02.11.2012	17.10.2013	08.03.2011	17.10.2011	13.06.2011	24.02.2011
8.	<ul style="list-style-type: none"> • Is the area covered under Panchayat, if yes, 	No	No	No	Yes	No	No
	<ul style="list-style-type: none"> ○ whether permission obtained from Panchayat, and if yes, 	-	-	-	Yes	-	-
	<ul style="list-style-type: none"> ○ when was the permission obtained 	-	-	-	24.01.2013	-	-
9.	<ul style="list-style-type: none"> • Date of submission of application for revised Planning Permission(to CMDA) 	Not applicable	Not applicable	17/07/2014	Not applicable	08/03/2013	Not applicable

	o Date when revised Planning permission granted	Not applicable	Not applicable	Not applicable	Not applicable	Permission awaited	Permission awaited	Permission awaited	Not applicable
	o Modification made in the revised Planning permission	Permission awaited	Permission awaited	Permission awaited	Permission awaited	68 dwelling units additional	04 floors additional	Permission awaited	Permission awaited
10	Other permissions obtained								
	i) NOC from DF&RS	11.11.2013	27.10.2011	16.06.2010	25.02.2011		07.06.2011		19.03.2012
	ii) NOC from Traffic(Police)	28.05.2013	05.01.2012	24.09.2010	09.03.2011		16.06.2012		03.05.2011
	iii) CMWSSB for STP	20.11.2012	20.10.2011	16.06.2014	11.03.2011		26.06.2012		04.02.2011
	iv) CMWSSB for Swimming pool	Not applicable	15.09.2011	Not applicable	11.03.2011		18.06.2012		10.02.2011
12.	Date of starting construction	January 2014	30.10.2013	05.10.2012	10.09.2012		15.02.2013		01.06.2012
13.	• Date of submission of application for Completion Certificate (to CMDA)	Not applicable	18.12.2015	15.12.2015	Not applicable		Not applicable		15.12.2015
	• Date when CC issued	Not applicable	04.01.2016	25.01.2016	Project under construction		Project under construction		30.12.2015

Table 3: M/s. Y.Pondurai

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
<p>Illegal and unauthorized acts and activities carried out by the Respondents.</p>	<p>The following illegal acts and activities by the Project Proponent have been noted by the Committee:</p> <ul style="list-style-type: none"> • Initiated construction at site without obtaining Environmental Clearance under section 2 of the EIA Notification dated 14.09.2006 issued under section 5(3) of Environment (Protection) Rules, 1986 from SE/IAA, Tamil Nadu. • Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated by CMDA. • Did not obtain 'Consent to Establish' required for commencement of work from Tamil Nadu Pollution Control Board. • Violated the condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated in the Building Permit by the Greater Chennai Corporation to be read with conditions of CMDA. 	<p>i. Violated CMDA condition of commencing activity without obtaining Environmental clearance.</p> <p>ii. The height of the building is 54.463 meters and FSI is 2.83.</p> <p>iii. Provision for storage of roof top rainwater not there.</p> <p>iv. Provision for proper green belt development does not exist.</p> <p>v. Consent to establish/operate is yet to be obtained.</p> <p>vi. Completion Certificate (CC) has not been issued.</p>	<p>i. CMDA shall give more emphasis on the environmental aspects including disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, etc. Environmental aspects be given the same priority, if not more than those given to parking, fire safety, etc., while designing the lay out and its approval.</p> <p>ii. The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006.</p> <p>iii. In case any deterioration in the ambient environment / ground water quality is observed, the proponent shall inform the status to</p>

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
<p>Ecological and environmental damage done by these projects.</p>	<p>The ecological and environmental impacts are expected from:</p> <ul style="list-style-type: none"> Disposal of solid waste: The total solid waste generation anticipated is 1002 Kg/day out of which about 251.55 Kg is biodegradable and the rest i.e., 750.45 Kg non bio degradable. The solid waste generated mostly comprise of packaging materials. The bio-degradable portion of the domestic waste is proposed to be handed over to collection system while the non- bio degradable portion is proposed to be sent to authorized recyclers or local bodies for disposal. The nearest landfill site at Kodungaigur about 12 kms from the project site. The sludge from STP about 3 kg/day shall be dried and used as manure. The proponent could not provide permission of local bodies for collection of degradable portion of other solid waste. In absence of any permission, the waste is likely to be disposed in an unscientific way which has all potential to contaminate the ground water besides being a source of unaesthetic conditions and odour. Sewage disposal: The Proponent has installed STP with installed capacity of 100 KLD as against the expected sewage generation of 84 KLD. The unit has been given condition for zero liquid discharge by using 60 KLD of treated sewage for flushing, another 4 KLD of treated sewage for gardening and the remaining 16 KLD in HVAC. The unit shall not be able to reuse and recycle the entire treated sewage. In absence of any connectivity to trunk sewer, there is all possibility of the excess sewage being discharged on land thereby causing soil and groundwater contamination. With just 42 trees to be planted and the landscape development, the unit shall not be able to utilize the 4 KLD of sewage on daily basis including during the rainy season. The unit has to probe other means of to meet the improved conditions of Zero Liquid Discharge. Water abstraction. The Project Proponent proposes to 	<p>The major observations are as under:</p> <ul style="list-style-type: none"> The tanker water was used for construction. The Project Proponent has applied to CMWSSB for permission to use private water tanker to meet its fresh water requirement of 30 KLD during the operation phase. In absence of connectivity with CMWSSB supply, fresh water requirement during operation will be met from the private water tankers. The unit has 01 well within the area and the water depth is 201 feet from the ground level. The STP of M/s. Y. Pondurai is partially below ground level. The design of the STP constructed indicates its adequacy to meet with the treated quality norms specified by CMWSSB, however the actual efficacy can be assessed only after the details of mechanical systems installed and their ratings are known. To achieve the bathing quality norms as specified by 	<p>TNPCB and SEIAA and also prepare a time bound action plan for remedial measures. The proponent shall install piezo wells to monitor the ground water quality quarterly.</p>

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>use private water tankers during the operational phase of the project in absence of availability of potable water supply from CMWSSB. The project site has one well. Any abstraction of groundwater to meet the fresh water requirement should be only after obtaining required permission as it has all the probability to impact the groundwater table. A study needs to be conducted to assess the charging rate vis-à-vis the abstraction from the groundwater sources.</p> <ul style="list-style-type: none"> • Noise Pollution: There is a possibility of increase in noise levels once the complex is occupied. The increase in noise level can be taken care by providing green belt along the boundary wall and other acoustic measures to cushion the impact of noise. • Air Pollution: As per the 2nd Master Plan for CMA land use which is in force since September 2008, the project land are zoned for industrial land use where in commercial construction is a permitted activity as per CMDA land use. As the site is meant for construction of industrial use including commercial units it cannot be considered to be contributing to the deterioration in air quality. • The ground water table is at 6 meters from ground level. • The construction of 3 levels of basement is well below the ground water table and has all the potential to impact the ground water recharging system. Study need to be conducted to assess the impact. 	<p>SEIAA for the treated sewage quality, the STP would have to be upgraded.</p>	
Installation of STPs	<ol style="list-style-type: none"> The total sewage generation anticipated from the project is 84 KLD for which STP with total treatment capacity of 100 KLD is constructed. The STP is partially below ground level. The design of the STP units indicates adequacy of the system to meet with the treated quality norms specified by CMWSSB. However the actual efficacy can be assessed only after the details of mechanical systems installed and their ratings are known. To achieve the bathing quality norms laid down by CPCB and specified by SEIAA for the treated sewage quality, the STP would have to be upgraded. The STP units have neither proper nor safe access for free movement, thereby making it difficult to collect samples and undertake preventive and breakdown maintenance. With the existing layout of the STP its operation cannot be seen / visualized and in case of any disruption in plant condition, the 	<ul style="list-style-type: none"> • The STP of M/s. Y. Pondurai is partially below ground level. • The design of the STP constructed indicates its adequacy to meet with the treated quality norms specified by CMWSSB, however the actual efficacy can be assessed only after the details of mechanical systems installed and their ratings are known. To achieve the bathing quality norms as specified by SEIAA for the treated sewage 	<ul style="list-style-type: none"> • The STP constructed by M/s. Pondurai need to be modified to provide safe access to the various units of STP including adequate head space for safe movement in the area, adequate ventilation to avoid accumulation of gases such as Methane and Hydrogen Sulphide (H₂S), while ensuring easy maintenance and replacement of damaged equipment / accessories and upgraded to meet the treated

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>plant performance can be assessed only after examining/seeing the results of effluent quality parameters and the values of the plant operating parameters.</p> <p>iv. The treated sewage (84 KLD) is proposed to be recycled back i.e. 60 KLD for flushing, 16 KLD for Heating, Ventilation and Air Conditioning (HVAC) and 4 KLD for gardening. In absence of any green belt worth mentioning the 4 KLD earmarked for green belt development cannot be fully utilized on daily basis and especially during rainy season. The leftover would be required to be discharged along with the excess sewage.</p> <p>v. The possibility of recycling of the treated effluent could not be ensured as the dual piping system could not be verified in absence of any color coding</p>	<p>quality, the STP would have to be upgraded.</p> <ul style="list-style-type: none"> The STP units have neither proper nor safe access for free movement, thereby making it difficult to collect samples and undertake preventive and breakdown maintenance. With the present layout of STP the operation of plants cannot be seen / visualized and in case of any disruption in plant condition, the plant performance can be assessed only after examining/seeing the results of effluent quality parameters and the values of the plant operating parameters. The Project Proponent needs to develop environmental laboratory with capacity to monitor the operating parameters of STP and the quality of treated effluent essential for effective operation of the plant/self-monitoring and self-compliance with the norms. 	<p>sewage quality norms specified by SE/IAA.</p> <ul style="list-style-type: none"> The project proponent should provide separate electricity meter for the sewage treatment plants and maintain daily record of the power consumed, essential to ensure 24X7 functioning of STP. In no case, the discharge of treated sewage on land can be permitted. Transportation of treated sewage meeting the norms, through tankers equipped with GPS system (to monitor their movement to the existing STP in the area) can be permitted in case adequate treatment capacity is available at STP installed by CMWSSB. The installation of GPS system will help ensuring, that the tankers are emptied at the STP only. Where, the project proponent do not have outlet provisions and are not able to recycle additional sewage back into the system, beyond the presently proposed limits, transporting of the treated sewage conforming to the specified norms for discharge to STP operated by CMWSSB Board through identified tankers fitted with GPS system for tracking their movements may be considered. The option can

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
			<p>be permitted only after the project proponent develops adequate storage capacity for treated effluent.</p> <ul style="list-style-type: none"> • To ensure that entire waste water generated is treated, online flow measurement system need to be installed both at the Inlet and Outlet of the STPs, and the pumps/ valves integrated through software to provide the flow data. • The online system is installed to monitor the effluent quality at least for the basic parameters, such as pH, suspended solids and BOD for self-monitoring and self-regulations besides ensuring compliance of the norms. The data will be transferred directly from the analysis. • The project proponent should develop in-house laboratory for monitoring of the operating parameters of the sewage treatment plants and the treated effluent quality daily. • Colour coding of pipelines in the STP's should be done. • All the plumbing lines carrying raw water, untreated effluent/treated effluent etc. should be colour coded. • Backup power supply from DG set shall be provided to STP to ensure its continuous operation.

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
Other anti-pollution devices by the Project Proponent	To meet the power requirement during periods of power failure, gen sets using high speed diesel as fuel and meeting the norms prescribed by CPCB are installed.	As part of energy saving measure, LED/CFL bulbs are proposed and fused laminated safety glass have been provided.	The project proponent should put in place a system for collection of discarded CFL & LED lamp.
Proposed point of discharge of sewage and any other untreated waste.	As per the conditions imposed by CMWSSB, the entire quantity of treated sewage has to be reused for toilet flushing and gardening. As per the information provided by the Project Proponent the entire 84 KLD of treated sewage shall be recycled back for meeting the requirement for flushing, HVAC and Green belt development in compliance to the condition imposed by SEIAA. Disposal of the treated sewage cannot be ruled out and in absence of connectivity with the sewerage system, there is all possibility of discharge on the land causing stagnation and unaesthetic conditions. For the discharge of the excess surface runoff proper connectivity to the surface water drain in and out of the premises has to be ensured otherwise there is all possibility of flooding on the road.	<ul style="list-style-type: none"> The unit has to probe other means to meet the imposed condition of zero liquid discharge. Besides during the rainy period, this excess treated sewage cannot be utilized for green belt for which no storage provision is available or proposed. The discharge of this excess sewage during the rainy period along with the storm water may be a cause of unaesthetic conditions and odour problem. 	<ul style="list-style-type: none"> The project Proponent should ensure that proper drainage system is available in and around the site for disposing excess of storm water to drains, thereby discarding any possibility of flooding in and around the site.
Source of water during operation phase and otherwise	As per the information provided by the Project Proponent, water has been supplied through tankers at site for the construction activity. In the operation phase, the Proponent has planned to use CMWSSB supplies for supplying potable water, the permission for which is still awaited.	<ul style="list-style-type: none"> The tanker water was used for construction. The Project Proponent has applied to CMWSSB for permission to use private water tanker to meet its fresh water requirement of 30 KLD during the operation phase. In absence of connectivity with CMWSSB supply, fresh water requirement during operation will be met from the private water tankers. The unit has 01 well within the area and the 	The project proponent should not be permitted to operationalize the complexes / till such time permission / connectivity for taking potable water from CMWSSB pipeline is received / connectivity is ensured or a viable alternate is put in place to avoid ground water abstraction

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
Use of energy efficient devices,	The energy saving measures adopted include installation of CFL / LED lamps, besides using fuse laminated glass for energy saving. The details of the measures taken or proposed for energy saving are given in Table-2 .	As part of energy saving measure, LED/CFL bulbs are proposed and fused laminated safely glass have been provided.	The project proponent should put in place a system for collection of discarded CFL & LED lamp
Ecologically and environmentally sensitive areas	There are national parks / wildlife sanctuaries, reservoirs/lakes and reserved/protected forests near to the project site. The details are as below: National parks/wildlife sanctuaries/Zoos – Arignar Anna Zoological Park - 26.51 Guindy National Park – 11.50 Kms Reservoir / Lake Puzhal lake - 5 KM Ambattur lake - 4.5 Km Retteri lake - 4.25 km Reserved / Protected Forests – Cholavaram Reserve Forest- 14.50 km Nanmangalam Reserve Forest- 18.50 km		
Details of alteration of land its effect on the natural topography	The project site has been flattened to make way for the construction activity. The contour map indicates a total level difference of about 2 metres. Maximum contour is of 11 m and minimum of 9 m. However, such undulations were not observed during the visit. The natural topography has been changed at the site so that the storm water is collected and disposed towards the road side.		The natural topography has been changed at the site so that the storm water is collected and disposed towards the road side.
Effect on natural drainage system	The site map does not indicate any natural storm water channel passing the area. The change of natural topography to divert the storm water towards the road side has probability to block the free flow of storm water and create	<ul style="list-style-type: none"> Provision of drainage system for management of storm water runoff is yet to be made around the site. 	The project Proponent should ensure that proper drainage system is available in and around the site for disposing

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	flooding/stagnation in the road side. Construction below the ground water table has all possibility to impact the ground water recharging systems, for which study need to be conducted.	<ul style="list-style-type: none"> As no storm water discharge system around the premises was seen. 	excess of storm water to drains, thereby discarding any possibility of flooding in and around the site.
Adequacy of rainwater harvesting system	The Project Proponent has to make provision for drainage system for roof-top rain water harvesting. A detail of rain water harvesting is given in Table 3. Provision for pre-treatment of the surface runoff to remove the suspended solids, oil and grease etc. before recharging has to be made.		Provision of drainage system for collecting storm water runoff needs to be provided outside the premises also for proper disposal of storm water runoff.
Adequacy of parking area and if at all they have been provided.	Provision has been made for providing parking space for 437 cars and 437 two-wheelers for the visitors coming to the commercial complex and residence. As per development regulations of CMDA the parking requirement is 416 car parking and 412 Two wheelers. The parking provided is inadequate considering the SEIAA conditions imposed in EC granted, which requires parking for 214 cars and 644 two wheelers.	Considering the conditions imposed by SEIAA for parking in the EC granted, provision for additional parking by re-appropriating area designated for other activities has to be made.	The parking requirement as per CMDA development Regulation is one car parking and one two wheeler parking space for every 50 m ² whereas the MoEF norms parking is to be provided at the rate of one car for every 25 m ² of fraction thereof.
Collection and disposal of municipal solid waste at the project site.	The bio-degradable waste of 251 55 kg/day is proposed for handing over to local disposal/collection system, while the non- bio-degradable waste of 750.5 kg/day will be sent to authorized recyclers or to local bodies for disposal and the dried sludge of 3 Kg/day used for greenbelt	<ul style="list-style-type: none"> The Project Proponent has applied to CMWSSB for permission to use private water tanker to meet its fresh water requirement of 30 KLD during the operation phase. In absence of connectivity with CMWSSB supply, fresh water requirement during operation will be met from the private water tankers. The unit has 01 well within the area and the 	<p>i) The project proponent should prepare an action plan for ensuring segregation, collection, transportation, treatment and scientific disposal of Municipal Solid Waste. This action plan should be submitted to SEIAA and TNPCB for their approval.</p> <p>ii) Separate space should be</p>

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
		<p>water depth is 201 feet from the ground level.</p> <p>With just 42 trees proposed to be planted and the landscape development, the unit shall not be able to utilize the 4 KLD of effluent on daily basis including during rainy period. The status of recycling of the treated effluent could not be verified as the plumbing system provided is not properly coded.</p>	<p>earmarked for storing of construction and demolition waste and its disposal at sites approved by local authorities.</p> <p>iii) The proponent should submit a plan for management of grit and STP sludge.</p> <p>iv) The leaves/biomass should be composted at site and used as manure.</p>
<p>Compliance of conditions stated in the planning permission and other permissions granted by various authorities</p>	<ul style="list-style-type: none"> Project Proponent initiated construction without obtaining EC violating the conditions specified by CMDA and Great Corporation of Chennai. Project Proponent initiated construction without obtaining Consent to Establish from Tamil Nadu Pollution Control Board. Project Proponent initiated construction without obtaining EC from SEIAA The Roof top rain water harvesting storage has not been provided. As per the conditions imposed by CMVSSB, the entire treated sewage is to be utilized for gardening acid toilet flushing. The entire treated sewage will be recycled for use in HVAC, flushing and green belt. 		
<p>Whether suggestions made by the SEIAA in its meetings adequately take care of environment and ecology?</p>	<p>M/s Y. Pondurai. Started construction on January 30, 2.14 without obtaining EC, a mandatory requirement before starting construction work or preparation of land. The proponent applied for EC on 28.02.2014 i.e., after more than a month of starting construction. The EC was granted by SEIAA on 31.12.2015.</p>	<p>i. EC was granted by SEIAA on 31.12.2015 when most of the construction activities have been completed</p> <p>ii. Consent to Establish not obtained from Tamil Nadu</p>	<p>As no EIA has been conducted quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the</p>

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
<p>Whether demolition or raising of additional structures are required in the interest of environment and ecology</p>	<ul style="list-style-type: none"> The STP has been designed to meet the treated effluent quality of BOD-20mg/l and SS-30 mg/l. The EC conditions stipulate the requirement of meeting bathing water quality norms i.e., BOD<3mg/l. The existing STP need to be upgraded to meet the norms specified by SEIAA in EC, besides, it also need to be modified for providing safe and proper access to the various units. Development of green belt has not been accorded priority as no green belt was seen at the site. Some of the existing infrastructure need to be realigned for providing space for green belt development. Provision for roof top rainwater harvesting and its storage need to be made, besides making arrangement for proper management of storm water discharge and disposal of treated sewage. The parking area need to be increased to meet the condition stipulated in EC by SEIAA. 	<p>Pollution Control Board.</p>	<p>construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA.</p>

General Observations

Issues	Status	Suggestions	Remarks
<p>Green Belt Development</p>	<p>Total green belt area proposed is 11129 m², i.e., 11.29 % of total plot area will be planted with natural species.</p>	<p>Development of green belt has not been accorded priority by the project proponent as no developed green belt was seen at the site. During the site visit, it was informed there is a proposal to plant 42 trees. The project proponent informed of the proposal to develop green belt</p>	<p>i) Project proponent should plan for scientific green belt development, (exceptions are there for the landscape area or some places earmarked for plantation of trees). Maximum</p>

Issues	Status	Suggestions	Remarks
		<p>which seems to be after thought as the area has either been paved or earmarked for some other activity at the site. The Project Proponent needs to realign the parking infrastructure and other ancillary units to provide for green belt development. Status of the green belt for the restitution of ecology and environment is given in Table 5. Development of green belt may be impacted due to requirement of additional parking area to meet the conditions imposed by SEIAA.</p>	<p>possible space should be left unpaved for recharging of ground water besides the proposed rain water harvesting system. The unpaved area should be covered with green top or any other pervious material to maintain permeability of soil.</p> <p>ii) Green belt should be developed all around the site boundary to act as a barrier for air and noise pollution. Ornamental plants / area left for landscape, covered with grass / shrubs and roof top garden shall not be considered in the areas mandatory for green belt development. Sufficient space has to be provided for each tree so that it does not choke to death because of the putting of cement concrete all around the tree.</p>
<p>Construction Waste</p>	<p>Data for construction waste generated during the construction activity and its use was not available with the Project Proponent, except for the information that the construction waste generated has been disposed to fill the low lying area within the premises or outside. Site details outside the premises where construction waste was used to fill low lying areas were not provided by the project proponent.</p>		

Issues	Status	Suggestions	Remarks
<p>Conditions stipulated by CMDA</p>	<ul style="list-style-type: none"> The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006. 	<ul style="list-style-type: none"> CMDA shall give more emphasis on the environmental aspects including disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, etc. Environmental aspects be given the same priority, if not more than those given to parking, fire safety, etc., while designing the lay out and its approval. The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006. To have uniformity in approach so that violation of laws is avoided, a coordination mechanism between SEIAA, CMDA and other agencies need to be put into place. 	
<p>General suggestions</p>	<p>.</p>	<ol style="list-style-type: none"> In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building lay out modelled to incorporate the natural drainage as part of the system rather than redoing/ relaying of the natural drainage system as done presently in case of M/s. Y. Pondurai where the natural open drain converted to a conduit in parts. A systematic green belt development is necessary. In all future projects environmental issues like development of green belt, managing surface water runoff, its collection 	

Issues	Status	Suggestions	Remarks
		<p>and recharge etc., provision of solid waste management, and orientation of the building for energy saving should be given priority while designing the layout and the number of dwelling units likely to come up.</p> <p>iii. In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site. As the construction works are yet to be completed, the use of construction materials to raise the ground level is avoided as it has all the possibility to affect the nature percolation rate of soil.</p> <p>iv. The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of renewable energy, green belt development for effective implementation and monitoring.</p>	

Table 4: M/s.Y.Ruby Manoharan Property Developers Pvt. Ltd.

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
<p>Illegal and unauthorized acts and activities carried out by the Respondents.</p>	<p>The following illegal acts and activities by the Project Proponent have been noted by the Committee:</p> <ul style="list-style-type: none"> Initiated construction at site without obtaining Environmental Clearance under section 2 of the EIA Notification dated 14.09.2006 issued under section 5(3) of Environment (Protection) Rules, 1986 from SEIAA, Tamil Nadu. Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated by CMDA. Did not obtain 'Consent to Establish' required for commencement of work from Tamil Nadu Pollution Control Board. Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated in the Building Permit by the Vengaiwasal First grade Panchayat (The permission by the Panchayat is to be read with conditions of CMDA). 	<ul style="list-style-type: none"> Violated CMDA condition of not commencing activity without obtaining Environmental clearance. During of inspection partial occupancy was observed. However, no effluent was being discharged. Consent to establish/operate is yet to be obtained CC issued by CMDA on 04.01.2016. 	<ul style="list-style-type: none"> i. CMDA shall give more emphasis on the environmental aspects including water supply disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, while according planning permission for large development. ii. The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006.
<p>Ecological and environmental damage done by these projects.</p>	<p>The ecological and environmental impacts are expected from:</p> <ul style="list-style-type: none"> Disposal of solid waste: The bio degradable portion (408 kg/day) of domestic waste is to be treated through Organic Waste Converter (OWC)/UF and the treated sludge from STP (28 Kg/day) used as manure. The non-biodegradable fraction (272 kg/day) is proposed to be handed over to the authorized recyclers. Any unscientific disposal of 		

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>solid waste has all potential to contaminate ground water besides being a source of unesthetic conditions and odour.</p> <ul style="list-style-type: none"> • Sewage disposal: The Proponent has installed STPs having installed capacity of 130 KLD (Against 80 KLD capacity of STP – vis a vis 75.96 KLD sewage generated as per the permission accorded by CMWSSB) as against the expected sewage generation of 124 KLD. The treated effluent is proposed to be utilized for meeting the demand for toilet flushing (48 KLD); gardening (5 KLD) and avenue plantation (65 KLD) maintained by Thiruvanchery Panchayat. The details of avenue plantation land for irrigation not provided. The treated sewage is proposed to be sent through tankers due to non-availability of any conveyance system from the project site to the avenue plantation land. Besides during the rainy period when this excess treated sewage cannot be utilized for green belt no storage provision is available with the unit which is likely to result in its discharge along with the storm water and can be a cause of unesthetic appearance and odour problem. • Water abstraction: The water from the O2 wells within the permission is to be used for water supply in absence of availability of potable water supply from CMWSSB. The proponent is yet to obtain permission from PWD for ground water abstraction. Any over exploitation of groundwater would impact the groundwater table. A study needs to be conducted to assess the charging rate vis-à-vis the abstraction from the groundwater sources. As permission for use of ground water is awaited, the fresh water requirement is met by procuring water tankers. • Noise Pollution: There is a possibility of increase in noise levels once the dwellings units are occupied. The increase in noise level can be taken care by providing green belt along the boundary wall and other acoustic measures to cushion the impact of noise. • Air Pollution: As per the 2nd Master Plan for CMA land use which is in force since September 2008, the project land is zoned for mixed residential use. As the site is meant for construction of residential complex it cannot be considered to be contributing to the deterioration in air quality. • The ground water table is at 3.71 to 4.5 meters from 		

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
<p>Installation of STPs</p>	<p>ground level. Construction activity below the ground water table has all the potential to impact the ground water recharging system.</p> <p>i. The total sewage generation anticipated from the project is 124 KLD. STP with total treatment capacity of 130 KLD has been constructed.</p> <p>ii. The design of the STP unit indicates adequacy of the system with the norms prescribed by CMWSSB for effluent quality, however the actual efficacy can be assessed only after details of the mechanical installed and their ratings are known. The STP need to be upgraded to meet the bathing water quality norms for the treated sewage as specified in the EC conditions by SEIAA.</p> <p>iii. The STP units do not have adequate space for free movement, thereby making it difficult to collect samples and undertake preventive and breakdown maintenance. With the layout of STPs the operation of plants cannot be seen / visualized and any disruption in plant condition/plant performance can be assessed only after examining/seeing the results of effluent quality parameters and the values of the plant operating parameters.</p> <p>iv. No green belt has been developed within the project areas, hence there is no possibility to utilise the treated sewage (5 KLD) earmarked for green belt development on all days and specifically during the rainy days. The leftover would be required to be discharged along with the excess sewage.</p> <p>v. The treated sewage has to meet the bathing quality (laid down by CPCB) specified by SEIAA in the EC.</p>	<p>The STP of M/s Ruby Manoharan Property Developers Pvt. Ltd, has treatment capacity of 130 KLD using Ultra – Filtration (UF) system and is installed in basement.</p> <p>ii. Erection/Installation works for the STP's is completed. The size of the STP units indicates adequacy of the system, however the actual efficacy can be assessed only after details of the mechanical systems installed and their ratings are known. The EC conditions specify bathing quality norms for the treated sewage laid down by CPCB for the treated sewage for which STP proposed under, need to be upgraded.</p> <p>iii. The STP unit does not have proper access for free movement, thereby making it difficult to collect samples and undertake preventive and breakdown maintenance. The sewage being recycled for flushing shall be treated through the filtration system.</p> <p>iv. The complex has been partially occupied. However during inspection, no treated effluent was seen generated.</p>	<ul style="list-style-type: none"> • The STPs constructed by M/s. Ruby Manoharan Property Developers Pvt. Ltd need to be reworked to provide easy access to the various units of STPs including adequate head space for safe movement in the area, adequate ventilation to avoid accumulation of gases such as Methane and Hydrogen Sulphide (H₂S), while ensuring easy maintenance and replacement of damaged equipment / accessories. Besides the STP needs to be upgraded to meet the stringent bathing water quality norms for treated sewage prescribed in the EC conditions. • The project proponent should develop in-house laboratory for monitoring of the operating parameters of the sewage treatment plants and the treated effluent quality daily. • Colour coding of pipelines in the STP's should be done. • All the plumbing lines carrying raw water, untreated effluent/treated effluent etc. should be colour coded. • Backup power supply from DG set shall be provided to STP to ensure its continuous

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
		<p>v. The Project Proponent needs to develop environmental laboratory with capacity to monitor the operating parameters of STP and the quality of treated effluent essential for effective operation of the plant/self-monitoring and self-compliance with the norms.</p>	<p>operation.</p>
<p>Other anti-pollution devices by the Project Proponent</p>	<p>To meet the power requirement during periods of power failure, gensets using high speed diesel as fuel and meeting the norms prescribed by CPCB have been installed.</p>	<p>i) The generator sets for standby power supply to meet CPCB norms. ii) For treating wet organic waste, organic waste convertor is proposed.</p>	<p>i. Inverter technology based Air Conditioning machines should be installed. ii. For meeting hot water requirement in kitchen solar energy should be used.</p>
<p>Proposed point of discharge of sewage and any other untreated waste.</p>	<p>As per the conditions imposed by CMWSSB, the entire quantity of treated sewage has to be reused for toilet flushing and gardening. However, as per the conditions specified in EC and information provided by the Project Proponent the 65 KLD of excess treated sewage shall be disposed through local Panchayat for avenue plantation, which does not seem feasible considering the large area requirement. The details of land for avenue plantation need to be provided. The utility of this excess sewage during rainy season cannot be ensured. In absence of conveyance system the treated sewage is to be sent to avenue plantation area through tankers for which adequate storage capacity need to be provided. As no provision for storage of the excess sewage has been made for the low demand period thereby leaving no other option but to discharge it on the land outside the project premises or any drain nearby.</p>	<p>• The 65 KLD of excess treated sewage is proposed to be disposed on the Avenue plantation. Besides during the rainy period, this excess treated sewage cannot be utilized for green belt for which no storage provisions is available or proposed. The discharge of this excess sewage during the rainy period along with the storm water may be a cause of unaesthetic conditions and odour problem. • The unit has proposed to utilize the 65 KLD of excess treated sewage for avenue plantation. The details of the available land for irrigation have not been provided Besides during the rainy period, when this excess treated sewage</p>	<p>i. Where, the project proponent do not have outlet provisions and are not able to recycle additional sewage back into the system, beyond the presently proposed limits, transporting of the treated sewage conforming to the specified norms for discharge to STPs operated by CMWSSB Board through identified tankers fitted with GPS system for tracking their movements may be considered. The option can be permitted only after the project proponent develops adequate storage capacity for treated effluent. ii. To ensure that entire waste water generated is treated, online flow</p>

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
		<p>cannot be utilized for green belt no provision of storage facility is available within the project site, which is likely to result in discharge of the excess sewage along with the storm water and may be a cause of unaesthetic appearance and odour problem.</p> <ul style="list-style-type: none"> No conveyance system has been laid for transporting the treated sewage for avenue plantation. In case the effluent is to be transported through tankers, provision for storage of the treated sewage has to be made. 	<p>measurement system need to be installed both at the Inlet and Outlet of the STPs, and the pumps/ valves integrated through software to provide the flow data.</p>
<p>Source of water during operation phase and otherwise</p>	<p>As per the information provided by the Project Proponent, water has been supplied through tankers at site for the construction activity. In the operation phase, the Proponent has planned to use groundwater for supply to the residents, Permission from PWD is still awaited, and in absence of the required permission water is procured through tankers.</p>	<p>The water requirement during construction phase was met through private tankers</p> <ul style="list-style-type: none"> Fresh water requirement during operation will be met from the two bore wells presently installed within the unit. The proponent has applied for permission to use ground water which is still awaited As per the available document the depth of wells in the site varies from 3.71 to 4.5 Metres. 	<p>The project proponent should not be permitted to operationalize the complexes till such time permission is received for taking potable water from ground water source is received or viable alternate arrangement made.</p>
<p>Use of energy efficient devices.</p>	<p>The energy saving measures adopted / proposed include installation of CFL / LED lamps. The details of the measures taken or proposed for energy saving are given in Table-2.</p>	<ul style="list-style-type: none"> As part of energy saving measure, installation of LED/CFL bulbs are proposed. The generator sets for standby power supply to meet CPCB norms 	<ul style="list-style-type: none"> All street and staircase lighting should use solar power. The project proponent should reduce the power consumption by at least 20% by replacing CFL

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
		<p>iii) For treating wet organic waste, organic waste convertor is proposed.</p>	<p>lamps with LED lamps, using energy efficient device (solar relay – Bureau of energy efficiency) providing insulated window or insulated glasses and adopting advance elevator and air conditioning technologies as below:-</p> <ul style="list-style-type: none"> ii. Inverter technology based Air Conditioning machines should be installed. iii. For meeting hot water requirement in kitchen solar energy should be used. iv. Installation of IR/Thermal switches in corridors/staircases to save energy needs to be promoted. v. The project should obtain GRIHA or any other such rating.
Ecologically and environmentally sensitive areas	The Nanmangalam Reserved Forests is opposite to the project site across the road site. There are no National Parks/Wildlife Sanctuaries, reservoirs/lakes near the site.		
Details of alteration of land its effect on the natural topography	The project site has been flattened to make for the construction activity. The natural gradient of the site is altered so that the storm water can be discharged in the drain towards the road. The contour map indicates a total level difference of 2.0 meters. The maximum contour is 8374 meters and minimum is of 6.42 meters.	The natural topography has been changed at the site so that the storm water is collected and disposed towards the road side.	
Effect on natural drainage system	The site map shows thick bushes in the project sites which were not seen during site visit. The gradient change done at the site has all possibility to change the storm water flow	Provision of drainage system for collecting storm water runoff has been made within the project	In all future plans, the natural drainage system should be incorporated as a part of the

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>pattern and lead to flooding on the road side in case the capacity of drain is not adequate enough to take the entire storm water flow besides it can also lead to flooding on the opposite side if there is no way out for the storm water granted in that area.</p> <p>Any construction below the water table level has all possibility to impact the ground water recharging system. A study to be conducted to access the impact if any.</p>	<p>area. Storm water drainage system needs to be provided outside the premises also for proper disposal of storm water runoff.</p>	<p>layout plan using it as a water front / water storage and the building lay out modelled to incorporate the natural drainage as part of the system.</p>
<p>Adequacy of rainwater harvesting system</p>	<p>The Project Proponent has to make provision for drainage system for roof-top rain water harvesting. A detail of rain water harvesting is given in Table 3. Provision for pre-treatment of the surface runoff to remove the suspended solids, oil and grease etc. before recharging has to be made.</p>		<p>If provision for discharge of excess surface run off / rain water discharge are not available, flooding in the vicinity and stagnation of the discharged water in the low lying areas around the complex are inevitable. The project proponent should ensure that such situation does not occur either by increasing the capacity of rain water storage sumps or providing additional pits in the surface run off collection drain. The surface runoff has to be treated through several settlers etc. to remove suspended solids, oil and grease etc., before its use for recharging.</p>
<p>Adequacy of parking area and if at all they have been provided.</p>	<p>Provision has been made for providing space for parking 132 cars and 170 two-wheelers for the 206 residential units and the commercial block and club house as per CMDA norms.</p>	<p>Need to realign the infrastructure of the parking and other ancillary units to provide some space for green belt development.</p>	<p>Car parking requirement for residential development is based on the size of the individual unit and location of the site. In the case of Low Income Group (LIG) dwelling units, which is mandatory and size does not exceed 45 m².</p>

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
Collection and disposal of municipal solid waste at the project site.	<p>Out of the estimated Municipal solid waste of 580 Kg/day generated, the bio-degradable waste (408 kg/day) is proposed for composting through organic waste converter and the non-bio-degradable waste 272 Kg/day disposed through authorized recyclers. The dried STP sludge (28 kg/day) is proposed to be used as manure in the green belt.</p>	<p>The bio degradable portion (408 kg/day) of domestic waste is proposed to be treated through Organic Waste Converter (OWC)/UF and the sludge from STP (28 Kg/day) used as manure. The non-biodegradable fraction (272 kg/day) is proposed to be handed over to the authorized recyclers.</p>	<p>one two wheeler parking only is required. In addition 10% of total parking is required to be provides as visitors parking.</p> <p>i) The project proponent should prepare an action plan for ensuring segregation, collection, transportation, treatment and scientific disposal of Municipal Solid Waste. This action plan should be submitted to SEIAA and TNPCB for their approval.</p> <p>ii) Separate space should be earmarked for storing of construction and demolition waste and its disposal at sites approved by local authorities.</p> <p>iii) The proponent should submit a plan for management of grit and STP sludge.</p> <p>iv) The leaves/biomass should be composted at site and used as manure.</p>
Compliance of conditions stated in the planning permission and other permissions granted by various authorities	<ul style="list-style-type: none"> • Project Proponent initiated construction without obtaining EC violating the conditions specified by CMDA and Village Panchayat. • Project Proponent initiated construction without obtaining Consent to Establish from Tamil Nadu Pollution Control Board. • Project Proponent initiated construction without obtaining EC from SEIAA. • As per the conditions imposed by CMWSSB, the treated sewage is to be utilized for toilet flushing and gardening. The Project Proponent proposes to dispose the excess 65 KLD of 		-

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
Whether suggestions made by the SEIAA in its meetings adequately take care of environment and ecology?	<p>treated sewage for avenue plantation maintained by Thiruvanchery panchayat which is in violation to the conditions imposed by CMWSSB, but in line with EC conditions imposed by SEIAA.</p> <p>The conditions stipulated by SEIAA in the Environmental Clearance are generic and cover wide spectrum of environment. The condition need to be more specific for effective implementation and monitoring. The conditions with respect to the quantum of energy saving, use of fly ash bricks, rain water storage capacity, area for green belt etc. should be specific and precise to bring uniformity in the conditions imposed.</p>	<p>i. EC was granted by SEIAA on 14.02.2015, well after the construction activities had been completed.</p> <p>ii. Consent to Establish not obtained from Tamil Nadu Pollution Control Board.</p> <p>iii. Violated CMDA condition of not commencing activity without obtaining Environmental clearance.</p>	<p>As no EIA has been conducted quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA.</p>
Whether demolition or raising of additional structures are required in the interest of environment and ecology	<ul style="list-style-type: none"> M/s Ruby Manoharan Property Developers Pvt. Ltd. Started construction without obtaining EC, a mandatory requirement before starting construction work or preparation of land. The proponent applied for EC on 11.01.2013 i.e., before starting construction. EC was granted by SEIAA on 14.12.2015. The STP has been designed to meet the treated effluent quality of BOD-20mg/l and SS-30 mg/l. The EC conditions stipulate the requirement of meeting bathing water quality norms i.e., BOD<3mg/l. The existing STP need to be upgraded to meet the norms specified by SEIAA in EC, besides, it also need to be modified for providing safe and proper access to the various units. Development of green belt has not been accorded priority as no green belt was seen at the site. Some of the existing infrastructure need to be realigned for providing space for green belt development. 		

General Observations

Issues	Status	Suggestions	Remarks
<p>Green Belt Development</p>	<p>Total green belt area proposed is 1547 m². Development of green belt has not been accorded priority by the project proponent as no developed green belt was seen at the site.</p>	<p>No green belt developed at the site. The project proponent informed of the proposal to develop green belt which seems to be after thought as the area has either been paved or earmarked for some other activity at the site. The Project Proponent need to realign the infrastructure/or any other ancillary units to provide adequate space for proper green belt development. Status of the green belt for the restitution of ecology and environment is given in Table-5.</p>	<p>i) Project proponent should plan for scientific green belt development, (exceptions are there for the landscape area or some places earmarked for plantation of trees). Maximum possible space should be left unpaved for recharging of ground water besides the proposed rain water harvesting system. The unpaved area should be covered with green top or any other pervious material to maintain permeability of soil.</p> <p>ii) Green belt should be developed all around the site boundary to act as a barrier for air and noise pollution. Ornamental plants / area left for landscape, covered with grass / shrubs and roof top garden shall not be considered in the areas mandatory for green belt development. Sufficient space has to be provided for each tree so that it does not choke to death because of the putting of cement concrete all around the tree.</p>
<p>Construction Waste</p>	<p>Data for construction waste generated during the construction activity and its use was not available with the Project</p>		

Issues	Status	Suggestions	Remarks
	<p>Proponent, except for the information that the construction waste generated has been disposed to fill the low lying area within the premises or outside. Site details outside the premises where construction waste was used to fill low lying areas were not provided by the project proponent.</p>		
<p>Conditions stipulated by CMDA</p>	<ul style="list-style-type: none"> The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006. 	<ul style="list-style-type: none"> CMDA shall give more emphasis on the environmental aspects including water supply disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, while according planning permission for large development. The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006. To have uniformity in approach so that violation of laws is avoided, a coordination mechanism between SEIAA, CMDA and other agencies need to be put into place. As no EIA has been conducted quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA. In case any deterioration in the ambient environment / ground water quality is observed. 	

Issues	Status	Suggestions	Remarks
<p>General suggestions</p>		<p>the proponent shall inform the status to TNPCB and SEIAA and also prepare a time bound action plan for remedial measures.</p> <ul style="list-style-type: none"> The proponent shall install piezo wells to monitor the ground water quality quarterly. <p>i. EC was granted by SEIAA on 14.12.2015, well after the construction activities had been completed.</p> <p>ii. Consent to Establish not obtained from Tamil Nadu Pollution Control Board.</p> <p>iii. Violated CMDA condition of not commencing activity without obtaining Environmental clearance.</p> <p>iv. No green belt developed at the site.</p> <p>v. During of inspection partial occupancy was observed. However, no effluent was being discharged.</p>	<p>i. In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building lay out modelled to incorporate the natural drainage as part of the system.</p> <p>ii. A systematic green belt development is necessary. In all future projects environmental issues like development of green belt, managing surface water runoff, its collection and recharge etc., provision of solid waste management, and orientation of the building for energy saving should be given priority while designing the layout and the number of dwelling units likely to come up.</p> <p>iii. In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site. As the construction works are yet to be completed, the use of construction materials to raise</p>

Issues	Status	Suggestions	Remarks
			<p>the ground level is avoided as it has all the possibility to affect the nature percolation rate of soil.</p> <p>iv. The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of renewable energy, green belt development for effective implementation and monitoring.</p>

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

O.A. NO. 37 OF 2015

S.P. MUTHURAMAN Vs Union of India & others

Table 5: M/s.Jones Foundation Pvt. Ltd.

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
<p>Illegal and unauthorized acts and activities carried out by the Respondents.</p>	<p>The following illegal acts and activities by the Project Proponent have been noted by the Committee:</p> <ul style="list-style-type: none"> • Initiated construction at site without obtaining Environmental Clearance under section 2 of the EIA Notification dated 14.09.2006 issued under section 5(3) of Environment (Protection) Act, 1986 from SEIAA, Tamil Nadu. • Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated by CMDA. • Did not obtain 'Consent to Establish' required for commencement of work from Tamil Nadu Pollution Control Board. • Violated the condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated in the Building Permit by the Greater Chennai Corporation to be read with conditions of CMDA. 	<p>i. Consent to Establish not obtained from Tamil Nadu Pollution Control Board.</p> <p>ii. Violated CMDA condition of not commencing activity without obtaining Environmental clearance.</p> <p>iii. Provisions for proper green belt development has not been made.</p> <p>iv. CC was issued by CMDA on 25.01.2016.</p> <p>v. During inspection on 22.02.2016 partial occupancy was observed. However, no effluent discharge was observed.</p>	<p>CMDA shall give more emphasis on the environmental aspects including disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, etc. Environmental aspects be given the same priority, if not more than those given to parking, fire safety, etc., while designing the layout and its approval.</p>
<p>Ecological and environmental damage done by these projects.</p>	<p>The ecological and environmental impacts are expected from:</p> <p>i) Disposal of solid waste: The 357 kg/day Bio-degradable portion of domestic waste is proposed to be decomposed through organic waste converter while the non-degradable portion 535.6 kg/day will be sent to corporation of Chennai and the dried sludge from STP used as manure. The non-biodegradable fraction if disposed in an unscientific way has all potential to contaminate the groundwater besides being a source of un-aesthetic conditions and odour.</p> <p>ii) Sewage disposal: The Proponent has installed STP having treatment capacity of 220 KLD as against the expected sewage generation of 206.4 KLD. Part of the treated effluent</p>	<p>The various aspects of water management including the source of water supply, the quantum of sewage generated, its treatment, adequacy of Sewage Treatment Plants, reuse and recycling of the treated effluent and its disposal were examined. The observations made are given in Table-4.</p> <p>The major observations are as under.</p>	<p>i. The STPs constructed need to be upgraded to meet the treated sewage quality norms as specified by SEIAA in the EC granted.</p> <p>ii. The project proponent should provide separate electricity meter for the sewage treatment plants and maintain daily record of the power consumed, essential to ensure 24X7 functioning of STPs.</p>

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>i.e., 79 KLD, is to be utilized for meeting the demand of flushing in toilets while 12 KLD is proposed to be used for gardening purposes and the excess treated sewage of 111 KLD is to be discharged to CMWSSB sewerage system. In absence of connectivity with the trunk sewer, there is every possibility of the excess sewage being discharged on land thereby causing soil and groundwater contamination.</p> <p>iii) Water abstraction: As per conditions specified in the EC, the water is to source from CMWSSB. In absence of the connectivity with CMWSSB fresh water source, the requirement of fresh water is met from the tankers purchased @Rs. 1500 per tanker, 12 KLD capacity. The Project Proponent has 02 open wells which can be used to meet the water demand in absence of availability of potable water supply. Any exploitation of groundwater to meet the water demand would impact the ground water table, therefore a study needs to be conducted to assess the charging rate vis-à-vis the abstraction from the groundwater sources.</p> <p>iv) Noise Pollution: There is a possibility of increase in noise levels once the dwellings units are occupied. The increase in noise level can be taken care by providing green belt along the boundary wall and other acoustic measures to cushion the impact of noise.</p> <p>v) Air Pollution: As per the 2nd Master Plan for CMA land use which is in force since September 2008, the project land are zoned for primary residential use. As the site is meant for construction of residential complex it cannot be considered to be contributing to the deterioration in air quality.</p>	<p>i. Provision of drainage system for effective management of storm water runoff outside the premises is yet to be made.</p> <p>ii. Considering the area proposed for green belt development the treated sewage earmarked for green belt developed on daily basis and fully utilized during rainy season and the left over would be required to be discharged along with the excess sewage.</p> <p>iii. Dual pipeline has been provided for utilizing the treated sewage for flushing.</p> <p>iv. Color coding of pipeline at the STP, have not been done.</p>	<p>iii. The project proponent having permission to discharge the excess treated sewage to existing CMWSSB STPs, should be permitted to discharge the treated effluent conforming to the prescribed effluent norms only.</p> <p>iv. Where, the project proponent do not have outlet provisions and are not able to recycle additional sewage back into the system, beyond the presently proposed limits, transporting of the treated sewage conforming to the specified norms for discharge to STPs operated by CMWSSB Board through identified tankers fitted with GPS system for tracking their movements may be considered. The option can be permitted only after the project proponent develops adequate storage capacity for treated effluent.</p> <p>v. To ensure that entire waste water generated is treated, online flow measurement system need to be installed both at the Inlet and Outlet of the STPs, and the pumps/ valves integrated through software to provide the flow data.</p> <p>vi. The online system be installed to monitor the effluent quality at least the basic parameters, such as</p>

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
<p>Installation of STPs</p>	<p>i. The total sewage generation of 207 KLD from the project will be treated in 220 KLD capacity STP. ii. The design of the STP unit indicates adequacy of the system to meet the norms of treated sewage quality specified by CMWSSB. The actual efficacy can be assessed only after the details of the mechanical systems installed and their ratings are known. The EC conditions specify bathing quality norms for the treated sewage for which the STP constructed, need to be upgraded. In absence of the connectivity with the CMWSSB sewerage system, disposal of treated sewage to the STP of CMWSSB proposed through tankers storing of the treated sewage. ii As per the condition of EC the treated sewerage generated from the proposed project has to be used for green belt (12</p>	<p>i. The STP of M/s Jones Foundations Pvt. Ltd. is partially at surface level. Erection/Installation works for the STP are completed. ii. The size of the STP units indicates adequacy of the system to meet the norms for treated sewage quality as specified by CMWSSB, however the actual efficacy can be assessed only after the details of mechanical systems and their ratings are known.</p>	<p>pH, suspended solids and BOD for self-monitoring and self-regulations besides ensuring compliance of the norms. The data shall be transferred directly from the analysis. vii. The project proponent should develop in-house laboratory for monitoring of the operating parameters of the sewage treatment plant and the treated effluent quality daily. iii. Colour coding of pipelines in the STP's should be done. ix. All the plumbing lines carrying raw water, untreated effluent/treated effluent etc. should be colour coded. x. To ensure 24x7 operation of STP, power backup through DG sets has to be made.</p>
		<p>xi. The unit not having provision for discharge of treated sewage cannot be permitted to start operation unless proper arrangements are put in place for its safe handling.</p>	

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>KLD), toilet flushing (79 KLD) and the excess treated sewerage 111 KLD to be disposed to underground CMWSSB sewer line. During inspection on February 22, 2016 the activated carbon and sand filters were found open and in non-functional condition.</p> <p>v. Though the complex is partially occupied (97 units) and the STP was in operation, no effluent was seen being discharged, during inspection on 22.02.2016.</p> <p>vi. Considering the area proposed for green belt development within the project area, the treated sewage (12 KLD) earmarked for green belt development i.e., at the rate of 4 KL/Hectare/day cannot be fully utilized on daily basis and especially during rainy season. The leftover would be required to be discharged along with the excess sewage.</p> <p>ii. The treated sewerage has to meet the bathing quality laid (down by CPCB) specified by SEIAA in the EC.</p> <p>ii. The dual piping system has been provided for recycling of the treated effluent.</p>	<p>The STP requires to be upgraded to meet the bathing water quality laid and specified by SEIAA in the EC granted to the proponent.</p> <p>iii. The Project Proponent needs to develop environmental laboratory with capacity to monitor the operating parameters of STP and the quality of treated effluent essential for effective operation of the plant/self-monitoring and self-compliance with the norms.</p>	
Other anti-pollution devices by the Project Proponent	To meet the power requirement during periods of power failure, generator sets using high speed diesel as fuel and meeting the norms prescribed by CPCB installed.	As part of energy saving measure, LED/CFL bulbs are proposed and fused laminated safety glass have been provided.	The project proponent should put in place a system for collection of discarded CFL & LED lamp.
Proposed point of discharge of sewage and any other untreated waste.	As per the conditions imposed by CMWSSB, the entire quantity of treated sewage has to be reused for toilet flushing and gardening. However, as per the information provided by the Project Proponent 111 KLD of excess treated sewage shall be disposed through tankers to nearby Perungudi STP in absence of the connectivity to the CMWSSB sewerage system. However as per conditions of EC the excess treated sewage of 111 KLD shall be disposed to underground CMWSSB sewer line. In absence of connectivity, the excess treated sewage is proposed to be discharged through tankers into the nearby STP, permission for which is still awaited. In absence of any storage capacity for the treated sewage, transportation of treated sewage to STP is not practically feasible and disposal of the treated sewage into the sewerage system does not seem feasible, at least in foreseeable future. Hence, a fool proof	<p>The excess treated sewage of 111 KLD is proposed to be discharged into the CMWSSB sewerage system and till such connectivity is ensured, the treated sewage will be sent through tankers to the nearby Perungudi STP having treatment capacity of 126 MLD. In absence of the connectivity with the sewerage system and absence of any provision for storage of treated sewage its disposal causes concern. A fool proof system for management of</p>	<p>The excess treated sewage of 111 KLD is proposed to be discharged into the CMWSSB sewerage system and till such connectivity is ensured, the treated sewage will be sent through tankers to the nearby Perungudi STP having treatment capacity of 126 MLD. In absence of the connectivity with the sewerage system and absence of any provision for storage of treated sewage its disposal causes concern. A fool proof system</p>

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
Source of water during operation phase and otherwise	<p>system for managing the excess treated sewage needs to be put in place</p> <p>As per the information provided by the Project Proponent, water has been supplied through tankers at site for the construction activity. In the operation phase, the Proponent has planned to use groundwater for supply to the residents. As per the EC conditions the fresh water requirements of 159 KLD have to be sourced from CMWSSB. In absence of the connectivity to CMWSSB supply, fresh water is being procured through tankers</p>	<p>treated sewage is required to be in place.</p> <p>i. The tanker water was used for construction. ii. The fresh water requirement during operation is to be met from CMWSSB or through private tankers. Presently, in absence of the connectivity, fresh water requirement is met through tanker supply purchased at Rs. 1500 per tanker having capacity of 12 KLD</p>	<p>for management of treated sewage is required to be in place.</p> <p>The project proponent should not be permitted to operationalize the complex / till such time permission / connectivity for taking potable water from CMWSSB pipeline is received / connectivity ensured or viable alternate arrangement made to avoid ground water abstraction.</p>
Use of energy efficient devices,	<p>No major energy saving measures have been adopted/proposed except for installing CFL / LED lamps at some places besides having proposal to install solar panel system. The details of the measures taken or proposed for energy saving are given in Table-2.</p>		<p>All street and staircase lighting should use solar power. The project proponent should reduce the power consumption by at least 20% by replacing CFL lamps with LED lamps, using energy efficient device (solar relay – Bureau of energy efficiency) providing insulated window or insulated glasses and adopting advance elevator and air conditioning technologies</p>
Ecologically and environmentally sensitive areas	<p>There are national parks / wildlife sanctuaries, reservoirs/lakes and reserved/protected forests near to the project site. The details are as below:</p> <p>National parks/wildlife sanctuaries/Zoos – Guindy National park- 7.16 km Reservoir / Lake – Narayanapuram Lake – 0.6 km Kovilabakkam Lake – 1.17 km Kilkattalai Lake – 2.37 km Nanmangalam Lake – 3.56 km</p>		

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>Madippakam Lake – 2.28 Km Perengudi lake – 5.14 Km</p> <p>Reserved / Protected Forests : Pallikarnai Marsh Reserved Forest – 2.16 km Nanmangalam Reserved Forest – 2.5 km Guindy Reserved Forest - 5.9 km Madurappkkam Reserved Forest – 5.9 Km Nanmangalam Reserve Forest- 18.50 km</p>		
Details of alteration of land its effect on the natural topography	The project site has been flattened to make way for the construction activity. The contour map indicates a total level difference of about 1 feet. Maximum contour is of 99.4 feet and minimum is of 98.7 feet	The natural topography has been changed at the site so that the storm water is collected and disposed towards the road side.	
Effect on natural drainage system	The Project Proponent has made provision for harvesting of roof-top rain water & surface storm water run-off a detail of rain water harvesting is given in Table 3. Pretreatment to the surface runoff has to be provided to remove the suspended solids, oil and grease etc., before recharging and making provision for reuse of 100% of the rain water harvested. There is no drainage system outside the project area, and discharge of excess storm runoff has all possibility to create stagnation and flooding.	Provision of drainage system for effective management of storm water runoff outside the premises is yet to be made.	In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building lay out modelled to incorporate the natural drainage as part of the system rather than redoing/ relaying of the natural drainage system.
Adequacy of rainwater harvesting system	The Project Proponent has to make provision for drainage system for roof-top rain water harvesting. A detail of rain water harvesting is given in Table 3. Provision for pre-treatment of the surface runoff to remove the suspended solids, oil and grease etc. before recharging has to be made.		A fool proof system for management of treated sewage is required to be in place.
Adequacy of parking area and if all they have been provided.	Provision has been made for providing space for parking 201 cars and 200 two-wheelers for the 329 residential units and the commercial block and club house, as per the conditions specified by CMDA and SEIAA.	The Project Proponent need to realign the parking infrastructure and other ancillary units to provide for green belt development.	Car parking requirement for residential development is based on the size of the individual unit and location of the site. In the case of Low Income Group (LIG) dwelling units, which is mandatory and size does not exceed 45 m ² .

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
Collection and disposal of municipal solid waste at the project site.	The total municipal solid waste anticipated is 892.5 Kg/day. The bio degradable portion is proposed to be treated through Organic Waste Converter (OWC). The STP sludge is proposed to be used as manure (24 kg/day) while the non-biodegradable (536 kg/day) fraction shall be disposed through corporation of Chennai is also as per the EC condition.	<p>i) The wet domestic waste (357 Kg/day) to be treated using organic waste converter. The recyclable waste (536 kg/day) is proposed to be disposed through authorized recyclers.</p> <p>ii) The STP sludge is proposed to be used as manure (24 kg/day) while the non-biodegradable (536 kg/day) fraction shall be collected and disposed by corporation of Chennai.</p>	<p>one two wheeler parking only is required. In addition 10% of total parking is required to be provides as visitors parking.</p>
			<p>i. To ensure that entire waste water generated is treated, online flow measurement system need to be installed both at the Inlet and Outlet of the STPs, and the pumps/ valves integrated through software to provide the flow data.</p> <p>ii. The online system be installed to monitor the effluent quality at least the basic parameters, such as pH, suspended solids and BOD for self-monitoring and self-regulations besides ensuring compliance of the norms. The data shall be transferred directly from the analysis</p> <p>iii. The project proponent should develop in-house laboratory for monitoring of the operating parameters of the sewage treatment plant and the treated effluent quality daily.</p> <p>iv. Colour coding of pipelines in the STP's should</p>

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
Compliance of conditions stated in the planning permission and other permissions granted by various authorities	<ul style="list-style-type: none"> Project Proponent has initiated construction without obtaining EC violating the conditions specified by CMDA and Village Panchayat. Project Proponent has initiated construction without obtaining Consent to Establish from Tamil Nadu Pollution Control Board. Project Proponent has initiated construction without obtaining EC from SEIAA As per the conditions imposed by CMWSSB, the entire treated sewage is to be utilized for toilet flushing. The Project Proponent proposes to dispose the excess 111 KLD of treated sewage for CMWSSB sewerage system (as per EC condition) or through tankers to nearby Perungudi STP till such time connectivity with the CMWSSB sewerage system is available which is not in concurrence with the conditions imposed by CMWSSB. 	-	be done.
Whether suggestions made by the SEIAA in its meetings adequately take care of environment and ecology?	<p>The conditions stipulated by SEIAA in the Environmental Clearance are generic and cover wide spectrum of environment. The condition need to be more specific for effective implementation and monitoring. The conditions with respect to the quantum of energy saving, use of fly ash bricks, rain water storage capacity, area for green belt etc. should be specific and precise to bring uniformity in the conditions imposed.</p>	<ul style="list-style-type: none"> EC was granted by SEIAA on 14.12.2015, when the construction activity has been completed. CMDA has issued completion certificate on 25.01.2016. Consent to Establish not obtained from Tamil Nadu Pollution Control Board. 	As no EIA has been conducted quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA.
Whether demolition or raising of additional structures are required in the interest of environment and ecology	<ul style="list-style-type: none"> Obtaining EC, a mandatory requirement before starting construction work or preparation of land. The proponent applied for EC on 05.02.2014 i.e., after more than 16 months of starting construction, EC was granted by SEIAA on 14.12.2015. The STP has been designed to meet the treated 		

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>effluent quality of BOD-20mg/l and SS-30 mg/l. The EC conditions stipulate the requirement of meeting bathing water quality norms i.e., BOD<3mg/l. The existing STP need to be upgraded to meet the norms specified by SEIAA in EC.</p> <ul style="list-style-type: none"> • Development of green belt has not been accorded priority as no green belt was seen at the site. Some of the existing infrastructure need to be realigned for providing space for green belt development. 		

General Observations

Issues	Status	Suggestions	Remarks
Green Belt Development	Total green belt area is 2246.21 m ² . Development of green belt has not been accorded priority by the project proponent as no developed green belt was seen at the site.	The project proponent informed of the proposal to develop green belt outside the boundary wall and along the road side also in the STP area which seems to be after thought as the area has either been paved or earmarked for some other activity at the site. The Project Proponent need to realign the parking infrastructure and other ancillary units to provide for green belt development. Status of the green belt for the restitution of ecology and environment is given in Table 5.	A systematic green belt development is necessary. In all future projects while designing the layout and the number of dwelling units likely to come up. Environmental issues like development of green belt, managing surface water runoff, its collection and recharge etc., provision of solid waste management, and orientation of the building for energy saving should be given priority.
Construction Waste	Data for construction waste generated during the construction activity and its use was not available with the Project Proponent, except for the information that the construction waste generated has been disposed to fill the low lying area within the premises or outside. Site details outside the premises where construction waste was used to fill low lying areas were not provided by the project proponent.		
Conditions stipulated by CMDA	<ul style="list-style-type: none"> The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority 	<ul style="list-style-type: none"> CMDA shall give more emphasis on the environmental aspects including disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, etc. Environmental aspects be 	

Issues	Status	Suggestions	Remarks
	<p>to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006.</p>	<p>given the same priority, if not more than those given to parking, fire safety, etc , while designing the layout and its approval.</p> <ul style="list-style-type: none"> •The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006. •To have uniformity in approach so that violation of laws is avoided, a coordination mechanism between SEIAA, CMDA and other agencies need to be put into place. •As no EIA has been conducted quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA. 	
<p>General suggestions</p>	<p>-</p>	<ul style="list-style-type: none"> i. In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building layout modelled to incorporate the natural drainage as part of the system rather than redoing/ relaying of the natural drainage system. ii. A systematic green belt development is necessary. In all future projects while 	

Issues	Status	Suggestions	Remarks
		<p>designing the layout and the number of dwelling units likely to come up. Environmental issues like development of green belt, managing surface water runoff, its collection and recharge etc., provision of solid waste management, and orientation of the building for energy saving should be given priority.</p> <p>i. In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site. At places where the construction works are yet to be completed, the use of construction materials to raise the ground level be done scientifically as it has all the possibility to affect the natural percolation rate of soil.</p> <p>v. The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of renewable energy, green belt development for effective implementation and monitoring.</p>	

Table 6: M/s SPR&RG Constructions Pvt. Ltd.

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
<p>Illegal and unauthorized acts and activities carried out by the Respondents.</p>	<p>The following illegal acts and activities by the Project Proponent have been noted by the Committee:</p> <ul style="list-style-type: none"> Initiated construction at site without obtaining Environmental Clearance under section 2 of the EIA Notification dated 14.09.2006 issued under section 5(3) of Environment (Protection) Act, 1986 from SEIAA, Tamil Nadu Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated by CMDA Did not obtain 'Consent to Establish' required for commencement of work from Tamil Nadu Pollution Control Board Violated the condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated in the Building Permit by the Panchayat is to be read with conditions of CMDA. Constructed additional residential units in violation of the conditions given by CMDA. The proponent has however applied for revised planning permission. 	<p>i. Consent to Establish not obtained from Tamil Nadu Pollution Control Board. ii. Violated CMDA condition of not commencing activity without obtaining Environmental clearance. ii. Constructed additional units beyond that specified in CMDA permission. iv. Proponent applied for revised planning permission and the same is awaited.</p>	<p>CMDA shall give more emphasis on the environmental aspects including disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, etc. Environmental aspects be given the same priority, if not more than those given to parking, fire safety, etc., while designing the layout and its approval. The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006.</p>
<p>Ecological and environmental damage done by these projects.</p>	<p>The ecological and environmental impacts are expected from:</p> <ol style="list-style-type: none"> Disposal of solid waste: The bio degradable fraction of the domestic waste (3.2T/day) is proposed to be disposed through Chennai Corporation and the dried sludge from STP 67 Kg/day used as manure. The non-biodegradable fraction 	<p>i. The tanker water is used for construction. ii. The Project Proponent has applied for permission to use private water tanker to meet its requirement of 483</p>	

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>(1.31 T/day) shall be sent to authorize recyclers. Any unscientific disposal of solid waste has all potential to contaminate the groundwater if not disposed scientifically besides being a source of unaesthetic conditions and odour.</p> <p>ii) Sewage disposal: The Proponent has installed STP having installed capacity of 700 KLD as against the expected sewage generation of 650 KLD. Part of the treated effluent is proposed to be utilized for meeting the demand of toilet flushing (254 KLD) while 19 KLD is proposed to be used for gardening purposes and the excess treated sewage (358 KLD) to be disposed through CMWSSB system. In absence of trunk sewer connectivity, there is every possibility of the excess sewage being discharged on land thereby causing soil and groundwater contamination. Till such connectivity is ensured the excess treated sewage will be sent to Koyambedu STP (94 MLD) with the approval of CMWSSB.</p> <p>iii) Water abstraction: The Project Proponent proposes to use fresh water supply from CMWSSB during the operational phase of the project and in absence of availability of potable water supply from CMWSSB, water through tankers shall be procured. As per the EC conditions the fresh water supply of 483 KLD is to be sourced from CMWSSB. The project proponent has wells in its premises. Any exploitation of groundwater to meet the water demand would impact the groundwater table. A study needs to be conducted to assess charging rate vis-à-vis the abstraction from the groundwater sources.</p> <p>iv) Noise Pollution: There is a possibility of increase in noise levels once the dwellings units are occupied. The increase in noise level can be taken care by providing green belt along the boundary wall and other acoustic measures to cushion the impact of noise.</p> <p>v) Air Pollution: As per the 2nd Master Plan for CMA land use which is in force since September 2008, the project land are zoned for primary residential use and industrial use where</p>	<p>KLD during the operation phase. As per the EC condition the fresh water requirement is to be met from CMWSSB.</p>	

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>residential activities are permissible under special sanction of CMDA. As the site is zoned for residential and industrial use it cannot be considered to be contributing to the deterioration in air quality.</p> <p>vi) The ground water table is at 2.0 meters from ground level. The construction of 03 levels of basement (one lower basement + 2 upper basements) below the ground water table has all the potential to impact the ground water recharging system.</p>		
Installation of STPs	<p>i. The total sewage generation anticipated from the project is 664 KLD. STP with total treatment capacity of 700 KLD has been constructed.</p> <p>ii. The size of the STP units indicates adequacy of the system with the norms stipulated by CMVSSB however the actual efficacy can be assessed only after the mechanical systems are installed and their ratings known. The STP requires to be upgraded to meet the bathing quality norms prescribed by SEIAA for the treated sewage quality.</p> <p>iii. No defined green belt was seen at the site. Considering the area proposed for green belt development within the project area, the treated sewage (19 KLD) earmarked for green belt development cannot be fully utilized on daily basis and especially during rainy season. The leftover would be required to be discharged along with the excess sewage.</p>	<p>i. The STP is in the basement. Most of the works for the STP design of the STP indicates adequacy of the system to meet the norms for treated sewage prescribed by CMDA, however the actual efficacy can be assessed only after the details of mechanical systems installed and their ratings known. The STP would require upgrading to meet the bathing water norms laid down by CPCB and prescribed by SEIAA for the treated sewage.</p> <p>ii. The Project Proponent needs to develop environmental laboratory with capacity to monitor the operating parameters of STP and the quality of treated effluent essential for effective operation of the plant/self-</p>	<p>i. The STPs constructed by need to be reworked to meet the norms of bathing water quality prescribed by SEIAA for treated sewage quality.</p> <p>ii. The project proponent should provide separate electricity meter for the sewage treatment plants and maintain daily record of the power consumed, essential to ensure 24X7 functioning of STPs.</p> <p>iii. The unit not having provision for discharge of treated sewage cannot be permitted to start operation unless proper arrangements are put in place for its safe handling.</p> <p>iv. In no case, the discharge of treated sewage on land can be permitted.</p> <p>Transportation of treated</p>

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
		<p>monitoring and self-compliance with the norms.</p> <p>v. Till such time connectivity with the trunk sewer is ensured, the 328 KLD of excess treated sewage is proposed to be disposed through tanker to nearby STP.</p> <p>v. In absence of connectivity with the sewerage system and no provision for storage of treated sewage its safe disposal is of concern and the situation aggravates during the rainy period as any discharge of storm water along with sewage may be a cause of unaesthetic conditions and odour problems.</p>	<p>sewage through tankers equipped with GPS system (to monitor their movement to the existing STPs in the area) can be permitted in case adequate treatment capacity is available at STPs installed by CMWSSB. The installation of GPS system will help ensuring, that the tankers are emptied at the STPs only.</p> <p>v. The project proponent having permission to discharge the excess treated sewage to existing CMWSSB STPs, should be permitted to discharge the treated effluent conforming to the prescribed effluent norms only.</p>
Other anti-pollution devices by the Project Proponent	To meet the power requirement during periods of power failure, gen sets using high speed diesel as fuel and meeting the norms prescribed by CPCB are proposed to be installed.	<p>i) As part of energy saving measure, installation of LED/CFL bulbs, energy efficient luminaries and variable frequency drives in pumps are proposed.</p> <p>ii) Fly ash bricks may be used for construction.</p> <p>iii) The generator sets for standby power supply proposal shall conform to CPCB norms.</p>	<p>i. Install Energy efficient elevators using gearless machines or regenerative drive technology.</p> <p>ii. Inverter technology based Air Conditioning machines should be installed.</p>
Proposed point of discharge of	As per the conditions imposed by CMWSSB, the entire quantity	i. In absence of connectivity with	i. The unit not having provision

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
<p>sewage and any other untreated waste.</p>	<p>of treated sewage has to be reused for toilet flushing and gardening. However, as per the information provided by the Project Proponent 328 KLD of excess treated sewage to CMWSSB system. In the event of non-connectivity with the CMWSSB sewerage system the treated sewage shall be disposed through tanker to nearby Koyambedu STP (which has a capacity of 94 MLD), which does not seem feasible considering the large storage area requirement for the treated sewage before loading it to the tankers. Disposal of the treated sewage into the sewerage system does not seem feasible, at least in foreseeable future. The excess treated sewage available will be higher than the proposed, after taking into account the generation of sewage from 68 additional units.</p>	<p>the sewerage system and no provision for storage of treated sewage its safe disposal is of concern and the situation aggravates during the rainy period as any discharge of storm water along with sewage may be a cause of unaesthetic conditions and odour problems.</p> <p>ii. The unit has proposed to utilize the 19 KLD of excess treated sewage for plantation. No green belt is at the site. The detail of the available land for has not been provided. Besides during the rainy period, when this excess treated sewage cannot be utilized for green belt no provision of storage facility is available within project site, which is likely to result in discharge of the excess sewage along with the storm water and may be a cause of unaesthetic appearance and odour problem.</p> <p>iii. Dual pipeline has been provided for utilizing the treated sewage for flushing.</p>	<p>for discharge of treated sewage cannot be permitted to start operation unless proper arrangements are put in place for its safe handling. In no case, the discharge of treated sewage on land can be permitted. Transportation of treated sewage through tankers equipped with GPS system (to monitor their movement to the existing STPs in the area) can be permitted in case adequate treatment capacity is available at STPs installed by CMWSSB. The installation of GPS system will help ensuring, that the tankers are emptied at the STPs only.</p> <p>The project proponent having permission to discharge the excess treated sewage to existing CMWSSB STPs, should be permitted to discharge the treated effluent conforming to the prescribed effluent norms only.</p>
<p>Source of water during operation phase and otherwise</p>	<p>As per the information provided by the Project Proponent, water supplied through tankers has been used at the site for the construction activity. In the operation phase, the fresh water</p>	<p>i. The tanker water is used for construction.</p> <p>ii. The Project Proponent has</p>	<p>The project proponent should not be permitted to operationalize the complexes</p>

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>requirement of 483 KLD shall be met from CMWSSB supplier or through private tankers. The water requirement is expected to be 561 KLD @ 135 LPCD for the 6038 occupants as per the EC.</p>	<p>applied for permission to use private water tanker to meet its requirement of 483 KLD during the operation phase. The fresh water requirement for 1050 units and 6038 occupants @ 135 LPCD will be 561 KLD after considering reuse of treated sewage for flushing in toilets. As per the EC condition the fresh water requirement is to be met from CMWSSB.</p>	<p>till such time permission / connectivity for taking potable water from CMWSSB pipeline is received / connectivity ensured to avoid ground water abstraction.</p>
<p>Use of energy efficient devices,</p>	<p>The energy saving measures adopted / proposed include installation of CFL / LED lamps, solar panels for street lighting, and star rated fans/ motors are proposed. The details of the measures taken or proposed for energy saving are given in Table-2.</p>	<p>As part of energy saving measure, installation of LED/CFL bulbs, energy efficient luminaries and variable frequency drives in pumps are proposed.</p>	<p>The project proponent should put in place a system for collection of discarded CFL & LED lamp</p>
<p>Ecologically and environmentally sensitive areas</p>	<p>No national parks / wildlife sanctuaries/Zoos near to the project site. The nearest park is Guindy National Park – 9.0 km and Porur Lake – 0.5 KM No Reservoir/ protected forest in the vicinity of the project site.</p>		
<p>Details of alteration of land its effect on the natural topography</p>	<p>The project site has been flattened to make way for the construction activity. The contour map indicates a total level difference of 3 to 4 feet. Maximum contour is of 101.5 feet and minimum is of 97.5 feet. However, such undulations were not observed during the visit.</p>		

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
Effect on natural drainage system	The site map indicates 01 natural nullah which is being realigned. Permission from PWD to construct culvert across the nullah and permission from revenue authorities for realignment are obtained.	Proper storm water drainage is required inside and outside of the premises for its better management.	In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building lay out modelled to incorporate the natural drainage as part of the system rather than redbing/ relaying of the natural drainage system as done presently in case of M/s SPR and RG Construction Pvt Ltd where the natural open drain converted to a conduit in parts.
Adequacy of rainwater harvesting system	The Project Proponent has to make provision for roof-top rain water harvesting & providing drainage systems. A detail of rain water harvesting is given in Table 3 .		The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of renewable energy, green belt development for effective implementation and monitoring.
Adequacy of parking area and if at all they have been provided.	Provision has been made for providing space for parking 1062 cars and 257 two-wheelers for the 1050 residential units and the commercial block and club house. The parking space needs to be realigned considering the parking conditions imposed by SEIAA requires parking space for 1020 cars & 255 two wheelers. The parking requirement in CMDA permission is	The Project Proponents need to realign the parking infrastructure and other ancillary units to provide for green belt development. Planted saplings were seen at	

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
Collection and disposal of municipal solid waste at the project site.	<p>considering 982 dwelling units while parking provision has to be made for 1050 dwelling units.</p> <p>The bio-degradable waste shall be composted using Organic Waste Converter (OWC). The reusable waste such as paper, organic waste etc., shall be disposed through vendors for reuse. The STP sludge is proposed to be used as manure (67 kg/day) while the non-biodegradable fraction shall be used for filling in low lying areas (1313 kg/day). The domestic waste needs to be reassessed considering the construction of 68 additional dwelling units.</p>	<p>During the site visit, it was informed that 15 trees have been planted and there is a proposal to plant another 400.</p> <p>The bio-degradable waste shall be composted using Organic Waste Converter (OWC) system. The recyclable waste (2036 kg/day) is proposed to be disposed through authorized recyclers. The STP sludge is proposed to be used as manure (67 kg/day) while the non-biodegradable fraction shall be used for filling in low lying areas (1313 kg/day).</p>	<p>The project proponent should prepare an action plan for ensuring segregation, collection, transportation, treatment and scientific disposal of Municipal Solid Waste. This action plan should be submitted to SEIAA and TNPCB for their approval</p>
Compliance of conditions stated in the planning permission and other permissions granted by various authorities	<ul style="list-style-type: none"> • The Project Proponent has initiated construction without obtaining EC violating the conditions specified by CMDA and Village Panchayat. • Project Proponent has initiated construction without obtaining Consent to Establish from Tamil Nadu Pollution Control Board. • Project Proponent has initiated construction without obtaining EC from SEIAA • About 20 – 30% work for laying of drainage system for collection of surface runoff has been completed. • The Project Proponent proposes to dispose the excess 358 KLD of treated sewage for CMWSSB through tankers to nearby STP (Koyambedu) which is in violation to the conditions imposed by CMWSSB, but in line with EC conditions imposed by SEIAA. • The project proponent has constructed additional dwellings than those specified in permission accorded by 	-	-

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
Whether suggestions made by the SEIAA in its meetings adequately take care of environment and ecology?	<p>CMDA.</p> <p>The conditions stipulated by SEIAA in the Environmental Clearance are generic and cover wide spectrum of environment. The condition need to be more specific for effective implementation and monitoring. The conditions with respect to the quantum of energy saving, use of fly ash bricks, rain water storage capacity, area for green belt etc. should be specific and precise to bring uniformity in the conditions imposed.</p>	<p>i. EC granted by SEIAA on 19.11.2015 when the major construction has been completed.</p> <p>ii. Consent to Establish not obtained from Tamil Nadu Pollution Control Board.</p> <p>iii. Violated CMDA condition of not commencing activity without obtaining Environmental clearance.</p> <p>iv. Constructed additional units beyond that specified in CMDA permission.</p>	<p>The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006.</p>
Whether demolition or raising of additional structures are required in the interest of environment and ecology	<p>i. M/s SPR&RG Construction Pvt. Ltd. Started construction on September 10, 2012, without obtaining EC, a mandatory requirement before starting construction work or preparation of land. The proponent applied for EC on 10.06.2013 is after about 08 months of starting of construction.</p> <p>ii. The 700 KLD STP proposed had been designed to meet the treated effluent quality of BOD-20 mg/l and SS-30 mg/l. the EC condition stipulate the requirement of meeting bathing water quality norms i.e. BOD < 3 mg/l, besides the sewage generation is expected to be around 650 KLD.</p> <p>iii. Provision need to be made for recycling of treated sewage for flushing in toilets and for roof top rainwater harvesting and its storage, besides making arrangement for proper management of storm water discharge and disposal of treated sewage.</p> <p>v. More space has to be allocated for parking to meet the demand of residents occupying the additional dwelling units to be constructed. This will need realignment of other activities</p>		

General Observations

Issues	Status	Suggestions	Remarks
<p>Green Belt Development</p>	<p>Total green belt area is 2874.00 m². Development of green belt has not been accorded priority by the project proponent as no developed green belt was seen at the site.</p>	<p>The project proponents informed of the proposal to develop green belt which seems to be after thought as the area has either been paved or earmarked for some other activity at the site. The Project Proponents need to realign the parking infrastructure and other ancillary units to provide for green belt development. Planted saplings were seen at site. During the site visit, it was informed that 15 trees have been planted and there is a proposal to plant another 400. The Project Proponent need to realign the infrastructure/or any other ancillary units to provide adequate space for proper green belt development. Status of the green belt for the restitution of ecology and environment is given in Table-5.</p>	<p>i) Project proponent should plan for scientific green belt development, (exceptions are there for the landscape area or some places earmarked for plantation of trees). Maximum possible space should be left unpaved for recharging of ground water besides the proposed rain water harvesting system. The unpaved area should be covered with green top or any other pervious material to maintain permeability of soil.</p> <p>ii) Green belt should be developed all around the site boundary to act as a barrier for air and noise pollution. Ornamental plants / area left for landscape, covered with grass / shrubs and roof top garden shall not be considered in the areas mandatory for green belt development. Sufficient space has to be provided for each tree so that it does not choke to death because of the putting of cement concrete all around the tree.</p>

Issues	Status	Suggestions	Remarks
<p>Construction Waste</p>	<p>Data for construction waste generated during the construction activity and its use was not available with the Project Proponent, except for the information that the construction waste generated has been disposed to fill the low lying area within the premises or outside. Site details outside the premises where construction waste was used to fill low lying areas were not provided by the project proponent.</p>		
<p>Conditions stipulated by CMDA</p>	<p>i. CMDA shall give more emphasis on the environmental aspects including disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, etc. Environmental aspects be given the same priority, if not more than those given to parking, fire safety, etc., while designing the lay out and its approval.</p> <p>ii. The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006.</p> <p>iii. To have uniformity in approach so that violation of laws is avoided. a coordination mechanism between</p>		

Issues	Status	Suggestions	Remarks
	<p>SEIAA, CMDA and other agencies need to be put into place.</p> <p>iv. In case any deterioration in the ambient environment / ground water quality is observed, the proponent shall inform the status to TNPCB and SEIAA and also prepare a time bound action plan for remedial measures.</p> <p>v. The proponent shall install piezo wells to monitor the ground water quality quarterly.</p>		
<p>General suggestions</p>	<p>-</p>	<p>i. EC granted by SEIAA on 19.11.2015 when the major construction has been completed.</p> <p>ii. Consent to Establish not obtained from Tamil Nadu Pollution Control Board.</p> <p>iii. Violated CMDA condition of not commencing activity without obtaining Environmental clearance.</p> <p>iv. Constructed additional units beyond that specified in CMDA permission.</p>	<p>i. In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building lay out modelled to incorporate the natural drainage as part of the system rather than redoing/ relaying of the natural drainage system as done presently in case of M/s SPR and RG Construction Pvt. Ltd where the natural open drain converted to a conduit in parts.</p> <p>ii. A systematic green belt development is necessary. In all future projects environmental issues like development of green belt, managing surface water runoff, its collection and recharge etc., provision of solid waste management, and</p>

Issues	Status	Suggestions	Remarks
			<p>orientation of the building for energy saving should be given priority while designing the layout and the number of dwelling units likely to come up.</p> <p>iii. In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site. As the construction works are yet to be completed, the use of construction materials to raise the ground level is avoided as it has all the possibility to affect the nature percolation rate of soil.</p> <p>iv. The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of renewable energy, green belt development for effective implementation and monitoring.</p>

Table 7: M/s. Dugar Housing Pvt. Ltd.

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
<p>Illegal and unauthorized acts and activities carried out by the Respondents.</p>	<p>The following illegal acts and activities by the Project Proponent have been noted by the Committee:</p> <ul style="list-style-type: none"> Initiated construction at the site without obtaining Environmental Clearance under section 2 of the EIA Notification dated 14.09.2006 issued under section 5(3) of Environment (Protection) Act, 1986 from SEIAA, Tamil Nadu Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated by CMDA Did not obtain 'Consent to Establish' required for commencement of work from Tamil Nadu Pollution Control Board Violated the condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated in the Building Permit by the Greater Chennai Corporation to be read with conditions of CMDA. Violated condition of number of residential units specified in permission from CMDA by constructing additional floors. The proponent has however applied for revised Planning Permission. 	<p>i. Violated CMDA condition of commencing activity without obtaining Environmental clearance.</p> <p>ii. The building permission for the EC is for 10 floors while the EC permits construction of 14 floors. However, during inspection in August 2015, the Committee observed construction beyond 10 floors, violating CMDA conditions, as no EC was issued at that time.</p> <p>iii. The height of the building (as per EC conditions i.e., 14 storeyed building) is 45.00 metres and FSI 3.48.</p>	<p>i. CMDA shall give more emphasis on the environmental aspects including disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, etc. Environmental aspects be given the same priority, if not more than those given to parking, fire safety, etc., while designing the lay out and its approval.</p> <p>ii. The condition related to environmental issues and especially those related to environmental clearance and imposed in the permission granted by CMDA to the project proponent are not uniform. CMDA may insist the proponent not to commence the construction without EC wherever required.</p>
<p>Ecological and environmental damage done by these projects. (at page no.7)</p>	<p>The ecological and environmental impacts are expected from:</p> <p>i) Disposal of solid waste: The solid waste generation needs to be reworked considering the proposed construction of additional 04 floors. The proponent proposes to dispose the</p>		

entire solid waste through Greater Chennai Corporation (GCC) as envisaged in the EC conditions. The sludge from STP will be used as manure. The non-biodegradable fraction is proposed to be disposed through authorized recyclers. The unscientific disposal of solid waste has all potential to contaminate the groundwater besides being a source of un-aesthetic conditions and odour. Considering that 04 additional floors are to be constructed, the solid waste generation needs to be reassessed.

ii) Sewage disposal: The Proponent has proposed to install STP having installed capacity of 280 KLD as against the expected sewage generation of 266 KLD. Part of the treated sewage is proposed to be utilized for meeting the demand of toilet flushing (108 KLD) while 10 KLD is proposed to be used for gardening purpose and the excess treated sewage of 135 KLD to be disposed through CMWSSB system and till such connectivity is ensured the treated sewage will be sent through tankers to the nearby Koyambedu STP (94 MLD) with the approval of CMWSSB. In absence of connectivity of trunk sewer for continuous discharge of treated sewage and provision of storage of treated sewage for disposal through tankers not envisaged, there is every possibility of the excess sewage being discharged on land thereby causing soil and groundwater contamination. The STP design has not been redone considering the demand of sewage treatment for additional 04 floors after construction of 14 floors (permitted in EC issued by SEIAA) as against construction of 10 floors in planning permission issued by CMDA.

The water requirement for 2842 occupants @ 135 KLD/ per capita comes to 384 KLD and sewage generation at 80% of the water supply is 307 KLD (384x0.80 = 307 KLD). The capacity of STP proposed is 280 KLD is inadequate to treat the proposed sewage generation of 307 KLD. Unless the capacity of STP is augmented, it will either lead to bypasses of untreated sewage or non-compliance with the norm, which has all the potential to contaminate the ground water or water resources depending upon the discharge mode.

iii) Water abstraction: The freshwater requirement is to be drawn from CMWSSB and in the absence of availability of potable water supply from CMWSSB as specified in EC conditions the project proponent has proposed to procure

water through tankers. The fresh water requirement also needs to be reworked to meet the demand of the residents of the additional 04 floors being constructed. However, there is all probability of the Project Proponent using groundwater during the operational phase of the project from 01 well in its premises. Any over exploitation of groundwater would impact the groundwater table. A study needs to be conducted to assess the charging rate vis-à-vis the abstraction from the groundwater sources.

iv) Noise Pollution: There is a possibility of increase in noise levels once the dwellings units are occupied. The increase in noise level can be taken care by providing green belt along the boundary wall and other acoustic measures to cushion the impact of noise.

v) Air Pollution: As per the 2nd Master Plan for CMA land use which is in force since September 2008, the project land is categorized as primary residential land use. As the site is meant for construction of residential complex including commercial units for the residents of complex it cannot be considered to be contributing to the deterioration in air quality.

vi) The ground water table is at about 10.00 metres from ground level. Construction activity below the ground level table has all potential to impact the ground water.

water through tankers. The fresh water requirement also needs to be reworked to meet the demand of the residents of the additional 04 floors being constructed. However, there is all probability of the Project Proponent using groundwater during the operational phase of the project from 01 well in its premises. Any over exploitation of groundwater would impact the groundwater table. A study needs to be conducted to assess the charging rate vis-à-vis the abstraction from the groundwater sources.

iv) Noise Pollution: There is a possibility of increase in noise levels once the dwellings units are occupied. The increase in noise level can be taken care by providing green belt along the boundary wall and other acoustic measures to cushion the impact of noise.

v) Air Pollution: As per the 2nd Master Plan for CMA land use which is in force since September 2008, the project land is categorized as primary residential land use. As the site is meant for construction of residential complex including commercial units for the residents of complex it cannot be considered to be contributing to the deterioration in air quality.

vi) The ground water table is at about 10.00 metres from ground level. Construction activity below the ground level table has all potential to impact the ground water.

Installation of STPs (on page 8)

- i. The total sewage generation anticipated from the project is 307 KLD and not 266 KLD as envisaged in EC and the proposed STP with total treatment capacity of 280 KLD seems inadequate to treat the expected sewage generation after construction of 04 additional floors.
- ii. As the STP unit has not been constructed the layout could not be assessed.
- iii. No green belt has been developed. Even considering the area proposed for green belt development within the project area, the treated sewage (10 KLD) earmarked for green belt development cannot be utilized on all the days and specifically during the rainy days. The leftover would be required to be discharged along with the excess sewage.
- iv. The possibility of recycling of the treated effluent could not be examined as plumbing work has not started and dual piping system could not be verified. The quantum

i. Civil works for the STP in **M/s Dugar Housing Ltd** is at preliminary stage and not a single unit of STP constructed. The STP is designed for treatment capacity of 280 KLD, whereas the anticipated sewage generation is 307 KLD (detailed on page 4). The design of the STP and the size of unit indicate inadequacy of the system to meet the effluent norms specified by CMWSSB/SE/IAA. Considering the higher sewage generation the efficacy of the STP can be

- The design of the STP has to be redone considering the need to treat sewage generation from the additional 04 floors being constructed. The recycling of treated sewage for flushing and gardening also needs reassessment.
- The project proponent should provide separate electricity meter for the sewage treatment plants and maintain daily record of the power consumed, essential to ensure 24X7 functioning of

	<p>of treated sewage has to reassess considering that 04 additional floors are to be constructed.</p>	<p>assessed only after the civil works are completed, the mechanical systems installed and their ratings known. The SEIAA stipulates bathing quality norms for the treated sewage.</p> <p>ii. The Project Proponent needs to develop environmental laboratory with capacity to monitor the operating parameters of STP and the quality of treated effluent essential for effective operation of the plant/self-monitoring and self-compliance with the norms.</p>	<p>STPs.</p> <ul style="list-style-type: none"> •The unit not having provision for discharge of excess treated sewage, cannot be permitted to start operation unless proper arrangements are put in place for its safe handling. •In no case, the discharge of treated sewage on land can be permitted. <p>Transportation of treated sewage through tankers equipped with GPS system (to monitor their movement to the existing STPs in the area) can be permitted in case adequate treatment capacity is available at STPs installed by CMWSSB. The installation of GPS system will help ensuring, that the tankers are emptied at the STPs only.</p> <ul style="list-style-type: none"> •The project proponent having permission to discharge the excess treated sewage to existing CMWSSB STPs, should be permitted to discharge the treated effluent conforming to the prescribed effluent norms only.
<p>Other anti-pollution devices by the Project Proponent (at page 9)</p>	<p>To meet the power requirement during periods of power failure, gensets using high speed diesel as fuel and meeting the norms prescribed by CPCB are proposed to be installed.</p>	<p>The generator sets for standby power supply to be installed are proposed to conform to the CPCB norms.</p>	<ul style="list-style-type: none"> i. Inverter technology based Air Conditioning machines should be installed. ii. For meeting hot water requirement in kitchen solar energy should be used.
<p>Proposed point of discharge of</p>	<p>As per the conditions imposed by CMWSSB, the entire quantity</p>	<p>The trunk sewer facility for</p>	<ul style="list-style-type: none"> i. The unit not having provision

<p>sewage and any other untreated waste. (at page 9)</p>	<p>of treated sewage has to be reused for toilet flushing and gardening. However, as per the information provided by the Project Proponent 135 KLD of excess treated sewage shall be disposed through CMWSSB system which is also envisaged in the EC conditions. Presently no connectivity has been provided with the CMWSSB system for discharging the excess sewage. The excess treated sewage available for discharge will be higher than proposed due to additional generation of sewage from the proposed 04 floors to be constructed.</p>	<p>disposal of sewage is available within the Chennai Corporation Area. The 135 KLD of excess treated sewage is proposed to be disposed on the CMWSSB sewerage. The quantity of excess sewage is likely to increase because of higher sewage generation. In absence of connectivity with the sewerage system and absence of any provision for the storage of the treated sewage, its safe disposal is of concern and this concern aggravates during the rainy period. Any discharge of sewage along with the storm water may be a cause of unaesthetic conditions and odour problem.</p>	<p>for discharge of excess treated sewage, cannot be permitted to start operation unless proper arrangements are put in place for its safe handling.</p> <p>ii. In no case, the discharge of treated sewage on land can be permitted. Transportation of treated sewage through tankers equipped with GPS system (to monitor their movement to the existing STPs in the area) can be permitted in case adequate treatment capacity is available at STPs installed by CMWSSB. The installation of GPS system will help ensuring, that the tankers are emptied at the STPs only.</p> <p>iii. The project proponent having permission to discharge the excess treated sewage to existing CMWSSB STPs, should be permitted to discharge the treated effluent conforming to the prescribed effluent norms only.</p> <p>iv. The project proponent do not have outlet provisions and is not able to recycle additional sewage back into the system, beyond the presently proposed limits, transporting of the treated sewage conforming to the specified norms for discharge to STPs operated by CMWSSB Board through identified tankers.</p>
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<p>Source of water during operation phase and otherwise (at page no. 10)</p>	<p>As per the information provided by the Project Proponent, water has been supplied through tankers at site for the construction activity. In the operation phase, the Proponent has planned to source fresh water from CMWSSB and through tankers till such time the connectivity is ensured.</p>	<p>Fresh water requirement during operation will be met from the private water tanker till permission from CMWSSB is received.</p>	<p>fitted with GPS system for tracking their movements may be considered. The option can be permitted only after the project proponent develops adequate storage capacity for treated effluent.</p> <p>The project proponent should not be permitted to operationalize the complexes till such time permission / connectivity for taking potable water from CMWSSB pipeline is received / connectivity ensured to avoid ground water abstraction.</p>
<p>Use of energy efficient devices, (at page no. 10)</p>	<p>The energy saving measures proposed includes installation of CFL / LED lamps, solar panels for street lighting. The details of the measures proposed for energy saving are given in Table-2.</p>	<p>As part of energy saving measure, installation of LED/CFL bulbs and solar panels for street lights are proposed.</p>	<p>i. All street and staircase lighting should use solar power. The project proponent should reduce the power consumption by at least 20% by replacing CFL lamps with LED lamps, using energy efficient device (solar relay – Bureau of energy efficiency) providing insulated window or insulated glasses and adopting advance elevator and air conditioning technologies as below:-</p> <p>ii. Install Energy efficient elevators using gearless machines or</p>

			<p>regenerative drive technology.</p> <p>iii. Inverter based Air Conditioning machines should be installed.</p> <p>iv. For meeting hot water requirement in kitchen solar energy should be used.</p> <p>v. Installation of IR/Thermal switches in corridors/staircases to save energy needs to be promoted.</p> <p>vi. The project should obtain GRIHA or any other such rating.</p>
<p>Ecologically and environmentally sensitive areas (at page no.10)</p>	<p>There are no national parks / wildlife sanctuaries, reservoirs/lakes and reserved/protected forests near to the project site. The reservoirs/lakes near to the project site are listed below;</p> <p>Reservoir / Lake – Puzhal Lake – 1 km Korattur Tank – 1.5 kms.</p>		
<p>Details of alteration of land its effect on the natural topography (at page no.10)</p>	<p>The project site has been flattened to make way for the construction activity. The natural gradient of the site is altered so that the storm water can be recharged in the proposed drain towards the road. The contour map indicates a total level difference of 0.5 – 2.0 Metres. Maximum contour is of 9.5 m and minimum is of 7.4 m.</p>		
<p>Effect on natural drainage system (at page no.11)</p>	<p>The site map does not show any natural storm water channel in the project area. The gradient change done at the site has all possibility to change the storm water flow pattern and lead to flooding on the road side if the capacity of drain is not adequate enough to take the entire storm water flow besides it can also lead to flooding on the opposite side if there is no way out for the storm water granted in that area.</p>	<p>Provision of drainage system for collecting storm water runoff in and out of the premises is yet to be made.</p>	<p>i. In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building lay out modelled to incorporate the</p>

<p>Adequacy of rainwater harvesting system (at page no.11)</p>	<p>The Project Proponent has to make provision for roof-top rain water harvesting & providing drainage systems. A detail of rain water harvesting is given in Table 3. As per the EC conditions the rain water harvested for recharging the surface runoff, should be given pre-treatment with screen, settlers etc., to remove suspended solids, oil and grease etc.. No provision for rain water harvesting was seen at the site during inspection.</p>		<p>natural drainage as part of the system rather than redoing/ relaying of the natural drainage system. ii. The proponent should ensure that proper storm water drainage system is available in and around the site for transporting excess of storm water runoff to drains, thereby discarding possibility of flooding in and around the site.</p>
<p>Adequacy of parking area and if at all they have been provided. (at page no.11)</p>	<p>Provision has been made for providing space for parking 357 cars and 386 two-wheelers for the 412 residential units, the commercial block and club house as per CMDA norms. As per</p>	<p>Need to realign the infrastructure of the parking and other ancillary units to provide</p>	<p>If provision for discharge of excess surface run off / rain water discharge are not available, flooding in the vicinity and stagnation of the discharged water in the low lying areas around the complex are inevitable. The project proponent should ensure that such situation does not occur either by increasing the capacity of rain water storage sumps or providing additional pits in the surface run off collection drain. The surface runoff shall be treated through screens, settlers, etc., to remove suspended solids, oil & grease etc., before its use for recharging.</p> <p>i. The parking requirement for commercial development as per CMDA development</p>

<p>Collection and disposal of municipal solid waste at the project site. (at page no. 11)</p>	<p>the conditions stipulated in EC the project proponent is required to make parking of ---- cars and ----- two wheelers. The parking requirement specified in the CMDA building permission is considering that the twin towers being constructed are 10 storey high, while the parking requirement is to be considered for 14 storey building as envisaged in the EC.</p>	<p>some space for green belt development.</p>	<p>Regulation envisages one car parking and one two wheeler parking space for every 50 m² whereas the MoEF norms specify parking requirement at the rate of one car for every 25 m² of fraction thereof. ii. Car parking requirement for residential development is based on the size of the individual unit and location of the site. In the case of Low Income Group (LIG) dwelling units, which is mandatory and size does not exceed 45 m², one two wheeler parking only is required. In addition 10% of total parking is required to be provides as visitors parking. iii. With the increase in number of dwelling unit because of consideration of additional floors (4 numbers each in both the towers) provision of additional parking is required to be made.</p>
	<p>The treatment of domestic waste (1705 Kg/day) i.e., bio degradable portion 1023 Kg/day & non bio degradable fraction 682 kg/day is proposed to be disposed through the Chennai corporation. The STP sludge is proposed to be used as manure (28 kg/day). The domestic waste also needs to be reassessed because of the construction of additional 04 floors</p>	<p>The STP sludge is proposed to be used as manure (28 kg/day) while the non-biodegradable fraction (1023 kg/day) and non-bio degradable fraction 682/day shall be disposed to the Chennai Corporation</p>	<p>i. A systematic green belt development is necessary In all future projects environmental issues like development of green belt, managing surface water runoff, its collection and recharge etc., provision of</p>

<p>Compliance of conditions stated in the planning permission and other permissions granted by various authorities (at page no.11)</p>			<p>solid waste management, and orientation of the building for energy saving should be given priority while designing the layout and the number of dwelling units likely to come up. ii. In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site. As the construction works are yet to be completed, the use of construction materials to raise the ground level is avoided as it has all the possibility to affect the nature percolation rate of soil.</p>
<p>Compliance of conditions stated in the planning permission and other permissions granted by various authorities (at page no.11)</p>	<ul style="list-style-type: none"> • The Project Proponent has initiated construction without obtaining EC violating the conditions specified by CMDA and Corporation of Chennai (GCC). • Project Proponent has initiated construction without obtaining Consent to Establish from Tamil Nadu Pollution Control Board. • Project Proponent has initiated construction without obtaining EC from SEIAA • The rain water harvesting structure has not been provided so far. • The Project Proponent proposes to dispose the excess 135 KLD of treated sewage through CMWSSB sewerage which is in violation to the conditions imposed by CMWSSB 		<p>-</p>

	<p>but in conformity with the conditions imposed in EC.</p> <ul style="list-style-type: none"> The project proponent has constructed additional floors in violation of the conditions specified in planning permission by CMDA. 		
<p>Whether suggestions made by the SEIAA in its meetings adequately take care of environment and ecology?</p>	<p>The conditions stipulated by SEIAA in the Environmental Clearance are generic and cover wide spectrum of environment. The condition need to be more specific for effective implementation and monitoring. The conditions with respect to the quantum of energy saving, use of fly ash bricks, rain water storage capacity, area for green belt etc. should be specific and precise to bring uniformity in the conditions imposed.</p>	<p>i. EC was granted by SEIAA on 14.02.2015, well after the construction activities had been completed.</p> <p>ii. Consent to Establish not obtained from Tamil Nadu Pollution Control Board.</p> <p>iii. Violated CMDA condition of not commencing activity without obtaining Environmental clearance.</p>	<p>As no EIA has been conducted quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA.</p>
<p>Whether demolition or raising of additional structures are required in the interest of environment and ecology (at page no.12)</p>	<p>i) M/s Dugar Housing Ltd. Started construction on February 15, 2013, without obtaining EC, a mandatory requirement before starting construction work or preparation of land. The proponent applied for EC on 07.06.2013 is after about 04 months of starting of construction.</p> <p>ii) The 280KLD STP proposed had been designed to meet the treated effluent quality of BOD-20 mg/l and SS-30 mg/l. The EC condition stipulate the requirement of meeting bathing water quality norms i.e. BOD < 3 mg/l, besides the sewage generation from the 14 floors is expected to be around 307 KLD and not 266 KLD.</p> <p>iii) Development of green-belt has not been accorded priority as no green belt was seen at the site. Some of the existing infrastructure needs to be realigned for providing space for green belt development.</p> <p>iv) Provision need to be made for recycling of treated sewage for flushing in toilets and for roof top rainwater</p>		

	<p>harvesting and its storage, besides making arrangement for proper management of storm water discharge and disposal of treated sewage.</p> <p>v) More space has to be allocated for parking to meet the demand of residents occupying the 04 additional floors to be constructed. This will need realignment of other activities.</p>		
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Issues	Status	Suggestions	Remarks
<p>Green Belt Development</p>	<p>Total green belt area proposed is 2141.07 m² Development of green belt has not been accorded priority by the project proponent as no developed green belt was seen at the site.</p>	<p>The project proponent informed of the proposal to develop green belt which seems to be after thought as no provision for the same was evident at the site. During the site visit, it was informed that 16 trees are existing and another 19 are proposed to be planted. The Project Proponent need to realign the infrastructure/or any other ancillary units to provide adequate space for proper green belt development. Status of the green belt for the restitution of ecology and environment is given in Table-5.</p>	<p>i) The Project proponent should plan for scientific green belt development, (exceptions are there for the landscape area or some places earmarked for plantation of trees). Maximum possible space should be left unpaved for recharging of ground water besides the proposed rain water harvesting system. The unpaved area should be covered with green top or any other pervious material to maintain permeability of soil.</p> <p>ii) Green belt should be developed all around the site boundary to act as a barrier for air and noise pollution. Ornamental plants / area left for landscape, covered with grass / shrubs and roof top garden shall not be considered in the areas mandatory for green belt development Sufficient space</p>

Issues	Status	Suggestions	Remarks
			has to be provided for each tree so that it does not choke to death because of putting of cement concrete all around the tree.
Construction Waste	Data for construction waste generated during the construction activity and its use was not available with the Project Proponent, except for the information that the construction waste generated has been disposed to fill the low lying area within the premises or outside. Site details outside the premises where construction waste was used to fill low lying areas were not provided by the project proponent.		
Conditions stipulated by CMDA	<ul style="list-style-type: none"> The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006. 	<ul style="list-style-type: none"> CMDA shall give more emphasis on the environmental aspects including disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, etc. Environmental aspects be given the same priority, if not more than those given to parking, fire safety, etc., while designing the lay out and its approval. The condition related to environmental issues and especially those related to environmental clearance and imposed in the permission granted by CMDA to the project proponent are not uniform. CMDA may insist 	

Issues	Status	Suggestions	Remarks
		<p>the proponent not to commence the construction without EC wherever required.</p> <ul style="list-style-type: none"> • To have uniformity in approach so that violation of laws is avoided, a coordination mechanism between SEIAA, CMDA and other agencies need to be put into place • As no EIA has been conducted quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA. • In case any deterioration in the ambient environment / ground water quality is observed, the proponent shall inform the status to TNPCB and SEIAA and also prepare a time bound action plan for remedial measures. • The proponent shall install piezo wells to monitor the ground water quality quarterly. 	
<p>General suggestions</p>		<ol style="list-style-type: none"> i. EC was granted by SEIAA on 19.11.2015, when major portion of works have been completed. ii. Consent to Establish not obtained from Tamil Nadu Pollution Control Board. iii. Violated CMDA condition of commencing activity without obtaining Environmental clearance. iv. The building permission for CMDA is for 10 floors while the EC permits construction of 14 floors. However, during inspection in August 2015, the Committee observed 	<ol style="list-style-type: none"> i. In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building lay out modelled to incorporate the natural drainage as part of the system rather than redoing/ relaying of the natural drainage system. ii. A systematic green belt development is necessary. In

Issues	Status	Suggestions	Remarks
		<p>construction beyond 10 floors, violating CMDA conditions, as no EC was issued at that time</p> <p>v. The height of the building (as per EC conditions i.e., 14 storeyed building) is 45.00 metres and FSI 3.48</p>	<p>all future projects environmental issues like development of green belt, managing surface water runoff, its collection and recharge etc., provision of solid waste management, and orientation of the building for energy saving should be given priority while designing the layout and the number of dwelling units likely to come up.</p> <p>iii. In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site. As the construction works are yet to be completed, the use of construction materials to raise the ground level is avoided as it has all the possibility to affect the nature percolation rate of soil.</p> <p>iv. The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of renewable energy, green belt development for effective implementation and monitoring.</p>

Table 8: M/s.SAS Realtors Pvt. Ltd.

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
<p>Illegal and unauthorized acts and activities carried out by the Respondents.</p>	<p>The following illegal acts and activities by the Project Proponent have been noted by the Committee:</p> <ul style="list-style-type: none"> Initiated construction at site without obtaining Environmental Clearance under section 2 of the EIA Notification dated 14.09.2006 issued under section 5(3) of Environment (Protection) Act, 1986 from SEIAA, Tamil Nadu Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated by CMDA. Did not obtain 'Consent to Establish' required for commencement of work from Tamil Nadu Pollution Control Board Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated in the Building license by the Greater Chennai Corporation (The permission by the Greater Chennai Corporation is to be read with conditions of CMDA). No provision for use of 40 KLD of treated sewage for flushing has been made and this treated sewage will be disposed to the CMWSSB sewerage system in violation of the conditions specified in Environmental Clearance. 	<ol style="list-style-type: none"> EC was granted by SEIAA on 14.12.2015, well after the construction works had been completed. Consent to Establish not obtained from Tamil Nadu Pollution Control Board. Violated CMDA condition of not commencing activity without obtaining Environmental clearance. The entire sewage after treatment is to be discharged to CMWSSB sewerage system and in absence of the connectivity it is proposed to be send it to the Nesapakkam STP through tankers. No provision made for recycling of the treated sewage for flushing in toilets. Provisions for harvesting of roof top rain water has not been made. Provisions for proper green belt development has not been made. During inspection on 22.02.2016 partial occupancy was observed, however, no effluent discharge was observed. 	<ol style="list-style-type: none"> CMDA shall give more emphasis on the environmental aspects including water supply disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, while according planning permission for large development. The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform. CMDA may also insist the proponent not to commence the construction without EC wherever required.

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
<p>Ecological and environmental damage done by these projects.</p>	<p>The ecological and environmental impacts are expected from:</p> <ul style="list-style-type: none"> i) Disposal of solid waste: The domestic waste (515 Kg/day) is proposed to be disposed to the Greater Chennai Corporation as envisaged in the EC conditions. The sludge from STP is to be used as manure. The non-biodegradable fraction if disposed in an unscientific way has all potential to contaminate the groundwater besides being a source of unaesthetic conditions and odour. ii) Sewage disposal: The Proponent has installed STP having installed capacity of 95 KLD as against the expected sewage generation of 93 KLD. Part of the treated effluent 03 KLD is proposed to be used for gardening purposes and 90 KLD of excess treated sewage is proposed to be disposed to CMWSSB sewerage network. However, the EC states that 101 KLD of Sewage will be generated for which STP of 120 KLD is to be installed, out of which 40 KLD of treated sewage will be used for flushing and 3 KLD for gardening, while the remaining excess treated sewage 53 KLD will be disposed to CMWSSB sewer line after obtaining permission from CMWSSB. Till such connectivity is ensured the treated sewage will be sent through tankers to the Nesapakkam STP having treatment capacity of 94 MLD with the approval of CMWSSB which is not in concurrence with the details provided to the committee in August 2015. In absence of connectivity of trunk sewer, for continuous discharge of treated sewage and no provision of storage of treated sewage for disposed through tankers, there is every possibility of the excess sewage being discharged on land thereby causing soil and groundwater contamination. iii) Water abstraction: As per conditions imposed, the fresh water requirement of 78 KLD is to be drawn from CMWSSB. As the proponent has not made any provision for recycling of 40 KLD of treated sewage for flushing, the fresh water withdrawal shall be 118 KLD putting additional load on already scarce water resources. In absence of availability of potable supply from CMWSSB as specified in EC conditions 	<p>ix. Completion Certificate was issued by CMDA on 30.12.2015</p>	

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
<p>Installation of STPs</p>	<p>the project proponent has proposed to procure water through tankers.</p> <p>iv) Noise Pollution: There is a possibility of increase in noise levels once the dwellings units are occupied. The increase in noise level can be taken care by providing green belt along the boundary wall and other acoustic measures to cushion the impact of noise.</p> <p>v) Air Pollution: As per the 2nd Master Plan for CMA land use which is in force since September 2008, the project land are zoned for primary residential use and mixed residential use. As the site is meant for construction of residential complex including commercial units for the residents of complex it cannot be considered to be contributing to the deterioration in air quality.</p>		
<p>i. The total sewage generation anticipated from the project is 93 KLD. STP with total treatment capacity of 95 KLD has been constructed.</p> <p>ii. The design of the STP unit indicates adequacy of the system to meet the norms prescribed by CMWSSB, however, the actual efficacy can be assessed only after the details of the mechanical systems installed are provided. The STP needs to be upgraded to meet the norms of bathing water quality specified by SEIAA in the EC granted. In absence of the connectivity with the CMWSSB sewerage system, the disposal of treated sewage to the Nesapakkam STP (117 MLD) is proposed through tankers which does not seem feasible in absence of any provision of storing of treated sewage.</p> <p>iii. The STP units have neither proper nor safe access for free movement, because of which the STP units could not be seen. With the layout of STP the operation of plant cannot be seen / visualized and in case of any disruption in plant condition, the plant performance can be assessed only after examining/seeing the results of effluent quality parameters and the values of the plant operating parameters.</p> <p>iv. Though the complex is partially occupied the STP was not in operation, Mr. Sathanarayana the company representative present, informed that the effluent was being disposed through tankers which did not seem feasible from the location</p>	<p>i. The STP of M/s SAS Realtors Pvt. Ltd. are below ground level.</p> <p>ii. Works for the STP are completed. The design of the STP indicates adequacy of the system to meet the norms prescribed by CMWSSB, however the actual efficacy can be assessed only after the details of mechanical systems installed and their ratings known. The STP needs to be modified to provide better accessibility to the various units and also upgraded to meet the norms of bathing water quality specified by SEIAA in the EC granted.</p> <p>iii. The STP units have neither proper nor safe access for free movement, because of which the STP</p>	<p>• The STPs constructed by M/s SAS Realtors Pvt. Ltd. need to be reworked to provide safe access to the various units of STP. The STP also needs to be upgraded to treat the sewage up to the bathing quality norms prescribed by SEIAA in the EC conditions.</p> <p>• The project proponent should provide separate electricity meter for the sewage treatment plants and maintain daily record of the power consumed, essential to ensure 24X7 functioning of STP.</p> <p>• The unit not having provision for discharge of treated sewage cannot be permitted to start operation unless proper arrangements are put in place for its safe handling.</p> <p>• In no case, the discharge of treated sewage on land can be permitted. Transportation</p>	

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>specified neither details of the tanker movements provided. However, the provision for by-passing the sewage discharge to the sewer was found functional</p> <p>v. There is no developed green belt within the project area, hence there is no possibility to utilize the treated sewage (03 KLD) earmarked for green belt development, hence the leftover would also be required to be discharged along with the excess sewage.</p> <p>vi. The proponent does not have provision for recycling of the treated effluent as no provision for dual piping systems has been made.</p> <p>vii. In absence of the provision for recycling of the treated sewage, non-availability of land for green belt, the entire sewage after treatment has to be discharged, in violation of conditions specified by the SEIAA and other agencies.</p>	<p>could not be seen. With the layout of STP the operation of plants cannot be seen / visualized and in case of any disruption in plant condition, the plant performance can be assessed only after examining/seeing the results of effluent quality parameters and the values of the plant operating parameters.</p>	<p>of treated sewage through tankers equipped with GPS system (to monitor their movement to the existing STPs in the area) can be permitted only in case adequate treatment capacity is available at STPs installed by CMWSSB. The installation of GPS system will help ensuring, that the tankers are emptied at the STPs only.</p> <ul style="list-style-type: none"> The project proponent having permission to discharge the excess treated sewage to existing CMWSSB STPs, should be permitted to discharge the treated effluent conforming to the prescribed effluent norms only.
Other anti-pollution devices by the Project Proponent	To meet the power requirement during periods of power failure, gensets using high speed diesel as fuel and meeting the norms prescribed by CPCB have been installed.	Inverter technology based Air Conditioning machines should be installed.	<ul style="list-style-type: none"> i. Inverter technology based Air Conditioning machines should be installed. ii. For meeting hot water requirement in kitchen solar energy should be used.
Proposed point of discharge of sewage and any other untreated waste.	As per the conditions imposed by CMWSSB, the entire quantity of treated sewage has to be reused for toilet flushing and gardening. However, in absence of any provision for recycling of the treated sewage and land for green belt development, the entire 90 KLD of treated sewage shall be disposed through CMWSSB sewerage system and till such time connectivity is achieved with the sewerage system the treated sewage is proposed to be disposed through tankers to the nearby Nesapakkam STP. The permission for the same is still to be obtained. In absence of any storage facility at STP for the treated sewage, transportation of treated sewage to the STP on regular basis does not seem feasible and disposal of the treated	<ul style="list-style-type: none"> x. The entire sewage after treatment is to be discharged to CMWSSB sewerage system and in absence of the connectivity it is proposed to be send it to the Nesapakkam STP through tankers. xi. During inspection on 22.02.2016 partial occupancy was observed, however, no effluent discharge was observed. 	<ul style="list-style-type: none"> i. The unit not having provision for discharge of treated sewage cannot be permitted to start operation unless proper arrangements are put in place for its safe handling. ii. In no case, the discharge of treated sewage on land can be permitted. <p>Transportation of treated sewage through tankers</p>

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>sewage into the sewerage system does not seem feasible, at least in foreseeable future. Hence a fool proof system for managing the excess treated sewage needs to be in place.</p>	<p>xii. The 90 KLD of excess treated sewage is proposed to be disposed to the CMWSSB sewerage system and till such connectivity is ensured, the treated sewage will be sent through tankers to the Nesapakkam STP. In absence of the connectivity with the sewerage system and absence of any provision for storage of treated sewage its proper disposal is of concern and the concern aggravates during the rainy period as any discharge of the sewage along with the storm water may be a cause of unaesthetic conditions and odour problem.</p>	<p>equipped with GPS system (to monitor their movement to the existing STPs in the area) can be permitted only in case adequate treatment capacity is available at STPs installed by CMWSSB. The installation of GPS system will help ensuring, that the tankers are emptied at the STPs only.</p> <p>iii. The project proponent having permission to discharge the excess treated sewage to existing CMWSSB STPs, should be permitted to discharge the treated effluent conforming to the prescribed effluent norms only.</p> <p>iv. The project proponent do not have outlet provisions and is also not able to recycle additional sewage back into the system, transporting of the treated sewage conforming to the specified norms for discharge to STPs operated by CMWSSB Board through identified tankers fitted with GPS system for tracking their movements may be considered. The option can be permitted only after the project proponent develops adequate storage capacity for treated effluent</p>

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
Source of water during operation phase and otherwise	As per the information provided by the Project Proponent, water was supplied through tankers at site for the construction activity. In the operation phase, the Proponent has planned to meet the fresh water requirement of 118 KLD (including flushing requirement) to the residents from CMWSSB supply and in absence of connectivity the water will be procured through tankers.	The various aspects of water management including the source of water supply, the quantum of sewage generated, its treatment, adequacy of Sewage Treatment Plants, reuse and recycling of the treated effluent and its disposal were examined. The observations made are given in Table-4 . i. The tanker water was used for construction.	The project proponent should not be permitted to operationalize the complexes till such time permission / connectivity for taking potable water from CMWSSB pipeline is received / connectivity ensured or viable alternate arrangement made to avoid ground water abstraction.
Use of energy efficient devices,	The energy saving measures adopted includes installation of CFL/ LED lamps. The other measures taken include installation of solar panels to meet the hot water requirement of bathing/kitchen. Variable Frequency and Variable Drive lifts, use of Unplasticised Polyvinyl Chloride (UPVC) windows and 6 mm thick glasses. The details of the measures taken for energy saving are given in Table-2 .	i)As part of energy saving measure, LED/CFL bulbs have been installed and solar panels provided for meeting the hot water requirement heated water for bathing and kitchen.	i. All street and staircase lighting should use solar power. The project proponent should reduce the power consumption by at least 20% by replacing CFL lamps with LED lamps, using energy efficient device (solar relay – Bureau of energy efficiency) providing insulated window or insulated glasses and adopting advance elevator and air conditioning technologies as below:- ii. Inverter technology based Air Conditioning machines should be installed. iii. For meeting hot water requirement in kitchen solar

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
			<p>iv. Installation of IR/Thermal switches in corridors/staircases to save energy needs to be promoted.</p> <p>v. The project should obtain GRIHA or any other such rating.</p>
Ecologically and environmentally sensitive areas	There are no national parks / wildlife sanctuaries and reserved/protected forests near to the project site, except for the Porur lake which is about 3.0 Km from the project site.		
Details of alteration of land its effect on the natural topography	The project site has been flattened to make way for the construction activity. The contour map indicates a total level difference of about 0.8 meters. Maximum contour is of 9.8 m and minimum is of 9.0 m.	The natural topography has been changed at the site so that the storm water is collected and disposed towards the road side.	
Effect on natural drainage system	The site map does not indicate any natural storm water channel in the project area. The natural gradient at the site is altered so that the storm water can be discharged in the proposed drains towards the road. This change in gradient can cause obstacle to the free flow of storm water flowing towards the proponent site and may lead to flooding. Construction below the ground water table has all possibility to impact the ground water recharging system, for which study need to be conducted.	Provision of proper drainage system for effective management of storm water runoff in and around the project site is required to be made.	In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building lay out modelled to incorporate the natural drainage as part of the system.
Adequacy of rainwater harvesting system	No provision for roof-top rain water harvesting has been made. 10 pits each 6 feet diameter has been provided for harnessing storm water runoff. A detail of rain water harvesting is given in Table 3. The project proponent has to provide pre-treatment of	Provisions for harvesting of roof top rain water has not been made.	The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>the surface runoff to remove the suspended solids, oil and grease etc. before recharging and make provision for reuse of 100% rainwater harvested.</p>		<p>renewable energy, green belt development for effective implementation and monitoring.</p>
<p>Adequacy of parking area and if all they have been provided.</p>	<p>Provision has been made for providing space for parking 244 cars for the 166 residential units and club house.</p>	<p>The Project Proponent need to realign the parking infrastructure and other ancillary units to provide for green belt development.</p>	<p>Car parking requirement for residential development is based on the size of the individual unit and location of the site. In the case of Low Income Group (LIG) dwelling units, which is mandatory and size does not exceed 45 m², one two wheeler parking only is required. In addition 10% of total parking is required to be provided as visitors parking.</p>
<p>Collection and disposal of municipal solid waste at the project site.</p>	<p>The domestic waste (515 Kg/day) is proposed to be disposed through Greater Chennai Corporation and authorized recyclers. The STP sludge is proposed to be used as manure. The use of STP sludge as manure may not be possible in absence of any green belt within the premises.</p>	<p>The domestic waste (515 Kg/day) is proposed to be disposed through Greater Chennai Corporation and authorized recyclers. The STP sludge is proposed to be used as manure, which does not seem feasible in absence of any green belt in the project area</p>	<p>The project proponent should prepare an action plan for ensuring segregation, collection, transportation, treatment and scientific disposal of Municipal Solid Waste. This action plan should be submitted to SEIAA and TNPCB for their approval.</p>
<p>Compliance of conditions stated in the planning permission and other permissions granted by various authorities</p>	<ul style="list-style-type: none"> • Project Proponent initiated construction without obtaining EC violating the conditions specified by CMDA and Village Panchayat. • Project Proponent initiated construction without obtaining Consent to Establish from Tamil Nadu Pollution Control Board. • Project Proponent initiated construction without obtaining EC from SEIAA 		-

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<ul style="list-style-type: none"> No provision for roof top rain water harvesting has been made. The Project Proponent proposes to dispose the excess 90 KLD of treated sewage for CMWSSB sewerage which is in violation to the conditions imposed by CMWSSB and SEIAA for recycling of treated sewage for flushing in Toilets. The project proponent has not made provision for recycling of treated sewage for toilet flushing, violating conditions specified by the SEIAA in EC accorded. 		
Whether suggestions made by the SEIAA in its meetings adequately take care of environment and ecology?	<p>The conditions stipulated by SEIAA in the Environmental Clearance are generic and cover wide spectrum of environment. The condition need to be more specific for effective implementation and monitoring. The conditions with respect to the quantum of energy saving, use of fly ash bricks, rain water storage capacity, area for green belt etc. should be specific and precise to bring uniformity in the conditions imposed.</p>	<p>i. EC was granted by SEIAA on 14.12.2015, well after the construction works had been completed.</p> <p>ii. Consent to Establish not obtained from Tamil Nadu Pollution Control Board.</p>	<p>As no EIA has been conducted quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA.</p> <p>In case any deterioration in the ambient environment / ground water quality is observed, the proponent shall inform the status to TNPCB and SEIAA and also prepare a time bound action plan for remedial measures.</p>
Whether demolition or raising of additional structures are required in the interest of environment and ecology	<ul style="list-style-type: none"> M/s SAS Realtors Pvt. Ltd Started construction on June 01st, 2012 without obtaining EC, a mandatory requirement before starting construction work or preparation of land. The proponent applied for EC on 18.02.2013 i.e., after more than 08 months of starting construction. EC was 		

Hon'ble Tribunal's Directions	Report	Observations	Suggestions
	<p>granted by SEIAA on 14.12.2015.</p> <ul style="list-style-type: none"> The STP has been designed to meet the treated effluent quality of BOD-20mg/l and SS-30 mg/l. The EC conditions stipulate the requirement of meeting bathing water quality norms i.e., BOD<3mg/l. The existing STP need to be upgraded to meet the norms specified by SEIAA in EC, besides, it also need to be modified for providing safe and proper access to the various units. Development of green belt has not been accorded priority as no green belt was seen at the site. Some of the existing infrastructure need to be realigned for providing space for green belt development. Provision need to be made for recycling of treated sewage for flushing in toilets and for roof top rainwater harvesting and its storage, besides making arrangement for proper management of storm water discharge and disposal of treated sewage. 		

General Observations

Issues	Status	Suggestions	Remarks
<p>Green Belt Development</p>	<p>Total green belt area proposed is 700.00 m² Development of green belt has not been accorded priority by the project proponent as no developed green belt was seen at the site. The project proponent informed of the proposal to develop green belt which seems to be after thought as the area has either been paved or earmarked for some other activity at the site. The Project Proponent need to realign the parking infrastructure and other ancillary units to provide for green belt</p>	<p>Provisions for proper green belt development has not been made</p>	<p>Project proponent The Project proponent should plan for scientific green belt development, (exceptions are there for the landscape area or some places earmarked for plantation of trees). Maximum possible space should be left unpaved for recharging of ground water besides the proposed rain water harvesting system. The unpaved area should be covered with green top or any other pervious</p>

Issues	Status	Suggestions	Remarks
	development.		<p>material to maintain permeability of soil.</p> <p>ii) Green belt should be developed all around the site boundary to act as a barrier for air and noise pollution. Ornamental plants / area left for landscape, covered with grass / shrubs and roof top garden shall not be considered in the areas mandatory for green belt development. Sufficient space has to be provided for each tree so that it does not choke to death because of the putting of cement concrete all around the tree</p>
Construction Waste	<p>Data for construction waste generated during the construction activity and its use was not available with the Project Proponent, except for the information that the construction waste generated has been disposed to fill the low lying area within the premises or outside. Site details outside the premises where construction waste was used to fill low lying areas were not provided by the project proponent.</p>	<p>Separate space should be earmarked for storing of construction and demolition waste and its disposal at sites approved by local authorities</p>	<p>In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site. As the construction works are yet to be completed, the use of construction materials to raise the ground level is avoided as it has all the possibility to affect the nature percolation rate of soil.</p>
Conditions stipulated by CMDA	<ul style="list-style-type: none"> The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority 	<ul style="list-style-type: none"> CMDA shall give more emphasis on the environmental aspects including water supply disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, while according planning permission for large development. 	

Issues	Status	Suggestions	Remarks
	<p>to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006.</p>	<ul style="list-style-type: none"> • The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform. CMDA may also insist the proponent not to commence the construction without EC wherever required. • To have uniformity in approach so that violation of laws is avoided, a coordination mechanism between SEIAA, CMDA and other agencies need to be put into place. • As no EIA has been conducted quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA. • In case any deterioration in the ambient environment / ground water quality is observed, the proponent shall inform the status to TNPCB and SEIAA and also prepare a time bound action plan for remedial measures. • The proponent shall install piezo wells to monitor the ground water quality quarterly. 	
<p>General suggestions</p>	<p>-</p>	<ol style="list-style-type: none"> i. EC was granted by SEIAA on 14.12.2015, well after the construction works had been completed. ii. Consent to Establish not obtained from Tamil Nadu Pollution Control Board. iii. Violated CMDA condition of not commencing activity without obtaining Environmental clearance. iv. The entire sewage after treatment is to 	<ol style="list-style-type: none"> i. In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building layout modelled to incorporate the natural drainage as part of the system ii. A systematic green belt

Issues	Status	Suggestions	Remarks
		<p>be discharged to CMWSSB sewerage system and in absence of the connectivity it is proposed to be send it to the Nesapakkam STP through tankers.</p> <p>v. No provision made for recycling of the treated sewage for flushing in toilets.</p> <p>vi. Provisions for harvesting of roof top rain water has not been made.</p> <p>vii. Provisions for proper green belt development has not been made.</p> <p>viii. During inspection on 22.02.2016 partial occupancy was observed, however, no effluent discharge was observed.</p>	<p>development is necessary. In all future projects environmental issues like development of green belt, managing surface water runoff, its collection and recharge etc., provision of solid waste management, and orientation of the building for energy saving should be given priority while designing the layout and the number of dwelling units likely to come up.</p> <p>iii. In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site. As the construction works are yet to be completed, the use of construction materials to raise the ground level is avoided as it has all the possibility to affect the nature percolation rate of soil.</p> <p>iv. The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of renewable energy, green belt development for effective implementation and monitoring.</p>

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

.....

**REVIEW APPLICATION NO. 20 OF 2015
IN
ORIGINAL APPLICATION NO. 37 OF 2015
AND
REVIEW APPLICATION NO. 21 OF 2015**

**IN
ORIGINAL APPLICATION NO. 37 OF 2015
AND
(M.A. NOS. 696/2015, 697/2015, 723/2015, 729/2015
& 879/2015)**

**IN
ORIGINAL APPLICATION NO. 37 OF 2015
AND
REVIEW APPLICATION NO. 24 OF 2015
(M.A. NOS. 809/2015)**

**IN
ORIGINAL APPLICATION NO. 37 OF 2015**

IN THE MATTER OF:

S.P. Muthuraman
S/o. Ponnusamy,
No. 204, Railway Feeder Road,
Sankar Nagar Post-627 357
Tirunelveli District

.....Applicant

Versus

Union of India & Ors.

..... Respondents

WITH ALL OTHER CONNECTED MATTERS

COUNSEL FOR APPLICANTS:

Mr. Pinaki Misra, Sr. Advocate with Mr. R. Saravankumar, Advocate and Mr. Pawan Duggar, MD for Applicant in R.A. No. 20

Mr. Rajiv Mehta, Sr. Advocate, Mr. R. Jawaharlal, Advocate with Mr. Saravana Kumar and Mr. Hitesh MD of SPR & RG for Applicant in RA No. 21

Mr. Vivek Chib, Mr. Ankit Prakash and Mr. Rishabh Kapur, Advocates for Respondent No. 1.

Mr. Abdul Saleem, Advocate for Respondent No. 2.

Mr. Ashwini Kumar, Sr. Advocate along with M/s R. Mohan and V. Balaji & C. Kannan for Respondent No. 3.

Mr. Kailash Vasudev, Sr. Advocate along with M/s R. Mohan and V. Balaji & C. Kannan for Respondent No. 4

Mr. Amit Singh Chadha, Sr. Advocate and Mr. K.S. Mahadevan Krishnakumar RS and Mr. Vijay Anand Advocates for Jones Industries; Mr. Amit S. Chadha, Sr. Advocate and Mr. R. Chandrachud, Adv. in M.A. No. 723 / 2015 for Respondent No. 5

JUDGMENT

PRESENT:

Hon'ble Mr. Justice Swatanter Kumar (Chairperson)

Hon'ble Mr. Justice U.D. Salvi (Judicial Member)

Hon'ble Mr. M.S. Nambiar (Judicial Member)

Hon'ble Dr. D.K. Agrawal (Expert Member)

Hon'ble Mr. Ranjan Chatterjee (Expert Member)

Reserved on: 25th August, 2015

Pronounced on: 1st September, 2015

1. Whether the judgment is allowed to be published on the net?
2. Whether the judgment is allowed to be published in the NGT Reporter?

JUSTICE SWATANTER KUMAR, (CHAIRPERSON)

By this order we would dispose of Miscellaneous Applications Nos. 696, 697, 723, 729 and 879 all of 2015, Review Application 20 and 21 of 2015, all filed by different Project Proponents seeking Review/Modification/Clarification of the judgment of the Tribunal dated 7th July, 2015, in Original Application No. 37 of 2015 to the extent that the Environmental Compensation imposed by the Tribunal vide its judgment dated 7th July, 2015 be reduced and/or waived completely. Along with them, a Review Application No. 24 of 2015, is also filed by the applicant in Original Application No. 37 of 2015 seeking review and further directions in terms of the said judgment of the Tribunal praying that the authorities be directed for demolition of the projects in question.

2. The applicant in O.A. No. 37 of 2015 has approached this Tribunal with a prayer that the Office Memorandums issued by the MoEF on 12th December, 2012 and as amended by another Office Memorandum dated 27th June, 2013 were liable to be quashed and the respondent should be directed to take proper action including prosecution against the Project Proponent as mandated by law. They had not only started construction but, in fact, had practically completed the project without even applying for any permission required by them in law and in any case before obtaining the Environmental Clearance under the provisions of the Environment Protection Act, 1986 (for short 'Act of 1986'), Environment (Protection) Rules, 1986 (for short 'Rules of 1986') and Environmental Clearance Regulations of 2006 (for short 'Notification of 2006'). The application was vehemently contested by the Project Proponents and the applicant before the Tribunal on these issues. The Tribunal pronounced a detailed judgment dated 7th July, 2015 quashing these Office Memoranda.

3. The Tribunal while quashing the Office Memoranda in the said judgment while declined demolition of the structures raised by the Project Proponents and passed certain directions. It will be useful to refer to the relevant extracts of the judgment of the Tribunal dated 7th July, 2015.

“158. The Precautionary Principle may lose its material relevancy where the projects have been completed and even irreversible damage to the environment and ecology has been caused. The situation may be different when invoking this principle

in cases of partially completed projects, it would become necessary to take remedial steps for protection of environment without any further delay. At this stage, it may be possible to take steps while any further delay would render it absolutely impracticable. Precautionary Principle is a proactive method of dealing with the likely environmental damage. The purpose always should be to avert major environmental problem before the most serious consequences and side effects would become obvious. To put it simply, Precautionary Principle is a tool for making better health and environmental decisions. It aims to prevent at the outset rather than manage it after the fact. In some cases, this principle may have to be applied with greater rigors particularly when the faults or acts of omission, commission are attributable to the Project Proponent.

The ambit and scope of the directions that can be issued under the Act of 1986 can be of very wide magnitude including power to direct closure, prohibition or regulation of any industry, operation or process and stoppage or regulation of supply of electricity or water or any other services of such projects. The principle of sustainable development by necessary implication requires due compliance to the doctrine of balancing and precautionary principle.

159. In appropriate cases, the Courts and Tribunals have to issue directions in light of the facts and circumstances of the case. The powers of the higher judiciary under Article 226 and 32 of the Constitution are very wide and distinct. The Tribunal has limited powers but there is no legislative or other impediment in exercise of power for issuance of appropriate directions by the Tribunal in the interest of justice. Most of the environmental legislations couched the authorities with power to formulate program and planning as well as to issue directions for protecting the environment and preventing its degradation. These directions would be case centric and not general in nature. Reference can be made to judgment of the Supreme Court in the case of *M.C. Mehta and another vs. Union of India and others*, JT 1987 (1)SC 1, *Vineet Narain and Ors. vs. Union of India (UOI) and Anr.*, JT 1997 (10)SC 247 and *University of Kerala vs. Council, Principals', Colleges, Kerala and Ors.*, JT 2009 (14)SC 283.

160. In light of the above, even if the structures of the Project Proponents are to be protected and no harsh directions are passed in that behalf, still the Tribunal would be required to pass appropriate directions to prevent further damage to the

environment on the one hand and control the already caused degradation and destruction of the environment and ecology by these projects on the other hand. Furthermore, they cannot escape the liability of having flouted the law by raising substantial construction without obtaining prior Environmental Clearance as well as by flouting the directions issued by the authorities from time to time. The penalties can be imposed for such disobedience or non-compliance. The authorities have proposed action against three of the Project Proponents and have taken proceedings in the Court of competent jurisdiction under Act of 1986. However, no action has been taken against other four Project Proponents as of now. Penalties can be imposed for violation in due course upon full trial. What requires immediate attention is the direction that Tribunal should pass for mitigating as well as preventing further harm. As far as further remedial measures, alterations, demolition or variation in the existing structure in the interest of environment and ecology which is required to be taken to preserve the environment are to be suggested by the Committee that we propose to constitute. However, as far as damage that has already been caused to the environment and ecology by the illegal and unauthorized action of the Project Proponents, they are required to pay compensation for its restoration and restitution in terms of Section 15 of Act of 2010. Needless to notice here that in this case, the Project Proponents were heard at great length on facts and merits of the case.

161. We may specifically notice here that all the Project Proponents had filed contentions and documents in support of their respective case. They addressed the Tribunal at length on factual matrix of the case as well as on law. Various contentions and claims raised by the Project Proponents before the Tribunal have been deliberated in detail.

162. In all cases, SEIAA has passed an order directing delisting of applications for Environmental Clearance which is sought to be questioned by the Project Proponents. We do not find any fault on the part of SEIAA and other official Respondents in delisting the applications for obtaining Environmental Clearance. Just one reason is enough to de-list and to reject these applications which is that they started construction of their respective projects without obtaining Environmental Clearance and in some cases without even applying for grant of Environmental Clearance. All of them violated the direction of SEIAA as well as their own undertaking and apology to SEIAA that they would not raise construction till grant of

Environmental Clearance. There is more than ample evidence on record that such violations have been committed. Projects are squarely covered under the Notification of 2006 and therefore, we find no infirmity in the order of SEIAA in delisting applications of Project Proponents for grant of Environmental Clearance.

163. In view of the above detailed discussion, we pass the following order and directions:

- 1) We hold and declare the office memoranda dated 12th December, 2012 and 27th June, 2013 as *ultra vires* the provisions of the Act of 1986 and the Notification of 2006. They suffer from the infirmity of lack of inherent jurisdiction and authority. Resultantly, we quash both these Office Memorandums.
- 2) Consequently, the above office memoranda are held to be ineffective and we prohibit the MoEF and SEIAA in the entire country from giving effect to these office memoranda in any manner, whatsoever.
- 3) We hold and declare that the resolution/orders passed by the SEIAA de-listing the applications of the Project Proponents do not suffer from any legal infirmity. These orders are in conformity with the provisions of the Act of 1986 and Notification of 2006 and do not call for interference.
- 4) We hereby constitute a Committee of the following Members:
 - a) Member Secretary of SEIAA, Tamil Nadu.
 - b) Member Secretary, Tamil Nadu Pollution Control Board.
 - c) Professor from Department of Civil Engineering, IIT, Environmental Branch.
 - d) Representative not below the rank of Director from Ministry of Environment and Forest (to be nominated in three days from pronouncement of this judgment).
 - e) Representative of Chennai Metropolitan Development Authority.
- 5) The Member Secretary of Tamil Nadu Pollution Control Board shall be the Nodal Officer of the Committee for compliance of the directions contained in the judgment.
- 6) The above Committee shall inspect all the projects in question and submit a comprehensive report to the Tribunal. The comprehensive report shall relate to the illegal and unauthorized acts and activities carried out by the Respondents. It shall deal with the ecological and environmental damage done by these projects. It would further

deal with the installation of STP's and other anti-pollution devices by the Project Proponents including proposed point of discharge on sewage and any other untreated waste. The Expert committee would also state in regard to the source of water during operation phase and otherwise, use of energy efficient devices, ecologically environmentally sensitive areas and details of alteration of the natural topography and its effect on the natural topography, the natural drainage system etc. The report shall also deal with the mechanism provided for collection and disposal of municipal solid waste at the project site.

- 7) The Committee shall further report if the conditions stated in the planning permission, and permissions granted by other authorities have been strictly complied with or not.
- 8) The Committee shall also report to the Tribunal if the suggestions made by SEIAA in their meetings adequately takes care of environment and ecology in relation to these projects.
- 9) What measures and steps including demolition, if any, or raising of additional structures are required to be taken in the interest of environment and ecology?
- 10) The report should be submitted to the Tribunal within 45 days from the date of pronouncement of this judgment.
- 11) All the Project Proponents shall pay environmental compensation of 5 per cent of project value for restoration and restitution of the environment and ecology as well as towards their liability arising from impacts of the illegal and unauthorized construction carried out by them. They shall deposit this amount at the first instance and subject to further adjustment. Liability of each of the Respondents is as follows:
 - Mr. Y. Pondurai: **7.4125 crores.**
 - M/s Ruby Manoharan Property Developers Pvt. Ltd.: **1.8495 crores.**
 - M/s Jones Foundations Pvt. Ltd.: **7 crores.** M/s SSM Builders and Promoters.: **36 crores.** M/s SPR and RG Construction Pvt. Ltd.: **12.5505 crores.**
 - M/s Dugar Housing Ltd.: **6.8795 crores.**
 - M/s SAS Realtors Pvt. Ltd.: **4.5 crores.**
- 12) The compensation shall be payable to Tamil Nadu Pollution Control Board within three weeks from the day of the pronouncement of the judgment. The amounts shall be utilised by the

Boards for the above stated purpose and subject to orders of the Tribunal.

- 13) After submission of the Report by the Expert Committee, the Tribunal would pass further directions for consideration of the matter by SEIAA in accordance with law.

The reports shall be submitted to the Registry of the Tribunal within a period of 45 days from the pronouncement of the judgment. Thereupon the Registry would place the matter before the Tribunal for further appropriate orders and directions.

164. The above appeal and applications are accordingly disposed of, however, in the facts and circumstances of the case, we leave the parties to bear their own cost."

4. All the Project Proponents before the Tribunal in Original Application No. 37 of 2015, except M/s. SAS Realtors Pvt. Ltd. (who, as we are informed, have preferred the statutory appeal before the Hon'ble Supreme Court of India), have filed the present applications for Review/Modification/Clarification of the judgment dated 7th July, 2015.

5. When these applications came up for hearing before the Tribunal on 5th August, 2015 the learned counsel appearing for the applicant/review applicants submitted that though they have taken many grounds and claimed different reliefs in their applications but they have instructions to make a statement that the scope of their review applications would be limited only to the extent of waving and/or reducing the Environmental Compensation awarded in the judgment dated 7th July, 2015. Thus vide order dated 5th August, 2015 the Tribunal directed that the hearing of the review application

would be limited in scope as prayed by the applicants. Accordingly, the parties were heard only on that issue.

6. During the course of hearing on 21st August, 2015 the learned counsel appearing for the applicant in the O.A. No. 37 of 2015 produced certain photographs and contended that the specific orders of the Tribunal prohibiting the Project Proponents from carrying-out construction in the said project in terms of the judgment dated 7th July, 2015 were being violated with impunity by the Project Proponents. He contended that one of the Project proponents, i.e., M/s. Dugar Housing Ltd. had even constructed two floors despite prohibitory orders by the tribunal. It was also contended that M/s. Y Pondurai has also violated the orders of the Tribunal and is also carrying on construction even on the date of hearing of the review applications.

By that date of hearing most of the Project Proponents have not even paid the Environmental Compensation in terms of the judgment of the Tribunal dated 7th July, 2015 and were again defaulting parties in terms of the judgment. However on behalf of M/s. SSM Builders and Promoters (which was wrongly spelt as M/s. SPR & RG Construction Pvt. Ltd. in the order dated 21st August, 2015) it has been submitted that they had offered payment of Rs. 7.2 Crores as a part payment towards their liability of Rs. 36 Crores in terms of the judgment of the Tribunal, however, the board declined to except such part payment. Consequently, the Tribunal directed the board to

accept the part payment without prejudice to the rights and contention of the parties.

7. Further, vide same order, Tribunal directed the Chennai Metropolitan Development Authority and the Tamil Nadu Pollution Control Board that if they found that any construction activity was being carried on, or any interior or exterior finishing work has been done after filing of the reports by these authorities on 15th April, 2015, then such buildings would be sealed. The matter was adjourned to 25th August, 2015, when the final arguments were heard. Till this date complete and comprehensive report by the authority in terms of the order of the Tribunal dated 21st August, 2015 was not submitted. However, this report was submitted on 25th August, 2015 itself. It was stated in this report that the buildings of the four Project Proponents, i.e., M/s. Y Pondurai, M/s Dugar Housing Ltd., M/s. SPR & RG Construction Pvt. Ltd. and M/s. Jones Foundations Pvt. Ltd. have been sealed. M/s. Y Pondurai has filed an application M.A. No. 879/2015 praying that their premises be de-sealed. Even the other Project proponents have also made similar prayers during the course of the arguments. Thus, we also propose to dispose of all these applications by this common order. The review application filed by the Project Proponents or the applicant in O.A. No. 37/2015 are opposed by the respondents in the respective applications on the ground that the review petitions are beyond the scope of Order XLVII Rule 1 of the Code of Civil Procedure, 1908 as these applications tantamount to rehearing the matter on the same issue. Such contention as raised in

these applications ought to be raised in an appeal and cannot be subject matter of review jurisdiction of this Tribunal. The other contention that is required to be considered by the tribunal is whether in the facts and circumstances of the case the tribunal should reduce the amount of Environmental Compensation imposed upon the respective Project Proponents in terms of the judgment dated 7th July, 2015 and or direct de-sealing of the projects of these Project Proponents. This Tribunal has been specifically conferred with the power of review under Section 19(4)(f) of the National Green Tribunal Act, 2010 (for short 'Act of 2010'), though in terms of Section 19(1) of the Act of 2010, the Tribunal is not bound by the provisions laid down by the Code of Civil Procedure, 1908 and is to be guided by the principles of natural justice. Furthermore, Section 19(2) of the Act of 2010 confers the power upon the Tribunal to regulate its own procedure. To put it simply, the provisions of the Code of Civil Procedure, 1908 are *stricto sensu* not applicable to the Tribunal but it would be guided by the applied principles of the Code of Civil Procedure, 1908. Thus, when one has to examine the power of the Tribunal to review its decisions, it would be guided by the Principles underlining Order XLVII Rule 1 of the Code of Civil Procedure, 1908. In this context it becomes necessary for us to examine the scope of review jurisdiction of the Tribunal as guided by the provisions of Order XLVII of the Code of Civil Procedure, 1908. The Supreme Court of India in the case of *State of West Bengal and Ors v. Kamal Singh and Anr*, (2008) 8 SCC 612 while examining the identical provisions existing in the Central Administrative Tribunal Act which are *pari*

materia to Section 19 of the Act of 2010. The Hon'ble Supreme Court held as under:

"11. Since the Tribunal's power to review its order/decision is akin to that of the Civil Court, statutorily enumerated and judicially recognized limitations on Civil Court's power of review the judgment/decision would also apply to the Tribunal's power under Section 22(3)(f) of the Act. In other words, a Tribunal established under the Act is entitled to review its order/decision only if either of the grounds enumerated in Order 47 Rule 1 is available. This would necessarily mean that a Tribunal can review its order/decision on the discovery of new or important matter or evidence which the applicant could not produce at the time of initial decision despite exercise of due diligence, or the same was not within his knowledge or if it is shown that the order sought to be reviewed suffers from some mistake or error apparent on the face of the record or there exists some other reason, which, in the opinion of the Tribunal, is sufficient for reviewing the earlier order/decision.

15. The term 'mistake or error apparent' by its very connotation signifies an error which is evident per se from the record of the case and does not require detailed examination, scrutiny and elucidation either of the facts or the legal position. If an error is not self-evident and detection thereof requires long debate and process of reasoning, it cannot be treated as an error apparent on the face of the record for the purpose of Order 47 Rule 1 CPC or Section 22(3)(f) of the Act. To put it differently an order or decision or judgment cannot be corrected merely because it is erroneous in law or on the ground that a different view could have been taken by the Court/Tribunal on a point of fact or law. In any case, while exercising the power of review, the concerned Court/Tribunal cannot sit in appeal over its judgment/decision.

19. In *Moran Mar Basselios Catholicos and Anr. v. The Most Rev. Mar Poulouse Athanasius and Ors.* 1995 (1) SCR 520, this Court interpreted the provisions contained in Travancore Code of Civil Procedure which are analogous to Order 47 Rule 1 and observed:

Under the provisions in the Travancore Code of Civil Procedure which is similar in terms to Order XLVII, Rule 1 of our Code of Civil Procedure, 1908, the Court of review has only a limited jurisdiction circumscribed by the definitive limits fixed by the language used

therein. It may allow a review on three specified grounds, namely, (i) discovery of new and important matter or evidence which, after the exercise of due diligence, was not within the applicant's knowledge or could not be produced by him at the time when the decree was passed, (ii) mistake or error apparent on the face of the record and (iii) for any other sufficient reason. It has been held by the Judicial Committee that the words "any other sufficient reason" must mean "a reason sufficient on grounds, or least analogous to those specified in the rule."

8. There are limitations on exercise of Review Jurisdiction of the Courts or Tribunal. A review is by no means an appeal in disguise where by an erroneous decision can be guided. An error which is not self evident and has to be detected by a process of reasoning can hardly be said to be an error apparent on the face of the record. Besides this, the court has also stated that there is clear distinction between the erroneous decision and an error apparent on the face of the record. The first can be corrected by the higher forum while the latter can only be guided by exercise of Review jurisdiction (Refer: *Tungabhadra Industries v. Government of Andhra Pradesh*, [1964] 5 SCR 174, *Parsion Devi & Ors v. Sumitri Devi and Ors*, (1997) 8 SCC 715.

9. After the amendment of Order XLVII the expression "any other sufficient reason" had been added. This expression appearing in Order XLVII Rule 1 means a reason sufficiently analogous to those specified in the Rule. Any other attempt except an attempt to correct an error apparent or an attempt not relatable to any ground set-out in Order XLVII, would amount to the abuse of the liberty given to the Tribunal under the Act of 2010. (Refer: *Ajit Kumar Rath v. State of Orissa and Ors*, AIR 2000 SC 84). It is also a stated principal of

review jurisdiction that it is wide power vested in the Tribunal. It is intended to correct the error or a mistake apparent on the face of record but for which the Court would not have passed the order. If such error is persisted with or its perpetration shall result in miscarriage of justice then alone the Court would interfere. It has to prevent irritable justice but a review application cannot be considered favourably merely on the ground that a different view was probable and could have taken by the Tribunal. This power cannot be exercised for correction or mistake or to substitute a view. The review is not rehearing of an original matter in its expended form. A repetition of old over ruled arguments for submissions with a greater emphasis on hardship or financial constraints is not enough to reopen concluded adjudications. Where an applicant virtually seeks the same relief which had been sought at the time of arguing the main matter and had been negated the review would be not maintainable as it would amount to rehearing the matter as opposed to the concept of finality. (Refer: *Ms. Medha Patkar v. Ministry of Environment & Forests*, 2013 ALL (I) NGT REPORTER NEW DELHI 174, *Jain Studios Ltd. v. Shin satellite Public Co. Ltd.*, (2006) 5 SCC 501 and *Kamlesh Verma v. Mayawati*, (2013) 8 SCC 320).

10. In light of the above principles we would now revert to examine whether these applications filed by the Project Proponents as well as the main applicant in the Original Application No. 37 of 2015 satisfy the essence of exercise of Review Jurisdiction. The main applicant in Review Application No. 24 of 2015 prays that as a result of quashing

of the Office Memoranda, the Tribunal ought to have directed the demolition of the structures as it would be the only consequence thereof. According to this applicant this is an error apparent on the face of the record. While the Project Proponents for various reasons have prayed that the Environmental Compensation awarded in the judgment be completely waived or be reduced. According to them this is an error apparent on the face of the record and in any case is a sufficient reason for reviewing the judgment to that extent.

11. We are of the considered view that the contentions of both these review applicants are without merit. It is neither an error apparent on the face of the record nor a reason sufficient enough to call for review. In the judgment dated 7th July, 2015, the Tribunal had considered in detail the respective contentions raised by the parties in regard to these matters in issue. The Tribunal held that it would not be proper at this stage to direct demolition and that it was not an unexceptional corollary to quashing of Office Memoranda that the demolition should be directed. The Tribunal appointed a committee to report on various environmental aspects including if there was any requirement for demolition of the structure or a part thereof. Directions if any, in this regard are to be passed only when the report of the committee is received.

12. As far as the fixation of Environmental Compensation directed to be paid by the Project Proponents is concerned, the Tribunal has heard the parties at length. The contentions of accrued interest, liability of the Project Proponents to the financial institutions, 3rd

party interest and other contentions sought to be raised now were considered by the Tribunal and finally direction for payment of Environmental Compensation in terms of paragraph 163 were passed. If any of these parties are aggrieved from the findings recorded in the judgment of the Tribunal then they had the remedy available to file a statutory appeal before the Hon'ble Supreme Court of India. These applicants have not only stated that they have not filed any appeal, but even that, they do not challenge the findings in the judgment except praying for reduction of the amount of the Environmental Compensation. This, in our considered view, cannot be a ground that would fall in any of the class of cases contemplated under Order XLVII Rule 1 of the Code of Civil Procedure, 1908. It is exactly a case of arguing a review petition under the guise of an appeal.

13. All these applications are beyond the purview and scope of review as contemplated under Order XLVII, as they amount to re-agitating the issues already argued and decided by the Tribunal. Re-agitating same grounds under the guise of sufficient reason is impermissible in law. 'Any other sufficient reason' has to be sufficiently analogous to the principal grounds of Order XLVII, i.e., the discovery of new and important matters or evidence which, after the exercise of due diligence, was not within the knowledge or could not have been produced by him at the time when the decree was passed or the order was made or on account of some mistake or error apparent on the face of the record. These grounds have not even been pleaded by the applicants in their respective review applications.

Consequently, we have no hesitation in concluding that these review applications are beyond the purview and scope of Order XLVII in so far as they pray for alteration of the judgement of the Tribunal dated 7th July, 2015.

14. Despite having held as above, we will still proceed to examine the merits of the other contentions raised by the parties before us. In terms of the directions contained in the judgment of the Tribunal dated 7th July, 2015, all the Project Proponents were required to pay five per cent of the project cost as Environmental Compensation. None of the Project Proponents have paid the entire amount due from them and in any case within the time stipulated in the judgment of the Tribunal dated 7th July, 2015. M/s. Y. Pondurai has deposited a sum of Rs. 1.5 Crores as against Rs. 7.4125 Crores payable by them. M/s. SSM Builders and Promoters have deposited Rs. 7.2 Crores as against Rs. 36 Crores, payable by them. M/s. Jones Foundations Pvt. Ltd. have not deposited any sum till 25th August, 2015, the date when the application was reserved for judgment, however, they made a statement that they will deposit Rs. 50 lakhs during the same day as against their liability of Rs. 7 Crores. M/s. Dugar Housing Ltd. had not deposited anything till the date of hearing but they have also stated that they would deposit Rs. 1 Crore against their liability of Rs. 6.8795 Crores within two weeks time. M/s. SPR & RG Construction Pvt. Ltd. have deposited nothing against their liability of Rs. 12.5505 Crores but they have also stated that they would deposit a sum of Rs. 1 Crore within two weeks time. M/s. Ruby Manoharan Property

Developers Pvt. Ltd. has deposited a sum of Rs. 40 lakhs as against their liability of Rs. 1.8495 Crores.

15. The plea of economic and business hardship has been taken up by all of these Project Proponents as a primary ground, while praying for complete waiver and/or reduction of the Environmental Compensation which is required to be paid in terms of the judgment dated 7th July, 2015. It has also been contended, particularly, in support of R.A. No. 20 & 21 of 2015 that they have taken loans from financial institutions and have to discharge their liability. In M.A. No. 729 of 2015, an additional ground has been taken that applicant has to pay a sum of Rs. 63 lakhs as EMI component, which comes out to be Rs 27 Crores, only on account of interest. Also, the Environmental Compensation should be computed and imposed upon the profits of the project and not its cost.

16. According to the applicant in R.A. No. 24 of 2015, the Project Proponents cannot claim any relief either in equity or in law. Their conduct as even noticed in the judgment would disentitle them from claiming such relief. Furthermore, they have not complied with the directions issued by the Tribunal in its judgment dated 7th July, 2015 and in fact, have further raised construction subsequent to pronouncement of the judgment. It is further submitted that in fact, two of the Project Proponents M/s. Ruby Manoharan Property Developers Pvt. Ltd. and M/s. Dugar Housing Ltd. have even filed a petition before the Southern Bench of the NGT, praying for issuance of directions to the authorities to grant them Environmental Clearance.

This fact was not even disclosed by the respective Project Proponents while the Original Application No. 37 of 2015 was heard at length before the Principal Bench of the Tribunal.

17. The Project Proponents have apparently not complied with the directions issued by the Tribunal in its judgment and the present applications even lack *bona fides*. The Project Proponents started their construction work without complying with laws and in fact, had even practically completed their projects without obtaining prior Environmental Clearance. They have also failed to deposit the environmental compensation, as stated above. Some of them have raised constructions after 7th July, 2015, even when the judgment contained specific prohibitions for not carrying on any construction or finishing activity, internal or external work, without specific orders of the Tribunal. It was only, keeping in mind the principal of sustainable development as envisaged in Section 20 of the Act of 2010 and the doctrine of balancing of interests that the Tribunal had passed the directions as contained in paragraph 163 of the judgment, instead of directing demolition of the properties forthwith. Some of the applicants have certainly taken undue advantage of the judgment of the Tribunal and have tried to overreach the process of law and justice both. Serious violators of law in all respects can hardly take the plea of financial hardship at this stage. Even if they have taken financial assistance from the institutions, they should have required the Project Proponents in normal course to strictly comply with the laws rather than offend them. Profit cannot be the basis for

imposition of the Environmental Compensation as contemplated under Section 15 and 17 of the Act of 2010. Profit of the project may be a relevant consideration for other laws like taxation but would hardly be of any relevance in the facts and circumstances of the present case. Here the whole project has come up in an unauthorized and illegal manner. There is no dispute that the Project Proponents before the Tribunal started the project without grant of Environmental Clearance and, in fact, even without applying for the same. The authorities concerned have now declined to grant Environmental Clearance to them and have even de-listed their projects. It is the entire project which requires prior Environmental Clearance and therefore, it has to be the cost of the project and not the mere profit of the project which should be the relevant consideration for the Tribunal to pass the orders in terms of Environmental Compensation to be imposed.

18. M.A. No. 879 of 2015 has been filed with a prayer for de-sealing the properties that were sealed by the authorities, in furtherance to the order of the Tribunal dated 21st August, 2015. Mainly four Project Proponents were stated to be carrying on the construction or the finishing activities despite the clear prohibitory orders under clause 14 of Para 163 of the judgment dated 7th July, 2015. The photographs filed on record show that in the case of M/s. Y. Pondurai, there is some variation in the construction as on 15th April, 2015, when the site was inspected by the Committee and the photographs have taken in August, 2015. The allegations are that there are trucks standing in

front of building and if minutely examined, it can be seen that the Project Proponent has constructed some wooden counters on one of the floors. We do not think that there is sufficient material before us to conclude that there has been any actual construction i.e. interior or exterior, by this Project Proponent. However, final report of the Committee is still awaited in this regard. Pollution Control Board and other authorities, though, have sealed this building and have even filed the compliance report before this Tribunal, however, they had not stated any such fact in their report. Thus, we direct this building be de-sealed for the time being and subject to further orders of the Tribunal. However, we make it clear that this Project Proponent would strictly adhere to the directions contained in para 163 of the judgment dated 7th July, 2015.

19. In relation to M/s. Ruby Manoharan Property Developers Pvt. Ltd. there is no definite documentation before the Tribunal to show that the building should remain sealed. In regard to M/s. Jones Foundations Pvt. Ltd. nothing has been stated by the authority in its compliance report about the additional construction carried out by this Project Proponent. However, we direct that building of this Project Proponent may also be de-sealed subject to further orders of the Tribunal which would be based upon the submission of the final report by the Committee. This Project Proponent shall now strictly comply with all the directions contained in para 163 of the judgment dated 7th July, 2015.

20. M/s. Dugar Housing Ltd. has constructed two floors after April, 2015, when the interim report by the authority was submitted before the Tribunal. They have also completed the exterior work of the two blocks. Normally, we would have overlooked any minor exterior work, required for maintenance of the structures as had been claimed by the Project Proponent before the Tribunal. But the construction of two floors which is clear from the photographs placed on record cannot be overlooked and thus we cannot permit this building to be de-sealed. This Project Proponent has violated the prohibitory orders issued by the Tribunal and has also not deposited the requisite amount till date. In light of the contemptuous conduct of this Project Proponent, we decline the request for de-sealing of this building and direct that it would remain sealed till further orders of the Tribunal.

21. M/s. SPR & RG Construction Pvt. Ltd. has carried out construction and finishing works and the photographs placed before us show a crane lift in which men are at work. The explanation on behalf of the Project Proponent that the Project Proponent had already finished the project and that the persons shown in the photograph were involved in maintaining the building, does not inspire confidence and thus not acceptable. Therefore, we also decline the request of this Project Proponent for de-sealing the building. The building would remain sealed subject to further orders of the Tribunal, which would be passed upon submission of the final report by the high powered committee, appointed by the Tribunal. One of the contentions raised was that the counsel once appearing for the appellant has filed a

personal affidavit in the proceedings before the Tribunal and thus the averments made therein should not be taken notice of. However, on behalf of applicant it was submitted that it was due inevitable circumstances and limitation of the applicant that affidavit had to be filed by the counsel who thereafter has not appeared as counsel for the applicant in this case. We would not like to deliberate on this issue any further as we are taking into consideration other materials available on record for passing the present order. Lastly, it was contended on behalf of the Project Proponent that they could not deposit the Environmental Compensation due to financial limitations. Normally we would have declined any extension to these applicants but in the interest of justice we would extend the time for depositing the Environmental Compensation in terms of para 163 of the judgment of the Tribunal by two weeks and by way of last opportunity. If the Project Proponents, now, fail to deposit the same amount, the Tribunal would pass such necessary orders as are permissible in accordance with law. This is the last opportunity being granted to the Project Proponents.

22. We may also notice here that in the judgment, the Tribunal has also constituted a high powered expert committee under paragraph 163 (4). An application was moved for substitution of the Members of the Committee. In place of Member Secretary, SEIAA, Tamil Nadu who had demitted office, the Director, Environment, Tamil Nadu was proposed. Vide order dated 21st July, 2015, Mr. H. Malleshappa, was included as Member of the committee. Vide order dated 17th August,

2015 Mr. J.S. Kamyotra, Director and Ex-Member Secretary, Central Pollution Control Board was inducted as a nominee of the Member Secretary of the Central Pollution Control Board in place of Member Secretary, Tamil Nadu Pollution Control Board. Keeping in view the dimensions of the tasks that are required to be performed by this committee and the fact that there have been substitutions of two senior members of the committee by persons of not equal status, we direct that Mr. A.K. Mehta, Jt. Secretary, MoEF & CC shall be the Chairperson of this committee and will oversee the entire work of the committee and submission of the final report of the Tribunal. The report shall be signed by all the members including the Chairperson.

23. In view of above discussion, we dispose of all these applications with the following order:

a). We hold that the Review Applications filed by the respective parties are patently beyond the purview and scope of Order XLVII Rule 1 of the CPC read with Section 19(4) of the Act of 2010.

b). *Dehors* the above and in any case, we decline to reduce and/or waive the liability of the Project Proponents on account of environmental compensation, as directed in terms of the judgment of the Tribunal dated 7th July, 2015.

c). However, we extend the time for payment or remainder thereof, payable by each of the Project Proponents by a further period of two weeks. This shall be computed from the date of this order and not

from the date on which the period for payment lapsed in terms of the Judgment dated 07th July, 2015.

d). We direct that the buildings belonging to the two Project Proponents, M/s. Y Pondurai and M/s. Jones Foundations Pvt. Ltd., shall be de-sealed, while the projects of the other two Project Proponents, M/s. Dugar Housing Ltd. and M/s. SPR & RG Construction Pvt. Ltd. would remain sealed, till further orders of the Tribunal, which would be passed upon submission of the final report by the Committee.

e). The committee constituted under the judgment now chaired by Jt. Secretary, MoEF&CC shall submit its final report to the Tribunal at the earliest. The members of the committee are as follows:

1. Mr. A.K. Mehta, Joint Secretary, MoEF & CC (Chairperson of this committee).
2. Mr. H. Malleshappa, Director Environment, SEIAA.
3. Mr. J.S. Kamyotra, Director, Central Pollution Control Board.
4. Professor from Department of Civil Engineering, Environmental Branch, IIT Bombay.
5. Representative not below the rank of Director from MoEF & CC.
6. Representative of Chennai Metropolitan Development Authority.

f). We direct the Chairperson of the Committee to take immediate steps to ensure submission of the complete and comprehensive report to the Tribunal in terms of the judgment dated 7th July, 2015 without any further delay.

g). We decline the relief of demolition prayed for in R.A. No. 24 of 2015, at this stage. Further direction in that behalf shall also be passed by the Tribunal upon submission of the final report by the Committee.

24. With the above directions all these applications are disposed of, however, without any order as to costs.



New Delhi
1st September, 2015

ITEM NO.19

COURT NO.1

SECTION XVII

S U P R E M E C O U R T O F I N D I A
R E C O R D O F P R O C E E D I N G S

Civil Appeal Nos. 7191-7192/2015

M/S. DUGAR HOUSING LTD.

Appellant(s)

VERSUS

S.P. MUTHURAMAN & ORS.

Respondent(s)

(With appln. (s) for exemption from filing c/c of the impugned judgment and stay and office report)

WITH

C.A. No. 7193-7194/2015

(With appln. (s) for exemption from filing c/c of the impugned judgment and appln. (s) for stay and Office Report)

Date : 24/09/2015 These appeals were called on
for hearing today.

CORAM :

HON'BLE THE CHIEF JUSTICE

HON'BLE MR. JUSTICE AMITAVA ROY

For Appellant(s)

Mr. C.A. Sundram, Sr. Adv.
Ms. Rohini Musa, Adv.
Mr. Abhishek Gupta, Adv.
Mr. Zaffer Inayat, Adv.

Mr. Basava Prabhu S. Patil, Sr. Adv.
Dr. Harsh Surana, Adv.
Mr. Akshat Sharma, Adv.
Mr. Nitin Singh, Adv.
Ms. Rohini Musa, Adv.

For Respondent(s)

UPON hearing the counsel the Court made the following
O R D E R

Notice.

In the meantime, the operation of the impugned judgment(s) and order(s) passed by the National Green Tribunal, New Delhi, shall remain stayed.

Signature (Mr. Vinod)
Digitally signed by
Vinod Kulvi
Date: 20/09/2015
12:24:15
IST

[Charanjeet Kaur]
A.R. -cum-P.S.

[Vinod Kulvi]
Asstt. Registrar

ANNEXURE III

IN THE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
I.A. NO. OF 2015
IN
CIVIL APPEAL NO. 7191-7192 OF 2015

IN THE MATTER OF :-

M/S DUGAR HOUSING LTD

APPELLANTS

VERSUS

S.P. MUTHURAMAN & ORS.

RESPONDENTS

I.A. No. of 2015
(APPLICATION ON BEHALF OF THE RESPONDENT
NO FOR CLARIFICATION OF ORDER DATED
24.09.2015 PASSED BY THIS HON'BLE COURT IN
THE PRESENT CIVIL APPEAL)

PAPER BOOK
(FOR INDEX KINDLY SEE INSIDE)

**ADVOCATE FOR THE APPLICANT/
RESPONDENT NO.....: RAHUL PRATAP**

INDEX

SR. NO	PARTICULARS	PAGES
1	I.A. No.....of 2015 Application on behalf of the Respondent No for clarification of order dated 24.09.2015 passed by this Hon'ble Court in the present Civil Appeal along with Affidavit	
2	ANNEXURE 'A' A true copy of the order dated 24.09.2015 passed by the Hon'ble Supreme Court in Civil Appeal No.7191-7192 of 2015	
3	ANNEXURE 'B' True copy of the order dated 09.10.2015 passed by the Hon'ble National Green Tribunal, Principal Bench, New Delhi in Original Application No. 452 of 2015 and Original Application No.453 of 2015 and Original Application No.464 of 2015 and M.A. No.104 of 2015 in Original Application No.37 of 2015	

IN THE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
I.A. NO. OF 2015
IN
CIVIL APPEAL NO. 7191-7192 OF 2015

IN THE MATTER OF :-

M/S DUGAR HOUSING LTD

APPELLANTS

VERSUS

S.P. MUTHURAMAN & ORS.

RESPONDENTS

**APPLICATION ON BEHALF OF THE
RESPONDENT NO FOR CLARIFICATION OF
ORDER DATED 24.09.2015 PASSED BY THIS
HON'BLE COURT IN THE PRESENT CIVIL
APPEAL**

To,

THE HON'BLE CHIEF JUSTICE
AND HIS COMPANION JUSTICES OF
THE HON'BLE SUPREME COURT OF INDIA

THE HUMBLE APPLICATION OF
THE APPLICANT ABOVENAMED

MOST RESPECTFULLY SHOWETH:

1. That the Appellant has filed the present Civil Appeals against the Judgment(s) and Order(s) dated 07.07.2015 and 01.09.2015 passed by the Hon'ble National Green Tribunal, Principal Bench at New Delhi, which was listed before this Hon'ble Court on 24.09.2015 wherein the Hon'ble Court was pleased to stay the operation of the impugned judgment(s) and order(s) passed by the National Green Tribunal. A true copy of the order dated 24.09.2015 passed by the

Hon'ble Supreme Court in Civil Appeal No.7191-7192 of 2015 is annexed herewith and marked as **ANNEXURE 'A'** [Pg.....to.....]

2. The Applicant/ Respondent No.... submits that the Hon'ble National Green Tribunal vide order dated 07.07.2015 while setting aside the office memoranda dated 12.12.2012 and 27.06.2013 issued by Ministry of Environment, Forest and Climate Change and imposing penalty on the builders, had constituted a committee to inspect all the projects in question and submit a comprehensive report to the Tribunal, inter alia, on the issue regarding illegal and unauthorized acts and activities carried out by the Appellants and other Respondent Builders and ecological and also an environmental damage done by these projects.
3. The Applicant submits that the Expert Committee constituted pursuant to the Order dated 07.07.2015 & 01.09.2015 carried out the inspection as directed by the Hon'ble Tribunal, however, the Report could not be finalized and filed before the Hon'ble Tribunal in view of the Stay Order dated 24.09.2015 passed by this Hon'ble Court in the aforesaid Civil Appeals.
4. The Appellant submits that few of the builders/ mainly Respondent No.... to..... herein, who complied with

the directions passed by the Hon'ble Tribunal moved an Original Application No. 452 of 2015 and Original Application No.453 of 2015 and Original Application No.464 of 2015 and M.A. No.104 of 2015 in Original Application No.37 of 2015 before the Hon'ble Tribunal *inter alia*, seeking directions qua the Expert Committee, which is headed by the Mr. A.K. Mehta, Joint Secretary, MoEF&CC, (Chairperson of this Committee) to complete the inspection and submit the report.

5. The Hon'ble Tribunal while hearing the matter on 09.10.2015 was of the view that there is no legal impediment upon the Expert Committee to submit its report in respect of the builders who have not assailed the Judgment of the Hon'ble Tribunal before the Hon'ble Supreme Court and have deposited the penalty as directed by the Hon'ble Tribunal vide order dated 07.07.2015 and 01.09.2015. Further, the Hon'ble Tribunal was also of the view that the Order dated 24.09.2015 passed by the Hon'ble Supreme Court, thereby staying the operation of Orders and Judgments passed by the Hon'ble Tribunal was not 'in rem' but in respect of Appellants viz-a-viz the builders, who have approached the Hon'ble Supreme Court by

way of the aforesaid Appeals. True copy of the order dated 09.10.2015 passed by the Hon'ble National Green Tribunal, Principal Bench, New Delhi in Original Application No. 452 of 2015 and Original Application No.453 of 2015 and Original Application No.464 of 2015 and M.A. No.104 of 2015 in Original Application No.37 of 2015 is annexed herewith and marked as **ANNEXURE 'B'** [Pg.....to.....]

6. It is respectfully submitted that the Applicant/ Respondent No..... has highest regard for every Judgment and Order passed by this Hon'ble Court and also the Hon'ble Tribunal. However, in order to uphold the majesty of law and as an abundant caution so as to ensure that filing of the Report does not tantamount to contempt of Order dated 24.09.2015 passed by this Hon'ble Court is filing the present Application to seek clarification as to whether the Order dated 24.09.2015 passed by the Hon'ble Court thereby, staying the operation of impugned judgments and orders dated 07.07.2015 and 01.09.2015 passed by the National Green Tribunal is 'in Rem' or in respect of the Appellants who have approached the Hon'ble Court by way of the aforesaid Appeals..

7. Therefore, the Applicant/ Respondent No..... in the interest of justice is moving the present Application to seek clarification of order dated 24.09.2015 passed by this Hon'ble Court in the aforesaid Civil Appeals.
8. The present Application is made bonafide.

PRAYER

It is, therefore, most respectfully prayed that this Hon'ble Court may kindly be pleased to :-

- (a) clarify the effect and applicability of the Order dated 24.09.2015 passed by the Hon'ble Court in Civil Appeals No.7192-7193 of 2015 is in Rem or in respect of Appellants who have approached the Hon'ble Court by way of the aforesaid Civil Appeals.
- (b) Pass such other and further order as may be deemed fit and proper in the facts and the circumstances of the present case and in the interest of justice.

AND FOR THIS ACT OF KINDNESS THE APPLICANT AS IS DUTY BOUND SHALL EVER PRAY

Filed by

Rahul Pratap
Advocate for the Applicant/
Respondent No.

Filed on: 11.2015

IN THE SUPREME COURT OF INDIA
CIVIL APPELLATE JURISDICTION
I.A. NO. OF 2015
IN
CIVIL APPEAL NO. 7191-7192 OF 2015

IN THE MATTER OF :-

M/S DUGAR HOUSING LTD

APPELLANTS

VERSUS

S.P. MUTHURAMAN & ORS.

RESPONDENTS

AFFIDAVIT

I, _____ S/o _____ aged about __, R/o _____, present at New Delhi, do hereby solemnly affirm and state as under:

1. That the deponent is working as _____ in the Respondent No..... and as such conversant with the facts and circumstances of the case and competent and authorized to swear this affidavit.
2. That I have read the contents of the accompanying application for clarification which has been drafted by my counsel under my instructions and that the contents of the same are true and correct as per the best of my knowledge and belief and as per the record.
3. That the annexures annexed with the application are true copies of their respective originals.

DEPONENT

VERIFICATION

Verification at New Delhi on this __ day of November, 2015 that the contents of the present affidavit are true and correct to the best of my knowledge and belief and nothing material has been concealed therefrom.

DEPONENT

ITEM NO. 19

COURT NO.1

SECTION XVII

SUPREME COURT OF INDIA

RECORD OF PROCEEDINGS

CIVIL APPEAL NOS. 719-7192 OF 2015

M/S DUGAR HOUSING LTD

APPELLANT(S)

VERSUS

S.P. MUTURAMAN & ORS.

RESPONDENT(S)

(With appln. (s) for exemption from filing c/c of the impugned judgment and stay and office report)

With

C.A. No. 7193-7194 / 2015

(With Appln.(s) for exemption from filing c/c of the impugned judgment and appln (s) for stay and office Report)

Date: 24.09.2015 These appeals were called on for hearing today.

CORAM:

HON'BLE THE CHIEF JUSTICE

HON'BLE MR. JUSTICE AMITAVA ROY

FOR APPELLANT(S)

Mr. C.A. Sundram, Sr. Adv.

Mr. Rohini Musa, Adv.

Mr. Abhishek Gupta, Adv.

Mr. Zaffer Inayat, Adv.

Mr. Basava Prabhu S. Patil, Sr. ADv.

Dr. Harsh Surana, Adv.

Mr. Akshat Sharma, Adv.

Mr. Nitin Singh, Adv.
Ms. Rohini Musa, Adv.

FOR RESPONDENT(S)

UPON hearing the counsel for the Court made the following
ORDER

Notice.

In the meantime, the operation of the impugned judgment(s and order(s) passed by the National Green Tribunal, New Delhi, shall remain stayed.

(Charanjeet Kaur)
A.R.-Cum-P.S.

(Vinod Kulvi)
Asst. Registrar

// True Copy//

ANNEXURE 'B'

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

Original Application No. 452 of 2015

And

Original Application No. 453 of 2015

And

Original Application No. 464 of 2015

And

M.A. No. 1064 of 2015

In

Original Application No. 37 of 2015

IN THE MATTER OF :-

M/s Y. Pondurai

Vs. Union of India & Ors.

And

M/s Ruby Manoharan Property Developers Pvt. Ltd.

Vs.

Union of India & Ors

And

M/s SSM Builders & Promoters Vs. Union of India & Ors.

CORAM: HON'BLE MR. JUSTICE SWATANTER KUMAR,
CHAIRPERSON

HON'BLE MR. JUSTICE M.S. NAMBIAR, JUDICIAL
MEMBER

HON'BLE DR. D.K. AGRAWAL, EXPERT MEMBER

HON'BLE PROF. A.R. YOUSUF, EXPERT MEMBER

Present:

Original Applicant: Mr. R. Mohan, Mr. V. Balaji and
Mr. C. Kannan, Advs.

Respondents: Ms. Taruna A. Prasad, Adv.
Mr. Abdul Saleem, Adv.

Mr. Rahul Pratap, Adv.

Mr. R. Chandrachud, Adv.

Date and Remarks Orders of the Tribunal

Item Nos. 05-06

October 09, 2015

Original Application No. 452 of 2015, Original Application No. 435 of 2015 and Original Application No. 464 of 2015 and M.A. No. 1064 of 2015 in Original Application No. 37 of 2015

The Applicant has filed Original Application along with Misc. Application before the Tribunal. The same are taken on record. Registry is directed to number and register the same as per Rules.

By all these Applications the effected Respondents (Project Proponents) pray for implementation of the judgement against them.

We may also notice here that the order of the Hon'ble Supreme Court of India dated 24th September, 2015 staying the judgment of the Tribunal in relation to M/s Dugar Housing Ltd. Despite which, only these Applicants pray that they are not aggrieved from the Judgment of the Tribunal and want it to be executed. They further submit that they have not assailed the judgment of the Tribunal before the Hon'ble Supreme Court of India.

Notice be issued to the Respondents.

Learned counsel appearing for the Respondents accept Notice. Copies of the Applications have already been furnished to them.

Let the Replies be filed within two weeks from today.

List these matters on 19th October, 2015.

.....,CP
(Swatanter Kumar)

....., JM
(M.S. Nambiar)

....., EM
(Dr. D.K. Agrawal)

....., EM
(Prof. A.R. Yousuf)

ITEM NO.20

COURT NO.1

SECTION XVII

S U P R E M E C O U R T O F I N D I A
RECORD OF PROCEEDINGS

Civil Appeal No. 9108/2015

M/S JONES FOUNDATIONS PVT. LTD.

Appellant(s)

VERSUS

S.P. MUTHURAMAN & ORS.

Respondent(s)

(With appln. (s) for exemption from filing c/c of the impugned judgment and stay and office report)

WITH

C.A. Nos. 9124-9125/2015

(With appln.(s) for directions and appln.(s) for exemption from filing c/c of the impugned judgment and Office Report)

Date : 16/11/2015 These appeals were called on
for hearing today.

CORAM :

HON'BLE THE CHIEF JUSTICE
HON'BLE MR. JUSTICE SHIVA KIRTI SINGH
HON'BLE MR. JUSTICE AMITAVA ROY

For Appellant(s)

Mr. C.A. Sundram, Sr. Adv.
Mr. K.S. Mahadevan, Adv.
Mr. Krishnakumar R.S., Adv.
Mr. Vijay Anand, Adv.
Mr. Rajesh Kumar, Adv.

Mr. L.Nageshwar Rao, Sr. Adv.
Mr. R. Chandrachud, Adv.

For Respondent(s)

UPON hearing the counsel the Court made the following
O R D E R

C.A. No. 9108 of 2015

Notice.

In the meantime, the operation of the impugned judgment and order passed by the National Green Tribunal, Delhi in O.A. No. 37 of 2015, dated 07.07.2015, shall remain stayed.

Signature Invalid
Digitally signed by
Charanjeet Kaur
Date: 2015.11.23
17:58:58 IST
Reason:

C.A. Nos.9124-9125 of 2015

List on 23.11.2015.

[Charanjeet Kaur]
A.R.-cum-P.S.

[Vinod Kulvi]
Asstt. Registrar

ITEM NO.76

COURT NO.1

SECTION XVII

S U P R E M E C O U R T O F I N D I A
R E C O R D O F P R O C E E D I N G S

Civil Appeal Diary No(s). 38168/2015

Y. PONDURAI

Appellant(s)

VERSUS

UNION OF INDIA AND ORS.

Respondent(s)

(With appln. (s) for condonation of delay in filing appeal and office report)

WITH

C.A. D 38159/2015

(With appln.(s) for condonation of delay in filing appeal and Office Report)

Date : 23/11/2015 These appeals were called on
for hearing today.

CORAM :

HON'BLE THE CHIEF JUSTICE
HON'BLE MR. JUSTICE AMITAVA ROY

For Appellant(s)

Mr. Kailash Vasdev, Sr. Adv.
Mr. R. Mohan, Adv.
Mr. V. Balaji, Adv.
Mr. C. Kannan, Adv.
Mr. Atul Sharma, Adv.
Ms. Sriradha Krishnan, Adv.
Mr. Rakesh K. Sharma, Adv.

For Respondent(s)

UPON hearing the counsel the Court made the following
O R D E R

Delay condoned.

Notice.

In the meantime, the operation of the impugned judgment(s) and order(s) passed by the National Green Tribunal, Principal Bench, New Delhi in Original

Signature Invalid
Digitally signed by
Chandrasekhar
Date: 2015.11.23
17:38:18
Reason:

Application No. 37 of 2015, dated 07.07.2015 and in Miscellaneous Application No. 697 and 696 of 2015, dated 01.9.2015 shall remained stayed.

We may note that afore-mentioned order of stay is qua the present appellants only.

[Charanjeet Kaur]
A.R.-cum-P.S.

[Vinod Kulvi]
Asstt. Registrar

ANNEXURE-VI

ITEM NO.75

COURT NO.1

SECTION XVII

S U P R E M E C O U R T O F I N D I A
R E C O R D O F P R O C E E D I N G S

I.A. 1/2015 in Civil Appeal No(s). 5618/2015

SAS REALTORS PVT. LTD.

Appellant(s)

VERSUS

S.P. MUTHURAMAN & ORS

Respondent(s)

(For stay and office report)

Date : 23/11/2015 This application was called on for hearing today.

CORAM :

HON'BLE THE CHIEF JUSTICE
HON'BLE MR. JUSTICE AMITAVA ROY

For Appellant(s) Mr. Mohan Parasaran, Sr. Adv.
Mr. Ashwin Kumar D.S., Adv.
Mr. Rohan, Adv.
Mr.D.L. Chidananda,Adv.

For Respondent(s) Mr. R. Mohan, Adv.
Mr. V. Balaji, Adv.
Mr.Rajesh Kumar,Adv.

Mr. Rakesh K. Sharma,Adv.
Ms. Rohini Musa,Adv.
Mr. T. V. S. Raghavendra Sreyas,Adv.

UPON hearing the counsel the Court made the following
O R D E R

The operation of the impugned final judgment and order passed by the National Green Tribunal, Principal Bench, New Delhi in Original Application No. 37 of 2015, dated 07.07.2015 shall remained stayed.

We may note that the afore-mentioned order of stay is qua present appellants only.

I.A. No. 1 is disposed of accordingly.

Signature invalid
Digitally signed by
Charanjeet Kaur
DN: cn=Charanjeet Kaur,
o=SAS REALTORS PVT. LTD.,
email=charanjeet.kaur@sasrealtors.com,
c=IN

[Charanjeet Kaur]
A.R.-cum-P.S.

[Vinod Kulvi]
Asstt. Registrar

ITEM NO.16 + 39

COURT NO.1

SECTION XVII

S U P R E M E C O U R T O F I N D I A
R E C O R D O F P R O C E E D I N G S

Civil Appeal Diary No(s). 37397/2015

SATILILA SEHKARI AWAS SAMITI LTD.

Appellant(s)

VERSUS

UNION OF INDIA & ORS ETC. ETC.

Respondent(s)

(with appln. (s) for permission to file appeal and office report)

With Civil Appeal Nos.7193-7194 of 2015

(With appln.(s) for stay and office report)

Civil Appeal Nos.9124-9125 of 2015

(With appln.(s) for Directions and office report)

Civil Appeal Nos.13844-13845 of 2015

(With office report)

Civil Appeal Nos.7191-7192 of 2015

(With appln.(s) for clarification of court's order and stay and office report)

Civil Appeal No.9108 of 2015

(With appln.(s) for stay and office report)

(Civil Appeal No.5618 of 2015

(With appln.(s) for permission to file additional documents and office report)

Civil Appeal Nos.13842-13843 of 2015

(With and office report)

Date: 22/01/2016 These appeals were called on for hearing today.

CORAM :

HON'BLE THE CHIEF JUSTICE

HON'BLE MRS. JUSTICE R. BANUMATHI

For Appellant(s)

37397/2015)



Mr. Rajiv Dutta, Sr. Adv.

Mr. Satish Mishra, Adv.

Mr. Sidharth Dutta, Adv.

Mr. Daniel George, Adv.

Mr. Shravan Kumar Yammanur, Adv.

Mr. Kumar Dushyant Singh, Adv.

(CA 7193-7194/15)

Mr. Kapil Sibal, Sr. Adv.

- Ms. Rohini Musa, Adv.
Mr. Abhishek Gupta, Adv.
Mr. Zaffar Inayat, Adv.
- (CA 9124-25/15) Mr. Guru Krishna Kumar, Sr. Adv.
Mr. R. Chandrachud, Adv.
- (CA 13844-13845/15) Mr. Kailashvasdev, Sr. Adv.
Mr. R. Mohan, Adv.
Mr. V. Balaji, Adv.
Mr. C. Kannan, Adv.
Mr. Anbarasan Nathar Paul, Adv.
Ms. Sripradha K., Adv.
Mr. Rakesh K. Sharma, Adv.
- (CA 7191-7192/15) Mr. C.A. Sundram, Sr. Adv.
Ms. Rohini Musa, Adv.
Mr. Abhishek Gupta, Adv.
Mr. Zaffar Inayat, Adv.
- (CA 9108/15) Mr. Jaideep Gupta, Sr. Adv.
Mr. K.S. Mahadevan, Adv.
Mr. Krishna Kumar R.S., Adv.
Mr. R. Vijay Anand, Adv.
Mr. Rajesh Kumar, Adv.
- (CA 5618/15) Mr. Mohan Parasaran, Sr. Adv.
Mr. Ashwin Kumar, Adv.
Mr. Rohan Cherian, Adv.
Mr. D.L. Chidananda, Adv.
- (CA 13842-13843/15) Mr. Kailashvasdev, Sr. Adv.
Mr. R. Mohan, Adv.
Mr. V. Balaji, Adv.
Mr. C. Kannan, Adv.
Mr. Anbarasan Thevar Paul, Adv.
Ms. Sripradha K., Adv.
Mr. Rakesh K. Sharma, Adv.
- For Respondent(s) Mr. Neeraj Kishan Kaul, ASG
Mr. Rahul Pratap, Adv.
Mr. R.M. Bajaj, Adv.
Mr. S.N. Terdal, Adv.
- Mr. T. Mohan, Adv.
Mr. T.V.S. Raghavendra Sreyas, Adv.
Ms. Gayatri Gulati Sreyas, Adv.
Mr. Sangram Singh Bhosle, Adv.
- Mr. Rajesh Kumar, Adv.
- Mr. Rakesh K. Sharma, Adv.

Ms. Rohini Musa, Adv.

Mr. Rahul Pratap, Adv.

UPON hearing the counsel the Court made the following
O R D E R

Heard.

Civil Appeal Diary No. 37397 of 2015

Permission to file the appeal is granted.

Issue notice.

Mr. S.N. Terdal, Advocate, accepts notice on behalf of respondent no.1-Union of India and Mr. T.V.S. Raghavendra Sreyas on behalf of respondent No.2-S.P. Muthuraman.

Notice shall issue to respondent no.3-State of Tamil Nadu only. Liberty to serve the standing counsel, if any.

List along with Civil Appeals No.7193-7194 of 2015 and connected matters.

Post on Friday, the 4th March, 2016.

Counter affidavit, if any, be filed in the meantime.

Civil Appeals No. 7193-7194/2015, 9124-9125/2015, 13844-13845/2015, 7191-7192/2015, 9108/2015, 5618/2015 and 13842-13843/2015:

We had by separate interim orders in these appeals unconditionally stayed orders dated 7th July, 2015 and 1st September, 2015, passed by the National Green Tribunal. By the said two orders, the Tribunal had directed the appellants in Civil Appeals No. 7193-7194/2015, 9124-9125/2015, 13844-13845/2015, 7191-7192/2015, 9108/2015, 5618/2015 and 13842-13843/2015 to deposit 5% of the project value towards environmental compensation on a provisional basis. Learned

senior counsel appearing for Y. Pondurai-appellant in Civil Appeals No.13842-13843 of 2015, M/s.Ruby Manoharan Property Developers Pvt. Ltd.-appellant in Civil Appeals No.13844-13845 of 2015 and M/s. SSM Builders-appellant in Civil Appeals No.9124-9125 of 2015 submit that the appellants in the said appeals have already deposited the amounts directed by the Tribunal. Mr. Jaideep Gupta, learned senior counsel appearing for M/s. Jones Foundations Pvt. Ltd.-appellant in Civil Appeal No.9108 of 2015, submits that the appellant in that appeal has also deposited a part amount of Rs.2,00,00,000/- out of a total of Rs.7,00,00,000/-.

Having heard learned counsel for the parties at some length, we are of the view that the orders passed by this Court staying the operation of the impugned judgments and orders of the Tribunal, need to be modified so as to direct the appellants in the remaining appeals also to make the deposit in terms of the orders passed by the Tribunal. We accordingly modify our interim order passed in the appeals to the extent that the appellants in these appeals shall within four weeks from today deposit the amount in terms of the orders of the Tribunal, if not already deposited. We are, further, of the view that the Committee appointed by the Tribunal in terms of direction contained in sub-paras '4' and '6' of para '163' ought to be allowed to undertake the exercise which the Tribunal has directed. The Committee shall, therefore, be free to take up the assignment and complete the same as early as possible. A copy of the report which the Committee may submit

to the Tribunal shall also be submitted to this Court.

Mr. Neeraj Kishan Kaul, learned Additional Solicitor General, appearing for the respondent-Union of India, submits that while the Government is in the process of reviewing the entire issue and issuing fresh notifications on the subject, it will have no difficulty in presenting to this Court a full picture about the status of environmental clearances issued to the appellants herein. He seeks four weeks time to do the needful. The compilation which the respondent-U.O.I. may file shall among others indicate the following :

(1) Whether any environmental clearances have been issued to the appellants herein. If so when and under whose orders.

(2) If clearances have been refused or the same are under process, the particulars of such cases shall also be indicated.

(3) The compilation shall also set out the stage at which the construction undertaken by the appellants have reached at present.

(4) Copies of the verification/inspection reports, if any, on the basis of which the environmental clearances have been granted to any one of the appellants, shall also be filed.

Learned counsel appearing for some of the flat owners submits that while some of the appellants are claiming to have handed over possession of the flats, the fact of the matter is that not every one who has booked a flat with the appellants has been put in possession. He submits that the appellants could be directed to file a separate affidavit indicating the particulars of those who have been put in possession of the

flats by the appellants-builders concerned. We direct accordingly.

The needful shall be done on or before the next date of hearing.

Additional documents, if any, be also filed by the parties within three weeks from today.

Post on Friday, the 4th March, 2016.

(MAHABIR SINGH)
COURT MASTER

(SAROJ SAINI)
COURT MASTER

REPORT OF M/S Y. PONDURAI

1.0 PROJECT PROPONENT - M/s Y. PONDURAI

The project of M/s Y. PONDURAI, Padi is spread over an area of 9995.00 m². The civil works have been completed. As informed by CMDA the Construction is in line with the Planning Permission. The details of the project are as under:

- The site is located in Padi Village, Ambattur Taluk, Thiruvallur District and comes within the Panchayat Union (Chennai) within the Chennai Metropolitan area. At the time of purchase of land, it was vacant land.
- The land was purchased in May 2012 by the Project Proponent and the construction started on January 2014.
- The land covered in the project is zoned for industrial land use and as per the CMDA master plan 2026 land use plan commercial activity is a permitted activity.
- As per the Master Plan of CMA 2026, the project area is categorized under industrial land use pattern, where the commercial activity is a permitted activity as per CMDA land use pattern.
- The maximum building height permissible for this category of development as per Development Regulations is 54.463 meters and the normally permissible FSI is 2.5. The height of the building is 54.463 meters and FSI is 2.83.
- National parks/wildlife sanctuaries/Zoos –
 - Arignar Anna Zoological Park - 26.51
 - Guindy National Park – 11.50 Kms
- Reservoir / Lake
 - Puzhal lake - 5 KM
 - Ambattur lake - 4.5 Km
 - Retteri lake - 4.25 km
- Reserved / Protected Forests –
 - Cholavaram Reserve Forest- 14.50 km
 - Nanmangalam Reserve Forest- 18.50 km
- Seismicity – Seismic Zone III (Moderate)

2.0 PERMISSIONS/ CLEARANCES / NOCS REQUIRED

The project proponent is required to obtain requisite clearances / permissions / NOCs from State / Central Regulatory Agencies/Organizations for initiating construction. The details of the permissions/clearances/NOCs required for construction are given in Table- 1. The height of the project being 54.463 meters, it is covered under multi-storeyed

building category. As per the regulations in-force, the project of M/s Y. Pondurai requires permissions/clearances/NOCs listed in **Table-1** as applicable to it.

The Project Proponent is M/s.Y.Pondurai applied for EC a mandatory requirement, before starting of construction work or preparation of land to SEIAA on 28.02.2014, after about one month of starting construction. As the built up area is less than 150,000 sq.meter, ToR was not applicable.

Environmental Clearance was granted to the project proponent, i.e. M/s Y. Pondurai, on 31.12.2015, well after the major construction was over which includes interior works also. The project proponent has taken planning permission from Chennai Metropolitan Development Authority (CMDA) and NOC's from other departments like Indian Air Force, Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB), etc. The planning permission for the project was issued by CMDA under the Development Regulation forming the part of the 2nd Master Plan for Chennai Metropolitan area approved by the Tamil Nadu Government under Tamil Nadu Town and Country Planning Act, 1971. The CMDA and other regulatory agencies/organization have specified conditions which need to be complied with by the project proponent and the same is annexed at **Annexure-I**.

The conditions imposed by other agencies such as CMDA, traffic department, CMWSSB, etc. and not complied by the project proponent are annexed at **Annexure-II**. The chart indicates that the major violation by the project proponent has been initiation of the construction activity at site without having the necessary Environmental clearance, a mandatory requirement.

The Arignar Anna Zoological Park is about 26.51 km and Guindy national park about 11.50 km and from the project site besides there are three lakes i.e., 3 lakes is Puzal lake (5km), Petteri Lake (4.25km) and Ambattur lake (4.25km). The Cholavaram reserved forest is about 14.50 km from the site.

3.0 THE REPORT

This report is submitted with reference to tasks assigned to the Committee.

➤ *Illegal and unauthorized acts and activities carried out by the Respondents.*

The following illegal acts and activities by the Project Proponent have been noted by the Committee:

- Initiated construction at site without obtaining Environmental Clearance under section 2 of the EIA Notification dated 14.09.2006 issued under section 5(3) of Environment (Protection) Rules, 1986 from SEIAA, Tamil Nadu.
- Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated by CMDA.
- Did not obtain 'Consent to Establish' required for commencement of work from Tamil Nadu Pollution Control Board.
- Violated the condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated in the Building Permit by the Greater Chennai Corporation to be read with conditions of CMDA.

➤ **Ecological and environmental damage done by these projects**

The ecological and environmental impacts are expected from:

- i) Disposal of solid waste: The total solid waste generation anticipated is 1002 Kg/day out of which about 251.55 Kg is biodegradable and the rest i.e., 750.45 Kg non bio degradable. The solid waste generated mostly comprise of packaging materials. The bio-degradable portion of the domestic waste is proposed to be handed over to collection system while the non-bio degradable portion is proposed to be sent to authorized recyclers or local bodies for disposal. The nearest landfill site at Kodungaigur about 12 kms from the project site. The sludge from STP about 3 kg/day shall be dried and used as manure. The proponent could not provide permission of local bodies for collection of degradable portion of other solid waste. In absence of any permission, the waste is likely to be disposed in an unscientific

way which has all potential to contaminate the ground water besides being a source of unaesthetic conditions and odour.

- ii) Sewage disposal: The Proponent has installed STP with installed capacity of 100 KLD as against the expected sewage generation of 84 KLD. The unit has been given condition for zero liquid discharge by using 60 KLD of treated sewage for flushing, another 4 KLD of treated sewage for gardening and the remaining 16 KLD in HVAC. The unit shall not be able to reuse and recycle the entire treated sewage. In absence of any connectivity to trunk sewer, there is all possibility of the excess sewage being discharged on land thereby causing soil and groundwater contamination. With just 42 trees to be planted and the landscape development, the unit shall not be able to utilize the 4 KLD of sewage on daily basis including during the rainy season. The unit has to probe other means of to meet the improved conditions of Zero Liquid Discharge.
- iii) Water abstraction: The Project Proponent proposes to use private water tankers during the operational phase of the project in absence of availability of potable water supply from CMWSSB. The project site has one well. Any abstraction of groundwater to meet the fresh water requirement should be only after obtaining required permission as it has all the probability to impact the groundwater table. A study needs to be conducted to assess the charging rate vis-à-vis the abstraction from the groundwater sources.
- iv) Noise Pollution: There is a possibility of increase in noise levels once the complex is occupied. The increase in noise level can be taken care by providing green belt along the boundary wall and other acoustic measures to cushion the impact of noise.
- v) Air Pollution: As per the 2nd Master Plan for CMA land use which is in force since September 2008, the project land are zoned for industrial land use where in commercial construction is a permitted activity as per CMDA land use. As the site is meant for construction of industrial use including commercial units it cannot be considered to be contributing to the deterioration in air quality.
- vi) The ground water table is at 6 meters from ground level. The construction of 3 levels of basement is well below the ground water table and has all the potential to impact the ground water recharging system. Study need to be conducted to assess the impact.

➤ **Installation of STP**

- i. The total sewage generation anticipated from the project is 84 KLD for which STP with total treatment capacity of 100 KLD is constructed. The STP is partially below ground level.
- ii. The design of the STP units indicates adequacy of the system to meet with the treated quality norms specified by CMWSSB. However the actual efficacy can be assessed only after the details of mechanical systems installed and their ratings are known. To achieve the bathing quality norms laid down by CPCB and specified by SEIAA for the treated sewage quality, the STP would have to be upgraded.
- iii. The STP units have neither proper nor safe access for free movement, thereby making it difficult to collect samples and undertake preventive and breakdown maintenance. With the existing layout of the STP its operation cannot be seen / visualized and in case of any disruption in plant condition, the plant performance can be assessed only after examining/seeing the results of effluent quality parameters and the values of the plant operating parameters.
- iv. The treated sewage (84 KLD) is proposed to be recycled back i.e. 60 KLD for flushing, 16 KLD for Heating, Ventilation and Air Conditioning (HVAC) and 4 KLD for gardening. In absence of any green belt worth mentioning the 4 KLD earmarked for green belt development cannot be fully utilized on daily basis and especially during rainy season. The leftover would be required to be discharged along with the excess sewage.
- v. The possibility of recycling of the treated effluent could not be ensured as the dual piping system could not be verified in absence of any color coding

➤ **Other anti-pollution devices by the Project Proponent**

To meet the power requirement during periods of power failure, gensets using high speed diesel as fuel and meeting the norms prescribed by CPCB are installed.

➤ **Proposed point of discharge of sewage and any other untreated waste**

As per the conditions imposed by CMWSSB, the entire quantity of treated sewage has to be reused for toilet flushing and gardening. As per the information provided by the Project Proponent the entire 84 KLD of treated sewage shall be recycled back for meeting the requirement for flushing, HVAC and Green belt development in

compliance to the condition imposed by SEIAA. Disposal of the treated sewage cannot be ruled out and in absence of connectivity with the sewerage system, there is all possibility of discharge on the land causing stagnation and unaesthetic conditions.

For the discharge of the excess surface runoff proper connectivity to the surface water drain in and out of the premises has to be ensured otherwise there is all possibility of flooding on the road.

➤ **Source of water during operation phase and otherwise**

As per the information provided by the Project Proponent, water has been supplied through tankers at site for the construction activity. In the operation phase, the Proponent has planned to use CMWSSB supplies for supplying portable water, the permission for which is still awaited.

➤ **Use of energy efficient devices**

The energy saving measures adopted include installation of CFL / LED lamps, besides using fuse laminated glass for energy saving. The details of the measures taken or proposed for energy saving are given in **Table-2**.

➤ **Ecologically and environmentally sensitive areas**

There are national parks / wildlife sanctuaries, reservoirs/lakes and reserved/protected forests near to the project site. The details are as below:

National parks/wildlife sanctuaries/Zoos –

Arignar Anna Zoological Park - 26.51

Guindy National Park – 11.50 Kms

Reservoir / Lake

Puzhal lake - 5 KM

Ambattur lake - 4.5 Km

Retteri lake - 4.25 km

Reserved / Protected Forests – Cholavaram Reserve Forest- 14.50 km

Nanmangalam Reserve Forest- 18.50 km

➤ **Details of alteration of land its effect on the natural topography**

The project site has been flattened to make way for the construction activity. The contour map indicates a total level difference of about 2 meters. Maximum contour is of 11 m and minimum of 9 m. However, such undulations were not observed during

the visit. The natural topography has been changed at the site so that the storm water is collected and disposed towards the road side.

➤ **Effect on natural drainage system**

The site map does not indicate any natural storm water channel passing the area. The change of natural topography to divert the storm water towards the road side has probability to block the free flow of storm water and create flooding/stagnation in the road side. Construction below the ground water table has all possibility to impact the ground water recharging systems, for which study need to be conducted.

➤ **Adequacy of rainwater harvesting system**

The Project Proponent has to make provision for drainage system for roof-top rain water harvesting. A detail of rain water harvesting is given in **Table 3**. Provision for pretreatment of the surface runoff to remove the suspended solids, oil and grease etc. before recharging has to be made.

➤ **Adequacy of parking area and if at all they have been provided**

Provision has been made for providing parking space for 437 cars and 437 two-wheelers for the visitors coming to the commercial complex and residence. As per development regulations of CMDA the parking requirement is 416 car parking and 412 Two wheelers. The parking provided is inadequate considering the SEIAA conditions imposed in EC granted, which requires parking for 214 cars and 644 two wheelers.

➤ **Collection and disposal of municipal solid waste at the project site**

The bio-degradable waste of 251.55 kg/day is proposed for handing over to local disposal/collection system, while the non-bio-degradable waste of 750.5 kg/day will be sent to authorized recyclers or to local bodies for disposal and the dried sludge of 3 Kg/day used for greenbelt.

➤ **Compliance of conditions stated in the planning permission and other permissions granted by various authorities**

- Project Proponent initiated construction without obtaining EC violating the conditions specified by CMDA and Great Corporation of Chennai.
- Project Proponent initiated construction without obtaining Consent to Establish from Tamil Nadu Pollution Control Board.

- Project Proponent initiated construction without obtaining EC from SEIAA
 - The Roof top rain water harvesting storage has not been provided.
 - As per the conditions imposed by CMWSSB, the entire treated sewage is to be utilized for gardening acid toilet flushing. The entire treated sewage will be recycled for use in HVAC, flushing and green belt.
- **Whether suggestions made by the SEIAA in its meetings adequately take care of environment and ecology?**
- M/s Y. Pondurai. Started construction on January 30, 2.14 without obtaining EC, a mandatory requirement before starting construction work or preparation of land... The proponent applied for EC on 28.02.2014 i.e., after more than a month of starting construction. The EC was granted by SEIAA on 31.12.2015.
- **Whether demolition or raising of additional structures are required in the interest of environment and ecology**
- The STP has been designed to meet the treated effluent quality of BOD-20mg/l and SS-30 mg/l. The EC conditions stipulate the requirement of meeting bathing water quality norms i.e., BOD<3mg/l. The existing STP need to be upgraded to meet the norms specified by SEIAA in EC, besides, it also need to be modified for providing safe and proper access to the various units.
 - Development of green belt has not been accorded priority as no green belt was seen at the site. Some of the existing infrastructure need to be realigned for providing space for green belt development.
 - Provision for roof top rainwater harvesting and its storage need to be made, besides making arrangement for proper management of storm water discharge and disposal of treated sewage.
 - The parking area need to be increased to meet the condition stipulated in EC by SEIAA.

4.0 OBSERVATIONS

Based on the assessment of available information and physical visit to the site, the following observations were made:

4.1 General Observation

- i. EC was granted by SEIAA on 31.12.2015 when most of the construction activities have been completed.
- ii. Consent to Establish not obtained from Tamil Nadu Pollution Control Board.
- iii. Violated CMDA condition of commencing activity without obtaining Environmental clearance.
- iv. The height of the building is 54.463 meters and FSI is 2.83.

- v. Provision for storage of roof top rainwater not there.
- vi. Provision for proper green belt development does not exist.

4.2 Water Management

The various aspects of water management including the source of water supply, the quantum of sewage generated, its treatment, adequacy of Sewage Treatment Plants, reuse and recycling of the treated effluent and its disposal were examined. The observations made are given in **Table-4**. The major observations are as under:

- i. The tanker water was used for construction.
- ii. The Project Proponent has applied to CMWSSB for permission to use private water tanker to meet its fresh water requirement of 30 KLD during the operation phase. In absence of connectivity with CMWSSB supply, fresh water requirement during operation will be met from the private water tankers. The unit has 01 well within the area and the water depth is 201 feet from the ground level.
- iii. The STP of M/s. Y. Pondurai is partially below ground level.
- iv. The design of the STP constructed indicates its adequacy to meet with the treated quality norms specified by CMWSSB, however the actual efficacy can be assessed only after the details of mechanical systems installed and their ratings are known. To achieve the bathing quality norms as specified by SEIAA for the treated sewage quality, the STP would have to be upgraded.
- v. The STP units have neither proper nor safe access for free movement, thereby making it difficult to collect samples and undertake preventive and breakdown maintenance. With the present layout of STP the operation of plants cannot be seen / visualized and in case of any disruption in plant condition, the plant performance can be assessed only after examining/seeing the results of effluent quality parameters and the values of the plant operating parameters.
- vi. The Project Proponent needs to develop environmental laboratory with capacity to monitor the operating parameters of STP and the quality of treated effluent essential for effective operation of the plant/self-monitoring and self-compliance with the norms.
- vii. With just 42 trees proposed to be planted and the landscape development, the unit shall not be able to utilize the 4 KLD of effluent on daily basis including during rainy period. The unit has to probe other means to meet the imposed condition of zero liquid discharge. Besides during the rainy period, this excess treated sewage cannot be

utilized for green belt for which no storage provision is available or proposed. The discharge of this excess sewage during the rainy period along with the storm water may be a cause of unaesthetic conditions and odour problem.

- viii. Provision of drainage system for management of storm water runoff is yet to be made around the site.
- ix. As no storm water discharge system around the premises was seen.
- x. The status of recycling of the treated effluent could not be verified as the plumbing system provided is not properly coded.

4.3 Green Belt Development:

Total green belt area proposed is 11129 m², i.e., 11.29 % of total plot area will be planted with natural species. Development of green belt has not been accorded priority by the project proponent as no developed green belt was seen at the site. During the site visit, it was informed there is a proposal to plant 42 trees. The project proponent informed of the proposal to develop green belt which seems to be after thought as the area has either been paved or earmarked for some other activity at the site. The Project Proponent needs to realign the parking infrastructure and other ancillary units to provide for green belt development. Status of the green belt for the restitution of ecology and environment is given in Table 5. Development of green belt may be impacted due to requirement of additional parking area to meet the conditions imposed by SEIAA.

4.4 Construction Waste

Data for construction waste generated during the construction activity and its use was not available with the Project Proponent, except for the information that the construction waste generated has been disposed to fill the low lying area within the premises or outside. Site details outside the premises where construction waste was used to fill low lying areas were not provided by the project proponent.

4.5 Solid Waste

- i) The bio-degradable waste of 251.55 kg/day is proposed to be handed over to local disposal system, the non-bio-degradable waste of 750.45 kg/day is proposed to be sent to authorized recyclers or to local bodies for disposal and the dried sludge of 3 Kg/day is dried and used for greenbelt.

4.6 Other Observations:

- i) As part of energy saving measure, LED/CFL bulbs are proposed and fused laminated safety glass have been provided.
- ii) Construction work for the STP has been completed. The STP does not have proper and safe access or adequate head room for free movement, thereby making sampling, preventive and breakdown maintenance difficult.
- iii) In absence of any outlet, the unused treated effluent has to be either discharged on the road or taken through tankers which will be in violation to the conditions imposed by the Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB). With just 42 trees proposed to be planted and the landscape development, the unit shall not be able to utilize the 4 KLD of effluent on daily basis including during rainy period. The unit has to probe other means to meet the imposed condition of zero liquid discharge.
- iv) The fresh water requirement during operation will be met from CMWSSB or through private tankers.
- v) Provision of drainage system for collecting storm water runoff is yet to be made.
- vi) The natural topography has been changed at the site so that the storm water is collected and disposed towards the road side.
- vii) The solid waste generated mostly comprise of packing materials.
- viii) Generator sets have been installed in an insulated room.
- ix) The project envisages construction of 03 Levels below ground and the ground water table being at about 7.0 meter there is possibility of impact on the ground water recharging system.
- x) No major green belt is proposed to be developed as the area has either been paved or earmarked for some other activity. Need to realign the infrastructure of the parking and other ancillary units to provide space for green belt development.
- xi) The vehicles entering or leaving the site can be a source of traffic congestion, the site being close to the main road.
- xii) Considering the conditions imposed by SEIAA for parking in the EC granted, provision for additional parking by re-appropriating area designated for other activities has to be made.

- xiii) Provision of drainage system for collecting storm water runoff needs to be provided outside the premises also for proper disposal of storm water runoff.

5.0 SUGGESTIONS

5.1 Conditions Stipulated by CMDA

- i. CMDA shall give more emphasis on the environmental aspects including disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, etc. Environmental aspects be given the same priority, if not more than those given to parking, fire safety, etc., while designing the lay out and its approval.
- ii. The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006.
- iii. To have uniformity in approach so that violation of laws is avoided, a coordination mechanism between SEIAA, CMDA and other agencies need to be put into place.
- iv. As no EIA has been conducted quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA.
- v. In case any deterioration in the ambient environment / ground water quality is observed, the proponent shall inform the status to TNPCB and SEIAA and also prepare a time bound action plan for remedial measures.
- vi. The proponent shall install piezo wells to monitor the ground water quality quarterly.

5.2 Waste Water Management/Sewage Treatment

- i. The STP constructed by M/s. Pondurai need to be modified to provide safe access to the various units of STP including adequate head space for safe movement in the area, adequate ventilation to avoid accumulation of gases such as Methane and Hydrogen Sulphide (H₂S), while ensuring easy maintenance and replacement of damaged equipment / accessories and upgraded to meet the treated sewage quality norms specified by SEIAA.

- ii. The project proponent should provide separate electricity meter for the sewage treatment plants and maintain daily record of the power consumed, essential to ensure 24X7 functioning of STP.
- iii. The unit not having provision for discharge of treated sewage cannot be permitted to start operation unless proper arrangements are put in place for its safe handling.
- iv. In no case, the discharge of treated sewage on land can be permitted. Transportation of treated sewage meeting the norms, through tankers equipped with GPS system (to monitor their movement to the existing STP in the area) can be permitted in case adequate treatment capacity is available at STP installed by CMWSSB. The installation of GPS system will help ensuring, that the tankers are emptied at the STP only.
- v. Where, the project proponent do not have outlet provisions and are not able to recycle additional sewage back into the system, beyond the presently proposed limits, transporting of the treated sewage conforming to the specified norms for discharge to STP operated by CMWSSB Board through identified tankers fitted with GPS system for tracking their movements may be considered. The option can be permitted only after the project proponent develops adequate storage capacity for treated effluent.
- vi. To ensure that entire waste water generated is treated, online flow measurement system need to be installed both at the Inlet and Outlet of the STPs, and the pumps/valves integrated through software to provide the flow data.
- vii. The online system is installed to monitor the effluent quality at least for the basic parameters, such as pH, suspended solids and BOD for self-monitoring and self-regulations besides ensuring compliance of the norms. The data will be transferred directly from the analysis.
- viii. The project proponent should develop in-house laboratory for monitoring of the operating parameters of the sewage treatment plants and the treated effluent quality daily.
- ix. Color coding of pipelines in the STP's should be done.
- x. All the plumbing lines carrying raw water, untreated effluent/treated effluent etc. should be color coded.
- xi. The project proponent should not be permitted to operationalize the complexes till such time permission / connectivity for taking potable water from CMWSSB

pipeline is received / connectivity ensured or a viable alternate is put in place to avoid ground water abstraction.

- xii. The project Proponent should ensure that proper drainage system is available in and around the site for disposing excess of storm water to drains, thereby discarding any possibility of flooding in and around the site.
- xiii. Backup power supply from DG set shall be provided to STP to ensure its continuous operation.

5.3 Rain Water Harvesting

If provision for discharge of excess surface run off / rain water discharge are not available, flooding in the vicinity and stagnation of the discharged water in the low lying areas around the complex are inevitable. The project proponent should ensure that such situation does not occur either by increasing the capacity of rain water storage sumps or providing additional pits in the surface run off collection drain. The proponent should ensure a well laid storm water drainage system in and around the premises for conveyance of storm water runoff.

5.4 Green Belt Development

- i) Project proponent should plan for scientific green belt development, (exceptions are there for the landscape area or some places earmarked for plantation of trees). Maximum possible space should be left unpaved for recharging of ground water besides the proposed rain water harvesting system. The unpaved area should be covered with green top or any other pervious material to maintain permeability of soil.
- ii) Green belt should be developed all around the site boundary to act as a barrier for air and noise pollution. Ornamental plants / area left for landscape, covered with grass / shrubs and roof top garden shall not be considered in the areas mandatory for green belt development. Sufficient space has to be provided for each tree so that it does not choke to death because of the putting of cement concrete all around the tree.

5.5 Solid Waste Management

- i) The project proponent should prepare an action plan for ensuring segregation, collection, transportation, treatment and scientific disposal of Municipal Solid Waste. This action plan should be submitted to SEIAA and TNPCB for their approval.

- ii) The project proponent should put in place a system for collection of discarded CFL & LED lamp.
- iii) Separate space should be earmarked for storing of construction and demolition waste and its disposal at sites approved by local authorities.
- iv) The proponent should submit a plan for management of grit and STP sludge.
- v) The leaves/biomass should be composted at site and used as manure.

5.6 Traffic Management

- i. Once the complex is occupied, there is all possibility of traffic snarls around. The project proponent needs to submit an action plan to avoid congestion on the road, increased concentration of air pollutants.
- ii. The project proponent should ensure regular sweeping of the roads inside and adjacent to the complex to avoid re-suspension of settled dust, thereby taking care of any possibility of increasing particulate matter levels.
- iii. The parking requirement as per CMDA development Regulation is one car parking and one two wheeler parking space for every 50 m² whereas the MoEF norms parking is to be provided at the rate of one car for every 25 m² of fraction thereof.

5.7 Energy Saving

- i. All street and staircase lighting should use solar power. The project proponent should reduce the power consumption by at least 20% by replacing CFL lamps with LED lamps, using energy efficient device (solar relay – Bureau of energy efficiency) providing insulated window or insulated glasses and adopting advance elevator and air conditioning technologies as below:-
- ii. Install Energy efficient elevators using gearless machines or regenerative drive technology.
- iii. Inverter technology based Air Conditioning machines should be installed.
- iv. For meeting hot water requirement in kitchen solar energy should be used.
- v. Installation of IR/Thermal switches in corridors/staircases to save energy needs to be promoted.
- vi. The project should obtain GRIHA or any other such rating.

6.0 GENERAL REMARKS

- i. In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building lay out modeled to

incorporate the natural drainage as part of the system rather than redoing/ relaying of the natural drainage system.

- ii. A systematic green belt development is necessary. In all future projects environmental issues like development of green belt, managing surface water runoff, its collection and recharge etc., provision of solid waste management, and orientation of the building for energy saving should be given priority while designing the layout and the number of dwelling units likely to come up.
- iii. In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site. As the construction works are yet to be completed, the use of construction materials to raise the ground level is avoided as it has all the possibility to affect the nature percolation rate of soil.
- iv. The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of renewable energy, green belt development for effective implementation and monitoring.

Conditions Imposed by various agencies

Conditions imposed by Chennai Metropolitan Development Authority (CMDA)

1. Applicant has to abide by the terms and conditions put forth by DFRS, AAI and Police (Traffic).
2. The promoter has to submit necessary sanitary application directly to CMWSSB and only after due sanction he can commence internal sewer works.
3. The applicant should apply for the water connection, after approval of the sanitary proposal and internal works should be taken up only after the approval of water application.
4. All wells, over head tanks are hermitically sealed with properly protected vents.
5. Rain water harvesting structures as shown in the approved plans has to be provided to the satisfaction of the Authority.
6. The applicant shall not commence any activity, excepting fencing of the site and construction of temporary shed for Guard, without obtaining Environmental Clearance under the EIA Notification, 2006 from the SLEIAA or the MoEF, Government of India.
7. The Applicant has to commence the project only after obtaining building permit under the local body act.

Conditions imposed by Directorate of Fire & Rescue Services (DF&RS)

1. There should be one Wet-riser per 1000 sqm area covering all floors including the basement floor with landing valves along with delivery hose. The riser should be fully charged with adequate pressure at all times and should have both automatic and manual operation. To feed the wet riser an underground static water tank of minimum capacity 200,000 litres should be provided with refilling facility. A terrace level tank of capacity of 20,000 litres also should be provided for each block. To charge the wet riser system and the sprinkler system an electrical pump of capacity 2850 LPM should be provided near the underground water tank. An equal capacity of Diesel pump should also be provided as an alternative arrangement. The pumps should be capable of developing pressure of 3.5 Kg/cm at terrace level hydrant point. One more electrical pump of capacity of 180 LPM should be provided as a jockey pump.
2. Fire service inlet fitted with NRV at ground level should be provided.
3. Hose reel assembly should be provided covering each floor.
4. Yard hydrant should be provided at all around the building.
5. Manual fire alarm call points should be provided at all floors.
6. Automatic sprinkler system should be provided at all floors including basement floor.
7. Automatic fire detection and fire alarm system should be provided covering all floors.
8. Public address system should be provided connecting all the floors including basement.
9. Alternate and independent power system should be provided to fire pumps, emergency lighting system, fire lifts, automatic detection and integrated activation system including automatic smoke vent system.

10. No of ramps, exits, location and there width, should be conformed to the requirements of National Building Code of India, 2nd revision part –IV, 2005.
11. All exit staircases shall be minimum width of 1.5m. The min. Width of tread without nosing shall be 300mm and the tread shall be constructed and maintained in a manner to prevent slipping. The max. Height of raiser shall be 150 mm and the number shall be limited to 15 per flight as per the requirement of NBC of India Part-IV, Second Revision 2005.
12. All exit staircase including in the basement should be pressurised and protected with self closing fire check doors of minimum 2 hour rating.
13. The First Aid Fire fighting equipment should be provided at all floors in accordance with IS 2190:1992 requirements.
14. Fire lifts, electrical installations and wiring, A/C ducts and other service ducts should meet the requirement of NBC of India, Part IV, 2nd Revision, 2005.
15. The width and height of any arch or gate, if any, should have the clearance of not less than 4.50m and 5.0m respectively.
16. The compulsory open space of 7.0m around the building should be designed to withstand a weight of 45 tons at any point of operation for the use of the Hydraulic platform vehicle. Requirement of side setbacks area of 7m is exclusive of car parking.
17. The service ducts such as power cables, communication cable, A/C Ducts etc., should be protected with proper fire ceiling/fire dampers.
18. The Mechanical extractors for smoke venting system from lower basement levels shall also be provided. The system shall be of such design as to operate an actuation of heat/smoke sensitive detectors or sprinklers, if installed and shall have a considerably superior performance compared to the standard units. It shall have an internal locking arrangement so that extractors shall continue to operate and supply arrangement, so that extractors shall continue to operate and supply fans, shall stop automatically with the actuation of fire detector. The Mechanical extractors shall have been designed to permit 30 air changes per hour in case of fire or distress call. However, for normal operation, air changes schedule shall be minimum capacity of 12/hour should be provided as per NBC of India, Part IV, Fire & Life Safety-2005.
19. The cable Gallery should be routed through fire resistant duct or fire protected tray.
20. Fire resistant and low smoke emission cable should be used.
21. A trained fire officer with a crew along with the fire control room shall be arranged to maintain as well as the fire protection system in case of any need.
22. A refuge area of 15 sqm or an equivalent to 0.3 sqm per person to accommodate the occupants of two consecutive floors, whichever is higher, shall be provided at 24th m level.
23. The building should provide with integrated building management system.
24. The building should be used as only business building.

25. During the construction of the building, the following fire protection measures should be provided in good working condition.
- a) Dry riser of minimum 100mm dia pipe with Hydrant outlets constructed with a fire service inlet to boost the water in the riser from fire service pumps.
 - b) Drums filled with water of 2000 litres with two fire buckets on each floor.
 - c) A water storage tank of 20,000 litres capacity, which may be used for other construction purposes also

Conditions imposed by Local Body (Corporation of Chennai (CoC))

1. The Ground floor of the building shall be 0.91mtrs from the abutting road adjacent to the compound wall or centre of the road.
2. The building shall conform to the IS 486; IS 875 and IS 1893 of Bureau of Indian Standards.
3. Rain Water Harvesting should be done as shown in the plan.

Conditions imposed by Police (Traffic)

1. The applicant has to provide an Internal Auto Bay to facilitate visitors.
2. The parking space provided by the applicant should be maintained properly.
3. The Entry and Exit gate should be provided with bell mouth shape having easy access for the vehicle movement.
4. The drive way provided by the applicant should be maintained properly.
5. The applicant on completion of the construction has to deploy sufficient number of personnel to manage the movement of vehicles at the entry and exit gate of the building.
6. The applicant has to ensure that the parking plan inside the campus is strictly followed. The markings for the vehicular parking should be clearly maintained for easy and free movement of vehicles.

**Conditions imposed by Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) for
Sewage Treatment Plant (STP)**

1. The capacity of the proposed in-situ STP of 0.10 MLD (Average Flow-domestic sewage) determined by the applicant, is only considered in scrutiny of design of proposed in-situ STP.
2. The influent characteristics of domestic sewage generated from the development and Effluent characteristics in the effluent of STP as assumed and given by the applicant has been considered as basic data in the scrutiny of design in-situ STP and is furnished below

PH-

6.5 to 8.0 (Influent), PH-6.5 to 8.0 (Effluent), Suspended Solids 450 mg/l (Influent), < 30 mg/l (Effluent), BOD - 350 mg/l (Influent), < 20 mg/l (Effluent)

3. The applicant has proposed the treatment unit to be constructed below GL with access to treatment units through headroom at GL. The panel board and Air blowers are proposed to be placed in the head room.
4. The applicant should ensure that the structures provided for the underground treatment units are water proof and also the internal sewer system for the proposed development should be laid / maintained subsequently in a manner such that the entry of rain water collected in the site is prevented at any point in the internal sewer system.
5. As the treatment units are proposed below ground level, sufficient air circulation through duct arrangements is to be ensured for achieving the desired degree of treatment and safety.
6. The applicant has proposed to reuse the entire quantity of treated effluent (98208 L/D) for toilet flushing and gardening. As such a separate plumbing line is to be provided for conveyance of treated effluent for above reuse purposes. The entire quantity of treated effluent should be utilized within the building.
7. The applicant has proposed to dispose the sludge after lime post treatment.
8. The treated effluent, grit and sludge should be disposed of from the site in the manner as prescribed by TNPCB.

Conditions imposed by Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) for Swimming Pool

Not applicable.

Conditions imposed by Indian Air Force (IAF)

The Project Proponent informed that the site under reference lies outside the area of responsibility.

Conditions imposed by Airport Authority of India (AAI)

1. The height of the building shall not exceed 54.463 metres above the ground level.
2. No Radio/ TV antenna or Lightning arresters, staircases, mum tee, overhead water tank and attachments and fixtures of any kind shall project above the height indicated.
3. The use of electric fire or oil fired furnace is obligatory, within 8 KS. of aerodrome.
4. No light or a combination of lights which by reason of its intensity, configuration of colour may cause confusion with the Aeronautical ground lights of the Airport shall be installed at the site at any time during or after the construction of the Commercial building.

Conditions imposed by State Level Environment Impact Assessment Authority (SEIAA)

Part A- Conditions for Pre Construction phase:

- i) The project authorities should advertise with basic details at least in two local newspaper widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of clearance. The press releases also mention that a copy of the clearance letter is available with the State Pollution Control Board and also at website of SEIAA, TN. The copy of the press release should

be forwarded to the Regional Office of the Ministry of Environment and Forests located at Chennai and SEIAA-TN.

- ii) In the case of any change(s) in the scope of the project, a fresh appraisal by the SEAC/SEIAA shall be obtained before implementation.
- iii) A copy of the clearance letter shall be sent by the proponent to the Local Body. The clearance letter shall also be put on the website of the Proponent.
- iv) "Consent for Establishment" shall be obtained from the Tamil Nadu Pollution Control Board and a copy shall be submitted to the SEIAA, Tamil Nadu before taking up any construction activity at the site.
- v) Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- vi) The approval of the competent authority shall be obtained for structural safety of the buildings during earthquake, adequacy of firefighting equipment's, etc. as per National Building Code including protection measures from lightning etc. before commencement of the work.
- vii) All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
- viii) Design of buildings should be in conformity with the Seismic Zone Classifications.
- ix) The Construction of the structures should be undertaken as per the plans approved by the concerned local authorities/local administration.
- x) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire and Rescue Services Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wild Life (Protection) Act, 1972, State / Central Ground Water Authority, Coastal Regulatory Zone Authority, other statutory and other authorities as applicable to the project shall be obtained by project proponent from the concerned competent authorities.
- xi) The Project proponent shall have to furnish the probable date of commissioning of the project supported with necessary bar charts to SEIAA-TN.
- xii) No construction activity of any kind shall be taken up in the OSR area.
- xiii) Consent of the local body concerned should be obtained for using the treated sewage in the OSR area for gardening purpose. The quality of treated sewage shall satisfy the bathing quality prescribed by the CPCB.
- xiv) The structural design of the proposed building must be vetted by premier academic institutions like Anna University, IIT Madras, etc., and the fact shall be informed to SEIAA.
- xv) The height and coverage of the constructions shall be in accordance with the existing FSI/FAR norms as per Coastal Regulation Zone Notification, 2011.
- xvi) The basement of the building shall be above the maximum flood level documented by the Water Resource Department in consultation with CMDA.

- xvii) Details of Flood occurrence and also certificate stating that the proposed site not encroached any water body (rivers, canals, lakes, ponds, tanks etc.,) from its original boundary , shall be obtained from PWD and Revenue department before obtaining CTE/CTO.

Part B- Conditions for construction phase:

- i) All the laborers to be engaged for construction should be screened for health and adequately treated before and during their employment on the work at the site.
- ii) The entire water requirement during construction phase shall be met from out sourcing from the source with approval of the PWD Department of water resources.
- iii) Provision shall be made for the housing labor within the site with all necessary infrastructures and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- iv) A First Aid Room shall be provided in the project site during the entire construction phase of the project.
- v) Adequate drinking water and sanitary facilities should be provided for construction workers at the site. The treatment and disposal of waste water shall be through dispersion trench after treatment through septic tank. The MSW generated shall be disposed through Local Body and the identified dumpsite only.
- vi) The solid waste in the form of excavated earth excluding the top soil generated from the project activity shall be scientifically utilized for construction of approach roads and peripheral roads, as reported.
- vii) All the top soil excavated during construction activities should be stored for use in horticulture/ landscape development within the project site.
- viii) Disposal of other construction debris during construction phase should not create any adverse effect on the neighboring communities and be disposed off only in approved sites, with the approval of Competent Authority with necessary precautions for general safety and health aspects of the people.
- ix) Construction spoils, including bituminous materials and other hazardous materials, must not be allowed to contaminate watercourses. The dump sites for such materials must be secured so that they should not leach into the adjacent land/ lake/ stream etc.
- x) Low Sulphur Diesel shall be used for operating diesel generator sets to be used during construction phase. The air and noise emission shall conform to the standards prescribed in the Rules under the Environment (Protection) Act, 1986, and the Rules framed thereon.
- xi) The diesel required for operating stand by DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.
- xii) Vehicles hired for bringing construction materials to the site should be in good condition and should conform to air and noise emission standards, prescribed by TNPCB/CPCB. The vehicles should be operated only during non-peak hours.
- xiii) Ambient air and noise levels should conform to residential standards prescribed by the TNPCB, both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely

monitored during the construction phase. The pollution abatement measures shall be strictly implemented.

- xiv) Fly- Ash bricks should be used as building material in the construction as per the provision of Fly ash Notification of September, 1999 and amended as on 27th August, 2003.
- xv) Ready-mix concrete shall alone be used in building construction and necessary cub-tests should be conducted to ascertain their quality.
- xvi) Storm water management around the site and on site shall be established by following the guidelines laid down by the storm water manual.
- xvii) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices prevalent.
- xviii) Fixtures for showers, toilet flushing and drinking water should be of low flow type by adopting the use of aerators / pressure reducing devices / sensor based control.
- xix) Use of glass shall be reduced up to 40% to reduce the electricity consumption and load on air conditioning. If necessary, high quality double glass with special reflecting coating shall be used in windows.
- xx) Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material, to fulfill the requirement.
- xxi) Opaque wall should meet prescribed requirement as per Energy Conservation Building Code which is mandatory for all air conditioned spaces by use of appropriate thermal insulation material to fulfill the requirement.
- xxii) Adequate fire protection equipment's and rescue arrangements should be made as per the prescribed standards.
- xxiii) Proper and free approach road for fire-fighting vehicles up to the buildings and for rescue operations in the event of emergency shall be made.
- xxiv) All Energy Conservation Building Code (ECBC) norms have to be adopted.
- xxv) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- xxvi) Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- xxvii) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, and the shortfall shall be strictly reviewed and addressed.
- xxviii) Provision of drainage system for collecting storm water runoff is yet to be made.

- xxix) The natural topography has been changed at the site so that the storm water is collected and disposed towards the roadside.
- xxx) No major green belt is proposed to be developed as the area has either been paved or earmarked for some other activity. Need to realign the infrastructure of the parking and other ancillary units to provide some space for green belt development.

Part C- Conditions for Operation Phase/Post Construction Phase/Entire Life of the Project:

- i. The SEIAA reserves the right to add additional safeguard measures subsequently, if non-compliance of any of the EC conditions is found and to take action, including revoking of this Environmental Clearance as the case may be.
- ii. There shall be no drawl of ground water.
- iii. The Project Proponent shall plant tree species with large potential for carbon capture in the proposed green belt area based on the recommendation of the Forest department well before the project is ready for occupation.
- iv. The Proponent should be responsible for the maintenance of common facilities including greening, rain water harvesting, sewage treatment and disposal, solid waste disposal and environmental monitoring including terrace gardening for a period of 3 years. Within one year after handing over the flats to all allottees a viable society or an association among the allottees shall be formed to take responsibility of continuous maintenance of all facilities with required agreements for compliance of all conditions furnished in Environment Clearance (EC) order issued by the SEIAA-TN or the Proponent himself shall maintain all the above facilities for the entire period. The copy of MOU between the buyers Association and proponent shall be communicated to SEIAA-TN.
- v. There shall be no discharge of excess treated water, ensuring zero Liquid discharge.
- vi. The ground water level and its quality should be monitored and recorded regularly in consultation with Central Ground Water Authority.
- vii. STP should be open to sky only and should not be enclosed/covered.
- viii. The Sewage Treatment Plant (STP) installed should be certified by an independent expert/ reputed Academic institutions for its adequacy and a report in this regard should be submitted to the SEIAA, TN before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled / reused to the maximum extent possible. Treatment of 100 % grey water by decentralized treatment should be done. The treated sewage shall conform to the norms and standards for bathing quality laid down by CPCB irrespective of any use. Necessary measures should be made to mitigate the odour and mosquito problem from STP. Explore the less power consuming systems viz. baffle reactor etc. for the treatment of sewage.
- ix. The Proponent shall install STP as furnished. Any alteration to satisfy the bathing quality shall be informed to SEIAA-TN.
- x. The Proponent shall operate STP continuously by providing stand by DG set in case of power failure.

- xi. It is the sole responsibility of the proponent that the treated sewage water disposed for green belt development/ avenue plantation should not pollute the soil/ ground water/ adjacent canals/ lakes/ ponds, etc.
- xii. Adequate measures should be taken to prevent odour emanating from solid waste processing plant and STP.
- xiii. The Plastic wastes shall be segregated and disposed as per the provisions of Plastic Waste (Management & Handling) Rules 2011.
- xiv. The e - waste generated should be collected and disposed to a nearby authorized e-waste centre as per e waste (Management & Handling), Rules 2011.
- xv. Diesel power generating sets proposed as source of back-up power during operation phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets.
- xvi. The diesel required for operating DG sets shall be stored in underground tanks fulfilling the safety norms and if required, clearance from the Chief Controller of Explosives shall be taken.
- xvii. The acoustic enclosures shall be installed at all noise generating equipment's such as DG sets, air conditioning systems, cooling water tower, etc. and the noise level shall be maintained as per MoEF/CPCB/TNPCB guidelines/norms both during day and night time.
- xviii. Spent oil from D.G sets should be stored in HDPE drums in an isolated covered facility and disposed as per the Hazardous Wastes (Management, Handling, Trans boundary Movement) Rules 2008. Spent oil from D.G sets should be disposed off through registered recyclers.
- xix. The proponent/ Owner of the Flats shall ensure that storm water drain provided at the project site shall be maintained without choking or without causing stagnation and should also ensure that the storm water shall be properly disposed off in the natural drainage / channels without disrupting the adjacent public. Adequate harvesting of the storm water should also be ensured.
- xx. The proponent/ Owner of the Flats shall ensure that roof rain water collected from the covered roof of the buildings, etc. shall be harvested so as to ensure the maximum beneficiation of rain water harvesting by constructing adequate sumps so that 100% of the harvested water shall be reused.
- xxi. Rain water harvesting for surface run-off, as per plan submitted should be implemented. Before recharging the surface run off, pre-treatment with screens, settlers etc. must be done to remove suspended matter, oil and grease, etc. The Proponent shall provide adequate number of bore wells / percolation pits/ etc. as committed. The bore wells / percolation pits/ etc. for rainwater recharging should be kept at least 5 mts. above the highest ground water table.
- xxii. Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrids system or fully solar system for a portion of the apartments shall be provided.

- xxiii. A report on the energy conservation measures conforming to energy conservation norms prescribed by the Bureau of Energy Efficiency shall be prepared incorporating details about building materials & technology; R & U factors etc. and submitted to the SEIAA in three months' time.
- xxiv. Energy conservation measures like installation of CFLs/TFLs for lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.
- xxv. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site shall be avoided. Parking shall be fully internalized and no public space should be utilized. Parking plan to be as per MoEF norms. The traffic department shall be consulted and any cost effective traffic regulative facility shall be met before commissioning.
- xxvi. The proponent shall prepare completion plans showing Separate pipelines marked with different colors with the following details
- i. Location of STP, compost system, underground sewer line.
 - ii. Pipe Line conveying the treated effluent for green belt development.
 - iii. Pipe Line conveying the treated effluent for toilet flushing
 - iv. Water supply pipeline
 - v. Gas supply pipe line, if proposed
 - vi. Telephone cable
 - vii. Power cable
 - viii. Storm water drains, and
 - ix. Rain water harvesting system. etc.
- and it shall be made available to the owners.
- xxvii. A First Aid Room shall be provided during operation of the project, with necessary equipment's and life-saving medicines and should be manned all the 24 hours any day.
- xxviii. The buildings should have adequate distance between them to allow free movement of fresh air and passage of natural light, air and ventilation. Landscape plan to be revised accordingly.
- xxix. The amount of Rupees equivalent to 0.5% of the Project Cost by the proponent under CSR activity should be earmarked for such activities as committed by the proponent for the purpose for which it was allocated.
- xxx. Lightning arrester shall be properly designed and installed at top of the building and where ever is necessary.

- xxxi. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company. The status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Bangalore by e-mail.
- xxxii. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance.
- xxxiii. The SEIAA, TN may alter/modify the above conditions or stipulate any further condition in the interest of environment protection, even during the subsequent period.
- xxxiv. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
- xxxv. The SEIAA, TN may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, if, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.
- xxxvi. A copy of the Environmental clearance (EC) letter shall be made available to all the allottees along with the allotment order / sale deed.
- xxxvii. The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, Chennai, the respective Zonal Office of CPCB, Bengaluru and the TNPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectorial parameters, indicated for the project shall be monitored.
- xxxviii. A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
- xxxix. The Regional Office of the Ministry located at Chennai shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- xl. The project proponent shall submit progress reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Chennai, the respective Zonal Office of Central Pollution Control Board, SEIAA, TN and the State Pollution Control Board once in six months.

- xli. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- xlii. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law, including the Hon'ble National Green Tribunal relating to the subject matter.

ANNEXURE II

Non compliance status by the Project Proponents in respect of Conditions imposed by the CMDA / Corporation of Chennai / Police (Traffic) / CMWSSB / IAF / AAI / Local Panchayat / DF&RS

1. Project Proponent: M/s Y.Pondururai:

Conditions imposed by CMDA:

*C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
6	The applicant shall not commence any activity, excepting fencing of the site and construction of temporary shed for Guard, without obtaining, Environmental Clearance under the EIA Notification, 2006 from the SLEIAA or the MoEF, Govl.	Not complied	Nil

Conditions imposed by Local Body (CoC):

C.No.	CONDITIONS	COMPLIANCE STATUS	Remarks
3	Rain Water Harvesting should be done as shown in the plan.	Not yet complied with.	Nil

Conditions imposed by Police (Traffic):

C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
1	The applicant has to provide an Internal Auto Bay to facilitate visitors.	Not provided at the time of Inspection.	The P.P informed that the internal auto/taxi bay has been proposed in front of the main block. Will have to be ensured during CC stage.
3	The Entry and Exit gate should be provided with bell mouth shape having easy access for the vehicle movement.	Not complied at the time of Inspection.	This will be confirmed by CMDA at the time of issuing Completion Certificate.
4	The drive way provided by the applicant should be maintained properly.	Not complied at the time of Inspection.	This will be confirmed by CMDA at the time of issuing Completion Certificate (CC).

Conditions imposed by CMWSSB for STP:

C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
3	The applicant has proposed the treatment unit to be constructed below GL with access to treatment units through headroom at GL. The panel board and Air blowers are proposed to be placed in the head room.	Not complied.	The P.P informed that the same will be completed before getting Completion Certificate (CC).
4	The applicant should ensure that the structures provided for the underground treatment units are water proof and also the internal sewer system for the proposed development should be laid / maintained subsequently in a manner such that the entry of rain water collected in the site is prevented at any point in the internal sewer system.	Not complied.	The P.P informed that the same will be completed before getting Completion Certificate (CC).

5	As the treatment units are proposed below ground level, sufficient air circulation through duct arrangements is to be ensured for achieving the desired degree of treatment and safety.	Not complied	The P.P informed that the same will be completed before getting Completion Certificate (CC).
6	The applicant has proposed to reuse the entire quantity of treated effluent (98208 L/D) for toilet flushing and gardening. As such a separate plumbing line is to be provided for conveyance of treated effluent for above reuse purposes. The entire quantity of treated effluent should be utilized within the building.	Not fully complied. Part of the effluent proposed by the PP to dispose through public sewer system.	Nil

Conditions imposed by AAI

C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
2	No Radio/ TV antenna or Lightning arresters, staircases, mumtee, overhead water tank and attachments and fixtures of any kind shall project above the height indicated.	Building not completed.	To be verified at the time of issuing Completion Certificate
4	No light or combination of light which by reason of its intensity, configuration, of colour will cause confusion with the aeronautical ground lights of airport shall be installed at the site at any time duration or after the construction of the residential building	Building not completed.	To be verified at the time of issuing Completion Certificate

Non-Compliance of some major Conditions imposed by SEIAA

S.No	CONDITIONS	COMPLIANCE STATUS	REMARKS
1.	"Consent for Establishment" shall be obtained from the Tamil Nadu Pollution Control Board and a copy shall be submitted to the SEIAA, Tamil Nadu before taking up any construction activity at the site.	Not obtained	Not obtained.
2.	The Project Proponent shall plant tree species with large potential for carbon capture in the proposed green belt area based on the recommendation of the Forest department well before the project is ready for occupation.	Not complied.	No green belt was seen.
3.	The Proponent shall install STP as furnished. Any alteration to satisfy the bathing quality shall be informed to SEIAA-TN.	STP constructed needs to be redesigned/modified.	The STP is inadequate to meet SEIAA conditions and needs modification for better accessibility for proper operation & maintenance.
4.	Adequate measures should be taken to prevent odour emanating from solid waste processing plant and STP.	Not complied.	No such measure were indicated.
5.	The proponent/ Owner of the Flats shall ensure that roof rain water collected from the covered roof of the buildings, etc. shall be harvested so as to ensure the maximum beneficiation of rain water harvesting by constructing adequate sumps so that 100% of the harvested water shall be reused.	Not complied.	Inadequate infrastructure.
6.	Rain water harvesting for surface run-off, as per plan submitted should be implemented. Before recharging the surface run off, pre-treatment with screens, settlers etc. must be done to remove suspended matter, oil and grease, etc. The Proponent shall provide adequate number of bore wells / percolation pits/ etc. as committed. The bore wells / percolation pits/ etc. for rainwater recharging should be kept at least 5 mts. above the highest ground water table.	Not complied.	No such pre-treatment and other structures seen during inspection.
7.	Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrids system or fully solar system for a	Not complied.	No solar panel installed.

8.	<p>portion of the apartments shall be provided.</p> <p>Provision of drainage system for collecting storm water runoff is yet to be made.</p>	Not complied.	No proper drains seen during inspection
9.	<p>Traffic congestion near the entry and exit points from the roads adjoining the proposed project site shall be avoided. Parking shall be fully internalized and no public space should be utilized. Parking plan to be as per MoEF norms. The traffic department shall be consulted and any cost effective traffic regulative facility shall be met before commissioning.</p>	Not complied.	The entry to the site is from main road and there is all possibility of traffic jam during peak traffic hours.
10.	<p>The proponent shall prepare completion plans showing Separate pipelines marked with different colors with the following details</p> <ol style="list-style-type: none"> i. Location of STP, compost system, underground sewer line. ii. Pipe Line conveying the treated effluent for green belt development. iii. Pipe Line conveying the treated effluent for toilet flushing iv. Water supply pipeline v. Gas supply pipe line, if proposed vi. Telephone cable vii. Power cable viii. Storm water drains, and ix. Rain water harvesting system. etc. <p>and it shall be made available to the owners.</p>	Not complied.	Not prepared.

Table 1 : Details of Clearance/Permission/NOCs required for the Construction of Commercial Group Development Buildings depending upon project type/size

S. No.	Various Authorities for issuing Clearance/Permission/NOCs	Time of the permission	Permissions required by M/s.Y.Pondurai
1	Planning permission from CMDA	Obtained on 31.12.2013	✓ +
2	Environmental Clearance (built up area exceeds 20000 sqm)	Applied on 28.02.2014 and obtained ED on 31.12.2015	✓ +
3.	Coastal Regulation zone clearance	Not Applicable	Not Applicable
4.	Consent for establishment and operation under State Air and Water Acts	Not Applicable Consent for establishment is before commencement and consent for operation after construction before commencing occupation	✓ (Not granted)
5.	Public Health Act	Not Applicable	Not Applicable
6.	Tamil Nadu Lift Act, 1997	No proper information provided	No proper information provided
7.	Tamil Nadu Building and other construction workers (Regulation of employment and condition of service) Rule,2006	Not Applicable	Not Applicable
8.	Interstate Migrant Workmen Act 1980, Tamil Nadu Rule (Regulation of employment and condition of service) Act 1920.	Not Applicable	Not Applicable
9	Directorate of Fire & Rescue Service	Obtained on 11.11.2013	✓ +
10.	Traffic (Police) Dept.	Obtained on 28.05.2013	✓ +
11.	Airport Authority of India when height exceeds 30m.	Obtained on 02.11.2012	✓ +
12.	Indian Air Force	Not Applicable	Not Applicable
13.	PWD (if site is located adjacent to water body).	Not Applicable	Not Applicable
14.	Revenue Dept.,(land reforms act)	Not Applicable	Not Applicable
15.	National Highway Authority.	Not Applicable	Not Applicable
16.	Chennai Metropolitan Water Supply and Sewage Board (CWSSB) (For STP design, swimming pool).	For STP – obtained on 20.11.2012 For - Swimming Pool: Not Applicable.	✓ +
17.	Archaeological Survey of India (ASI).	Not Applicable	Not Applicable
18.	Railways	Not Applicable	Not Applicable
19.	Department of Explosives	Not Applicable	Not Applicable

✓ : Permission Required

✓ + : Permission granted

No.	Project Proponent	Power Requirement (KW/KVA) *	Backup Power (KVA)	Energy saving measures (KWH)				Energy Conservation Materials/Equipment used/to be used in the project
				Solar Energy	CFL/LED	Others	Total Power Saving & percentage	
1	M/s.Y.Pondurai	6400 KW	12000	20/day	4060/day	NIL	4080/day	Fuso Laminated Safety Glass-22.8 MM thick PVB sandwiched glass. <u>Benefits:</u> Extremely high safety performance; Sound control; Ultra Violet Screening; Improved security; Delayed fire spread; Facade panels of Max F-Quality for panelling. <u>Benefits:</u> Weather resistant; Optimal light fastness; Impact resistant; Solvent & Scratch resistant; Heat & Frost resistant; Sustainable & Environment Friendly panels

Table 2: Energy Management

*Connected Load;

CFL: Compact Fluorescent Light; LED: Light Emitting Diode; #KWPA - Kilo Watt Per Annum; RMC: Ready Mix Concrete

Table3 :- Rain Water Harvesting (RWH)

No	Project Proponent	Roof Top Area	Road & Paved Area	Unpaved Area	Annual Potential of roof top RWH* /Underground Storage Tank for roof top RWH (KL)	Percentage storage of roof top RWH	Annual Potential of RWH from open area at Ground level** (KL)	Method of RWH
		(sq.m)						
1	M/s.Y.Pondurai	4349.39	3043.52	1129.0	3549 / 46	1.29 %	2700	Rain water collection through pits and trenches

* Assuming average annual rainfall intensity: 1200 mm ; Paved and roof top runoff co-efficient = 0.85; Co-efficient for first flush and evaporation = 0.8.

** Assuming average annual rainfall intensity: 1200 mm ; Unpaved area runoff co-efficient = 0.2 and Paved area run-off coefficient: 0.85; Co-efficient for first flush and evaporation = 0.8.

KL – Kilo litre = Cubic Metre

Table 4:- Water and Wastewater Management

S.No	Project Proponent	Fresh Water Requirement (in KLD)		Waste Water (in KLD)			Units of STP/Capacity	Remarks	
		Phase/Supplier	Qty.	Waste water generated	Reuse & Recycle	Excess Quantity to be discharged			Point of discharge
1	Y.Pondurai	Construction: Private Water Tankers	28	Not Applicable as Operation phase not started					Nil
		Operation : CMWSSB / Private Water Tankers	30	84	Toilet Flushing: 60 +Gardening: 4 + HVAC: 16 = 80	NIL	Proposed for Zero Liquid Discharge (ZLD) – seems infeasible.	Primary- Secondary(FBBR)- Tertiary(Pressure sand filter, activated carbon and Ultra Filtration): 100 KLD	STP units accessibility inadequate*. Tube settler provided in STP which is difficult to maintain. Mechanical equipment yet to be installed. Blow down from cooling tower not mentioned.

* The STP is constructed below ground level, head space is inadequate for free movement and poor accessibility to the STP units, thus preventive maintenance and break down maintenance is difficult. STP units are covered (not visible) and any upsetting in plant operation cannot be visualized and can be only ascertained after results of effluent quality and operating parameters are available.

Qty: Quantity; C: Construction Phase; O: Operation Phase; PWT: Private Water Tankers; STP: Sewage Treatment Plant; SST: Secondary Settling Tank; CMWSSB: Chennai Metropolitan Water Supply and Sewerage Board; MBBR : Moving Bed Bio Reactor; SBR: Sequential Batch Reactor; FBBR: Fluidized Bed Bio Reactor; UF: Ultra Filtration ; UV: Ultra Violet

Table 5: Green Belt Development

S. No	Project Proponent	Area Details (sq.m)			Plantation Proposed			OSR (sq.m)
		Project Area	Built up Area	Area earmarked for Green belt	Trees (No's)	Landscape (sq.m)	Roof garden* (sq.m)	
1	M/s.Y.Pondurai	9995.00	42947.31	1129.00	42	Nil	Nil	Nil

*Proposed to provide green pavers for retaining the soil substrate.

Saplings already planted.

ANNEXURE-IX

**REPORT OF M/S RUBY MANOHARAN PROPERTY
DEVELOPERS PVT. LTD**

1.0 Project Proponent - M/s Ruby Manoharan Property Developers Pvt. Ltd

The project of M/s Ruby Manoharan Property Developers Pvt. Ltd is spread over an area of 6173.40 m². The construction work has been completed. The proponent has received completion certificate from CMDA. As informed by CMDA the construction is in line with the Planning Permission. The details of the project are as under:

- The site is located in Vengaivasal Village, St.Thomas Mount Panchayat union, Tambaram Taluk, Kanchipuram district within the Chennai Metropolitan Area.
- The land was purchased by Tangerine Tech-Parks P. in 2006 and General Power of Attorney given to the Project Proponent in 2009 and construction started on 30.01.2013.
- The land covered in the project is zoned for mixed residential use as per the 2nd Master Plan for Chennai Metropolitan area which is in force since September 2008.
- The maximum building height permissible for this category of development as per Development Regulations is 60.00 meters and the maximum permissible FSI is 2.5. The actual height of the building is 48.00 meter and FSI 3.5.
- Reserved Forest – Nanmangalam Reserved Forest is across the road
- Seismicity – Seismic Zone III (Moderate)

2.0 Permissions/ Clearances / NOCs required

The project proponent is required to obtain requisite clearances / permissions / NOCs from State / Central Regulatory Agencies/Organizations for initiating construction. The details of the permissions/clearances/NOCs required for construction are given in **Table- 1**. The height of the building being 48.00 mtrs. and more than 04 floors it is covered under multi-storeyed building category. As per the regulations in-force, the project of M/s Ruby Manoharan Property Developers Pvt. Ltd requires permissions/clearances/NOCs as stated in **Table-1**.

The project proponent i.e. M/s. Ruby Manoharan Property Developers Pvt. Ltd, applied for EC to SEIAA, before starting construction on 30.01.2013 a mandatory requirement, before starting of construction work or preparation of land on 11.01.2013. As the project area was less than 150,000 Sq.ft, TOR was not issued. The Environmental Clearance was granted to the project proponent on 14.12.2015, i.e. M/s Ruby Manoharan Property

Developers Pvt. Ltd, when all the construction work were completed. The project proponent has taken planning permission from Chennai Metropolitan Development Authority (CMDA) and NOCs from other Departments like Indian Air Force, Airport Authority of India, DF&RS, Police (Traffic), Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB), etc. The Building Permit to the project proponent was accorded by the village President/ Executive officer, Vengaivasal first grade panchayat on 24.01.2013 subsequent to the approval accorded by CMDA on 04.01.2013. The planning permission for the project was issued by CMDA under the Development Regulation forming the part of the 2nd Master Plan for Chennai Metropolitan area approved by the Tamil Nadu Government under Tamil Nadu Town and Country Planning Act, 1971. The CMDA and other regulatory agencies/organization have specified conditions which need to be complied with by the project proponent and the same is annexed at **Annexure-I**.

The conditions imposed by agencies such as CMDA, Traffic Department, CMWSSB, etc., and not complied by the project proponent are annexed at **Annexure-II**. The chart indicates that besides other violations the major violation by the project proponent has been initiation of the construction activity at site without having the necessary Environmental clearance, a mandatory requirement.

3.0 The Report

This report is submitted with reference to tasks assigned to the Committee.

➤ *Illegal and unauthorized acts and activities carried out by the Respondents.*

The following illegal acts and activities by the Project Proponent have been noted by the Committee:

- Initiated construction at site without obtaining Environmental Clearance under section 2 of the EIA Notification dated 14.09.2006 issued under section 5(3) of Environment (Protection) Rules, 1986 from SEIAA, Tamil Nadu.
- Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated by CMDA.
- Did not obtain 'Consent to Establish' required for commencement of work from Tamil Nadu Pollution Control Board.
- Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated in the Building Permit by the Vengaivasal First grade

Panchayat (The permission by the Panchayat is to be read with conditions of CMDA).

➤ **Ecological and environmental damage done by these projects**

The ecological and environmental impacts are expected from:

- i) Disposal of solid waste: The bio degradable portion (408 kg/day) of domestic waste is to be treated through Organic Waste Converter (OWC)/UF and the treated sludge from STP (28 Kg/day) used as manure. The non-biodegradable fraction (272 kg/day) is proposed to be handed over to the authorized recyclers. Any unscientific disposal of solid waste has all potential to contaminate ground water besides being a source of unaesthetic conditions and odour.
- ii) Sewage disposal: The Proponent has installed STPs having installed capacity of 130 KLD (Against 80 KLD capacity of STP – Vis a Vis 75.96 KLD sewage generated as per the permission accorded by CMWSSB) as against the expected sewage generation of 124 KLD. The treated effluent is proposed to be utilized for meeting the demand for toilet flushing (48 KLD); gardening (5 KLD) and avenue plantation (65 KLD) maintained by Thiruvanchery Panchayat. The details of avenue plantation land for irrigation not provided. The treated sewage is proposed to be sent through tankers due to non-availability of any conveyance system from the project site to the avenue plantation land. Besides during the rainy period when this excess treated sewage cannot be utilized for green belt no storage provision is available with the unit which is likely to result in its discharge along with the storm water and can be a cause of unaesthetic appearance and odour problem.
- iii) Water abstraction: The water from the O2 wells within the permission is to be used for water supply in absence of availability of potable water supply from CMWSSB. The proponent is yet to obtain permission from PWD for ground water abstraction. Any over exploitation of groundwater would impact the groundwater table. A study needs to be conducted to assess the charging rate vis-à-vis the abstraction from the groundwater sources. As permission for use of ground water is awaited, the fresh water requirement is met by procuring water tankers.
- iv) Noise Pollution: There is a possibility of increase in noise levels once the dwellings units are occupied. The increase in noise level can be taken care by providing green belt along the boundary wall and other acoustic measures to cushion the impact of noise.

- v) Air Pollution: As per the 2nd Master Plan for CMA land use which is in force since September 2008, the project land is zoned for mixed residential use. As the site is meant for construction of residential complex it cannot be considered to be contributing to the deterioration in air quality.
- vi) The ground water table is at 3.71 to 4.5 meters from ground level. Construction activity below the ground water table has all the potential to impact the ground water recharging system.

➤ **Installation of STP**

- i. The total sewage generation anticipated from the project is 124 KLD. STP with total treatment capacity of 130 KLD has been constructed.
- ii. The design of the STP unit indicates adequacy of the system with the norms prescribed by CMWSSB for effluent quality, however the actual efficacy can be assessed only after details of the mechanical installed and their ratings are known. The STP need to be upgraded to meet the bathing water quality norms for the treated sewage as specified in the EC conditions by SEIAA.
- iii. The STP units do not have adequate space for free movement, thereby making it difficult to collect samples and undertake preventive and breakdown maintenance. With the layout of STPs the operation of plants cannot be seen / visualized and any disruption in plant condition/plant performance can be assessed only after examining/seeing the results of effluent quality parameters and the values of the plant operating parameters.
- iv. No green belt has been developed within the project areas, hence there is no possibility to utilize the treated sewage (5 KLD) earmarked for green belt development on all days and specifically during the rainy days. The leftover would be required to be discharged along with the excess sewage.
- v. The treated sewage has to meet the bathing quality (laid down by CPCB) specified by SEIAA in the EC.

- **Other anti-pollution devices by the Project Proponent**
To meet the power requirement during periods of power failure, gensets using high speed diesel as fuel and meeting the norms prescribed by CPCB have been installed.
- **Proposed point of discharge of sewage and any other untreated waste**
As per the conditions imposed by CMWSSB, the entire quantity of treated sewage has to be reused for toilet flushing and gardening. However, as per the conditions specified in EC and information provided by the Project Proponent the 65 KLD of excess treated sewage shall be disposed through local Panchayat for avenue plantation, which does not seem feasible considering the large area requirement. The details of land for avenue plantation need to be provided. The utility of this excess sewage during rainy season cannot be ensured. In absence of conveyance system the treated sewage is to be sent to avenue plantation area through tankers for which adequate storage capacity need to be provided. As no provision for storage of the excess sewage has been made for the low demand period thereby leaving no other option but to discharge it on the land outside the project premises or any drain nearby.
- **Source of water during operation phase and otherwise**
As per the information provided by the Project Proponent, water has been supplied through tankers at site for the construction activity. In the operation phase, the Proponent has planned to use groundwater for supply to the residents, Permission from PWD is still awaited, and in absence of the required permission water is procured through tankers.
- **Use of energy efficient devices**
The energy saving measures adopted / proposed include installation of CFL / LED lamps. The details of the measures taken or proposed for energy saving are given in **Table-2.**
- **Ecologically and environmentally sensitive areas**
The Nanmangalam Reserved Forests is opposite to the project site across the road site. There are no National Parks/Wildlife Sanctuaries, reservoirs/lakes near the site.
- **Details of alteration of land its effect on the natural topography**
The project site has been flattened to make for the construction activity. The natural gradient of the site is altered so that the storm water can be discharged in the drain towards the road. The contour map indicates a total level difference of 2.0 meters. The maximum contour is 8374 meters and minimum is of 6.42 meters.

➤ **Effect on natural drainage system**

The site map shows thick bushes in the project sites which were not seen during site visit. The gradient change done at the site has all possibility to change the storm water flow pattern and lead to flooding on the road side in case the capacity of drain is not adequate enough to take the entire storm water flow besides it can also lead to flooding on the opposite side if there is no way out for the storm water granted in that area.

Any construction below the water table level has all possibility to impact the ground water recharging system. A study to be conducted to assess the impact if any.

➤ **Adequacy of rainwater harvesting system**

The Project Proponent has made provision for roof top rain water harvesting and recharging of surface water runoff. Details of rain water harvesting are shown in Table 3. The Project Proponent has to provide pre-treatment to the surface runoff to remove the suspended solids, oils and grease, etc., before recharging and making provision for reuse of 100 % of the rain water harvested. There is no drainage system outside the project area and any discharge of excess storm water runoff has all possibility to create stagnation and flooding outside.

➤ **Adequacy of parking area and if at all they have been provided**

Provision has been made for providing space for parking 132 cars and 170 two-wheelers for the 206 residential units and the commercial block and club house as per CMDA norms.

➤ **Collection and disposal of municipal solid waste at the project site**

Out of the estimated Municipal solid waste of 680 Kg/day generated, the bio-degradable waste (408 kg/day) is proposed for composting through organic waste converter and the non bio-degradable waste 272 Kg/day disposed through authorized recyclers. The dried STP sludge (28 kg/day) is proposed to be used as manure in the green belt.

➤ **Compliance of conditions stated in the planning permission and other permissions granted by various authorities**

- Project Proponent initiated construction without obtaining EC violating the conditions specified by CMDA and Village Panchayat.
- Project Proponent initiated construction without obtaining Consent to Establish from Tamil Nadu Pollution Control Board.

- Project Proponent initiated construction without obtaining EC from SEIAA.
 - As per the conditions imposed by CMWSSB, the treated sewage is to be utilized for toilet flushing and gardening. The Project Proponent proposes to dispose the excess 65 KLD of treated sewage for avenue plantation maintained by Thiruvanchery panchayat which is in violation to the conditions imposed by CMWSSB, but in line with EC conditions imposed by SEIAA.
- **Whether suggestions made by the SEIAA in its meetings adequately take care of environment and ecology?**
- The conditions stipulated by SEIAA in the Environmental Clearance are generic and cover wide spectrum of environment. The condition need to be more specific for effective implementation and monitoring. The conditions with respect to the quantum of energy saving, use of fly ash bricks, rain water storage capacity, area for green belt etc. should be specific and precise to bring uniformity in the conditions imposed.
- **Whether demolition or raising of additional structures are required in the interest of environment and ecology**
- M/s Ruby Manoharan Property Developers Pvt. Ltd. Started construction without obtaining EC, a mandatory requirement before starting construction work or preparation of land. The proponent applied for EC on 11.01.2013 i.e., before starting construction. EC was granted by SEIAA on 14.12.2015.
 - The STP has been designed to meet the treated effluent quality of BOD-20mg/l and SS-30 mg/l. The EC conditions stipulate the requirement of meeting bathing water quality norms i.e., BOD<3mg/l. The existing STP need to be upgraded to meet the norms specified by SEIAA in EC, besides, it also need to be modified for providing safe and proper access to the various units.
 - Development of green belt has not been accorded priority as no green belt was seen at the site. Some of the existing infrastructure need to be realigned for providing space for green belt development.

4.0 Observations

Based on the assessment of available information and physical visit to the site, the following observations were made:

4.1 General Observation

- i. EC was granted by SEIAA on 14.12.2015, well after the construction activities had been completed.
- ii. Consent to Establish not obtained from Tamil Nadu Pollution Control Board.
- iii. Violated CMDA condition of not commencing activity without obtaining Environmental clearance.
- iv. No green belt developed at the site.
- v. During of inspection partial occupancy was observed. However, no effluent was being discharged.
- vi. Completion Certificate was issued by CMDA to the project on 04.01.2016.

4.2 Water Management

The various aspects of water management including the source of water supply, the quantum of sewage generated, its treatment, adequacy of Sewage Treatment Plants, reuse and recycling of the treated effluent and its disposal were examined. The observations made are given in **Table-4**. The major observations are as under:

- i. The water requirement during construction phase was met through private tankers.
- ii. The STP of M/s Ruby Manoharan Property Developers Pvt. Ltd, has treatment capacity of 130 KLD using Ultra – Filtration (UF) system and is installed in basement.
- iii. Erection/Installation works for the STP's is completed. The size of the STP units indicates adequacy of the system, however the actual efficacy can be assessed only after details of the mechanical systems installed and their ratings are known. The EC conditions specify bathing quality norms for the treated sewage quality laid down by CPCB for the treated sewage for which STP proposed under, need to be upgraded.
- iv. The STP unit does not have proper access for free movement, thereby making it difficult to collect samples and undertake preventive and breakdown maintenance. The sewage being recycled for flushing shall be treated through the filtration system.
- v. The complex has been partially occupied. However during inspection, no treated effluent was seen generated.

- vi. The Project Proponent needs to develop environmental laboratory with capacity to monitor the operating parameters of STP and the quality of treated effluent essential for effective operation of the plant/self-monitoring and self-compliance with the norms.
- vii. The 65 KLD of excess treated sewage is proposed to be disposed on the Avenue plantation. Besides during the rainy period, this excess treated sewage cannot be utilized for green belt for which no storage provisions is available or proposed. The discharge of this excess sewage during the rainy period along with the storm water may be a cause of unaesthetic conditions and odour problem.
- viii. Fresh water requirement during operation will be met from the two bore wells presently installed within the unit. The proponent has applied for permission to use ground water which is still awaited. As per the available document the depth of wells in the site varies from 3.71 to 4.5 Meters.
- ix. The unit has proposed to utilize the 65 KLD of excess treated sewage for avenue plantation. The details of the available land for irrigation have not been provided. Besides during the rainy period, when this excess treated sewage cannot be utilized for green belt no provision of storage facility is available within the project site, which is likely to result in discharge of the excess sewage along with the storm water and may be a cause of unaesthetic appearance and odour problem.
- x. No conveyance system has been laid for transporting the treated sewage for avenue plantation. In case the effluent is to be transported through tankers, provision for storage of the treated sewage has to be made.
- xi. Color coding of pipelines have not been done at the STP.
- xii. Dual pipeline has been provided for utilizing the treated sewage for flushing.

4.3 Green Belt Development:

Total green belt area proposed is 1547 m². Development of green belt has not been accorded priority by the project proponent as no developed green belt was seen at the site. The project proponent informed of the proposal to develop green belt which seems to be after thought as the area has either been paved or earmarked for some other activity at the site. The Project Proponent need to realign the infrastructure/or any other ancillary units to provide adequate space for proper green belt development. Status of the green belt for the restitution of ecology and environment is given in **Table-5**.

4.4 Construction Waste

Data for construction waste generated during the construction activity and its use was not available with the Project Proponent, except for the information that the construction waste generated has been reused for landscaping, refilling and preparation of the site. The remaining wastes were handed over to authorized recyclers. The non-bio degradable wastes were disposed through local body.

4.5 Solid Waste

The bio degradable portion (408 kg/day) of domestic waste is proposed to be treated through Organic Waste Converter (OWC)/UF and the sludge from STP (28 Kg/day) used as manure. The non-biodegradable fraction (272 kg/day) is proposed to be handed over to the authorized recyclers.

4.6 Other observations:

The fresh water requirement shall met from the O2 wells in the premises, permission for which is still awaited.

- i) As part of energy saving measure, installation of LED/CFL bulbs are proposed.
- ii) The entry being from the main road there is likelihood of traffic congestion at the peak time in morning and evening for which traffic management plan is required to be developed and implemented.
- iii) The generator sets for standby power supply to meet CPCB norms.
- iv) For treating wet organic waste, organic waste convertor is proposed.
- v) No major green belt is developed as the area has either been paved or earmarked for some other activity. Need to realign the existing infrastructure to provide some space for green belt development.
- vi) The natural topography has been changed at the site so that the storm water is collected and disposed towards the road side.
- vii) Provision of drainage system for collecting storm water runoff has been made within the project area. Storm water drainage system needs to be provided outside the premises also for proper disposal of storm water runoff.
- viii) No major green belt is proposed to be developed as the area has either been paved or earmarked for some other activity. Need to realign the infrastructure of the parking and other ancillary units to provide some space for green belt development.

5.0 SUGGESTIONS

5.1 Conditions stipulated by CMDA

- i. CMDA shall give more emphasis on the environmental aspects including water supply disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, while according planning permission for large development.
- ii. The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006.
- iii. To have uniformity in approach so that violation of laws is avoided, a coordination mechanism between SEIAA, CMDA and other agencies need to be put into place.
- iv. As no EIA has been conducted quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA.
- v. In case any deterioration in the ambient environment / ground water quality is observed, the proponent shall inform the status to TNPCB and SEIAA and also prepare a time bound action plan for remedial measures.
- vi. The proponent shall install piezo wells to monitor the ground water quality quarterly.

5.2 Waste Water Management/Sewage Treatment

- i. The STPs constructed by M/s. Ruby Manoharan Property Developers Pvt. Ltd need to be reworked to provide easy access to the various units of STPs including adequate head space for safe movement in the area, adequate ventilation to avoid accumulation of gases such as Methane and Hydrogen Sulphide (H₂S), while ensuring easy maintenance and replacement of damaged equipment / accessories. Besides the STP needs to be upgraded to meet the stringent bathing water quality norms for treated sewage prescribed in the EC conditions.
- ii. The project proponent should provide separate electricity meter for the sewage treatment plants and maintain daily record of the power consumed, essential to ensure 24X7 functioning of STP.

- iii. The unit not having provision for discharge of treated sewage cannot be permitted to start operation unless proper arrangements are put in place for its safe handling.
- iv. In no case, the discharge of treated sewage on land cannot be permitted. Transportation of treated sewage through tankers equipped with GPS system (to monitor their movement to the existing STPs in the area) can be permitted in case adequate treatment capacity is available at STPs installed by CMWSSB. The installation of GPS system will help ensuring, that the tankers are emptied at the STPs only.
- v. The project proponent having permission to discharge the excess treated sewage to existing CMWSSB STPs, should be permitted to discharge the treated effluent conforming to the prescribed effluent norms only.
- vi. Where, the project proponent do not have outlet provisions and are not able to recycle additional sewage back into the system, beyond the presently proposed *limits, transporting of the treated sewage conforming to the specified norms for discharge to STPs* operated by CMWSSB Board through identified tankers fitted with GPS system for tracking their movements may be considered. The option can be permitted only after the project proponent develops adequate storage capacity for treated effluent.
- vii. To ensure that entire waste water generated is treated, online flow measurement system need to be installed both at the Inlet and Outlet of the STPs, and the pumps/valves integrated through software to provide the flow data.
- viii. The online system is installed to monitor the effluent quality at least for the basic parameters, such as pH, suspended solids and BOD for self-monitoring and self-regulations besides ensuring compliance of the norms. The data will be transferred directly from the analysis.
- ix. The project proponent should develop in-house laboratory for monitoring of the operating parameters of the sewage treatment plants and the treated effluent quality daily.
- x. Color coding of pipelines in the STP's should be done.
- xi. All the plumbing lines carrying raw water, untreated effluent/treated effluent etc. should be color coded.
- xii. The project proponent should not be permitted to operationalize the complexes till such time permission ty for taking potable water from ground water source is received or viable alternate arrangement made.

- xiii. The operation of STP to be supported by back power (DG set) for ensuring continuous operation of STP.

5.3 Rain Water Harvesting

If provision for discharge of excess surface run off / rain water discharge are not available, flooding in the vicinity and stagnation of the discharged water in the low lying areas around the complex are inevitable. The project proponent should ensure that such situation does not occur either by increasing the capacity of rain water storage sumps or providing additional pits in the surface run off collection drain. The surface runoff has to be treated through several settlers etc to remove suspended solids, oil and grease etc., before its use for recharging.

5.4 Green Belt Development

- i) Project proponent should plan for scientific green belt development, (exceptions are there for the landscape area or some places earmarked for plantation of trees). Maximum possible space should be left unpaved for recharging of ground water besides the proposed rain water harvesting system. The unpaved area should be covered with green top or any other pervious material to maintain permeability of soil.
- ii) Green belt should be developed all around the site boundary to act as a barrier for air and noise pollution. Ornamental plants / area left for landscape, covered with grass / shrubs and roof top garden shall not be considered in the areas mandatory for green belt development. Sufficient space has to be provided for each tree so that it does not choke to death because of the putting of cement concrete all around the tree.

5.5 Solid Waste Management

- i) The project proponent should prepare an action plan for ensuring segregation, collection, transportation, treatment and scientific disposal of Municipal Solid Waste. This action plan should be submitted to SEIAA and TNPCB for their approval.
- ii) The project proponent should put in place a system for collection of discarded CFL & LED lamp.

- iii) Separate space should be earmarked for storing of construction and demolition waste and its disposal at sites approved by local authorities.
- iv) The proponent should submit a plan for management of grit and STP sludge.
- v) The leaves/biomass should be composted at site and used as manure.

5.6 Traffic Management

- i. Once the complex is occupied, there is all possibility of traffic snarls around. The project proponent needs to submit an action plan to avoid congestion on the road, increased concentration of air pollutants.
- ii. The project proponent should ensure regular sweeping of the roads inside and adjacent to the complex to avoid re-suspension of settled dust, thereby taking care of any possibility of increasing particulate matter levels.
- iii. Car parking requirement for residential development is based on the size of the individual unit and location of the site. In the case of Low Income Group (LIG) dwelling units, which is mandatory and size does not exceed 45 m², one two wheeler parking only is required. In addition 10% of total parking is required to be provides as visitors parking.

5.7 Energy Saving

- i. All street and staircase lighting should use solar power. The project proponent should reduce the power consumption by at least 20% by replacing CFL lamps with LED lamps, using energy efficient device (solar relay – Bureau of energy efficiency) providing insulated window or insulated glasses and adopting advance elevator and air conditioning technologies as below:-
- ii. Inverter technology based Air Conditioning machines should be installed.
- iii. For meeting hot water requirement in kitchen solar energy should be used.
- iv. Installation of IR/Thermal switches in corridors/staircases to save energy needs to be promoted.
- v. The project should obtain GRIHA or any other such rating.

6.0 General Remarks

- i. In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building lay out modeled to incorporate the natural drainage as part of the system.
- ii. A systematic green belt development is necessary. In all future projects environmental issues like development of green belt, managing surface water runoff, its collection and recharge etc., provision of solid waste management, and orientation of the building for energy saving should be given priority while designing the layout and the number of dwelling units likely to come up.
- iii. In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site. As the construction works are yet to be completed, the use of construction materials to raise the ground level is avoided as it has all the possibility to affect the nature percolation rate of soil.
- iv. The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of renewable energy, green belt development for effective implementation and monitoring.

Conditions imposed by various agencies

Conditions imposed by Chennai Metropolitan Development Authority (CMDA)

1. To furnish an undertaking to abide by the terms and conditions put forth by CMDA, DF&RS, CMWSSB, AAI, IAF-Tambaram and Police (Traffic).
2. Rain water harvesting structures shall provide as shown in the approved plans to the satisfaction of the authority.
3. The applicant has also furnish an undertaking to produce EIA clearance before issue of completion certificate

Conditions imposed by Directorate of Fire & Rescue Services (DF&RS)

1. There should be a Wet riser per 1000 sqm area covering all floor area with landing valves along with delivery hose. The riser should be fully charged with adequate pressure at all times and should have both automatic and manual operation. To feed the wet riser an underground static water tank of minimum capacity 75,000 litres should be provided with refilling facility. A terrace level tank of capacity of 1000 litre also should be provided. To charge the wet riser system and the sprinkler system an electrical pump of capacity 2280 lpm should be provided near the underground water tank. An equal capacity of Diesel pump should also be provided as an alternative arrangement. The pumps should be capable of developing pressure of 3.5 Kg/cm at terrace level hydrant point. One more electrical pump of capacity of 180 lpm should be provided as a jockey pump.
2. Fire service inlet fitted with NRV at ground level should be provided.
3. Hose reel assembly should be provided covering each floor area.
4. Yard hydrant should be provided at all around the building.
5. Manual fire alarm call points should be provided at all floors.
6. Automatic sprinkler system should be provided connecting all the floors.
7. Automatic detection system should be provided at ground floor part departmental store area
8. Public address system should be provided connecting all the floors.
9. Alternate and independent power system should be provided to fire pumps, emergency lighting system and fire lift.
10. No of ramps, exits, location and their width should be conformed to the requirements to the National Building Code of India, 2nd revision Part –IV, 2005.
11. The first Aid Firefighting equipment should be provided at all floors in accordance with IS 2190:1992 requirements.
12. Fire lifts, electrical installations and wiring, A/C ducts and other service ducts should meet the requirement of NBC of India, part IV, 2nd Revision, 2005.

13. The width and height of any arch or gate, if any, should have the clearance of not less than 4.50m and 5.0m respectively.
14. The compulsory open space of 7.0m around the building should be designed to withstand a weight of 45 tons at any point of operation for the use of the Hydraulic platform vehicle.
15. The service ducts such as power cables, communication cable, A/C Ducts etc., should be protected with proper fire ceiling/fire dampers.
16. The Fire dumpers to be certified by UL555 and for Fire and Smoke dumpers UL555S.
17. The cable Gallery should be routed through fire resistant duct or fire protected tray.
18. Fire Resistant and Low Smoke Emission Cable should be used.
19. A trained fire officer with crew shall be arranged to maintain as well as to operate the fire protection system in case of any need.
20. The fire protection system provided in the building should be of approved by the competent Authority/Certified by any notified bodies.
21. Refuge area 15 sqm or an area equivalent to 0.3 sqm per person to accommodate the occupants of two consecutive floors whichever is higher shall be provided at 24th metre and 39th metre level.
22. During the construction of the building, the following fire protection measures should be provided in good working condition.
 - a) Dry riser of minimum 100mm dia pipe with Hydrant outlets constructed with a fire service inlet to boost the water in the riser from fire service pumps.
 - b) Drums filled with water of 2000 litres with two fire buckets on each floor.
 - c) A water storage tank of 20,000 litres capacity, which may be used for other construction purposes also

Conditions imposed by Local Body (Vengaiwasal First Grade Panchayat)

1. In case of any revision or deviation in the plan, the applicant has to obtain prior approval.
2. The applicant should contain the waste water generated within the site itself and should make necessary arrangements for its disposal.

Conditions imposed by Police (Traffic)

1. Entry and exit gate facing on Velachery main road which is on the northern side. The width of the entry and exit gates are 4.50m respectively with a bell shaped.
2. The applicant may be insisted to install road sign IN and OUT boards and other reflective sign boards in front of the proposed site on Velachery main road.
3. The applicant may be insisted to maintain properly the drive way distance as shown in the site plan and ensure free flow of traffic without hindrance in the site premises.

4. The applicant should construct and maintain properly the parking spaces shown and ensure the same inside of the site premises.

Conditions imposed by Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) for Sewage Treatment Plant (STP)

1. The capacity of the proposed in-situ STP of 0.08 MLD (Average Flow-domestic sewage)determined by the applicant, is only considered in scrutiny of design of proposed in-situ
2. The influent characteristics of domestic sewage generated from the development and Effluent characteristics in the effluent of STP as assumed and given by the applicant has been considered as basic data in the scrutiny of design in-situ STP and is furnished below PH- 6.5 to 8.0 (Influent), PH-6.5 to 8.0 (Effluent),Suspended Solids 450 mg/l (Influent), < 30 mg/l (Effluent), BOD - 350 mg/l (Influent), < 20 mg/l (Effluent)
3. The applicant has proposed the treatment unit to be constructed below GL with access to treatment units through headroom at GL. The panel board and Air blowers are proposed to be placed in the head room.
4. The applicant should ensure that the structures provided for the underground treatment units are water proof and also the internal sewer system for the proposed development should be laid subsequently in a manner such that the entry of rain water collected in the site is prevented at any point in the internal sewer system.
5. As the treatment units are proposed below ground level, sufficient air circulation through duct arrangements is to be ensured for achieving the desired degree of treatment and safety.
6. It is proposed to reuse the entire quantity of treated effluent (75960 L/D) for toilet flushing and gardening.
7. The applicant has proposed to dispose the sludge after lime post treatment.
8. The treated effluent, grit and sludge should be disposed off from the site in the manner as prescribed by TNPCB.

Conditions imposed by Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) for Swimming Pool

1. The provisions on extraction of Ground Water as per the Chennai Metropolitan Area Ground Water (Regulation) Act No. 27 of 1987 for the purpose of usage in Swimming pool to be complied with by the applicant.
2. The water for the usage in the swimming pool has to be purchased from CMWSS Board/ local body only and not from the private agencies.
3. The applicant shall recycle the used water of the swimming pool as proposed.
4. The applicant shall comply with all statutory requirements.

Conditions imposed by Indian Air Force (IAF)

1. The height of the building shall not exceed 53.9 mtrs. above the ground level.
2. Standard obstruction lightings to be provided by the company. The light shall be switched "ON" during night and poor visibility. Provision shall be made for stand by power supply to the light to keep them ON during Power failure.
3. Periodic maintenance of obstruction lights to be carried out by the housing societies / tenants at regular intervals to keep them invisible/serviceable condition.
4. Closed Garbage Containers shall be made available in order to ensure avoidance of bird activity.
5. The Commencement and Completion of works inclusive installation of obstruction lights shall be intimated to AOC, AF station Tambaram.
6. The validity of the NOC is three years from the date of issue. If the construction for which NOC has been issued, does not complete within five years or found to be in deviation from original proposal the NOC shall be deemed null and void. It will be the responsibility of the applicant to obtain fresh NOC for the proposal.
7. Required security clearance should be obtained through MHA/IB of the foreign nationals / Indian representative employed /to be employed by the company of India.

Conditions imposed by Airport Authority of India (AAI)

1. The height of the building shall not exceed 53.9 mtrs above the ground level.
2. No Radio/ TV antenna or Lightning arresters, staircases, mumtee, over head water tank and attachments and fixtures of any kind shall project above the height indicated
3. Uses of electrical fire or oil fired is obligatory within 8.0 Km of the aerodrome
4. No light or combination of light which by reason of its intensity, configuration of colour will cause confusion with the aeronautical ground lights of airport shall be installed at the site at any time duration or after the construction of the residential building.
5. Day and night markings with secondary power supply shall be provided as per ICAO standard

Conditions Imposed by State Level Environment Impact Assessment Authority (SEIAA)

Part A- Conditions for Pre Construction phase:

- i) The project authorities should advertise with basic details at least in two local newspaper widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of clearance. The press releases also mention that a copy of the clearance letter is available with the State Pollution Control Board and also at website of SEIAA, TN. The copy of the press release should be forwarded to the Regional Office of the Ministry of Environment and Forests located at Chennai and

SEIAA-TN.

- ii) In the case of any change(s) in the scope of the project, a fresh appraisal by the SEAC/SEIAA shall be obtained before implementation.
- iii) A copy of the clearance letter shall be sent by the proponent to the Local Body. The clearance letter shall also be put on the website of the Proponent.
- iv) "Consent for Establishment" shall be obtained from the Tamil Nadu Pollution Control Board and a copy shall be submitted to the SEIAA, Tamil Nadu before taking up any construction activity at the site.
- v) Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- vi) The approval of the competent authority shall be obtained for structural safety of the buildings during earthquake, adequacy of firefighting equipment's, etc. as per National Building Code including protection measures from lightning etc. before commencement of the work.
- vii) All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
- viii) Design of buildings should be in conformity with the Seismic Zone Classifications.
- ix) The Construction of the structures should be undertaken as per the plans approved by the concerned local authorities/local administration.
- x) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire and Rescue Services Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wild Life (Protection) Act, 1972, State / Central Ground Water Authority, Coastal Regulatory Zone Authority, other statutory and other authorities as applicable to the project shall be obtained by project proponent from the concerned competent authorities.
- xi) The Project proponent shall have to furnish the probable date of commissioning of the project supported with necessary bar charts to SEIAA-TN.
- xii) No construction activity of any kind shall be taken up in the OSR area.
- xiii) Consent of the local body concerned should be obtained for using the treated sewage in the OSR area for gardening purpose. The quality of treated sewage shall satisfy the bathing quality prescribed by the CPCB.
- xiv) The structural design of the proposed building must be vetted by premier academic institutions like Anna University, IIT Madras, etc., and the fact shall be informed to SEIAA.
- xv) The height and coverage of the constructions shall be in accordance with the existing FSI/FAR norms as per Coastal Regulation Zone Notification, 2011.
- xvi) The basement of the building shall be above the maximum flood level documented by the Water Resource Department in consultation with CMDA.

- xvii) Details of Flood occurrence and also certificate stating that the proposed site not encroached any water body (rivers, canals, lakes, ponds, tanks etc.,) from its original boundary , shall be obtained from PWD and Revenue department before obtaining CTE/CTO.

Part B- Conditions for construction phase:

- i) All the laborers to be engaged for construction should be screened for health and adequately treated before and during their employment on the work at the site.
- ii) The entire water requirement during construction phase shall be met from out sourcing from the source with approval of the PWD Department of water resources.
- iii) Provision shall be made for the housing labor within the site with all necessary infrastructures and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- iv) A First Aid Room shall be provided in the project site during the entire construction phase of the project.
- v) Adequate drinking water and sanitary facilities should be provided for construction workers at the site. The treatment and disposal of waste water shall be through dispersion trench after treatment through septic tank. The MSW generated shall be disposed through Local Body and the identified dumpsite only.
- vi) The solid waste in the form of excavated earth excluding the top soil generated from the project activity shall be scientifically utilized for construction of approach roads and peripheral roads, as reported.
- vii) All the top soil excavated during construction activities should be stored for use in horticulture/ landscape development within the project site.
- viii) Disposal of other construction debris during construction phase should not create any adverse effect on the neighboring communities and be disposed off only in approved sites, with the approval of Competent Authority with necessary precautions for general safety and health aspects of the people.
- ix) Construction spoils, including bituminous materials and other hazardous materials, must not be allowed to contaminate watercourses. The dump sites for such materials must be secured so that they should not leach into the adjacent land/ lake/ stream etc.
- x) Low Sulphur Diesel shall be used for operating diesel generator sets to be used during construction phase. The air and noise emission shall conform to the standards prescribed in the Rules under the Environment (Protection) Act, 1986, and the Rules framed thereon.
- xi) The diesel required for operating stand by DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.
- xii) Vehicles hired for bringing construction materials to the site should be in good condition and should conform to air and noise emission standards, prescribed by TNPCB/CPCB. The vehicles should be operated only during non-peak hours.
- xiii) Ambient air and noise levels should conform to residential standards prescribed by the TNPCB, both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely

monitored during the construction phase. The pollution abatement measures shall be strictly implemented.

- xiv) Fly- Ash bricks should be used as building material in the construction as per the provision of Fly ash Notification of September, 1999 and amended as on 27th August, 2003.
- xv) Ready-mix concrete shall alone be used in building construction and necessary cub-tests should be conducted to ascertain their quality.
- xvi) Storm water management around the site and on site shall be established by following the guidelines laid down by the storm water manual.
- xvii) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices prevalent.
- xviii) Fixtures for showers, toilet flushing and drinking water should be of low flow type by adopting the use of aerators / pressure reducing devises / sensor based control.
- xix) Use of glass shall be reduced up to 40% to reduce the electricity consumption and load on air conditioning. If necessary, high quality double glass with special reflecting coating shall be used in windows.
- xx) Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material, to fulfill the requirement.
- xxi) Opaque wall should meet prescribed requirement as per Energy Conservation Building Code which is mandatory for all air conditioned spaces by use of appropriate thermal insulation material to fulfill the requirement.
- xxii) Adequate fire protection equipment's and rescue arrangements should be made as per the prescribed standards.
- xxiii) Proper and free approach road for fire-fighting vehicles up to the buildings and for rescue operations in the event of emergency shall be made.
- xxiv) All Energy Conservation Building Code (ECBC) norms have to be adopted.
- xxv) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- xxvi) Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- xxvii) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, and the shortfall shall be strictly reviewed and addressed.
- xxviii) Provision of drainage system for collecting storm water runoff is yet to be made.

- xxix) The natural topography has been changed at the site so that the storm water is collected and disposed towards the roadside.
- xxx) No major green belt is proposed to be developed as the area has either been paved or earmarked for some other activity. Need to realign the infrastructure of the parking and other ancillary units to provide some space for green belt development.

Part C- Conditions for Operation Phase/Post Construction Phase/Entire Life of the Project:

- i. The SEIAA reserves the right to add additional safeguard measures subsequently, if non-compliance of any of the EC conditions is found and to take action, including revoking of this Environmental Clearance as the case may be.
- ii. There shall be no drawl of ground water.
- iii. The Project Proponent shall plant tree species with large potential for carbon capture in the proposed green belt area based on the recommendation of the Forest department well before the project is ready for occupation.
- iv. The Proponent should be responsible for the maintenance of common facilities including greening, rain water harvesting, sewage treatment and disposal, solid waste disposal and environmental monitoring including terrace gardening for a period of 3 years. Within one year after handing over the flats to all allottees a viable society or an association among the allottees shall be formed to take responsibility of continuous maintenance of all facilities with required agreements for compliance of all conditions furnished in Environment Clearance (EC) order issued by the SEIAA-TN or the Proponent himself shall maintain all the above facilities for the entire period. The copy of MOU between the buyers Association and proponent shall be communicated to SEIAA-TN.
- v. There shall be no discharge of excess treated water, ensuring zero Liquid discharge.
- vi. The ground water level and its quality should be monitored and recorded regularly in consultation with Central Ground Water Authority.
- vii. STP should be open to sky only and should not be enclosed/covered.
- viii. The Sewage Treatment Plant (STP) installed should be certified by an independent expert/ reputed Academic institutions for its adequacy and a report in this regard should be submitted to the SEIAA, TN before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled / reused to the maximum extent possible. Treatment of 100 % grey water by decentralized treatment should be done. The treated sewage shall conform to the norms and standards for bathing quality laid down by CPCB irrespective of any use. Necessary measures should be made to mitigate the odour and mosquito problem from STP. Explore the less power consuming systems viz. baffle reactor etc. for the treatment of sewage.
- ix. The Proponent shall install STP as furnished. Any alteration to satisfy the bathing quality shall be informed to SEIAA-TN.
- x. The Proponent shall operate STP continuously by providing stand by DG set in case of power failure.

- xi. It is the sole responsibility of the proponent that the treated sewage water disposed for green belt development/ avenue plantation should not pollute the soil/ ground water/ adjacent canals/ lakes/ ponds, etc.
- xii. Adequate measures should be taken to prevent odour emanating from solid waste processing plant and STP.
- xiii. The Plastic wastes shall be segregated and disposed as per the provisions of Plastic Waste (Management & Handling) Rules 2011.
- xiv. The e - waste generated should be collected and disposed to a nearby authorized e-waste centre as per e waste (Management & Handling), Rules 2011.
- xv. Diesel power generating sets proposed as source of back-up power during operation phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets.
- xvi. The diesel required for operating DG sets shall be stored in underground tanks fulfilling the safety norms and if required, clearance from the Chief Controller of Explosives shall be taken.
- xvii. The acoustic enclosures shall be installed at all noise generating equipment's such as DG sets, air conditioning systems, cooling water tower,etc. and the noise level shall be maintained as per MoEF/CPCB/TNPCB guidelines/norms both during day and night time.
- xviii. Spent oil from D.G sets should be stored in HDPE drums in an isolated covered facility and disposed as per the Hazardous Wastes (Management, Handling, Trans boundary Movement) Rules 2008. Spent oil from D.G sets should be disposed off through registered recyclers.
- xix. The proponent/ Owner of the Flats shall ensure that storm water drain provided at the project site shall be maintained without choking or without causing stagnation and should also ensure that the storm water shall be properly disposed off in the natural drainage / channels without disrupting the adjacent public. Adequate harvesting of the storm water should also be ensured.
- xx. The proponent/ Owner of the Flats shall ensure that roof rain water collected from the covered roof of the buildings, etc. shall be harvested so as to ensure the maximum beneficiation of rain water harvesting by constructing adequate sumps so that 100% of the harvested water shall be reused.
- xxi. Rain water harvesting for surface run-off, as per plan submitted should be implemented. Before recharging the surface run off, pre-treatment with screens, settlers etc. must be done to remove suspended matter, oil and grease, etc. The Proponent shall provide adequate number of bore wells / percolation pits/ etc. as committed. The bore wells / percolation pits/ etc. for rainwater recharging should be kept at least 5 mts. above the highest ground water table.

- xxii. Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrids system or fully solar system for a portion of the apartments shall be provided.
- xxiii. A report on the energy conservation measures conforming to energy conservation norms prescribed by the Bureau of Energy Efficiency shall be prepared incorporating details about building materials & technology, R & U factors etc. and submitted to the SEIAA in three months' time.
- xxiv. Energy conservation measures like installation of CFLs/TFLs for lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.
- xxv. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site shall be avoided. Parking shall be fully internalized and no public space should be utilized. Parking plan to be as per MoEF norms. The traffic department shall be consulted and any cost effective traffic regulative facility shall be met before commissioning.
- xxvi. The proponent shall prepare completion plans showing Separate pipelines marked with different colors with the following details
- i. Location of STP, compost system, underground sewer line.
 - ii. Pipe Line conveying the treated effluent for green belt development.
 - iii. Pipe Line conveying the treated effluent for toilet flushing
 - iv. Water supply pipeline
 - v. Gas supply pipe line, if proposed
 - vi. Telephone cable
 - vii. Power cable
 - viii. Storm water drains, and
 - ix. Rain water harvesting system. etc.
- and it shall be made available to the owners.
- xxvii. A First Aid Room shall be provided during operation of the project, with necessary equipment's and life-saving medicines and should be manned all the 24 hours any day.
- xxviii. The buildings should have adequate distance between them to allow free movement of fresh air and passage of natural light, air and ventilation. Landscape plan to be revised accordingly.

- xxix. The amount of Rupees equivalent to 0.5% of the Project Cost by the proponent under CSR activity should be earmarked for such activities as committed by the proponent for the purpose for which it was allocated.
- xxx. Lightning arrester shall be properly designed and installed at top of the building and where ever is necessary.
- xxxi. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company. The status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Bangalore by e-mail.
- xxii. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance.
- xxiii. The SEIAA, TN may alter/modify the above conditions or stipulate any further condition in the interest of environment protection, even during the subsequent period.
- xxiv. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
- xxv. The SEIAA, TN may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, if, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.
- xxvi. A copy of the Environmental clearance (EC) letter shall be made available to all the allottees along with the allotment order / sale deed.
- xxvii. The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, Chennai, the respective Zonal Office of CPCB, Bengaluru and the TNPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectorial parameters, indicated for the project shall be monitored.
- xxviii. A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.

- xxix. The Regional Office of the Ministry located at Chennai shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- xi. The project proponent shall submit progress reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Chennai, the respective Zonal Office of Central Pollution Control Board, SEIAA, TN and the State Pollution Control Board once in six months.
- xli. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- xlii. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law, including the Hon'ble National Green Tribunal relating to the subject matter.

ANNEXURE II

Noncompliance status by the Project Proponents in respect of Conditions imposed by the CMDA / Corporation of

Chennai / Police (Traffic) / CMWSSB / IAF / AAI / Local Panchayat / DF&RS

C. No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
3	The applicant has also furnish an undertaking to produce EIA clearance before issue of completion certificate	Complied with.	The P.P obtained Completion Certificate (CC).

Compliance of conditions imposed by CMDA:

Conditions imposed by local body (Vengaiwasal First Grade Panchayat):

C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
2	The applicant should contain the waste water generated within the site itself and should make necessary arrangements for its disposal.	The Project Proponent proposes to dispose 65 KLD of treated waste water	The Plan indicates the arrangements and the same has to been verified at the time of issuing Completion Certificate (CC).

Conditions imposed by Police (Traffic):

C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
1	Entry and exit gate facing on Velachery main road which is on the northern side. The width of the entry and exit gates are 4.50m respectively with a bell shaped.	Bell mouth not provided	PP assured to provide the same before obtaining Completion Certificate
2	The applicant may be insisted to install road sign IN and OUT boards and other reflective sign boards in front of the proposed site on Velachery main road.	Not complied	-
3	The applicant may be insisted to maintain properly the drive way distance as shown in the site plan and ensure free flow of traffic without hindrance in the site premises.	Not complied	-

Conditions imposed by CMWSSB for STP:

C.No	CONDITIONS	COMPLIANCE STATUS	REMARKS
6	It is proposed to reuse the entire quantity of treated effluent (75960 L/D) for toilet flushing and gardening.	Not Complied with. Provided arrangements to utilize the treated sewage for toilet flushing and gardening. Not fully utilised.	Nil

Conditions imposed by IAF;

C. No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
4	Closed Garbage Containers shall be made available in order to ensure avoidance of bird activity.	No information from the Project Proponent	NIL
5	The Commencement and Completion of works inclusive installation of obstruction lights shall be intimated to AOC, AF station Tambaram.	No information from the Project Proponent	NIL

Non-Compliance of some major Conditions imposed by SEIAA

Sl.No	CONDITIONS	COMPLIANCE STATUS	REMARKS
1.	"Consent for Establishment" shall be obtained from the Tamil Nadu Pollution Control Board and a copy shall be submitted to the SEIAA, Tamil Nadu before taking up any construction activity at the site.	Not obtained	Not obtained.
2.	The Project Proponent shall plant tree species with large potential for carbon capture in the proposed green belt area based on the recommendation of the Forest department well before the project is ready for occupation.	Not complied.	No green belt was seen.
3.	The Proponent shall install STP as furnished. Any alteration to satisfy the bathing quality shall be informed to SEIAA-TN.	STP constructed needs be modified/redesigned.	STP installed is inadequate to meet the norms specified by SEIAA. Besides need modification for safe and easy access to the units.
4.	The Sewage Treatment Plant (STP) installed should be certified by an independent expert/ reputed Academic institutions for its adequacy and a report in this regard should be submitted to the SEIAA, TN before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled / reused to the maximum extent possible. Treatment of 100 % grey water by decentralized treatment should be done. The treated sewage shall conform to the norms and standards for bathing quality laid down by CPCB irrespective of any use. Necessary measures should be made to mitigate the odour and mosquito problem from STP. Explore the less power consuming systems viz. baffle reactor etc. for the treatment of sewage.	Not complied.	No such measures was seen.

5.	It is the sole responsibility of the proponent that the treated sewage water disposed for green belt development/ avenue plantation should not pollute the soil/ ground water/ adjacent canals/ lakes/ ponds, etc.	Not complied.	No such measures were seen during inspection. Details of avenue plantation not provided.
6.	Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrids system or fully solar system for a portion of the apartments shall be provided.	Not complied.	No solar panel installed.
7.	The proponent/ Owner of the Flats shall ensure that roof rain water collected from the covered roof of the buildings, etc. shall be harvested so as to ensure the maximum beneficiation of rain water harvesting by constructing adequate sumps so that 100% of the harvested water shall be reused.	Not complied.	Inadequate system.
8.	Rain water harvesting for surface run-off, as per plan submitted should be implemented. Before recharging the surface run off, pre-treatment with screens, settlers etc. must be done to remove suspended matter, oil and grease, etc. The Proponent shall provide adequate number of bore wells / percolation pits/ etc. as committed. The bore wells / percolation pits/ etc. for rainwater recharging should be kept at least 5 mts. above the highest ground water table.	Not complied.	No such pretreatment and other structures seen during inspection.
9.	Traffic congestion near the entry and exit points from the roads adjoining the proposed project site shall be avoided. Parking shall be fully internalized and no public space should be utilized. Parking plan to be as per MoEF norms. The traffic department shall be consulted and any cost effective traffic regulative facility shall be met before commissioning.	Not complied	Not seen. The entry to the site is from main road and there is a possibility of traffic jam during peak traffic hours.
10.	The proponent shall prepare completion plans showing Separate pipelines marked with different colors with the following details i. Location of STP, compost system, underground sewer line.	Not complied.	Nor provided.

	<ul style="list-style-type: none"> ii. Pipe Line conveying the treated effluent for green belt development. iii. Pipe Line conveying the treated effluent for toilet flushing iv. Water supply pipeline v. Gas supply pipe line, if proposed vi. Telephone cable vii. Power cable viii. Storm water drains, and ix. Rain water harvesting system. etc. <p style="text-align: center;">and it shall be made available to the owners.</p>		
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Table 1 : Details of Clearance/Permission/NOCs required for the Construction of Residential Group Development Buildings depending upon project type/size

S. No.	Various Authorities for issuing Clearance/Permission/NOCs	Time of the permission	Permissions required by M/s. Ruby Manoharan Property Developers Pvt. Ltd.
1	Planning permission from CMDA	Obtained on 04.01.2013	✓ +
2	Environmental Clearance (built up area exceeds 20000 sqm)	Applied on 11.01.2013 and obtained EC on 14.12.2015	✓ +
3.	Coastal Regulation zone clearance	Not Applicable	Not Applicable
4.	Consent for establishment and operation under State Air and Water Acts	Not Applicable Consent for establishment is before commencement and consent for operation after construction before commencing occupation	✓ (Not granted)
5.	Public Health Act	Not Applicable	Not Applicable
6.	Tamil Nadu Lift Act, 1997	No proper information provided	No proper information provided
7.	Tamil Nadu Building and other construction workers (Regulation of employment and condition of service) Rule,2006	Not Applicable	Not Applicable
8.	Interstate Migrant Workmen Act 1980, Tamil Nadu Rule (Regulation of employment and condition of service) Act 1920.	Not Applicable	Not Applicable
9	Directorate of Fire & Rescue Service	Obtained on 27.10.2011	✓ +
10.	Traffic (Police) Dept.	Obtained on 05.01.2012	✓ +
11.	Airport Authority of India when height exceeds 30m.	Obtained on 17.10.2011	✓ +
12.	Indian Air Force	Obtained on 07.02.2011	✓ +
13.	PWD (if site is located adjacent to water body).	Not Applicable	Not Applicable
14.	Revenue Dept.,(land reforms act)	Not Applicable	Not Applicable
15.	National Highway Authority.	Not Applicable	Not Applicable
16.	Chennai Metropolitan Water Supply and Sewage Board (CWSSB) (For STP design swimming pool).	For STP- obtained on 20.10.2011 and for swimming pool obtained on 15.09.2011	✓ +
17.	Archaeological Survey of India (ASI).	Not Applicable	Not Applicable
18.	Railways	Not Applicable	Not Applicable
19.	Department of Explosives	Not Applicable	Not Applicable

✓ : Permission Required
 ✓ + : Permission granted

Table 2: Energy Management

S. No.	Project Proponent	Power Requirement (KW/KVA) *	Backup Power (KVA)	Energy saving measures (KWH)			Energy Conservation Materials/Equipment used/to be used in the project	
				Solar Energy	CFL/LED	Others		Total Power Saving & percentage
1.	M/s. Ruby Manoharan Property Developers Pvt. Ltd.	1200 KW	400	15120/Annum	43560 KW/Annum (Common area lighting) 19622.5 KW/Annum (Street lighting)	Nil	58680/Annum 8.5%	<p>Fly ash bricks for entire bricks work.</p> <p>Ready mix concrete for RCC works.</p> <p>Thermal insulation for terrace roof with Brick bat Coba weathering course.</p> <p>Penetration system with UPVC window, ventilators with single glazing.</p> <p>CFL/LED for basement & common area lighting in all floors.</p> <p>Solar power for street lighting.</p> <p>Variable Voltage Variable Frequency (VVVF) technology driven motors for lifts.</p> <p>Variable Frequency Drives (VFD) for all pumps and motors in Hydro pneumatic system (Domestic/Flushing).</p>

*Connected Load;

CFL: Compact Fluorescent Light; LED: Light Emitting Diode; #KWPA - Kilo Watt Per Annum; RMC: Ready Mix Concrete

Table 3 - Rain Water Harvesting (RWH)

S. No	Project Proponent	Roof Top Area	Road & Paved Area	Unpaved Area	Annual Potential of roof top RWH* /Underground Storage Tank for roof top RWH (KL)	Percentage storage of roof top RWH	Annual Potential of RWH from open area at Ground level** (KL)	Method of RWH
		(sq.m)	(sq.m)					
1.	M/s. Ruby Manoharan Property Developers Pvt. Ltd.	1596.75	3030.83	1546.81	1302/45	3.45%	2770	Rain water collection through pits and trenches

* Assuming average annual rainfall intensity: 1200 mm ; Paved and roof top runoff co-efficient = 0.85; Co-efficient for first flush and evaporation = 0.8.

** Assuming average annual rainfall intensity: 1200 mm ; Unpaved area runoff co-efficient = 0.2 and Paved area run-off coefficient: 0.85; Co-efficient for first flush and evaporation = 0.8.

KL – Kilo litre = Cubic Metre

Table 4- Water and Wastewater Management

S. No	Project Proponent	Fresh Water Requirement (in KLD)		Waste Water (in KLD)			Units of STP/Capacity	Remarks	
		Phase/Supplier	Qty.	Waste water generated	Reuse & Recycle	Excess Quantity to be discharged			Point of discharge
1.	M/s. Ruby Manoharan Property Developers Pvt. Ltd.	Construction	12.5	Full operation not started					Nil
		Operational phase: Proposed-ground water (permission awaited)	95						

* The STP is constructed in the basement, head space is inadequate for free movement and poor accessibility to the STP units, thus preventive maintenance and break down maintenance is difficult. Any upsetting in plant operation cannot be visualized and can be only ascertained after results of effluent quality and operating parameters are available.

Qty: Quantity, C: Construction Phase, O: Operation Phase, PWT: Private Water Tankers; STP: Sewage Treatment Plant; SST: Secondary Settling Tank; CMWSSB: Chennai Metropolitan Water Supply and Sewerage Board; MBBR : Moving Bed Bio Reactor; SBR: Sequential Batch Reactor; FBRR: Fluidized Bed Bio Reactor; UF: Ultra Filtration ; UV: Ultra Violet

Table 5: Green Belt Development

S. No	Project Proponent	Area Details (sq.m)			Plantation Proposed			OSR (sq.m)
		Project Area	Built up Area	Area earmarked for Green belt	Trees (No's)	Landscape (sq.m)	Roof garden (sq.m)	
1.	M/s. Ruby Manoharan Property Developers Pvt. Ltd.	6173.40	35017.00	1546.81	32 (planted)	413.62	558.52	Nil

Note: No green belt developed

**REPORT OF M/S JONES FOUNDATIONS PVT.
LTD.**

1.0 Project Proponent - M/s Jones Foundations Pvt. Ltd.

The project of M/s Jones Foundations Pvt. Ltd. is spread over an area of 18784.05 m². The construction of project is completed and as informed by CMDA the construction is in line with the Planning Permission. The details of the project are as under:

- The land was purchased over a period from 2008 to 2012 by the Project Proponent, for construction of Residential building and the construction started in October 2012.
- The land covered in the project is zoned for primary residential use as per the 2nd Master Plan for Chennai Metropolitan area land use which is in force since September 2008.
- The site is located in Pallikaranai Village, Tambaram taluk, district Kanchipuram and comes within the Greater Chennai Corporation area in the Chennai Metropolitan Area.
- As per the Master Plan of CMA 2026, the project area is categorized as Primary residential category.
- The maximum building height permissible for this category of development as per Development Regulations is 29.08 meters and the normal permissible FSI is 1.5. As against the permitted norms the height of the building is 29.08 meters and FSI 1.54(availed premium FSI of 0.04).
- National parks/wildlife sanctuaries/Zoos –
 - Guindy National park- 7.16 km
- Reservoir / Lake –
 - Narayanapuram Lake – 0.6 km
 - Kovilabakkam Lake – 1.17 km
 - Kilkattalai Lake – 2.37 km
 - Nanmangalam Lake – 3.56 km
 - Madippakam Lake – 2.28 Km
 - Perengudi Lake – 5.14 Km
- Reserved / Protected Forests –
 - Pallikarnai Marsh Reserved Forest – 2.16 km
 - Nanmangalam Reserved Forest – 2.5 km
 - Guindy Reserved Forest – 5.9 km
 - Madurappkkam Reserved Forest – 5.9 Km
- Seismicity – Seismic Zone III (Moderate)

2.0 Permissions/ Clearances / NOCs required

The project proponent is required to obtain requisite clearances / permissions / NOCs from State / Central Regulatory Agencies/Organizations for initiating construction. The details of the permissions/clearances/NOCs required for construction are given in **Table 1**. The height of the project being 29.08 meters, it is covered under multi-storied building category. As per the information provided by CMDA, the project of M/s Jones Foundations Pvt. Ltd. requires permissions/clearances/NOCs which is depicted in **Table 1**.

The project proponent i.e. Jones Foundations Pvt. Ltd. applied for EC to SEIAA on 05.02.2014 after more than 16 months of starting construction, a mandatory requirement, after starting of construction work or preparation of land. As the built up area is less than 150,000 sqm grant of ToR was not applicable. The Environmental Clearance was granted by SEIAA to M/s Jones Foundations Pvt. Ltd., on 14.12.2015 well after the construction works had been mostly completed. The project proponent has taken planning permission from Chennai Metropolitan Development Authority (CMDA) and NOC's from other departments like Indian Air Force, Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB), etc. The Building Permit to the project proponent was accorded by the Greater Chennai Corporation on 03.08.2012 subsequent to the approval accorded by CMDA on 03.10.2012. The planning permission for the project was issued by CMDA under the Development Regulation forming the part of the 2nd Master Plan for Chennai Metropolitan area approved by the Tamil Nadu Government under Tamil Nadu Town and Country Planning Act, 1971. The CMDA and other regulatory agencies/organization have specified conditions which need to be complied with by the project proponent and the same is annexed at **Annexure-I**.

The conditions imposed by other agencies such as CMDA, traffic department, CMWSSB, etc. and not complied by the project proponent are annexed at **Annexure-II**. The chart indicates that the major violation by the project proponent has been initiation of the construction activity at site without having the necessary Environmental clearance, a mandatory requirement.

Guindy National Park is about 7.16 km and Nanmangalam Reserved Forest about 2.5 km and Guindy Reserved Forest about 5.9 Km from the project site.

3.0 The Report

This report is submitted with reference to tasks assigned to the Committee.

➤ ***Illegal and unauthorized acts and activities carried out by the Respondents.***

The following illegal acts and activities by the Project Proponent have been noted by the Committee:

- Initiated construction at site without obtaining Environmental Clearance under section 2 of the EIA Notification dated 14.09.2006 issued under section 5(3) of Environment (Protection) Rules, 1986 from SEIAA, Tamil Nadu.
- Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated by CMDA.
- Did not obtain 'Consent to Establish' required for commencement of work from Tamil Nadu Pollution Control Board.
- Violated the condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated in the Building Permit by the Greater Chennai Corporation to be read with conditions of CMDA.

➤ **Ecological and environmental damage done by these projects**

The ecological and environmental impacts are expected from:

- i) Disposal of solid waste: The 357 kg/day Bio-degradable portion of domestic waste is proposed to be decomposed through organic waste converter while the non degradable portion 535.6 kg/day will be sent to corporation of Chennai and the dried sludge from STP used as manure. The non-biodegradable fraction if disposed in an unscientific way has all potential to contaminate the groundwater besides being a source of unaesthetic conditions and odour.
- ii) Sewage disposal: The Proponent has installed STP having treatment capacity of 220 KLD as against the expected sewage generation of 206.4 KLD. Part of the treated effluent i.e., 79 KLD, is to be utilized for meeting the demand of flushing in toilets while 12 KLD is proposed to be used for gardening purposes and the excess treated sewage of 111 KLD is to be discharged to CMWSSB sewerage system. In absence of connectivity with the trunk sewer, there is every possibility of the excess sewage being discharged on land thereby causing soil and groundwater contamination.
- iii) Water abstraction: As per conditions specified in the EC, the water is sourced from CMWSSB. In absence of the connectivity with CMWSSB fresh water source, the

requirement of fresh water is met from the tankers purchased @Rs. 1500 per tanker, 12 KLD capacity. The Project Proponent has 02 open wells which can be used to meet the water demand in absence of availability of potable water supply. Any exploitation of groundwater to meet the water demand would impact the ground water table, therefore a study needs to be conducted to assess the charging rate vis-à-vis the abstraction from the groundwater sources.

- iv) **Noise Pollution:** There is a possibility of increase in noise levels once the dwellings units are occupied. The increase in noise level can be taken care by providing green belt along the boundary wall and other acoustic measures to cushion the impact of noise.
- v) **Air Pollution:** As per the 2nd Master Plan for CMA land use which is in force since September 2008, the project land are zoned for primary residential use. As the site is meant for construction of residential complex it cannot be considered to be contributing to the deterioration in air quality.

➤ **Installation of STPs**

- i. The total sewage generation of 207 KLD from the project will be treated in 220 KLD capacity STP.
- ii. The design of the STP unit indicates adequacy of the system to meet the norms of treated sewage quality specified by CMWSSB. The actual efficacy can be assessed only after the details of the mechanical systems installed and their ratings are known. The EC conditions specify bathing quality norms for the treated sewage for which the STP constructed, need to be upgraded. In absence of the connectivity with the CMWSSB sewerage system, disposal of treated sewage to the STP of CMWSSB proposed through tankers storing of the treated sewage.
- iii. As per the condition of EC the treated sewerage generated from the proposed project has to be used for green belt (12 KLD), toilet flushing (79 KLD) and the excess treated sewerage 111 KLD to be disposed to underground CMWSSB sewer line.
- iv. During inspection on February 22, 2016 the activated carbon and sand filters were found open and in nonfunctional condition.
- v. Though the complex is partially occupied (97 units) and the STP was in operation, no effluent was seen being discharged, during inspection on 22.02.2016.

- vi. Considering the area proposed for green belt development within the project area, the treated sewage (12 KLD) earmarked for green belt development i.e., at the rate of 4 KL/Hectare/day cannot be fully utilized on daily basis and especially during rainy season. The leftover would be required to be discharged along with the excess sewage.
- vii. The treated sewerage has to meet the bathing quality laid (down by CPCB) specified by SEIAA in the EC.
- viii. The dual piping system has been provided for recycling of the treated effluent.

➤ **Other anti-pollution devices by the Project Proponent**

To meet the power requirement during periods of power failure, generator sets using high speed diesel as fuel and meeting the norms prescribed by CPCB installed.

➤ **Proposed point of discharge of sewage and any other untreated waste**

As per the conditions imposed by CMWSSB, the entire quantity of treated sewage has to be reused for toilet flushing and gardening. However, as per the information provided by the Project Proponent 111 KLD of excess treated sewage shall be disposed through tankers to nearby Perungudi STP in absence of the connectivity to the CMWSSB sewerage system. However as per conditions of EC the excess treated sewage of 111 KLD shall be disposed to underground CMWSSB sewer line. In absence of connectivity, the excess treated sewage is proposed to be discharged through tankers into the nearby STP, permission for which is still awaited. In absence of any storage capacity for the treated sewage, transportation of treated sewage to STP is not practically feasible and disposal of the treated sewage into the sewerage system does not seem feasible, at least in foreseeable future. Hence, a fool proof system for managing the excess treated sewage needs to be put in place

➤ **Source of water during operation phase and otherwise**

As per the information provided by the Project Proponent, water has been supplied through tankers at site for the construction activity. In the operation phase, the Proponent has planned to use groundwater for supply to the residents. As per the EC conditions the fresh water requirements of 159 KLD have to be sourced from CMWSSB. In absence of the connectivity to CMWSSB supply, fresh water is being procured through tankers.

➤ **Use of energy efficient devices**

No major energy saving measures have been adopted/proposed except for installing CFL / LED lamps at some places besides having proposal to install solar panel system. The details of the measures taken or proposed for energy saving are given in **Table-2**.

➤ **Ecologically and environmentally sensitive areas**

There are national parks / wildlife sanctuaries, reservoirs/lakes and reserved/protected forests near to the project site. The details are as below:

National parks/wildlife sanctuaries/Zoos –

Guindy National park- 7.16 km

Reservoir / Lake – Narayanapuram Lake – 0.6 km

Kovilabakkam Lake – 1.17 km

Kilkattalai Lake – 2.37 km

Nanmangalam Lake – 3.56 km

Madippakam Lake – 2.28 Km

Perengudi Lake – 5.14 Km

Reserved / Protected Forests –Pallikarnai Marsh Reserved Forest – 2.16 km

Nanmangalam Reserved Forest – 2.5 km

Guindy Reserved Forest - 5.9 km

Madurappkkam Reserved Forest – 5.9 Km

➤ **Details of alteration of land its effect on the natural topography**

The project site has been flattened to make way for the construction activity. The contour map indicates a total level difference of about 1 feet. Maximum contour is of 99.4 feet and minimum is of 98.7 feet.

- **Effect on natural drainage system**
The site map does not indicate any natural storm water channel. No construction below the ground level is there. Hence, there should not be any impact of the construction activity on the ground water recharging system.
- **Adequacy of rainwater harvesting system**
The Project Proponent has made provision for harvesting of roof-top rain water & surface storm water run-off a detail of rain water harvesting is given in **Table 3**. Pretreatment to the surface runoff has to be provided to remove the suspended solids, oil and grease etc., before recharging and making provision for reuse of 100% of the rain water harvested. There is no drainage system outside the project area, and discharge of excess storm runoff has all possibility to create stagnation and flooding.
- **Adequacy of parking area and if at all they have been provided**
Provision has been made for providing space for parking 201 cars and 200 two-wheelers for the 329 residential units and the commercial block and club house, as per the conditions specified by CMDA and SEIAA.
- **Collection and disposal of municipal solid waste at the project site**
The total municipal solidwaste anticipated is 892.5 Kg/day. The bio degradable portion is proposed to be treated through Organic Waste Converter (OWC). The STP sludge is proposed to be used as manure (24 kg/day) while the non-biodegradable (536 kg/day) fraction shall be disposed through corporation of Chennai is also as per the EC condition.
- **Compliance of conditions stated in the planning permission and other permissions granted by various authorities**
 - Project Proponent has initiated construction without obtaining EC violating the conditions specified by CMDA and Village Panchayat.
 - Project Proponent has initiated construction without obtaining Consent to Establish from Tamil Nadu Pollution Control Board.
 - Project Proponent has initiated construction without obtaining EC from SEIAA
 - As per the conditions imposed by CMWSSB, the entire treated sewage is to be utilized for toilet flushing. The Project Proponent proposes to dispose the excess 111 KLD of treated sewage for CMWSSB sewerage system (as per EC condition) or through tankers to nearby Perungudi STP till such time connectivity with the

CMWSSB sewerage system is available which is not in concurrence with the conditions imposed by CMWSSB.

➤ **Whether suggestions made by the SEIAA in its meetings adequately take care of environment and ecology?**

The conditions stipulated by SEIAA in the Environmental Clearance are generic and cover wide spectrum of environment. The condition need to be more specific for effective implementation and monitoring. The conditions with respect to the quantum of energy saving, use of flyash bricks, rain water storage capacity, area for green belt etc. should be specific and precise to bring uniformity in the conditions imposed.

➤ **Whether demolition or raising of additional structures are required in the interest of environment and ecology**

- M/s Jones Foundations Pvt. Ltd. Started construction on October, 2012 without obtaining EC, a mandatory requirement before starting construction work or preparation of land. The proponent applied for EC on 05.02.2014 i.e., after more than 16 months of starting construction, EC was granted by SEIAA on 14.12.2015.
- The STP has been designed to meet the treated effluent quality of BOD-20mg/l and SS-30 mg/l. The EC conditions stipulate the requirement of meeting bathing water quality norms i.e., BOD<3mg/l. The existing STP need to be upgraded to meet the norms specified by SEIAA in EC.
- Development of green belt has not been accorded priority as no green belt was seen at the site. Some of the existing infrastructure need to be realigned for providing space for green belt development.

4.0 Observations

Based on the assessment of available information and physical visit to the site, the following observations were made:

4.1 General Observation

- i. EC was granted by SEIAA on 14.12.2015, when the construction activity has been completed.
- ii. CMDA has issued completion certificate.
- iii. The excess treated sewage of 111 KLD is proposed to be discharged into CMWSSB sewerage system and till such connectivity is ensured, the treated sewage will be sent through tankers to the nearby Perungudi STP having treatment capacity of 126 MLD for which no permission has been taken.

- iv. Consent to Establish not obtained from Tamil Nadu Pollution Control Board.
- v. Violated CMDA condition of not commencing activity without obtaining Environmental clearance.
- vi. Provisions for proper green belt development has not been made.
- vii. During inspection on 22.02.2016 partial occupancy was observed. However, no effluent discharge was observed.
- viii. Completion Certificate was issued by CMDA on 25.01.2016.

4.2 Water Management

The various aspects of water management including the source of water supply, the quantum of sewage generated, its treatment, adequacy of Sewage Treatment Plants, reuse and recycling of the treated effluent and its disposal were examined. The observations made are given in **Table-4**. The major observations are as under:

- i. The tanker water was used for construction.
- ii. The STP of M/s Jones Foundations Pvt. Ltd. is partially at surface level. Erection/Installation works for the STP are completed.
- iii. The size of the STP units indicates adequacy of the system to meet the norms for treated sewage quality as specified by CMWSSB, however the actual efficacy can be assessed only after the details of mechanical systems and their ratings are known. The STP requires to be upgraded to meet the bathing water quality laid and specified by SEIAA in the EC granted to the proponent.
- iv. The Project Proponent needs to develop environmental laboratory with capacity to monitor the operating parameters of STP and the quality of treated effluent essential for effective operation of the plant/self-monitoring and self-compliance with the norms.
- v. The excess treated sewage of 111 KLD is proposed to be discharged into the CMWSSB sewerage system and till such connectivity is ensured, the treated sewage will be sent through tankers to the near by Perungudi STP having treatment capacity of 126 MLD. In absence of the connectivity with the sewerage system and absence of any provision for storage of treated sewage its disposed causes concern. A fool proof system for management of treated sewage is required to be in place.
- vi. As informed the fresh water requirement during operation will be met from the two bore wells presently installed within the unit. As per the conditions stipulated in EC the freshwater has to be sourced from CMWSSB and in absence of connectivity with the

CMWSSB system, the fresh water is being met by provisions water from outside sources through tankers. The proponent has 02 open wells and the use of these wells for meeting the fresh water requirement should be avoided.

- vii. Provision of drainage system for effective management of storm water runoff outside the premises is yet to be made.
- viii. Considering the area proposed for green belt development the treated sewage earmarked for green belt development cannot be fully utilized on daily basis and specially during rainy season and the left over would be required to be discharged along with the excess sewage.
- ix. Dual pipeline has been provided for utilizing the treated sewage for flushing.
- x. Color coding of pipeline at the STP, have not been done.

4.3 Green Belt Development:

Total green belt area is 2246.21 m². Development of green belt has not been accorded priority by the project proponent as no developed green belt was seen at the site. The project proponent informed of the proposal to develop green belt outside the boundary wall and along the road side also in the STP area which seems to be after thought as the area has either been paved or earmarked for some other activity at the site. The Project Proponent need to realign the parking infrastructure and other ancillary units to provide for green belt development.

Status of the green belt for the restitution of ecology and environment is given in Table 5.

4.4 Construction Waste

Data for construction waste generated during the construction activity and its use was not available with the Project Proponent, except for the information that the construction waste generated has been disposed to fill the low lying area within the premises or outside. Site details outside the premises where construction waste was used to fill low lying areas were not provided by the project proponent.

4.5 Solid Waste

- i) The wet domestic waste (357 Kg/day) to be treated using organic waste converter. The recyclable waste (536 kg/day) is proposed to be disposed through authorized recyclers.

- ii) The STP sludge is proposed to be used as manure (24 kg/day) while the non-biodegradable (536 kg/day) fraction shall be collected and disposed by corporation of Chennai.

4.6 Other observations:

- i. The fresh water requirement during operation is to be met from CMWSSB or through private tankers. Presently, in absence of the connectivity, fresh water requirement is met through tanker supply purchased at Rs. 1500 per tanker having capacity of 12 KLD
- ii. Provision of drainage system for collecting storm water runoff has been made within the project area. Storm water drainage system needs to be provided outside the premises for proper disposal of storm water runoff.
- iii. The natural topography has been changed at the site so that the storm water is collected and disposed towards the road side.
- iv. Dual pipeline have been provided for recycling of the treated sewage for flushing, besides drinking water line.
- v. No major green belt is proposed to be developed as the area has either been paved or earmarked for some other activity. Need to realign the infrastructure of the parking and other ancillary units to provide some space for green belt development.
- vi. The proponent proposes to develop green belt around the STP and along the road outside the premises.
- vii. The entry road leading to the site being single lane, can be a cause of congestion, and may lead to increase in noise levels and air pollution and could be a cause of concern to the neighborhood.
- viii. For treatment of wet organic domestic waste, organic waste converter is proposed.
- ix. Details about swimming pool water not available.
- x. Provision of drainage system for collecting storm water runoff has been made within the project area. Storm water drainage system needs to be provided outside the premises also for proper disposal of storm water runoff.

5.0 SUGGESTIONS

5.1 Conditions stipulated by CMDA

- i. CMDA shall give more emphasis on the environmental aspects including disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, etc. Environmental aspects be given the same priority, if not more than those given to parking, fire safety, etc., while designing the lay out and its approval.
- ii. The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006.
- iii. To have uniformity in approach so that violation of laws is avoided, a coordination mechanism between SEIAA, CMDA and other agencies need to be put into place.
- iv. As no EIA has been conducted quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA.
- v. In case any deterioration in the ambient environment / ground water quality is observed, the proponent shall inform the status to TNPCB and SEIAA and also prepare a time bound action plan for remedial measures.
- vi. The proponent shall install piezo wells to monitor the ground water quality quarterly.

5.2 Waste Water Management/Sewage Treatment

- i. The STPs constructed need to be upgraded to meet the treated sewage quality norms as specified by SEIAA in the EC granted.
- ii. The project proponent should provide separate electricity meter for the sewage treatment plants and maintain daily record of the power consumed, essential to ensure 24X7 functioning of STPs.
- iii. The unit not having provision for discharge of treated sewage cannot be permitted to start operation unless proper arrangements are put in place for its safe handling.
- iv. In no case, the discharge of treated sewage on land can be permitted. Transportation of treated sewage through tankers equipped with GPS system (to

monitor their movement to the existing STPs in the area) can be permitted in case adequate treatment capacity is available at STPs installed by CMWSSB. The installation of GPS system will help ensuring, that the tankers are emptied at the STPs only.

- v. The project proponent having permission to discharge the excess treated sewage to existing CMWSSB STPs, should be permitted to discharge the treated effluent conforming to the prescribed effluent norms only.
- vi. Where, the project proponent do not have outlet provisions and are not able to recycle additional sewage back into the system, beyond the presently proposed limits, transporting of the treated sewage conforming to the specified norms for discharge to STPs operated by CMWSSB Board through identified tankers fitted with GPS system for tracking their movements may be considered. The option can be permitted only after the project proponent develops adequate storage capacity for treated effluent.
- vii. To ensure that entire waste water generated is treated, online flow measurement system need to be installed both at the Inlet and Outlet of the STPs, and the pumps/ valves integrated through software to provide the flow data.
- viii. The online system be installed to monitor the effluent quality at least the basic parameters, such as pH, suspended solids and BOD for self-monitoring and self-regulations besides ensuring compliance of the norms. The data shall be transferred directly from the analysis.
- ix. The project proponent should develop in-house laboratory for monitoring of the operating parameters of the sewage treatment plant and the treated effluent quality daily.
- x. Colour coding of pipelines in the STP's should be done.
- xi. All the plumbing lines carrying raw water, untreated effluent/treated effluent etc. should be colour coded.
- xii. The project proponent should not be permitted to operationalize the complexes till such time permission / connectivity for taking potable water from CMWSSB pipeline is received / connectivity ensured or viable alternate arrangement made to avoid ground water abstraction.
- xiii. To ensure 24x7 operation of STP, power backup through DG sets has to be made.

5.3 Rain Water Harvesting

If provision for discharge of excess surface run off / rain water discharge are not available, flooding in the vicinity and stagnation of the discharged water in the low lying areas around the complex are inevitable. The project proponent should ensure that such situation does not occur either by increasing the capacity of rain water storage sumps or providing additional pits in the surface run off collection drain. The project proponent should make provision of storm water drain for proper disposal of the storm water. The surface runoff has to be treated through stream, settlers etc to remove suspended solids, oil and grease etc., before to use for recharging.

5.4 Green Belt Development

- i) Project proponent should plan for scientific green belt development (exceptions are there for the landscape area or some places earmarked for plantation of trees). Maximum possible space should be left unpaved for recharging of ground water besides the proposed rain water harvesting system. The unpaved area should be covered with green top or any other pervious material to maintain permeability of soil.
- ii) Green belt should be developed all around the site boundary to act as a barrier for air and noise pollution. Ornamental plants / area left for landscape, covered with grass / shrubs and roof top garden shall not be considered in the areas mandatory for green belt development. Sufficient space has to be provided for each tree so that it does not choke to death because of the putting of cement concrete all around the tree.

5.5 Solid Waste Management

- i) The project proponent should prepare an action plan for ensuring segregation, collection, transportation, treatment and scientific disposal of Municipal Solid Waste. This action plan should be submitted to SEIAA and TNPCB for their approval.
- ii) The project proponent should put in place a system for collection of discarded CFL & LED lamp.
- iii) Separate space should be earmarked for storing of construction and demolition waste and its disposal at sites approved by local authorities.
- iv) The proponent should submit a plan for management of grit and STP sludge.

- v) The leaves/biomass should be composted at site and used as manure.

5.6 Traffic Management

- i. Once the complex is occupied, there is all possibility of traffic snarls around. The project proponent needs to submit an action plan to avoid congestion on the road and any increase in concentration of air pollutants.
- ii. The project proponent should ensure regular sweeping of the roads inside and adjacent to the complex to avoid re-suspension of settled dust, thereby taking care of any possibility of increasing particulate matter levels.
- iii. Car parking requirement for residential development is based on the size of the individual unit and location of the site. In the case of Low Income Group (LIG) dwelling units, which is mandatory and size does not exceed 45 m², one two wheeler parking only is required. In addition 10% of total parking is required to be provides as visitors parking.

5.7 Energy Saving

- i. All street and staircase lighting should use solar power. The project proponent should reduce the power consumption by at least 20% by replacing CFL lamps with LED lamps, using energy efficient device (solar relay – Bureau of energy efficiency) providing insulated window or insulated glasses and adopting advance elevator and air conditioning technologies as below:-
- ii. Install Energy efficient elevators using gearless machines or regenerative drive technology.
- iii. Inverter technology based Air Conditioning machines should be installed.
- iv. For meeting hot water requirement in kitchen solar energy should be used.
- v. Installation of IR/Thermal switches in corridors/staircases to save energy needs to be promoted.
- vi. The project should obtain GRIHA or any other such rating.

6.0 GENERAL REMARKS

- i. In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building lay out modeled to incorporate the natural drainage as part of the system rather than redoing/ relaying of the natural drainage system.
- ii. A systematic green belt development is necessary. In all future projects while designing the layout and the number of dwelling units likely to come up.

Environmental issues like development of green belt, managing surface water runoff, its collection and recharge etc., provision of solid waste management, and orientation of the building for energy saving should be given priority.

- iii. In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site. At places where the construction works are yet to be completed, the use of construction materials to raise the ground level be done scientifically as it has all the possibility to affect the natural percolation rate of soil.
- iv. The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of renewable energy, green belt development for effective implementation and monitoring.

ANNEXURE-I

Conditions imposed by various agencies

Conditions imposed by Chennai Metropolitan Development Authority (CMDA)

1. To furnish an undertaking to abide by the terms and conditions put forth by CMDA, DF&RS, CMWSSB, AAI, IAF-Tambaram and Police (Traffic).
2. Should apply for the water connection after approval of the sanitary proposal and internal work should be taken up only after the approval of the water application.
3. All wells, overhead tanks are hermitically sealed with properly protected vents to avoid mosquito menace.
4. Rain water harvesting structures shall provide as shown in the approved plans to the satisfaction of the authority.
5. The applicant has to furnish NOC from IAF and EIA clearance before issue of Completion Certificate (CC).

Conditions imposed by Directorate of Fire & Rescue Services (DF&RS)

1. Down comer system should be provided with landing Valves along with delivery hose with a terrace level tank of capacity 25,000 litres for each block. To charge the down comer system an electrical pump of each capacity 900 LPM should be provided near the terrace level water tank.
2. Fire service inlet fitted with NRV at ground level should be provided.
3. Hose reel assembly should be provided per 1000 sqm covering each floor area.
4. Manual fire alarm call points should be provided at all floors.
5. Public address system should be provided connecting all the floors.
6. Alternate and independent power system should be provided to fire pumps, emergency lighting system and fire lift.
7. No. of exits, location and their width, should be conforms to the requirements to the National Building Code of India, 2nd Revision Part -IV, 2005.
8. The first Aid Fire fighting equipment should be provided at all floors in accordance with IS 2190:1992 requirements.
9. Fire lifts, electrical installations and wiring, A/C ducts and other service ducts should meet the requirement of NBC of India, Part IV, 2nd Revision, 2005.
10. The width and height of any arch or gate, if any, should have the clearance of not less than 4.50m and 5.0m respectively.
11. The compulsory open space of 7.0m around the building should be designed to withstand a weight of 45 tons at any point of operation for the use of the Hydraulic platform vehicle.
12. The service ducts such as power cables, communication cable, A/C Ducts etc., should be protected with proper fire ceiling/fire dampers.

13. The cable Gallery should be routed through fire resistant duct or fire protected tray.
14. Fire resistant and low smoke emission cable should be used.
15. A trained fire officer with crew shall be arranged to operate the fire protection system in case of any need.
16. During the construction of the building, the following fire protection measures should be provided in good working condition.
 - a) Dry riser of minimum 100mm dia pipe with Hydrant outlets constructed with a fire service inlet to boost the water in the riser from fire service pumps.
 - b) Drums filled with water of 2000 litres with two fire buckets on each floor.
 - c) A water storage tank of 20,000 litres capacity, which may be used for other construction purposes also

Conditions imposed by Local Body((Corporation of Chennai (CoC))

1. The Ground floor of the building shall be 0.91mtrs from the abutting road adjacent to the compound wall or centre of the road.
2. The building shall conform to the IS 486; IS 875 and IS 1893 of Bureau of Indian Standards.
3. Rain Water Harvesting should be done as shown in the plan.

Conditions imposed by Police (Traffic)

1. There should provide a full fledged bell mouth shape entry and exits as shown in the site plan in order to avert pile up of vehicles while entry or exit of vehicles in to the residential buildings at 12.0m wide road approaching Maxworth Nagar Main road and 6.10m wide road approaching Narayanapuram Sunnambu Kolathur road.
2. To install road sign IN and OUT boards and other required sign boards near the proposed gates at 12.0m wide road approaching Maxworth Nagar main road and 6.1m wide road approaching Narayanapuram Sunnambu Kolathur road.
3. There should provide sufficient light facilities at the proposed gates at 12.0m wide road approaching maxworth nagar main road and 6.1m wide road approaching Narayanapuram Sunnambu Kolathur road.
4. To maintain properly the drive way distances as shown in the site plan and ensure free flow of traffic.
5. To construct and maintain properly the Parking spaces shown inside the premises.
6. There should provide of parking of cars and two wheelers shown in Key plan.

Conditions imposed by Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) for Sewage Treatment Plant (STP)

1. The capacity of the proposed in-situ STP of 0.15 MLD (Average Flow-domestic sewage)determined by the applicant, is only considered in scrutiny of design of proposed in-situ STP
2. The influent characteristics of domestic sewage generated from the development and Effluent characteristics in the effluent of STP as assumed and given by the applicant has been considered as

basic data in the scrutiny of design in-situ STP and is furnished below

PH-

6.5 to 8.0 (Influent), PH-6.5 to 8.0 (Effluent), Suspended Solids 450 mg/l (Influent), < 30 mg/l (Effluent), BOD - 350 mg/l (Influent), < 20 mg/l (Effluent).

3. The applicant has proposed the treatment unit to be constructed below GL with access to treatment units through head room at Ground Level. The panel board and Air blowers are proposed to be placed in the Head room.
4. To ensure that the structures provided for the underground treatment units are water proof and also the internal sewer system for the proposed development should be laid / maintained subsequently in a manner such that the entry of rain water collected in the site is prevented at any point in the internal sewer system.
5. As the treatment units are proposed below ground level, sufficient air circulation through duct arrangements is to be ensured for achieving the desired level of treatment and safety.
6. It is proposed to reuse the entire quantity of treated effluent (136939 L/D) for toilet flushing and gardening.
7. The applicant has proposed to dispose the sludge after lime post treatment
8. The treated effluent, grit and sludge should be disposed of from the site in the manner as prescribed by TNPCB.

Conditions imposed by Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) for

Swimming Pool

1. The provision of extraction of ground water as per the Chennai Metropolitan Area Ground Water (Regulation) Act No 27 of 1987 for the purpose of usage in Swimming pool to be complied with by the applicant
2. The water for the usage in the swimming pool has to be purchased from CMWSS Board/ local body only and not from the private agencies.
3. The applicant shall comply with all statutory requirements
4. The applicant shall recycle the used water of the swimming pool as proposed.

Conditions imposed by Indian Air Force (IAF)

1. The height of the building shall not exceed 29.08 mtrs. Above the ground level.
2. Standard obstruction lightings as per IS5613 notification and International Civil Aviation organization (ICAO) standards as stipulated in ICAO- Annex-14 is to be provided by the company. The light shall be kept "ON" all times.
3. Periodic maintenance of obstruction lights to be carried out by the company at regular intervals to keep them invisible/serviceable condition. Provision shall be made for standby power supply to keep the lights "ON" during power failure.
4. A Garbage Treatment Plant shall be installed prior to the construction of buildings for the purpose of avoiding bird activity. The Plant shall be shown to the Air Officer Commandant (AOC)/his nominated representative at Air Force Station Tambaram on installation.

5. No light or a combination of lights which by reason of its intensity, configuration or colour may cause confusion with the aeronautical ground lights of the airport shall be installed at the site at any time during or after the construction of the building.
6. The Commencement and Completion of works inclusive installation of obstruction lights shall be intimated to AOC, AF station Tambaram and CATCO, HQ Training Command, JC Nagar Post, Hebbal Bangalore-560006. Failure to render these certificates within the stipulated time may lead to cancellation of NOC.
7. The validity of the NOC is five years from the date of issue. If the construction for which NOC has been issued, does not complete within five years or found to be in deviation from original proposal the NOC shall be deemed null and void. It will be the responsibility of the applicant to obtain fresh NOC for the proposal.
8. Required security clearance should be obtained through MHA/IB of the foreign nationals / Indian representative employed /to be employed by the company of India.

Conditions imposed by Airport Authority of India (AAI)

I. M/s. Jones Foundations Pvt. Limited

Nil

Conditions imposed by State Level Environment Impact Assessment Authority (SEIAA)

Part A- Conditions for Pre Construction phase:

- i) The project authorities should advertise with basic details at least in two local newspaper widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of clearance. The press releases also mention that a copy of the clearance letter is available with the State Pollution Control Board and also at website of SEIAA, TN. The copy of the press release should be forwarded to the Regional Office of the Ministry of Environment and Forests located at Chennai and SEIAA-TN.
- ii) In the case of any change(s) in the scope of the project, a fresh appraisal by the SEAC/SEIAA shall be obtained before implementation.
- iii) A copy of the clearance letter shall be sent by the proponent to the Local Body. The clearance letter shall also be put on the website of the Proponent.
- iv) "Consent for Establishment" shall be obtained from the Tamil Nadu Pollution Control Board and a copy shall be submitted to the SEIAA, Tamil Nadu before taking up any construction activity at the site.
- v) Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- vi) The approval of the competent authority shall be obtained for structural safety of the buildings during earthquake, adequacy of firefighting equipment's, etc. as per National Building Code including protection measures from lightning etc before commencement of the work.

- vii) All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
- viii) Design of buildings should be in conformity with the Seismic Zone Classifications.
- ix) The Construction of the structures should be undertaken as per the plans approved by the concerned local authorities/local administration.
- x) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire and Rescue Services Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wild Life (Protection) Act, 1972, State / Central Ground Water Authority, Coastal Regulatory Zone Authority, other statutory and other authorities as applicable to the project shall be obtained by project proponent from the concerned competent authorities.
- xi) The Project proponent shall have to furnish the probable date of commissioning of the project supported with necessary bar charts to SEIAA-TN.
- xii) No construction activity of any kind shall be taken up in the OSR area.
- xiii) Consent of the local body concerned should be obtained for using the treated sewage in the OSR area for gardening purpose. The quality of treated sewage shall satisfy the bathing quality prescribed by the CPCB.
- xiv) The structural design of the proposed building must be vetted by premier academic institutions like Anna University, IIT Madras, etc., and the fact shall be informed to SEIAA.
- xv) The height and coverage of the constructions shall be in accordance with the existing FSI/FAR norms as per Coastal Regulation Zone Notification, 2011.

Part B- Conditions for construction phase:

- i) All the laborers to be engaged for construction should be screened for health and adequately treated before and during their employment on the work at the site.
- ii) The entire water requirement during construction phase shall be met from out sourcing from the source with approval of the PWD Department of water resources.
- iii) Provision shall be made for the housing labor within the site with all necessary infrastructures and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- iv) A First Aid Room shall be provided in the project site during the entire construction phase of the project.
- v) Adequate drinking water and sanitary facilities should be provided for construction workers at the site. The treatment and disposal of waste water shall be through dispersion trench after treatment through septic tank. The MSW generated shall be disposed through Local Body and the identified dumpsite only.
- vi) The solid waste in the form of excavated earth excluding the top soil generated from the project activity shall be scientifically utilized for construction of approach roads and peripheral roads, as reported.
- vii) All the top soil excavated during construction activities should be stored for use in horticulture/ landscape development within the project site.

- viii) Disposal of other construction debris during construction phase should not create any adverse effect on the neighboring communities and be disposed off only in approved sites, with the approval of Competent Authority with necessary precautions for general safety and health aspects of the people.
- ix) Construction spoils, including bituminous materials and other hazardous materials, must not be allowed to contaminate watercourses. The dump sites for such materials must be secured so that they should not leach into the adjacent land/ lake/ stream etc.
- x) Low Sulphur Diesel shall be used for operating diesel generator sets to be used during construction phase. The air and noise emission shall conform to the standards prescribed in the Rules under the Environment (Protection) Act, 1986, and the Rules framed thereon.
- xi) The diesel required for operating stand by DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.
- xii) Vehicles hired for bringing construction materials to the site should be in good condition and should conform to air and noise emission standards, prescribed by TNPCB/CPCB. The vehicles should be operated only during non-peak hours.
- xiii) Ambient air and noise levels should conform to residential standards prescribed by the TNPCB, both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during the construction phase. The pollution abatement measures shall be strictly implemented.
- xiv) Fly- Ash bricks should be used as building material in the construction as per the provision of Fly ash Notification of September, 1999 and amended as on 27th August, 2003.
- xv) Ready-mix concrete shall alone be used in building construction and necessary cub-tests should be conducted to ascertain their quality.
- xvi) Storm water management around the site and on site shall be established by following the guidelines laid down by the storm water manual.
- xvii) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices prevalent.
- xviii) Fixtures for showers, toilet flushing and drinking water should be of low flow type by adopting the use of aerators / pressure reducing devises / sensor based control.
- xix) Use of glass shall be reduced up to 40% to reduce the electricity consumption and load on air conditioning. If necessary, high quality double glass with special reflecting coating shall be used in windows.
- xx) Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material, to fulfill the requirement.
- xxi) Opaque wall should meet prescribed requirement as per Energy Conservation Building Code which is mandatory for all air conditioned spaces by use of appropriate thermal insulation material to fulfill the requirement.

- xxii) Adequate fire protection equipment's and rescue arrangements should be made as per the prescribed standards.
- xxiii) Proper and free approach road for fire-fighting vehicles up to the buildings and for rescue operations in the event of emergency shall be made.
- xxiv) All Energy Conservation Building Code (ECBC) norms have to be adopted.
- xxv) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- xxvi) Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- xxvii) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, and the shortfall shall be strictly reviewed and addressed.
- xxviii) Provision of drainage system for collecting storm water runoff is yet to be made.
- xxix) The natural gradient at the site is altered so that the storm water can be discharged in the proposed drain towards the road.
- xxx) No major green belt is proposed to be developed as the area has either been paved or earmarked for some other activity. Need to realign the infrastructure of the parking and other ancillary units to provide some space for green belt development.

Part C- Conditions for Operation Phase/Post Construction Phase/Entire Life of the Project:

- i. The SEIAA reserves the right to add additional safeguard measures subsequently, if non-compliance of any of the EC conditions is found and to take action, including revoking of this Environmental Clearance as the case may be.
- ii. There shall be no drawl of ground water.
- iii. The Project Proponent shall plant tree species with large potential for carbon capture in the proposed green belt area based on the recommendation of the Forest department well before the project is ready for occupation.
- iv. The Proponent should be responsible for the maintenance of common facilities including greening, rain water harvesting, sewage treatment and disposal, solid waste disposal and environmental monitoring including terrace gardening for a period of 3 years. Within one year after handing over the flats to all allottees a viable society or an association among the allottees shall be formed to take responsibility of continuous maintenance of all facilities with required agreements for compliance of all conditions furnished in Environment Clearance (EC) order issued by the SEIAA-TN or the Proponent himself shall maintain all the above facilities for the entire period. The copy of MOU between the buyers Association and proponent shall be communicated to SEIAA-TN.

- v. The ground water level and its quality should be monitored and recorded regularly in consultation with Central Ground Water Authority.
- vi. The Sewage Treatment Plant (STP) installed should be certified by an independent expert for its adequacy and a report in this regard should be submitted to the SEIAA, TN before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled / reused to the maximum extent possible. Treatment of 100 % grey water by decentralized treatment should be done. The treated sewage shall conform to the norms and standards for bathing quality laid down by CPCB irrespective of any use. Necessary measures should be made to mitigate the odour and mosquito problem from STP. Explore the less power consuming systems viz. baffle reactor etc. for the treatment of sewage.
- vii. The Proponent shall install STP as furnished. Any alteration to satisfy the bathing quality shall be informed to SEIAA-TN.
- viii. The Proponent shall operate STP continuously by providing stand by DG set in case of power failure.
- ix. It is the sole responsibility of the proponent that the treated sewage water disposed for green belt development/ avenue plantation should not pollute the soil/ ground water/ adjacent canals/ lakes/ ponds, etc.
- x. Adequate measures should be taken to prevent odour emanating from solid waste processing plant and STP.
- xi. The Plastic wastes shall be segregated and disposed as per the provisions of Plastic Waste (Management & Handling) Rules 2011.
- xii. The e - waste generated should be collected and disposed to a nearby authorized e-waste centre as per e waste (Management & Handling), Rules 2011.
- xiii. Diesel power generating sets proposed as source of back-up power during operation phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets.
- xiv. The diesel required for operating DG sets shall be stored in underground tanks fulfilling the safety norms and if required, clearance from the Chief Controller of Explosives shall be taken.
- xv. The acoustic enclosures shall be installed at all noise generating equipment's such as DG sets, air conditioning systems, cooling water tower,etc. and the noise level shall be maintained as per MoEF/CPCB/TNPCB guidelines/norms both during day and night time.
- xvi. Spent oil from D.G sets should be stored in HDPE drums in an isolated covered facility and disposed as per the Hazardous Wastes (Management, Handling, and Tran's boundary Movement) Rules 2008. Spent oil from D.G sets should be disposed off through registered recyclers.
- xvii. The proponent/ Owner of the Flats shall ensure that storm water drain provided at the project site shall be maintained without choking or without causing stagnation and should also ensure that the storm water shall be properly disposed off in the natural drainage / channels without disrupting the adjacent public. Adequate harvesting of the storm water should also be ensured.

- xviii. The proponent/ Owner of the Flats shall ensure that roof rain water collected from the covered roof of the buildings, etc. shall be harvested so as to ensure the maximum beneficiation of rain water harvesting by constructing adequate sumps so that 100% of the harvested water shall be reused.
- xix. Rain water harvesting for surface run-off, as per plan submitted should be implemented. Before recharging the surface run off, pre-treatment with screens, settlers etc. must be done to remove suspended matter, oil and grease, etc. The Proponent shall provide adequate number of bore wells / percolation pits/ etc. as committed. The bore wells / percolation pits/ etc. for rainwater recharging should be kept at least 5 mts. above the highest ground water table.
- xx. Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrids system or fully solar system for a portion of the apartments shall be provided.
- xxi. A report on the energy conservation measures conforming to energy conservation norms prescribed by the Bureau of Energy Efficiency shall be prepared incorporating details about building materials & technology, R & U factors etc. and submitted to the SEIAA in three months' time.
- xxii. Energy conservation measures like installation of CFLs/TFLs for lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.
- xxiii. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site shall be avoided. Parking shall be fully internalized and no public space should be utilized. Parking plan to be as per MoEF norms. The traffic department shall be consulted and any cost effective traffic regulative facility shall be met before commissioning.
- xxiv. The proponent shall prepare completion plans showing Separate pipelines marked with different colors with the following details
- i. Location of STP, compost system, underground sewer line.
 - ii. Pipe Line conveying the treated effluent for green belt development.
 - iii. Pipe Line conveying the treated effluent for toilet flushing
 - iv. Water supply pipeline
 - v. Gas supply pipe line, if proposed
 - vi. Telephone cable
 - vii. Power cable
 - viii. Storm water drains, and
 - ix. Rain water harvesting system. etc.
- and it shall be made available to the owners.
- xxv. A First Aid Room shall be provided during operation of the project, with necessary equipment's and life-saving medicines and should be manned all the 24 hours any day.

- xxvi. The buildings should have adequate distance between them to allow free movement of fresh air and passage of natural light, air and ventilation. Landscape plan to be revised accordingly.
- xxvii. The amount of Rupees equivalent to 0.5% of the Project Cost by the proponent under CSR activity should be earmarked for such activities as committed by the proponent for the purpose for which it was allocated.
- xxviii. Lightning arrester shall be properly designed and installed at top of the building and where ever is necessary.
- xxix. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company. The status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Bangalore by e-mail.
- xxx. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance.
- xxxi. The SEIAA, TN may alter/modify the above conditions or stipulate any further condition in the interest of environment protection, even during the subsequent period.
- xxxii. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
- xxxiii. The SEIAA, TN may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, if, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.
- xxxiv. A copy of the Environmental clearance (EC) letter shall be made available to all the allottees along with the allotment order / sale deed.
- xxxv. The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, Chennai, the respective Zonal Office of CPCB, Bengaluru and the TNPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectorial parameters, indicated for the project shall be monitored.
- xxxvi. A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
- xxxvii. The Regional Office of the Ministry located at Chennai shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- xxxviii. The project proponent shall submit progress reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by

e-mail) to the Ministry of Environment and Forests, its Regional Office Chennai, the respective Zonal Office of Central Pollution Control Board, SEIAA, TN and the State Pollution Control Board once in six months.

- xxxix. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- xl. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law, including the Hon'ble National Green Tribunal relating to the subject matter.

ANNEXURE II

Non compliance status by the Project Proponents in respect of Conditions imposed by the CMDA /

Corporation of Chennai / Police (Traffic) / CMWSSB / IAF / AAI / Local Panchayat / DF&RS

Conditions imposed by CMDA:

C.No	CONDITIONS	COMPLIANCE STATUS	REMARKS
3	All wells, overhead tanks are hermitically sealed with properly protected vents to avoid mosquito menace.	Not fully complied since the open wells are not sealed.	To be verified before issue of Completion Certificate.
5	The applicant has to furnish NOC from IAF and EIA clearance before issue of Completion Certificate (CC).	EIA clearance not complied with.	Nil

Conditions imposed by Police (Traffic):

C.No.	CONDITIONS	COMPLIANCE STATUS	Remarks
4	To maintain properly the drive way distances as shown in the site plan and ensure free flow of traffic.	Not Complied with.	The Applicant informed that the same will be provided before getting Completion Certificate (CC).
5	To construct and maintain properly the Parking spaces shown inside the premises.	Not Complied with	The Applicant informed that the same will be provided before getting Completion Certificate (CC).
6	There should provide of parking of cars and two wheelers shown in Key plan.	Not Complied with.	The Applicant informed that the same will be provided before getting Completion Certificate (CC).

Conditions imposed by CMWSSB for STP:

C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
3	The applicant has proposed the treatment unit to be constructed below GL with access to treatment units through head room at Ground Level. The panel board and Air blowers are proposed to be placed in the Head room.	The STP is outside the premises of the building.	Deviation in location of Panel Board and air blower..
6	It is proposed to reuse the entire quantity of treated effluent (136939 L/D) for toilet flushing and gardening.	Not fully complied with as per the proposal furnished by the Project Proponent.	Nil

Conditions imposed by CMWSSB for Swimming pool :

C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
4	The applicant shall recycle the used water of the swimming pool as proposed.	Not complied with as per the proposal furnished by the Project Proponent.	Nil

Conditions imposed by IAF :

C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
4	A Garbage Treatment Plant shall be installed prior to the construction of buildings for the purpose of avoiding bird activity. The Plant shall be shown to the Air Officer Commandant (AOC)/his nominated representative at Air Force Station Tambaram on installation.	No information furnished by the Project Proponent.	Nil

Non-Compliance of some major Conditions imposed by SEIAA

Sl.No	CONDITIONS	COMPLIANCE STATUS	REMARKS
1.	"Consent for Establishment" shall be obtained from the Tamil Nadu Pollution Control Board and a copy shall be submitted to the SEIAA, Tamil Nadu before taking up any construction activity at the site.	Not obtained	Not obtained
2.	The Project Proponent shall plant tree species with large potential for carbon capture in the proposed green belt area based on the recommendation of the Forest department well before the project is ready for occupation.	Not complied.	No green belt was seen.
3.	The Proponent shall install STP as furnished. Any alteration to satisfy the bathing quality shall be informed to SEIAA-TN.	STP constructed.	STP design needs modification to meet the treated quality norms specified by SEIAA.
4.	The Sewage Treatment Plant (STP) installed should be certified by an independent expert for its adequacy and a report in this regard should be submitted to the SEIAA, TN before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled / reused to the maximum extent possible. Treatment of 100 % grey water by decentralized treatment should be done. The treated sewage shall conform to the norms and standards for bathing quality laid down by CPCB irrespective of any use. Necessary measures should be made to mitigate the odour and mosquito problem from STP. Explore the less power consuming systems viz. baffle reactor etc. for the treatment of sewage.	Not complied.	No such measures seen
5.	Adequate measures should be taken to prevent odour emanating from solid waste processing plant and STP.	Not complied.	No solid processing plant installed.
6.	Consent of the local body concerned should be obtained for using the treated sewage in the OSR area for gardening purpose. The quality of treated sewage shall satisfy the bathing quality prescribed by the CPCB.	Not complied	Not proposed.
7.	Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrids system or fully solar system for a portion of the apartments shall be provided.	Not complied.	Presently not provided, proponent proposed to use solar panels for common lightings.

8.	Provision of drainage system for collecting storm water runoff is yet to be made.	Not complied.	No proper drains provided.
9.	Traffic congestion near the entry and exit points from the roads adjoining the proposed project site shall be avoided. Parking shall be fully internalized and no public space should be utilized. Parking plan to be as per MoEF norms. The traffic department shall be consulted and any cost effective traffic regulative facility shall be met before commissioning.	Not complied.	The entry to the site being through residential areas and small lanes, traffic congestion expected during peak traffic hours.
10	The proponent shall prepare completion plans showing Separate pipelines marked with different colors with the following details i. Location of STP, compost system, underground sewer line. ii. Pipe Line conveying the treated effluent for green belt development. iii. Pipe Line conveying the treated effluent for toilet flushing iv. Water supply pipeline v. Gas supply pipe line, if proposed vi. Telephone cable vii. Power cable viii. Storm water drains, and ix. Rain water harvesting system. etc. and it shall be made available to the owners.	Not complied.	Not provided.

Table 1 : Details of Clearance/Permission/NOCs required for the Construction of Residential Group Development Buildings depending upon project type/size

S. No.	Various Authorities for issuing Clearance/Permission/NOCs	Time of the permission	Permissions required by M/s.Jones foundation
1	Planning permission from CMDA	Obtained on 03.08.2012.	✓ +
2	Environmental Clearance (built up area exceeds 20000 sqm)	Applied on 05.02.2014 and obtained EC on 14.12.2015	✓ +
3.	Coastal Regulation zone clearance	Not Applicable	Not Applicable
4.	Consent for establishment and operation under State Air and Water Acts	Not Applicable Consent for establishment is before commencement and consent for operation after construction before commencing occupation	✓ (Not granted)
5.	Public Health Act	Not Applicable	Not Applicable
6.	Tamil Nadu Lift Act, 1997	No proper information provided	No proper information provided
7.	Tamil Nadu Building and other construction workers (Regulation of employment and condition of service) Rule,2006	Not Applicable	Not Applicable
8.	Interstate Migrant Workmen Act 1980, Tamil Nadu Rule (Regulation of employment and condition of service) Act 1920.	Not Applicable	Not Applicable
9	Directorate of Fire & Rescue Service	Obtained on 16.06.2010	✓ +
10.	Traffic (Police) Dept.	Obtained on 24.09.2010	✓ +
11.	Airport Authority of India when height exceeds 30m.	Obtained on 17.10.2013	✓ +
12.	Indian Air Force	Obtained on 25.10.2013	✓ +
13.	PWD (if site is located adjacent to water body).	Not Applicable	Not Applicable
14.	Revenue Dept.,(land reforms act)	Not Applicable	Not Applicable
15.	National Highway Authority.	Not Applicable	Not Applicable
16.	Chennai Metropolitan Water Supply and Sewage Board (CWSSB) (For STP design, swimming pool).	Obtained on 16.06.2014	✓ +
17.	Archaeological Survey of India (ASI).	Not Applicable	Not Applicable
18.	Railways	Not Applicable	Not Applicable
19.	Department of Explosives	Not Applicable	Not Applicable

✓ : Permission Required
 ✓ + : Permission granted

Table 2: Energy Management

No.	Project Proponent	Power Requirement (KW/KVA) *	Backup Power (KVA)	Energy saving measures (KWH)			Energy Conservation Materials/Equipment used/to be used in the project	
				Solar Energy	CFL/LED	Others		Total Power Saving & percentage
1	M/s. Jones Foundations Pvt. Ltd.	2186 KVA	512.5	4730.4 KWPA#	80697.12 KWPA	TNEB-SCOPE	87427.52 KWPA 41.58 %	Lift Technology: Machine room less, Alternate Current Variable Voltage Variable Frequency(ACVVVF) closed loop drive, Full load by pass, Car fan & light Automatic, Dot Matrix LED display, Automatic Rescue device used, Synchronized motor used

*Connected Load;

CFL: Compact Fluorescent Light; LED: Light Emitting Diode; #KWPA - Kilo Watt Per Annum; RMC: Ready Mix Concrete

Table 3 :- Rain Water Harvesting (RWH)

No	Project Proponent	Roof Top Area	Road & Paved Area	Unpaved Area	Annual Potential of roof top RWH* /Underground Storage Tank for roof top RWH (KL)	Percentage storage of roof top RWH	Annual Potential of RWH from open area at Ground level** (KL)	Method of RWH
		(sq.m)						
1	M/s. Jones Foundations Pvt. Ltd.	6232.88	7434.53	3216.88	5086 / 6x10=60.	1.18%	6684	

* Assuming average annual rainfall intensity: 1200 mm ; Paved and roof top runoff co-efficient = 0.85; Co-efficient for first flush and evaporation = 0.8.

** Assuming average annual rainfall intensity: 1200 mm ; Unpaved area runoff co-efficient = 0.2 and Paved area run-off coefficient: 0.85; Co-efficient for first flush and evaporation = 0.8.

KL ~ Kilo litre = Cubic Metre

Table 4:- Water and Wastewater Management

S.No	Project Proponent	Fresh Water Requirement (in KLD)		Waste Water (in KLD)			Units of STP/Capacity	Remarks
		Phase/Supplier	Qty.	Waste water generated	Reuse & Recycle	Excess Quantity to be discharged		
1	M/s. Jones Foundations Pvt Ltd.	Not Applicable as Operation phase not started						
		Construction : Private Water Tankers	90					
		Operation : Proposed from CMWSSB or Private Water Tankers	159	207	Toilet Flushing: 79 + Gardening: 12 =91	111	Proposed through CMWSSB Sewerage System or through tankers to nearby Perungudi STP	Primary-Secondary(FBBR)-Tertiary(Dual sand filter, activated carbon and Ultra Filtration): 220 KLD
	Operation : CMWSSB	166	93	Gardening:3	90	CMWSSB sewerage	Primary-Secondary(Extended Aeration) Tertiary(Pressure Sand Filter, Activated Carbon, Chlorination) : 95 KLD	The so called STP could not be seen as there is no accessibility; hence no comments / observation can be made.

* The STP is constructed below ground level, head space is inadequate for free movement and poor accessibility to the STP units, thus preventive maintenance and break down maintenance is difficult. STP units are covered (not visible) and any upsetting in plant operation cannot be visualized and can be only ascertained after results of effluent quality and operating parameters are available.

Qty: Quantity; C: Construction Phase; O: Operation Phase; PWT: Private Water Tankers; STP: Sewage Treatment Plant; SST: Secondary Settling Tank; CMWSSB: Chennai Metropolitan Water Supply and Sewerage Board; MBBR : Moving Bed Bio Reactor; SBR: Sequential Batch Reactor; FBBR: Fluidized Bed Bio Reactor; UF: Ultra Filtration ; UV: Ultra Violet

Table 5: Green Belt Development

S. No	Project Proponent	Area Details (sq.m)			Plantation Proposed			OSR (sq.m)
		Project Area	Built up Area	Area earmarked for Green belt	Trees (No's)	Landscape (sq.m)	Roof garden* (sq.m)	
1.	M/s. Jones Foundations Pvt. Ltd.	20895.02	35848.88	1843.73	80	840.18	76.9	OSR 1 :1038.58 OSR 2: 861.18

*Proposed to provide green pavers for retaining the soil substrate.

Saplings already planted.

ANNEXURE-XI

REPORT OF M/S SAS REALTORS PVT. LTD.

1.0 Project Proponent – M/s SAS Realtors Pvt. Ltd.

The project of M/s SAS Realtors Pvt. Ltd. is spread over an area of 6985.00 m². The project is completed and completion certificate issued by CMDA. As informed by CMDA the construction is in line with the Planning Permission. The details of the project are as under:

- The site is located in a Saligramam and Virukambakkam Villages, Egmore-Nungambakkam taluk within the Chennai Metropolitan area.
- The land was purchased in October 2010 for construction of residential complex and its construction started on June 1, 2012.
- The land covered in the project is categorized under commercial zone as per the 2nd Master Plan for Chennai Metropolitan area land use which is in force since September 2008.
- The maximum building height permissible for this category of development as per Development Regulations is 60.00 meters and the normally permissible FSI is 2.5. The actual height of building is 58.96 mtrs and FSI is 3.50 (including premium FSI of 1.0).
- No reservoir or protected forest is in the vicinity of the site. Porur Lake is about 3.0 kms from the project site.
- Seismicity – Seismic Zone III (Moderate)

2.0 Permissions/ Clearances / NOCs required

The project proponent is required to obtain requisite clearances / permissions / NOCs from State / Central Regulatory Agencies/Organizations for initiating construction. The details of the permissions/clearances/NOCs required for construction are given in **Table- 1**. The height of the project being more than 17 meters and more than 4 floors, it is covered under multi-storeyed building category. As per the regulations in-force, the project of M/s SAS Realtors Pvt. Ltd... is required to obtain permissions/clearances/NOCs listed in **Table-1** as applicable to it.

The project proponent i.e. M/s SAS Realtors Pvt. Ltd. applied for EC to SEIAA after more than 08 months of starting construction on 13.03.2013 a mandatory requirement, before starting of construction work or preparation of land. As the built up area is less than 150,000 sqm grant of ToR was not applicable. Environmental Clearance was granted to the project proponent on 14.12.2015, when the works had been completed. The project proponent has taken planning permission from CMDA and NOC's from other departments like Indian Air Force, Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB), etc. The

Building Permit to the project proponent was accorded by the Greater Chennai Corporation on 23.05.2012 subsequent to the approval accorded by CMDA on 30.03.2012. The planning permission for the project was issued by CMDA under the Development Regulation forming part of the 2nd Master Plan for Chennai Metropolitan area approved by the Tamil Nadu Government under Tamil Nadu Town and Country Planning Act, 1971. The CMDA and other regulatory agencies/organization have specified conditions which need to be complied with by the project proponent and the same is annexed at **Annexure-I**.

The conditions imposed by other agencies such as CMDA, Police (Traffic) department, CMWSSB, etc. and not complied by the project proponent are annexed at **Annexure-II**. The chart indicates that besides other violations the major violation by the project proponent has been initiation of the construction activity at site without having the necessary Environmental clearance, a mandatory requirement.

3.0 The Report

This report is submitted with reference to tasks assigned to the Committee.

➤ ***Illegal and unauthorized acts and activities carried out by the Respondents.***

The following illegal acts and activities by the Project Proponent have been noted by the Committee:

- Initiated construction at site without obtaining Environmental Clearance under section 2 of the EIA Notification dated 14.09.2006 issued under section 5(3) of Environment (Protection) Act, 1986 from SEIAA, Tamil Nadu
- Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated by CMDA.
- Did not obtain 'Consent to Establish' required for commencement of work from Tamil Nadu Pollution Control Board
- Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated in the Building license by the Greater Chennai Corporation (The permission by the Greater Chennai Corporation is to be read with conditions of CMDA).

- No provision for use of 40 KLD of treated sewage for flushing has been made and this treated sewage will be disposed to the CMWSSB sewerage system in violation of the conditions specified in Environmental Clearance.

➤ **Ecological and environmental damage done by these projects**

The ecological and environmental impacts are expected from:

- i) **Disposal of solid waste:** The domestic waste (515 Kg/day) is proposed to be disposed to the Greater Chennai Corporation as envisaged in the EC conditions. The sludge from STP is to be used as manure. The non-biodegradable fraction if disposed in an unscientific way has all potential to contaminate the groundwater besides being a source of unaesthetic conditions and odour.
- ii) **Sewage disposal:** The Proponent has installed STP having installed capacity of 95 KLD as against the expected sewage generation of 93 KLD. Part of the treated effluent 03 KLD is proposed to be used for gardening purposes and 90 KLD of excess treated sewage is proposed to be disposed to CMWSSB sewerage network. However, the EC states that 101 KLD of Sewage will be generated for which STP of 120 KLD is to be installed, out of which 40 KLD of treated sewage will be used for flushing and 3 KLD for gardening, while the remaining excess treated sewage 53 KLD will be disposed to CMWSSB sewer line after obtaining permission from CMWSSB. Till such connectivity is ensured the treated sewage will be sent through tankers to the Nesapakkam STP having treatment capacity of 94 MLD with the approval of CMWSSB which is not in concurrence with the details provided to the committee in August 2015. In absence of connectivity of trunk sewer, for continuous discharge of treated sewage and no provision of storage of treated sewage for disposed through tankers, there is every possibility of the excess sewage being discharged on land thereby causing soil and groundwater contamination.
- iii) **Water abstraction:** As per conditions imposed, the fresh water requirement of 78 KLD is to be drawn from CMWSSB. As the proponent has not made any provision for recycling of 40 KLD of treated sewage for flushing, the fresh water withdrawal shall be 118 KLD putting additional load on already scarce water resources. In absence of availability of potable supply from CMWSSB

as specified in EC conditions the project proponent has proposed to procure water through tankers.

- iv) **Noise Pollution:** There is a possibility of increase in noise levels once the dwellings units are occupied. The increase in noise level can be taken care by providing green belt along the boundary wall and other acoustic measures to cushion the impact of noise.
- v) **Air Pollution:** As per the 2nd Master Plan for CMA land use which is in force since September 2008, the project land are zoned for primary residential use and mixed residential use. As the site is meant for construction of residential complex including commercial units for the residents of complex it cannot be considered to be contributing to the deterioration in air quality.

➤ **Installation of STPs**

- i. The total sewage generation anticipated from the project is 93 KLD. STP with total treatment capacity of 95 KLD has been constructed.
- ii. The design of the STP unit indicates adequacy of the system to meet the norms prescribed by CMWSSB, however, the actual efficacy can be assessed only after the details of the mechanical systems installed are provided. The STP needs to be upgraded to meet the norms of bathing water quality specified by SEIAA in the EC granted. In absence of the connectivity with the CMWSSB sewerage system, the disposal of treated sewage to the Nesapakkam STP (117 MLD) is proposed through tankers which does not seem feasible in absence of any provision of storing of treated sewage.
- iii. The STP units have neither proper nor safe access for free movement, because of which the STP units could not be seen. With the layout of STP the operation of plant cannot be seen / visualized and in case of any disruption in plant condition, the plant performance can be assessed only after examining/seeing the results of effluent quality parameters and the values of the plant operating parameters.
- iv. Though the complex is partially occupied the STP was not in operation, Mr. Sathanarayana the company representative present, informed that the effluent was being disposed through tankers which did not seem feasible from the location specified neither details of the tanker movements provided. However,

the provision for by-passing the sewage discharge to the sewer was found functional.

- v. There is no developed green belt within the project area, hence there is no possibility to utilize the treated sewage (03 KLD) earmarked for green belt development, hence the leftover would also be required to be discharged along with the excess sewage.
- vi. The proponent does not have provision for recycling of the treated effluent as no provision for dual piping systems has been made.
- vii. In absence of the provision for recycling of the treated sewage, non-availability of land for green belt, the entire sewage after treatment has to be discharged, in violation of conditions specified by the SEIAA and other agencies.

➤ **Other anti-pollution devices by the Project Proponent**

To meet the power requirement during periods of power failure, gensets using high speed diesel as fuel and meeting the norms prescribed by CPCB have been installed.

➤ **Proposed point of discharge of sewage and any other untreated waste**

As per the conditions imposed by CMWSSB, the entire quantity of treated sewage has to be reused for toilet flushing and gardening. However, in absence of any provision for recycling of the treated sewage and land for green belt development, the entire 90 KLD of treated sewage shall be disposed through CMWSSB sewerage system and till such time connectivity is achieved with the sewerage system the treated sewage is proposed to be disposed through tankers to the nearby Nesapakkam STP. The permission for the same is still to be obtained. In absence of any storage facility at STP for the treated sewage, transportation of treated sewage to the STP on regular basis does not seem feasible and disposal of the treated sewage into the sewerage system does not seem feasible, at least in foreseeable future. Hence a fool proof system for managing the excess treated sewage needs to be in place.

➤ **Source of water during operation phase and otherwise**

As per the information provided by the Project Proponent, water was supplied through tankers at site for the construction activity. In the operation phase, the Proponent has planned to meet the fresh water requirement of 118 KLD

(including flushing requirement) to the residents from CMWSSB supply and in absence of connectivity the water will be procured through tankers.

➤ **Use of energy efficient devices**

The energy saving measures adopted includes installation of CFL/ LED lamps. The other measures taken include installation of solar panels to meet the hot water requirement of bathing/kitchen. Variable Frequency and Variable Drive lifts, use of Unplasticised Polyvinyl Chloride (UPVC) windows and 6 mm thick glasses. The details of the measures taken for energy saving are given in **Table-2**.

➤ **Ecologically and environmentally sensitive areas**

There are no national parks / wildlife sanctuaries and reserved/protected forests near to the project site, except for the Porur lake which is about 3.0 Km from the project site.

➤ **Details of alteration of land its effect on the natural topography**

The project site has been flattened to make way for the construction activity. The contour map indicates a total level difference of about 0.8 meters. Maximum contour is of 9.8 m and minimum is of 9.0 m.

➤ **Effect on natural drainage system**

The site map does not indicate any natural storm water channel in the project area. The natural gradient at the site is altered so that the storm water can be discharged in the proposed drains towards the road. This change in gradient can cause obstacle to the free flow of storm water flowing towards the proponent site and may lead to flooding. Construction below the ground water table has all possibility to impact the ground water recharging system, for which study need to be conducted.

➤ **Adequacy of rainwater harvesting system**

No provision for roof-top rain water harvesting has been made. 10 pits each 6 feet diameter has been provided for harnessing storm water runoff. A detail of rain water harvesting is given in **Table 3**. The project proponent has to provide pretreatment of the surface runoff to remove the suspended solids, oil and grease etc. before recharging and make provision for reuse of 100% rainwater harvested.

➤ **Adequacy of parking area and if at all they have been provided**

Provision has been made for providing space for parking 244 cars for the 166 residential units and club house.

➤ **Collection and disposal of municipal solid waste at the project site**

The domestic waste (515 Kg/day) is proposed to be disposed through Greater Chennai Corporation and authorized recyclers. The STP sludge is proposed to be used as manure. The use of STP sludge as manure may not be possible in absence of any green belt within the premises.

➤ **Compliance of conditions stated in the planning permission and other permissions granted by various authorities**

- Project Proponent initiated construction without obtaining EC violating the conditions specified by CMDA and Village Panchayat.
- Project Proponent initiated construction without obtaining Consent to Establish from Tamil Nadu Pollution Control Board.
- Project Proponent initiated construction without obtaining EC from SEIAA
- No provision for roof top rain water harvesting has been made.
- The Project Proponent proposes to dispose the excess 90 KLD of treated sewage for CMWSSB sewerage which is in violation to the conditions imposed by CMWSSB and SEIAA for recycling of treated sewage for flushing in Toilets.
- The project proponent has not made provision for recycling of treated sewage for toilet flushing, violating conditions specified by the SEIAA in EC accorded.

➤ **Whether suggestions made by the SEIAA in its meetings adequately take care of environment and ecology?**

The conditions stipulated by SEIAA in the Environmental Clearance are generic and cover wide spectrum of environment. The condition need to be more specific for effective implementation and monitoring. The conditions with respect to the quantum of energy saving, use of fly ash bricks, rain water storage capacity, area for green belt etc. should be specific and precise to bring uniformity in the conditions imposed.

➤ **Whether demolition or raising of additional structures are required in the interest of environment and ecology**

- M/s SAS Realtors Pvt. Ltd. Started construction on June 01st, 2012 without obtaining EC, a mandatory requirement before starting construction work or preparation of land. The proponent applied for EC on 18.02.2013 i.e., after more than 08 months of starting construction. EC was granted by SEIAA on 14.12.2015.
- The STP has been designed to meet the treated effluent quality of BOD-20mg/l and SS-30 mg/l. The EC conditions stipulate the requirement of meeting bathing water quality norms i.e., BOD<3mg/l. The existing STP need to be upgraded to meet the norms specified by SEIAA in EC, besides, it also need to be modified for providing safe and proper access to the various units.
- Development of green belt has not been accorded priority as no green belt was seen at the site. Some of the existing infrastructure need to be realigned for providing space for green belt development.
- Provision need to be made for recycling of treated sewage for flushing in toilets and for roof top rainwater harvesting and its storage, besides making arrangement for proper management of storm water discharge and disposal of treated sewage.

4.0 Observations

Based on the assessment of available information and physical visit to the site, the following observations were made:

4.1 General Observation

- i. EC was granted by SEIAA on 14.12.2015, well after the construction works had been completed.
- ii. Consent to Establish not obtained from Tamil Nadu Pollution Control Board.
- iii. Violated CMDA condition of not commencing activity without obtaining Environmental clearance.
- iv. The entire sewage after treatment is to be discharged to CMWSSB sewerage system and in absence of the connectivity it is proposed to be send it to the Nesapakkam STP through tankers.
- v. No provision made for recycling of the treated sewage for flushing in toilets.
- vi. Provisions for harvesting of roof top rain water has not been made.
- vii. Provisions for proper green belt development has not been made.

- viii. During inspection on 22.02.2016 partial occupancy was observed, however, no effluent discharge was observed.
- ix. Completion Certificate was issued by CMDA on 30.12.2015

4.2 Water Management

The various aspects of water management including the source of water supply, the quantum of sewage generated, its treatment, adequacy of Sewage Treatment Plants, reuse and recycling of the treated effluent and its disposal were examined. The observations made are given in **Table-4**. The major observations are as under:

- i. The tanker water was used for construction.
- ii. The STP of M/s SAS Realtors Pvt. Ltd. are below ground level.
- iii. Erection/Installation Works for the STP are completed. The design of the STP indicates adequacy of the system to meet the norms prescribed by CMWSSB, however the actual efficacy can be assessed only after the details of mechanical systems installed and their ratings known. The STP needs to be modified to provide better accessibility to the various units and also upgraded to meet the norms of bathing water quality specified by SEIAA in the EC granted.
- iv. The STP units have neither proper nor safe access for free movement, because of which the STP could not be seen. With the layout of STP the operation of plants cannot be seen / visualized and in case of any disruption in plant condition, the plant performance can be assessed only after examining/seeing the results of effluent quality parameters and the values of the plant operating parameters.
- v. The Project Proponent needs to develop environmental laboratory with capacity to monitor the operating parameters of STP and the quality of treated effluent essential for effective operation of the plant/self-monitoring and self-compliance with the norms.
- vi. The 90 KLD of excess treated sewage is proposed to be disposed to the CMWSSB sewerage system and till such connectivity is ensured, the treated sewage will be sent through tankers to the Nesapakkam STP. In absence of the connectivity with the sewerage system and absence of any provision for storage of treated sewage its proper disposal is of concern and the concern aggravates during the rainy period as any discharge of the sewage along with the storm water may be a cause of unaesthetic conditions and odour problem.

- vii. Fresh water requirement during operation will be met from CMWSSB and till such time the permission is received through private tankers.
- viii. The unit has proposed to utilize the 03 KLD of excess treated sewage for plantation. The detail of the available land for irrigation has not been provided which is not possible in absence of any green belt within the premises.
- ix. Color coding of pipelines for STP not done.
- x. No provision has been made for utilizing the treated sewage for flushing.
- xi. Provision of proper drainage system for effective management of storm water runoff in and around the project site is required to be made.

4.3 Green Belt Development:

Total green belt area proposed is 700.00 m². Development of green belt has not been accorded priority by the project proponent as no developed green belt was seen at the site. The project proponent informed of the proposal to develop green belt which seems to be after thought as the area has either been paved or earmarked for some other activity at the site. The Project Proponent need to realign the parking infrastructure and other ancillary units to provide for green belt development.

4.4 Construction Waste

Data for construction waste generated during the construction activity and its use was not available with the Project Proponent, except for the information that the construction waste generated has been disposed to fill the low lying area within the premises or outside. Site details outside the premises where construction waste was used to fill low lying areas were not provided by the project proponent.

4.5 Solid Waste

The domestic waste (515 Kg/day) is proposed to be disposed through Greater Chennai Corporation and authorized recyclers. The STP sludge is proposed to be used as manure, which does not seem feasible in absence of any green belt in the project area.

4.6 Other observations:

- i) As part of energy saving measure, LED/CFL bulbs have been installed and solar panels provided for meeting the hot water requirement heated water for bathing and kitchen.

- ii) The entrance and exit to and from the site reference is directly through the main road which may be because traffic congestion during morning and evening peak hours.
- iii) The generator sets for standby power supply conform to CPCB norms.
- iv) The fresh water requirement during operation is to be met from CMWSSB or through private tankers. Presently, in absence of the connectivity, fresh water requirement is met through tankers.
- v) Provision of drainage system for collecting storm water runoff has been made within the project area. Storm water drainage system needs to be provided outside the premises also for proper disposal of storm water runoff.
- vi) The natural topography has been changed at the site so that the storm water is collected and disposed towards the road side.

5.0 SUGGESTIONS

5.1 Conditions stipulated by CMDA

- i. CMDA shall give more emphasis on the environmental aspects including water supply disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, while according planning permission for large development.
- ii. The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform. CMDA may also insist the proponent not to commence the construction without EC wherever required.
- iii. To have uniformity in approach so that violation of laws is avoided, a coordination mechanism between SEIAA, CMDA and other agencies need to be put into place.
- iv. As no EIA has been conducted quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA.
- v. In case any deterioration in the ambient environment / ground water quality is observed, the proponent shall inform the status to TNPCB and SEIAA and also prepare a time bound action plan for remedial measures.

- vi. The proponent shall install piezo wells to monitor the ground water quality quarterly.

5.2 Waste Water Management/Sewage Treatment

- i. The STPs constructed by M/s SAS Realtors Pvt. Ltd. need to be reworked to provide safe access to the various units of STP. The STP also needs to be upgraded to treat the sewage up to the bathing quality norms prescribed by SEIAA in the EC conditions.
- ii. The project proponent should provide separate electricity meter for the sewage treatment plants and maintain daily record of the power consumed, essential to ensure 24X7 functioning of STP.
- iii. The unit not having provision for discharge of treated sewage cannot be permitted to start operation unless proper arrangements are put in place for its safe handling.
- iv. In no case, the discharge of treated sewage on land can be permitted. Transportation of treated sewage through tankers equipped with GPS system (to monitor their movement to the existing STPs in the area) can be permitted only in case adequate treatment capacity is available at STPs installed by CMWSSB. The installation of GPS system will help ensuring, that the tankers are emptied at the STPs only.
- v. The project proponent having permission to discharge the excess treated sewage to existing CMWSSB STPs, should be permitted to discharge the treated effluent conforming to the prescribed effluent norms only.
- vi. The project proponent do not have outlet provisions and is also not able to recycle additional sewage back into the system, , *transporting of the treated sewage conforming to the specified norms for discharge to STPs* operated by CMWSSB Board through identified tankers fitted with GPS system for tracking their movements may be considered. The option can be permitted only after the project proponent develops adequate storage capacity for treated effluent.
- vii. To ensure that entire waste water generated is treated, online flow measurement system need to be installed both at the Inlet and Outlet of the STPs, and the pumps/ valves integrated through software to provide the flow data.

- viii. The online system is installed to monitor the effluent quality at least for the basic parameters, such as pH, suspended solids and BOD for self-monitoring and self-regulations besides ensuring compliance of the norms. The data will be transferred directly from the analyzers.
- ix. The project proponent should develop in-house laboratory for monitoring of the operating parameters of the sewage treatment plants and the treated effluent quality daily.
- x. Color coding of pipelines in the STP's should be done.
- xi. All the plumbing lines carrying raw water, untreated effluent/treated effluent etc. should be color coded.
- xii. The project proponent should not be permitted to operationalize the complexes till such time permission / connectivity for taking potable water from CMWSSB pipeline is received / connectivity ensured or viable alternate arrangement made to avoid ground water abstraction.
- xiii. The operation of STP to be supported by backup power (DG set) for ensuring its continuous operation.

5.3 Rain Water Harvesting

If provision for discharge of excess surface run off / rain water discharge are not available, flooding in the vicinity and stagnation of the discharged water in the low lying areas around the complex are inevitable. The project proponent should ensure that such situation does not occur either by increasing the capacity of rain water storage sumps or providing additional pits in the surface run off collection drain and making proper provision for storm water management in and around the premises. The surface runoff has to be treated through screen settlers etc., to remove suspended soils, oil and grease etc., before its use for recharging.

5.4 Green Belt Development

- i) The Project proponent should plan for scientific green belt development, (exceptions are there for the landscape area or some places earmarked for plantation of trees). Maximum possible space should be left unpaved for recharging of ground water besides the proposed rain water harvesting system. The unpaved area should be covered with green top or any other pervious material to maintain permeability of soil.

- ii) Green belt should be developed all around the site boundary to act as a barrier for air and noise pollution. Ornamental plants / area left for landscape, covered with grass / shrubs and roof top garden shall not be considered in the areas mandatory for green belt development. Sufficient space has to be provided for each tree so that it does not choke to death because of the putting of cement concrete all around the tree.

5.5 Solid Waste Management

- i) The project proponent should prepare an action plan for ensuring segregation, collection, transportation, treatment and scientific disposal of Municipal Solid Waste. This action plan should be submitted to SEIAA and TNPCB for their approval.
- ii) The project proponent should put in place a system for collection of discarded CFL & LED lamp.
- iii) Separate space should be earmarked for storing of construction and demolition waste and its disposal at sites approved by local authorities.
- iv) The proponent should submit a plan for management of grit and STP sludge.
- v) The leaves/ biomass should be composted at site and used as manure.

5.6 Traffic Management

- i. Once the complex is occupied, there is all possibility of traffic snarls around. The project proponent needs to submit an action plan to avoid congestion on the road, increased concentration of air pollutants.
- ii. The project proponent should ensure regular sweeping of the roads inside and adjacent to the complex to avoid re-suspension of settled dust, thereby taking care of any possibility of increasing particulate matter levels.
- iii. Car parking requirement for residential development is based on the size of the individual unit and location of the site. In the case of Low Income Group (LIG) dwelling units, which is mandatory and size does not exceed 45 m², one two wheeler parking only is required. In addition 10% of total parking is required to be provided as visitors parking.

5.7 Energy Saving

- i. All street and staircase lighting should use solar power. The project proponent should reduce the power consumption by at least 20% by replacing CFL lamps with LED lamps, using energy efficient device (solar relay – Bureau of energy efficiency) providing insulated window or insulated glasses and adopting advance elevator and air conditioning technologies as below:-
- ii. Inverter technology based Air Conditioning machines should be installed.
- iii. For meeting hot water requirement in kitchen solar energy should be used.
- iv. Installation of IR/Thermal switches in corridors/staircases to save energy needs to be promoted.
- v. The project should obtain GRIHA or any other such rating.

8.0 General Remarks

- i. In all future plans, the natural drainage system should be incorporated as a part of the lay out plan using it as a water front / water storage and the building lay out modeled to incorporate the natural drainage as part of the system.
- ii. A systematic green belt development is necessary. In all future projects environmental issues like development of green belt, managing surface water runoff, its collection and recharge etc., provision of solid waste management, and orientation of the building for energy saving should be given priority while designing the layout and the number of dwelling units likely to come up.
- iii. In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site. As the construction works are yet to be completed, the use of construction materials to raise the ground level is avoided as it has all the possibility to affect the nature percolation rate of soil.
- iv. The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of renewable energy, green belt development for effective implementation and monitoring.

ANNEXURE-I

Conditions imposed by various agencies

Conditions imposed by Chennai Metropolitan Development Authority (CMDA)

1. To furnish an undertaking to abide by the terms and conditions put forth by CMDA, DF&RS, CMWSSB, AAI, IAF-Tambaram and Police (Traffic).
2. Should apply for the water connection after approval of the sanitary proposal and internal work should be taken up only after the approval of the water application.
3. All wells, overhead tanks are hermitically sealed with properly protected vents to avoid mosquito menace.
4. Rain water harvesting structures shall provide as shown in the approved plans to the satisfaction of the authority.

Conditions imposed by Directorate of Fire & Rescue Services (DF&RS)

1. There should be one Wet riser per thousand square metre areas covering all floors including the basement floor with landing valves along with delivery hoses. The riser should be fully charged with water with adequate pressure at all times and should have both automatic and manual operation. To feed the wet riser an underground static water tank of minimum capacity 75000 litres should be provided with refilling facilities. A terrace level tank of capacity of 10,000 litres also should be provided. To charge the wet riser system and the sprinkler system two electrical pump of capacity 2280 LPM should be provided near the underground water tank. An equal capacity of Diesel pump should also be provided as an alternative arrangement. The pumps should be capable of developing pressure of 3.5 Kg/cm at terrace level hydrant point. One more electrical pump of capacity of 180 LPM should be provided as a jockey pump.
2. Fire service inlet fitted with NRV at ground level should be provided.
3. Hose reel assembly should be provided covering each floor area.
4. Yard hydrant should be provided at all around the building.
5. Manual fire alarm call points should be provided at all floors.
6. Automatic Sprinkler should be provided at all floors.
7. Public address system should be provided connecting all the floors including basement.
8. Alternate and independent power system should be provided to fire pumps, emergency lighting system, fire lifts, including automatic smoke vent system.
9. No of ramps, exits, their location and width, should be conformed to the requirements to the National Building Code of India, 2nd Revision Part -IV, 2005.
10. All exit stair case including in the basement should be protected with self closing fire check doors of minimum 2 hour rating.
11. The first Aid Fire fighting equipment should be provided at all floors in accordance with IS 2190:1992 requirements.

12. Fire lifts, electrical installations and wiring, A/C ducts and other service ducts should meet the requirement of NBC of India, part IV, 2nd Revision, 2005.
13. The width and height of any arch or gate, if any, should have the clearance of not less than 4.50m and 5.0m respectively.
14. The compulsory open space of 7.0m around the building should be designed to withstand a weight of 45 tons at any point of operation for the use of the Hydraulic platform vehicle.
15. The mechanical ventilation (duct) system shall be provided for car parking areas in the basements and some purging system which is independent of any system serving other parts of the building shall be provided to give a purging rate of not less than 12 air-change per hour. The smoke purging system shall be activated automatically by the building fire alarm system.
16. The service ducts such as power cables, communication cable, A/C Ducts etc., should be protected with proper fire ceiling/fire dampers.
17. The cable Gallery should be routed through fire resistant duct or fire protected tray.
18. Fire resistant and low smoke emission cable should be used.
19. A trained fire officer with a crew shall be arranged along with the fire control room to maintain as well as to operate the fire protection systems in case of any need.
20. The Fire dumpers to be certified by UL555 and for Fire and Smoke dumpers UL555S.
21. Refuge area 15 sqm or an area equivalent to 0.3 sqm per person to accommodate the occupants of two consecutive floors whichever is higher shall be provided at 24th metre and 39th and 54th metre level.
22. Basement car parking area should provided with an automatic water curtain suitable detector system, compartmentation at every 750 sq.m area
23. This building should provide integrated building management system.
24. During the construction of the building, the following fire protection measures should be provided in good working condition.
 - a) Dry riser of minimum 100mm dia pipe with Hydrant outlets constructed with a fire service inlet to boost the water in the riser from fire service pumps.
 - b) Drums filled with water of 2000 litres with two fire buckets on each floor.
 - c) A water storage tank of 20,000 litres capacity, which may be used for other construction purposes also.

Conditions imposed by Local Body ((Corporation of Chennai (CoC))

1. The Ground floor of the building shall be 0.91mtrs from the abutting road adjacent to the compound wall or centre of the road.
2. The building shall conform to the IS 486; IS 875 and IS 1893 of Bureau of Indian Standards.
3. Rain Water Harvesting should be done as shown in the plan.

Conditions imposed by Police (Traffic)

1. The applicant has to provide separate entry and exit gate with the width of 4.5 meters with bell mouth shapes 7 meters drive way in car parking areas for 2 way movement.

2. The parking space provided by the applicant should be maintained properly.
3. The drive way provided by the applicant should be maintained properly.
4. The applicant on completion of the construction has to deploy sufficient number of personnel to manage the movement of vehicles at the entry and exit gate of the building.
5. The applicant has to ensure that the parking plan inside the campus is strictly followed. The markings for vehicular parking should be clearly maintained for easy and free movement of vehicles.
6. The applicant has to install latest traffic equipments, sign boards, information boards etc., inside the campus to facilitate the easy and smooth moment of vehicles coming into the building and vice versa.

Conditions imposed by Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) for Sewage Treatment Plant (STP)

1. The capacity of the proposed in-situ STP of 0.12 MLD (Average Flow-domestic sewage) determined by the applicant, is only considered in scrutiny of design of proposed in-situ STP
2. The influent characteristics of domestic sewage generated from the development and Effluent characteristics in the effluent of STP as assumed and given by the applicant has been considered as basic data in the scrutiny of design in-situ STP and is furnished below PH-6.5 to 8.0 (Influent), PH-6.5 to 8.0 (Effluent),Suspended Solids 450 mg/l (Influent), < 30 mg/l (Effluent), BOD - 350 mg/l (Influent), < 20 mg/l (Effluent)
3. The treatment unit to be constructed below GL with access to treatment units through headroom at GL. The panel board and Air blowers are proposed to be placed in the head room.
4. To ensure that the structures provided for the underground treatment units are water proof. And also, the internal sewer system for the proposed development should be laid / maintained subsequently in a manner such that the entry of rain water collected in the site is prevented at any point in the internal sewer system.
5. As the treatment units are proposed below ground level, sufficient air circulation through duct arrangements is to be ensured for achieving the desired degree of treatment and safety.
6. The applicant has proposed to reuse the entire quantity of treated effluent (110160 L/D) for toilet flushing and gardening.
7. To dispose the sludge after lime post treatment.
8. The treated effluent, grit and sludge should be disposed off from the site in the manner as prescribed by TNPCB.

**Conditions imposed by Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) for
Swimming Pool**

1. The entire water requirement for the swimming pool must be procured from CMWSS Board by paying necessary charges at the rates prevailing at the time of supply. The ground water should neither be extracted nor procured from the private sources as the Ground Water Regulation Act prohibits it.
2. Whenever the swimming pool water is emptied for discharge, at least about 60% of the used water must be used for gardening and only remaining water shall be discharged in to the CMWSS Board Sewerage system over a period of not less than 36 hours and also the discharged timings to be on non-peak hours as per the guidance of the local CMWSS Board Depot Engineer.

Conditions imposed by Indian Air Force (IAF)

As the proposed construction is outside the Area of Responsibility of AF Station Tambaram, the NOC from IAF is not considered necessary for this proposal.

Conditions imposed by Airport Authority of India (AAI)

1. The height of the building shall not exceed 66.48 mtrs above the ground level.
2. No radio/TV Antenna, lightning arresters, stair case, Mumtee, Overhead tank and attachments and fixtures of any kind shall project above the height indicated above.
3. The use of electric fire or oil fired furnace is obligatory, within 8 Kms. of aerodrome.
4. No light or a combination of lights which by reason of its intensity, configuration of colour may cause confusion with the Aeronautical ground lights of the Airport shall be installed at the site at any time during or after the construction of the Residential building.
5. Day and night markings with secondary power supply shall be provided as per ICAO standards.

Conditions imposed by State Level Environment Impact Assessment Authority (SEIAA)

Part A- Conditions for Pre Construction phase:

- i) The project authorities should advertise with basic details at least in two local newspaper widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of clearance. The press releases also mention that a copy of the clearance letter is available with the State Pollution Control Board and also at website of SEIAA, TN. The copy of the press release should be forwarded to the Regional Office of the Ministry of Environment and Forests located at Chennai and SEIAA-TN.
- ii) In the case of any change(s) in the scope of the project, a fresh appraisal by the SEAC/SEIAA shall be

obtained before implementation.

- iii) A copy of the clearance letter shall be sent by the proponent to the Local Body. The clearance letter shall also be put on the website of the Proponent.
- iv) "Consent for Establishment" shall be obtained from the Tamil Nadu Pollution Control Board and a copy shall be submitted to the SEIAA, Tamil Nadu before taking up any construction activity at the site.
- v) Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- vi) The approval of the competent authority shall be obtained for structural safety of the buildings during earthquake, adequacy of firefighting equipment's, etc as per National Building Code including protection measures from lightning etc before commencement of the work.
- vii) All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
- viii) Design of buildings should be in conformity with the Seismic Zone Classifications.
- ix) The Construction of the structures should be undertaken as per the plans approved by the concerned local authorities/local administration.
- x) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire and Rescue Services Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wild Life (Protection) Act, 1972, State / Central Ground Water Authority, Coastal Regulatory Zone Authority, other statutory and other authorities as applicable to the project shall be obtained by project proponent from the concerned competent authorities.
- xi) The Project proponent shall have to furnish the probable date of commissioning of the project supported with necessary bar charts to SEIAA-TN.
- xii) No construction activity of any kind shall be taken up in the OSR area.
- xiii) Consent of the local body concerned should be obtained for using the treated sewage in the OSR area for gardening purpose. The quality of treated sewage shall satisfy the bathing quality prescribed by the CPCB.
- xiv) The structural design of the proposed building must be vetted by premier academic institutions like Anna University, IIT Madras, etc., and the fact shall be informed to SEIAA.
- xv) The height and coverage of the constructions shall be in accordance with the existing FSI/FAR norms as per Coastal Regulation Zone Notification, 2011.

Part B- Conditions for construction phase:

- i) All the laborers to be engaged for construction should be screened for health and adequately treated before and during their employment on the work at the site.
- ii) The entire water requirement during construction phase shall be met from out sourcing from the source with approval of the PWD Department of water resources.

- iii) Provision shall be made for the housing labor within the site with all necessary infrastructures and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- iv) A First Aid Room shall be provided in the project site during the entire construction phase of the project.
- v) Adequate drinking water and sanitary facilities should be provided for construction workers at the site. The treatment and disposal of waste water shall be through dispersion trench after treatment through septic tank. The MSW generated shall be disposed through Local Body and the identified dumpsite only.
- vi) The solid waste in the form of excavated earth excluding the top soil generated from the project activity shall be scientifically utilized for construction of approach roads and peripheral roads, as reported.
- vii) All the top soil excavated during construction activities should be stored for use in horticulture/ landscape development within the project site.
- viii) Disposal of other construction debris during construction phase should not create any adverse effect on the neighboring communities and be disposed off only in approved sites, with the approval of Competent Authority with necessary precautions for general safety and health aspects of the people.
- ix) Construction spoils, including bituminous materials and other hazardous materials, must not be allowed to contaminate watercourses. The dump sites for such materials must be secured so that they should not leach into the adjacent land/ lake/ stream etc.
- x) Low Sulphur Diesel shall be used for operating diesel generator sets to be used during construction phase. The air and noise emission shall conform to the standards prescribed in the Rules under the Environment (Protection) Act, 1986, and the Rules framed thereon.
- xi) The diesel required for operating stand by DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.
- xii) Vehicles hired for bringing construction materials to the site should be in good condition and should conform to air and noise emission standards, prescribed by TNPCB/CPCB. The vehicles should be operated only during non-peak hours.
- xiii) Ambient air and noise levels should conform to residential standards prescribed by the TNPCB, both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during the construction phase. The pollution abatement measures shall be strictly implemented.
- xiv) Fly- Ash bricks should be used as building material in the construction as per the provision of Fly ash Notification of September, 1999 and amended as on 27th August, 2003.
- xv) Ready-mix concrete shall alone be used in building construction and necessary cub-tests should be conducted to ascertain their quality.
- xvi) Storm water management around the site and on site shall be established by following the guidelines laid down by the storm water manual.

- xvii) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices prevalent.
- xviii) Fixtures for showers, toilet flushing and drinking water should be of low flow type by adopting the use of aerators / pressure reducing devices / sensor based control.
- xix) Use of glass shall be reduced up to 40% to reduce the electricity consumption and load on air conditioning. If necessary, high quality double glass with special reflecting coating shall be used in windows.
- xx) Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material, to fulfill the requirement.
- xxi) Opaque wall should meet prescribed requirement as per Energy Conservation Building Code which is mandatory for all air conditioned spaces by use of appropriate thermal insulation material to fulfill the requirement.
- xxii) Adequate fire protection equipment's and rescue arrangements should be made as per the prescribed standards.
- xxiii) Proper and free approach road for fire-fighting vehicles up to the buildings and for rescue operations in the event of emergency shall be made.
- xxiv) All Energy Conservation Building Code (ECBC) norms have to be adopted.
- xxv) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- xxvi) Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- xxvii) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, and the shortfall shall be strictly reviewed and addressed.
- xxviii) Provision of drainage system for collecting storm water runoff is yet to be made.
- xxix) The natural gradient at the site is altered so that the storm water can be discharged in the proposed drain towards the road.
- xxx) No major green belt is proposed to be developed as the area has either been paved or earmarked for some other activity. Need to realign the infrastructure of the parking and other ancillary units to provide some space for green belt development.

Part C- Conditions for Operation Phase/Post Construction Phase/Entire Life of the Project:

- i. The SEIAA reserves the right to add additional safeguard measures subsequently, if non-compliance of any of the EC conditions is found and to take action, including revoking of this Environmental Clearance as the case may be.

- ii. There shall be no drawl of ground water.
- iii. The Project Proponent shall plant tree species with large potential for carbon capture in the proposed green belt area based on the recommendation of the Forest department well before the project is ready for occupation.
- iv. The Proponent should be responsible for the maintenance of common facilities including greening, rain water harvesting, sewage treatment and disposal, solid waste disposal and environmental monitoring including terrace gardening for a period of 3 years. Within one year after handing over the flats to all allottees a viable society or an association among the allottees shall be formed to take responsibility of continuous maintenance of all facilities with required agreements for compliance of all conditions furnished in Environment Clearance (EC) order issued by the SEIAA-TN or the Proponent himself shall maintain all the above facilities for the entire period. The copy of MOU between the buyers Association and proponent shall be communicated to SEIAA-TN.
- v. The ground water level and its quality should be monitored and recorded regularly in consultation with Central Ground Water Authority.
- vi. The Sewage Treatment Plant (STP) installed should be certified by an independent expert for its adequacy and a report in this regard should be submitted to the SEIAA, TN before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled / reused to the maximum extent possible. Treatment of 100 % grey water by decentralized treatment should be done. The treated sewage shall conform to the norms and standards for bathing quality laid down by CPCB irrespective of any use. Necessary measures should be made to mitigate the odour and mosquito problem from STP. Explore the less power consuming systems viz. baffle reactor etc. for the treatment of sewage.
- vii. The Proponent shall install STP as furnished. Any alteration to satisfy the bathing quality shall be informed to SEIAA-TN.
- viii. The Proponent shall operate STP continuously by providing stand by DG set in case of power failure.
- ix. It is the sole responsibility of the proponent that the treated sewage water disposed for green belt development/ avenue plantation should not pollute the soil/ ground water/ adjacent canals/ lakes/ ponds, etc.
- x. Adequate measures should be taken to prevent odour emanating from solid waste processing plant and STP.
- xi. The Plastic wastes shall be segregated and disposed as per the provisions of Plastic Waste (Management & Handling) Rules 2011.
- xii. The e - waste generated should be collected and disposed to a nearby authorized e-waste centre as per e waste (Management & Handling), Rules 2011.
- xiii. Diesel power generating sets proposed as source of back-up power during operation phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets.

- xiv. The diesel required for operating DG sets shall be stored in underground tanks fulfilling the safety norms and if required, clearance from the Chief Controller of Explosives shall be taken.
- xv. The acoustic enclosures shall be installed at all noise generating equipment's such as DG sets, air conditioning systems, cooling water tower, etc. and the noise level shall be maintained as per MoEF/CPCB/TNPCB guidelines/norms both during day and night time.
- xvi. Spent oil from D.G sets should be stored in HDPE drums in an isolated covered facility and disposed as per the Hazardous Wastes (Management, Handling, Trans boundary Movement) Rules 2008. Spent oil from D.G sets should be disposed off through registered recyclers.
- xvii. The proponent/ Owner of the Flats shall ensure that storm water drain provided at the project site shall be maintained without choking or without causing stagnation and should also ensure that the storm water shall be properly disposed off in the natural drainage / channels without disrupting the adjacent public. Adequate harvesting of the storm water should also be ensured.
- xviii. The proponent/ Owner of the Flats shall ensure that roof rain water collected from the covered roof of the buildings, etc shall be harvested so as to ensure the maximum beneficiation of rain water harvesting by constructing adequate sumps so that 100% of the harvested water shall be reused.
- xix. Rain water harvesting for surface run-off, as per plan submitted should be implemented. Before recharging the surface run-off, pre-treatment with screens, settlers etc. must be done to remove suspended matter, oil and grease, etc. The Proponent shall provide adequate number of bore wells / percolation pits/ etc. as committed. The bore wells / percolation pits/ etc. for rainwater recharging should be kept at least 5 mts. above the highest ground water table.
- xx. Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrids system or fully solar system for a portion of the apartments shall be provided.
- xxi. A report on the energy conservation measures conforming to energy conservation norms prescribed by the Bureau of Energy Efficiency shall be prepared incorporating details about building materials & technology; R & U factors etc and submitted to the SEIAA in three months' time.
- xxii. Energy conservation measures like installation of CFLs/TFLs for lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.
- xxiii. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site shall be avoided. Parking shall be fully internalized and no public space should be utilized. Parking plan to be as per MoEF norms. The traffic department shall be consulted and any cost effective traffic regulative facility shall be met before commissioning.
- xxiv. The proponent shall prepare completion plans showing Separate pipelines marked with different colours with the following details

- i. Location of STP, compost system, underground sewer line.
 - ii. Pipe Line conveying the treated effluent for green belt development.
 - iii. Pipe Line conveying the treated effluent for toilet flushing
 - iv. Water supply pipeline
 - v. Gas supply pipe line, if proposed
 - vi. Telephone cable
 - vii. Power cable
 - viii. Storm water drains, and
 - ix. Rain water harvesting system., etc
and it shall be made available to the owners.
- xxv. A First Aid Room shall be provided during operation of the project, with necessary equipment's and life-saving medicines and should be manned all the 24 hours any day.
 - xxvi. The buildings should have adequate distance between them to allow free movement of fresh air and passage of natural light, air and ventilation. Landscape plan to be revised accordingly.
 - xxvii. The amount of Rupees equivalent to 0.5% of the Project Cost by the proponent under CSR activity should be earmarked for such activities as committed by the proponent for the purpose for which it was allocated.
 - xxviii. Lightning arrester shall be properly designed and installed at top of the building and where ever is necessary.
 - xxix. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company. The status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Bangalore by e-mail.
 - xxx. This Environmental Clearance does not imply that the other statutory-/ administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance.
 - xxxi. The SEIAA, TN may alter/modify the above conditions or stipulate any further condition in the interest of environment protection, even during the subsequent period.
 - xxii. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
 - xxiii. The SEIAA, TN may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, if, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.
 - xxxiv. A copy of the Environmental clearance (EC) letter shall be made available to all the allottees along with the allotment order / sale deed.

- xxxv. The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, Chennai, the respective Zonal Office of CPCB, Bengaluru and the TNPcB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectorial parameters, indicated for the project shall be monitored.
- xxxvi. A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
- xxxvii. The Regional Office of the Ministry located at Chennai shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- xviii. The project proponent shall submit progress reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Chennai, the respective Zonal Office of Central Pollution Control Board, SEIAA, TN and the State Pollution Control Board once in six months.
- xxix. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- xl. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law, including the Hon'ble National Green Tribunal relating to the subject matter.

ANNEXURE II

Non compliance status by the Project Proponents in respect of Conditions imposed by the CMDA / Corporation of Chennai / Police (Traffic) / CMWSSB / IAF / AAI / Local Panchayat / DF&RS

Project Proponent: M/s. SAS Realtors Limited

Conditions imposed by CMDA:

C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
4	Rain water harvesting structures shall provide as shown in the approved plans to the satisfaction of the authority.	Not yet complied with. No storage tank provided for roof top rain water harvesting.	Applicant/Project Proponent completed the building and applied for the Completion Certificate

Conditions imposed by Local Body (CoC):

C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
3	Rain Water Harvesting should be done as shown in the plan.	Not yet complied with. No storage tank provided for roof top rain water harvesting.	Nil

Conditions imposed by CMWSSB for STP;

C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
1	The capacity of the proposed in-situ STP of 0.12 MLD (Average Flow-domestic sewage)determined by the applicant, is only considered in scrutiny of design of proposed in-situ STP	The STP could not be inspected since it didn't have accessibility.	Nil
3	The treatment unit to be constructed below GL with access to treatment units through headroom at GL. The panel board and Air blowers are proposed to be placed in the head room.	The STP could not be inspected since it didn't have accessibility	Nil
5	As the treatment units are proposed below ground level, sufficient air circulation through duct arrangements is to be ensured for achieving the desired degree of treatment and safety.	Not Complied	Nil
6	The applicant has proposed to reuse the entire quantity of treated effluent (110160 L/D) for toilet flushing and gardening.	Not fully complied. The Project Proponent informed that certain quantity will be discharged into the public sewer system.	Nil

Conditions imposed by CMWSSB for Swimming Pool;

C. No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
2	Whenever the swimming pool water is emptied for discharge, at least about 60% of the used water must be used for gardening and only remaining water shall be discharged in to the CMWSS Board Sewerage system over a period of not less than 36 hours and also the discharged timings to be on non-peak hours as per the guidance of the local CMWSS Board Depot Engineer.	Not fully complied. The Project Proponent informed that certain quantity will be discharged into the public sewer system.	Nil

Non-Compliance of some major Conditions imposed by SEIAA

Sl.No	CONDITIONS	COMPLIANCE STATUS	REMARKS
1.	"Consent for Establishment" shall be obtained from the Tamil Nadu Pollution Control Board and a copy shall be submitted to the SEIAA, Tamil Nadu before taking up any construction activity at the site.	Not obtained	Not obtained.
2.	Provision of drainage system for collecting storm water runoff is yet to be made.	Some drainage system provided.	Not adequate.
3.	The Project Proponent shall plant tree species with large potential for carbon capture in the proposed green belt area based on the recommendation of the Forest department well before the project is ready for occupation.	Not complied.	No green belt was seen.
4.	The Proponent shall install STP as furnished. Any alteration to satisfy the bathing quality shall be informed to SEIAA-TN.	STP installed. Units of STPs have no proper access.	The STP needs major modification to provide safe and easy access to the units, for effective operation and maintenance. The existing STP is inadequate to meet the treated sewage conditions prescribed by SEIAA.
5.	Adequate measures should be taken to prevent odour emanating from solid waste processing plant and STP.	Not complied.	No proper measures has been taken.
6.	Rain water harvesting for surface run-off, as per plan submitted should be implemented. Before recharging the surface run off, pre-treatment with screens, settlers etc. must be done to remove suspended matter, oil and grease, etc. The Proponent shall provide adequate number of bore wells / percolation pits/ etc. as committed. The bore wells / percolation pits/ etc. for rainwater recharging should be kept at least 5 mts. above the highest ground water table.	Not complied.	No such structures seen during inspection. No roof top storm water harvesting proposed.
7.	Traffic congestion near the entry and exit points from the roads adjoining the proposed project site shall be avoided. Parking shall be fully internalized and no public space should be utilized. Parking plan to be as per MoEF norms. The traffic department shall be	Not complied.	No proper information provided. The entry is from main road and there is possibility of traffic jam in peak traffic hours.

	<p>consulted and any cost effective traffic regulative facility shall be met before commissioning.</p>		
8.	<p>The proponent shall prepare completion plans showing Separate pipelines marked with different colors with the following details</p> <ol style="list-style-type: none"> i. Location of STP, compost system, underground sewer line. ii. Pipe Line conveying the treated effluent for green belt development. iii. Pipe Line conveying the treated effluent for toilet flushing iv. Water supply pipeline v. Gas supply pipe line, if proposed vi. Telephone cable vii. Power cable viii. Storm water drains, and ix. Rain water harvesting system. etc. <p>and it shall be made available to the owners.</p>	Not complied.	No color coding done. Completion plan not prepared.

Table 1 : Details of Clearance/Permission/NOCs required for the Construction of Residential Group Development Buildings depending upon project type/size

S. No.	Various Authorities for issuing Clearance/Permission/NOCs	Time of the permission	Permissions required by M/s. SAS Realtors Pvt. Ltd.
1	Planning permission from CMDA	Obtained on 29.03.2012.	✓ +
2	Environmental Clearance (built up area exceeds 20000 sqm)	Applied on 13.03.2013 and obtained EC on 14.12.2015	✓ +
3.	Coastal Regulation zone clearance	Not Applicable	Not Applicable
4.	Consent for establishment and operation under State Air and Water Acts	Not Applicable Consent for establishment is before commencement and consent for operation after construction before commencing occupation	✓ (Not granted)
5.	Public Health Act	Not Applicable	Not Applicable
6.	Tamil Nadu Lift Act, 1997	No proper information provided	No proper information provided
7.	Tamil Nadu Building and other construction workers (Regulation of employment and condition of service) Rule,2006	Not Applicable	Not Applicable
8.	Interstate Migrant Workmen Act 1980, Tamil Nadu Rule (Regulation of employment and condition of service) Act 1920.	Not Applicable	Not Applicable
9	Directorate of Fire & Rescue Service	Obtained on 19.03.2012	✓ +
10.	Traffic (Police) Dept.	Obtained on 03.05.2011	✓ +
11.	Airport Authority of India when height exceeds 30m.	Obtained on 24.02.2013	✓ +
12.	Indian Air Force	Obtained on 07.02.2011	✓ +
13.	PWD (if site is located adjacent to water body).	Not Applicable	Not Applicable
14.	Revenue Dept.,(land reforms act)	Not Applicable	Not Applicable
15.	National Highway Authority.	Not Applicable	Not Applicable
16.	Chennai Metropolitan Water Supply and Sewage Board (CWSSB) (For STP design swimming pool).	For STP- obtained on 04.02.2011 and for swimming pool obtained on 10.02.2011	✓ +
17.	Archaeological Survey of India (ASI).	Not Applicable	Not Applicable
18.	Railways	Not Applicable	Not Applicable
19.	Department of Explosives	Not Applicable	Not Applicable

✓ : Permission Required
 ✓ + : Permission granted

Table 2: Energy Management

No.	Project Proponent	Power Requirement (KW/KVA) *	Backup Power (KVA)	Energy saving measures (KWH)				Energy Conservation Materials/Equipment used/to be used in the project
				Solar Energy	CFL/LED	Others	Total Power Saving & percentage	
1.	M/s. SAS Realtors Pvt. Ltd.	4500 KW	60	1.5/day	177521.4 KW/Annun m (Common area lighting) 19622.5 KW/Annun m (Street lighting)	3 x 500 KVA	197143.8 /Annun 46%	Fly ash bricks have been used for construction. Fly ash mixed RMC for construction. Installed Variable frequency and variable drive lifts, pumps and motors energy conservation. Usage of Ultra Poly vinyl chloride windows instead of wooden windows for reduction of usage of natural wood to prevent the cutting of trees. Glasses used for windows of 6 mm thickness with single glazing of 50% light transmission with U value of 5 complying the norms of the Energy Conservation Building Code(ECBC).

*Connected Load;

CFL: Compact Fluorescent Light; LED: Light Emitting Diode; #KWPA - Kilo Watt Per Annun; RMC: Ready Mix Concrete

Table 3 :- Rain Water Harvesting (RWH)

Project Proponent	Roof Top Area	Road & Paved Area	Unpaved Area	Annual Potential of roof top RWH* /Underground Storage Tank for roof top RWH (KL)	Percentage storage of roof top RWH	Annual Potential of RWH from open area at Ground level** (KL)	Method of RWH
	(sq.m)						
1. M/s. SAS Realtors Pvt Ltd.	2540.00	4345	700.0	2072 (No storage tank for roof top rain water)	NIL	3679	

* Assuming average annual rainfall intensity: 1200 mm ; Paved and roof top runoff co-efficient = 0.85; Co-efficient for first flush and evaporation = 0.8.

** Assuming average annual rainfall intensity: 1200 mm ; Unpaved area runoff co-efficient = 0.2 and Paved area run-off coefficient: 0.85; Co-efficient for first flush and evaporation = 0.8.

KL – Kilo litre = Cubic Metre

Table 4:- Water and Wastewater Management

S.No	Project Proponent	Fresh Water Requirement (in KLD)		Waste Water (in KLD)			Units of STP/Capacity	Remarks	
		Phase/Supplier	Qty.	Waste water generated	Reuse & Recycle	Excess Quantity to be discharged			Point of discharge
1.	M/s. SAS Realtors Pvt. Ltd.	Construction : Private Water Tankers	12.5	Not Applicable as Operation phase not started					Nil
		Operation : CMWSSB	166	93	Gardening:3	90	CMWSSB sewerage	Primary-Secondary(Extended Aeration) Tertiary(Pressure Sand Filter, Activated Carbon, Chlorination) : 95 KLD	The so called STP could not be seen as there is no accessibility; hence no comments / observation can be made.

* The STP is constructed below ground level, head space is inadequate for free movement and poor accessibility to the STP units, thus preventive maintenance and break down maintenance is difficult. STP units are covered (not visible) and any upsetting in plant operation cannot be visualized and can be only ascertained after results of effluent quality and operating parameters are available.

Qty: Quantity; C: Construction Phase; O: Operation Phase; PWT: Private Water Tankers; STP: Sewage Treatment Plant; SST: Secondary Settling Tank; CMWSSB: Chennai Metropolitan Water Supply and Sewerage Board; MBBR : Moving Bed Bio Reactor; SBR: Sequential Batch Reactor; FBBR: Fluidized Bed Bio Reactor; UF: Ultra Filtration ; UV: Ultra Violet

Table 5: Green Belt Development

S. No	Project Proponent	Area Details (sq.m)			Plantation Proposed				OSR (sq.m)
		Project Area	Built up Area	Area earmarked for Green belt	Trees (No's)	Landscape (sq.m)	Roof garden* (sq.m)		
7.	M/s. SAS Realtors Pvt. Ltd.	6985.00	24417.61	700.00	51	Nil	Nil	Nil	

*Proposed to provide green pavers for retaining the soil substrate.

Saplings already planted.

**REPORT OF M/S DUGAR HOUSING
LTD.**

1.0 Project Proponent – M/s Dugar Housing Ltd.

The project of M/s Dugar Housing Ltd. is spread over an area of 11789.00 m². The project is under construction stage and as informed by CMDA the proponent has constructed additional floors than that permitted in Planning Permission. The project proponent has however, applied for revised planning permission which is under consideration. The EC granted by SEIAA covers the additional floors constructed by the project proponent.

The details of the project are as under:

- The site is located in a Village Korattur, Ambattur Taluk, Thiruvallur District, and Tamil Nadu.
- The land covered in the project is zoned for primary residential use as per the 2nd Master Plan for Chennai Metropolitan area land use which is in force since September 2008.
- As per the Master Plan of CMA 2026, the project site has been categorized as primary residential land use.
- The construction activity was started on 15.02.2013.
- The maximum building height permissible for this category of development as per Development Regulations is 60.00 meters and the normally permissible FSI is 2.5. The actual height and FSI shall be 45.00 meters and FSI of 3.48 (including premium FSI of 0.98) respectively.
- Reservoir / Lake – Puzhal Lake – 1 km
Korattur Tank – 1.5 Kms
- Seismicity – Seismic Zone III (Moderate)

2.0 Permissions/ Clearances / NOCs required

The project proponent is required to obtain requisite clearances / permissions / NOCs from State / Central Regulatory Agencies/Organizations for initiating construction. The details of the permissions/clearances/NOCs required for construction are given in Table- 1. The height of the project being more than 17 meters and more than 4 floors, it is covered under multi-storeyed building category. As per the regulations in-force, the project of M/s Dugar Housing Ltd., requires permissions/clearances/NOCs listed in Table-I as applicable to it.

The project proponent i.e. M/s Dugar Housing Ltd. applied for Environmental Clearance on 04.06.2013, a mandatory requirement, before starting of construction work or preparation of land. As the built up area is less than 150,000 Sqm ToR was not applicable. Environmental Clearance after about 04 month of starting the construction was granted to the project proponent by SEIAA,

Chennai on 19.11.2015 when civil works have proceeded beyond 10th floor. The project proponent has taken planning permission from Chennai Metropolitan Development Authority (CMDA) and NOC's from other departments like Indian Air Force, Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB), etc. The Building Permit to the project proponent was accorded by the Greater Chennai Corporation (GCC) on 08.05.2013 subsequent to the approval accorded by CMDA on 28.01.2013. The planning permission for the project was issued by CMDA under the Development Regulation forming the part of the 2nd Master Plan for Chennai Metropolitan area approved by the Tamil Nadu Government under Tamil Nadu Town and Country Planning Act, 1971. The CMDA and other regulatory agencies/organization have specified conditions which need to be complied with by the project proponent and the same is annexed at **Annexure-I**.

The planning permission granted by CMDA was with building height restricted to 10 floors. Subsequently the proponent submitted request to CMDA for permission to construct 14 floors. The revised planning permission from CMDA is still awaited. During site visit in August 2015 and February 2016 more than 10 floors were seen under construction.

The EC granted by SEIAA on 19.11.2015 envisages construction of 14 floors. Construction of additional floors necessitates reassessment of services along with the requirement of fresh water, power demand, parking space requirement, management of sewage generated, solid waste etc.,

The conditions imposed by other agencies such as CMDA, traffic department, CMWSSB, etc, and not complied by the project proponent are annexed at **Annexure-II**. The chart indicates that besides other violations the major violation by the project proponent has been initiation of the construction activity at site without having the necessary Environmental clearance, a mandatory requirement, and constructing additional floors without obtaining the requisite permission from CMDA/SEIAA.

3.0 The Report

This report is submitted with reference to tasks assigned to the Committee.

➤ *Illegal and unauthorized acts and activities carried out by the Respondents.*

The following illegal acts and activities by the Project Proponent have been noted by the Committee:

- Initiated construction at the site without obtaining Environmental Clearance under section 2 of the EIA Notification dated 14.09.2006 issued under section 5(3) of Environment (Protection) Rules, 1986 from SEIAA, Tamil Nadu

- Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated by CMDA
- Did not obtain 'Consent to Establish' required for commencement of work from Tamil Nadu Pollution Control Board
- Violated the condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated in the Building Permit by the Greater Chennai Corporation to be read with conditions of CMDA.
- Violated condition of number of residential units specified in permission from CMDA by constructing additional floors. The proponent has however applied for revised Planning Permission:

➤ **Ecological and environmental damage done by these projects**

The ecological and environmental impacts are expected from:

- i) Disposal of solid waste: The solid waste generation needs to be reworked considering the proposed construction of additional 04 floors. The proponent proposes to dispose the entire solid waste through Greater Chennai Corporation (GCC) as envisaged in the EC conditions. The sludge from STP will be used as manure. The non-biodegradable fraction is proposed to be disposed through authorized recyclers. The unscientific disposal of solid waste has all potential to contaminate the groundwater besides being a source of unaesthetic conditions and odour.
- ii) Sewage disposal: The Proponent has proposed to install STP having installed capacity of 280 KLD as against the expected sewage generation of 266 KLD. Part of the treated sewage is proposed to be utilized for meeting the demand of toilet flushing (108 KLD) while 10 KLD is proposed to be used for gardening purpose and the excess treated sewage of 135 KLD to be disposed through CMWSSB system and till such connectivity is ensured the treated sewage will be sent through tankers to the nearby Koyambedu STP (94 MLD) with the approval of CMWSSB. In absence of connectivity of trunk sewer for continuous discharge of treated sewage and no provision for storage of treated sewage for disposal through tankers not envisaged, there is every possibility of the excess sewage being discharged on land thereby causing soil and groundwater contamination. The STP design has not been redone considering the demand of sewage treatment for additional 04 floors

after construction of 14 floors (permitted in EC issued by SEIAA) as against construction of 10 floors in planning permission issued by CMDA.

The water requirement for 2842 occupants @ 135 KLD/ per captia comes to 384 KLD and sewage generation at 80% of the water supply is 307 KLD ($384 \times 0.80 = 307$ KLD). The capacity of STP proposed is 280 KLD is inadequate to treat the proposed sewage generation of 307 KLD. Unless the capacity of STP is augmented, it will either lead to bypasses of untreated sewage or non compliance with the norm, which has all the potential to contaminate the ground water or water resources depending upon the discharge mode.

- iii) **Water abstraction:** The freshwater requirement is to be drawn from CMWSSB and in the absence of availability of potable water supply from CMWSSB as specified in EC conditions the project proponent has proposed to procure water through tankers. The fresh water requirement also needs to be reworked to meet the demand of the residents of the additional 04 floors being constructed. However, there is all probability of the Project Proponent using groundwater during the operational phase of the project from 01 well in its premises. Any over exploitation of groundwater would impact the groundwater table. A study needs to be conducted to assess the charging rate vis-à-vis the abstraction from the groundwater sources.
- iv) **Noise Pollution:** There is a possibility of increase in noise levels once the dwellings units are occupied. The increase in noise level can be taken care by providing green belt along the boundary wall and other acoustic measures to cushion the impact of noise.
- v) **Air Pollution:** As per the 2nd Master Plan for CMA land use which is in force since September 2008, the project land is categorized as primary residential land use. As the site is meant for construction of residential complex including commercial units for the residents of complex it cannot be considered to be contributing to the deterioration in air quality.
- vi) The ground water table is at about 10.00 meters from ground level. Construction activity below the ground level table has all potential to impact the ground water.

➤ **Installation of STPs**

- i. The total sewage generation anticipated from the project is 307 KLD and not 266 KLD as envisaged in EC and the proposed STP with total treatment capacity of 280 KLD seems inadequate to treat the expected sewage generation after construction of 04 additional floors.
- ii. As the STP unit has not been constructed the layout could not be assessed.
- iii. No green belt has been developed. Even considering the area proposed for green belt development within the project area, the treated sewage (10 KLD) earmarked for green belt development cannot be utilized on all the days and specifically during the rainy days. The leftover would be required to be discharged along with the excess sewage.
- iv. The possibility of recycling of the treated effluent could not be examined as plumbing work has not started and dual piping system could not be verified. The quantum of treated sewage has to reassess considering that 04 additional floors are to be constructed.

➤ **Other anti-pollution devices by the Project Proponent**

To meet the power requirement during periods of power failure, gensets using high speed diesel as fuel and meeting the norms prescribed by CPCB are proposed to be installed.

➤ **Proposed point of discharge of sewage and any other untreated waste**

As per the conditions imposed by CMWSSB, the entire quantity of treated sewage has to be reused for toilet flushing and gardening. However, as per the information provided by the Project Proponent 135 KLD of excess treated sewage shall be disposed through CMWSSB system which is also envisaged in the EC conditions. Presently no connectivity has been provided with the CMWSSB system for discharging the excess sewage. The excess treated sewage available for discharge will be higher than proposed due to additional generation of sewage from the proposed 04 floors to be constructed.

➤ **Source of water during operation phase and otherwise**

As per the information provided by the Project Proponent, water has been supplied through tankers at site for the construction activity. In the operation phase, the Proponent has planned to source fresh water from CMWSSB and through tankers till such time the connectivity is ensured.

➤ **Use of energy efficient devices**

The energy saving measures proposed includes installation of CFL / LED lamps, solar panels for street lighting. The details of the measures proposed for energy saving are given in **Table-2**.

➤ **Ecologically and environmentally sensitive areas**

There are no national parks / wildlife sanctuaries, reservoirs/lakes and reserved/protected forests near to the project site. The reservoirs/lakes near to the project site are listed below;

Reservoir / Lake – Puzhal Lake – 1 km

Korattur Tank – 1.5 kms.

➤ **Details of alteration of land its effect on the natural topography**

The project site has been flattened to make way for the construction activity. The natural gradient of the site is altered so that the storm water can be recharged in the proposed drain towards the road. The contour map indicates a total level difference of 0.5 – 2.0 Meters. Maximum contour is of 9.5 m and minimum is of 7.4 m.

➤ **Effect on natural drainage system**

The site map does not show any natural storm water channel in the project area. The gradient change done at the site has all possibility to change the storm water flow pattern and lead to flooding on the road side if the capacity of drain is not adequate enough to take the entire storm water flow besides it can also lead to flooding on the opposite side if there is no way out for the storm water granted in that area.

➤ **Adequacy of rainwater harvesting system**

The Project Proponent has to make provision for roof-top rain water harvesting & providing drainage systems. A detail of rain water harvesting is given in **Table 3**. As per the EC conditions the rain water harvested for recharging the surface runoff, should be given pre treatment with screen, settlers etc., to remove suspended solids, oil and grease etc., No provision for rain water harvesting was seen at the site during inspection.

➤ **Adequacy of parking area and if at all they have been provided**

Provision has been made for providing space for parking 357 cars and 386 two-wheelers for the 412 residential units, the commercial block and club house as per CMDA norms. As per the conditions stipulated in EC the project proponent is required to make parking of 299 cars and 382 two wheelers. The parking requirement specified

in the CMDA building permission is considering that the twin towers being constructed are 10 storey high, while the parking requirement is to be considered for 14 storey building as envisaged in the EC.

➤ **Collection and disposal of municipal solid waste at the project site**

The treatment of domestic waste (1705 Kg/day) i.e., bio degradable portion 1023 Kg/day & non bio degradable fraction 682 kg/day is proposed to be disposed through the Chennai corporation. The STP sludge is proposed to be used as manure (28 kg/day). The domestic waste also needs to be reassessed because of the construction of additional 04 floors.

➤ **Compliance of conditions stated in the planning permission and other permissions granted by various authorities**

- The Project Proponent has initiated construction without obtaining EC violating the conditions specified by CMDA and Corporation of Chennai (GCC).
- Project Proponent has initiated construction without obtaining Consent to Establish from Tamil Nadu Pollution Control Board.
- Project Proponent has initiated construction without obtaining EC from SEIAA
- The rain water harvesting structure has not been provided so far.
- The Project Proponent proposes to dispose the excess 135 KLD of treated sewage through CMWSSB sewerage which is in violation to the conditions imposed by CMWSSB but in conformity with the conditions imposed in EC.
- The project proponent has constructed additional floors in violation of the conditions specified in planning permission by CMDA.

➤ **Whether suggestions made by the SEIAA in its meetings adequately take care of environment and ecology?**

The conditions stipulated by SEIAA in the Environmental Clearance are generic and cover wide spectrum of environment. The condition need to be more specific for effective implementation and monitoring. The conditions with respect to the quantum of energy saving, use of fly ash bricks, rain water storage capacity, area for green belt etc. should be specific and precise to bring uniformity in the conditions imposed.

➤ **Whether demolition or raising of additional structures are required in the interest of environment and ecology**

- i) M/s Dugar Housing Ltd. Started construction on February 15, 2013, without obtaining EC, a mandatory requirement before starting construction work or preparation of land. The proponent applied for EC on 04.06.2013 is after about 04 months of starting of construction.
- ii) The 280KLD STP proposed had been designed to meet the treated effluent quality of BOD-20 mg/l and SS-30 mg/l. the EC condition stipulate the requirement of meeting bathing water quality norms i.e. BOD < 3 mg/l, besides the sewage generation from the 14 floors is expected to be around 307 KLD and not 266 KLD.
- iii) Development of green-belt has not been accorded priority as no green belt was seen at the site. Some of the existing infrastructure needs to be realigned for providing space for green belt development.
- iv) Provision need to be made for recycling of treated sewage for flushing in toilets and for roof top rainwater harvesting and its storage, besides making arrangement for proper management of storm water discharge and disposal of treated sewage.
- v) More space has to be allocated for parking to meet the demand of residents occupying the 04 additional floors to be constructed. This will need realignment of other activities.

4.0 Observations

Based on the assessment of available information and physical visit to the site, the following observations were made:

4.1 General Observation

- i. EC was granted by SEIAA on 19.11.2015, when major portion of works have been completed.
- ii. Consent to Establish not obtained from Tamil Nadu Pollution Control Board.
- iii. Violated CMDA condition of commencing activity without obtaining Environmental clearance.
- iv. The building permission for CMDA is for 10 floors while the EC permits construction of 14 floors. However, during inspection in August 2015, the Committee observed construction beyond 10 floors, violating CMDA conditions, as no EC was issued at that time.

- v. The height of the building (as per EC conditions i.e., 14 storeyed building) is 45.00 meters and FSI 3.48.

4.2 Water Management

The various aspects of water management including the source of water supply, the quantum of sewage generated, its treatment, adequacy of Sewage Treatment Plants, reuse and recycling of the treated effluent and its disposal were examined. The observations made are given in **Table-4**. The major observations are as under:

- i. The tanker water is used for construction.
- ii. The Project Proponent has applied for permission to CMWSSB to meet its fresh requirement of 199 KLD during the operation phase. The permission is still awaited. The fresh water requirement with the 14 floors building works out the 276 KLD after considering recycling of sewage for flushing.
- iii. Civil works for the STP in **M/s Dugar Housing Ltd** is at preliminary stage and not a single unit of STP constructed. The STP is designed for treatment capacity of 280 KLD, where as the anticipated sewage generation is 307 KLD (detailed on page 4). The design of the STP and the size of unit indicate inadequacy of the system to meet the effluent norms specified by CMWSSB/SEIAA. Considering the higher sewage generation the efficacy of the STP can be assessed only after the civil works are completed, the mechanical systems installed and their ratings known. The SEIAA stipulates bathing quality norms for the treated sewage.
- iv. The Project Proponent needs to develop environmental laboratory with capacity to monitor the operating parameters of STP and the quality of treated effluent essential for effective operation of the plant/self-monitoring and self-compliance with the norms.
- v. The trunk sewer facility for disposal of sewage is available within the Chennai Corporation Area. The 135 KLD of excess treated sewage is proposed to be disposed on the CMWSSB sewerage. The quantity of excess sewage is likely to increase because of higher sewage generation. In absence of connectivity with the sewerage system and absence of any provision for the storage of the treated sewage, its safe disposal is of concern and this concern aggravates during the rainy period. Any discharge of sewage along with the storm water may be a cause of unaesthetic conditions and odour problem.
- vi. Fresh water requirement during operation will be met from the private water tanker till permission from CMWSSB is received.

- vii. Provision of drainage system for collecting storm water runoff in and out of the premises is yet to be made.
- viii. The unit has proposed to utilize the 10 KLD of excess treated sewage for plantation. No green belt was seen at the site. The detail of the available land for green belt has not been provided. During the rainy period, when this excess treated sewage cannot be utilized for green belt no provision of storage facility is available within project site, which is likely to result in discharge of the excess sewage along with the storm water and may be a cause of unaesthetic appearance and odour problem.
- ix. The status of recycling of the treated effluent could not be assessed as the plumbing work has not started.

4.3 Green Belt Development:

Total green belt area proposed is 2141.07 m². Development of green belt has not been accorded priority by the project proponent as no developed green belt was seen at the site. The project proponent informed of the proposal to develop green belt which seems to be after thought as no provision for the same was evident at the site. During the site visit, it was informed that 16 trees are existing and another 19 are proposed to be planted. The Project Proponent need to realign the infrastructure/or any other ancillary units to provide adequate space for proper green belt development. Status of the green belt for the restitution of ecology and environment is given in **Table-5**.

4.4 Construction Waste

Data for construction waste generated during the construction activity and its use was not available with the Project Proponent, except for the information that the construction waste generated has been disposed to fill the low lying area within the premises or outside. Site details outside the premises where construction waste was used to fill low lying areas were not provided by the project proponent.

4.5 Solid Waste

The STP sludge is proposed to be used as manure (28 kg/day) while the non-biodegradable fraction (1023 kg/day) and non-bio degradable fraction 682 kg/day shall be disposed to the Chennai Corporation.

4.6 Other observations:

- i) As part of energy saving measure, installation of LED/CFL bulbs and solar panels for street lights are proposed.
- ii) The site being adjacent to the main road, there is all possibility of traffic congestion during morning and evening peak hours for which traffic management plan is required to be developed and implemented.
- iii) Fly ash bricks are used in construction.
- iv) The generator sets for standby power supply to be installed are proposed to conform to the CPCB norms.
- v) Considering the revision of construction plan from 10 floors to 14 floors, the requirement of fresh water, parking area, power requirement for meeting the demand of residents and the capacity of the STP and solid waste generation & its disposal need to be reassessed.

5.0 SUGGESTIONS

5.1 Conditions stipulated by CMDA

- i) CMDA shall give more emphasis on the environmental aspects including disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, etc. Environmental aspects be given the same priority, if not more than those given to parking, fire safety, etc., while designing the lay out and its approval.
- ii) The condition related to environmental issues and especially those related to environmental clearance and imposed in the permission granted by CMDA to the project proponent are not uniform. CMDA may insist the proponent not to commence the construction without EC wherever required.
- iii) To have uniformity in approach so that violation of laws is avoided, a coordination mechanism between SEIAA, CMDA and other agencies need to be put into place.
- iv) As no EIA has been conducted quarterly monitoring of ambient air quality and ground water quality shall be taken up to assess the impact of the construction of the residential complex on the nearby environment. The monitoring data should be made available to TNPCB and SEIAA.

- v) In case any deterioration in the ambient environment / ground water quality is observed, the proponent shall inform the status to TNPCB and SEIAA and also prepare a time bound action plan for remedial measures.
- vi) The proponent shall install piezo wells to monitor the ground water quality quarterly.

5.2 Waste Water Management/Sewage Treatment

- i. The design of the STP has to be redone considering the need to treat sewage generation from the additional 04 floors being constructed. The recycling of treated sewage for flushing and gardening also needs reassessment.
- ii. The project proponent should provide separate electricity meter for the sewage treatment plants and maintain daily record of the power consumed, essential to ensure 24X7 functioning of STPs.
- iii. The unit not having provision for discharge of excess treated sewage, cannot be permitted to start operation unless proper arrangements are put in place for its safe handling.
- iv. In no case, the discharge of treated sewage on land can be permitted. Transportation of treated sewage through tankers equipped with GPS system (to monitor their movement to the existing STPs in the area) can be permitted in case adequate treatment capacity is available at STPs installed by CMWSSB. The installation of GPS system will help ensuring, that the tankers are emptied at the STPs only.
- v. The project proponent having permission to discharge the excess treated sewage to existing CMWSSB STPs, should be permitted to discharge the treated effluent conforming to the prescribed effluent norms only.
- vi. The project proponent do not have outlet provisions and is not able to recycle additional sewage back into the system, beyond the presently proposed *limits*. *transporting of the treated sewage conforming to the specified norms for discharge to STPs operated by CMWSSB Board through identified tankers fitted with GPS system for tracking their movements may be considered.* The option can be permitted only after the project proponent develops adequate storage capacity for treated effluent.

- vii. To ensure that entire waste water generated is treated, online flow measurement system need to be installed both at the Inlet and Outlet of the STPs, and the pumps/ valves integrated through software to provide the flow data.
- viii. The online system is installed to monitor the effluent quality at least for the basic parameters, such as pH, suspended solids and BOD for self-monitoring and self-regulations besides ensuring compliance of the norms. The data will be transferred directly from the analyzers.
- ix. The project proponent should develop in-house laboratory for monitoring of the operating parameters of the sewage treatment plants and the treated effluent quality daily.
- x. Color coding of pipelines in the STP's should be done.
- xi. All the plumbing lines carrying raw water, untreated effluent/treated effluent etc. should be color coded.
- xii. The project proponent should not be permitted to operationalize the complexes till such time permission / connectivity for taking potable water from CMWSSB pipeline is received / connectivity ensured to avoid ground water abstraction.
- xiii. The proponent should ensure that proper storm water drainage system is available in and around the site for transporting excess of storm water runoff to drains, thereby discarding possibility of flooding in and around the site.

5.3 Rain Water Harvesting

If provision for discharge of excess surface run off / rain water discharge are not available, flooding in the vicinity and stagnation of the discharged water in the low lying areas around the complex are inevitable. The project proponent should ensure that such situation does not occur either by increasing the capacity of rain water storage sumps or providing additional pits in the surface run off collection drain. The surface runoff shall be treated through screens, settlers, etc., to remove suspended solids, oil & grease etc., before its use for recharging.

5.4 Green Belt Development

- i) The Project proponent should plan for scientific green belt development, (exceptions are there for the landscape area or some places earmarked for plantation of trees). Maximum possible space should be left unpaved for recharging of ground water besides the proposed rain water harvesting system. The unpaved area should be covered with green top or any other pervious material to maintain permeability of soil.
- ii) Green belt should be developed all around the site boundary to act as a barrier for air and noise pollution. Ornamental plants / area left for landscape, covered with grass / shrubs and roof top garden shall not be considered in the areas mandatory for green belt development. Sufficient space has to be provided for each tree so that it does not choke to death because of putting of cement concrete all around the tree.

5.5 Solid Waste Management

- i) The project proponent should prepare an action plan for ensuring segregation, collection, transportation, treatment and scientific disposal of Municipal Solid Waste. This action plan should be submitted to SEIAA and TNPCB for their approval.
- ii) The project proponent should put in place a system for collection of discarded CFL & LED lamp.
- iii) Separate space should be earmarked for storing of construction and demolition waste and its disposal at sites approved by local authorities.
- iv) The proponent should submit a plan for management of grit and STP sludge.
- v) The leaves/biomass should be composted at site and used as manure.
- vi) The vehicles transporting construction material should be covered to control suspension of dust.

5.6 Traffic Management

- i. Once the complex is occupied, there is all possibility of traffic snarls around. The project proponent needs to submit an action plan to avoid congestion on the road and increased concentration of air pollutants.

- ii. The project proponent should ensure regular sweeping of the roads inside and adjacent to the complex to avoid re-suspension of settled dust, thereby taking care of any possibility of increasing particulate matter levels.
- iii. The parking requirement for commercial development as per CMDA development Regulation envisages one car parking and one two wheeler parking space for every 50 m² whereas the MoEF norms specify parking requirement at the rate of one car for every 25 m² of fraction thereof.
- iv. Car parking requirement for residential development is based on the size of the individual unit and location of the site. In the case of Low Income Group (LIG) dwelling units, which is mandatory and size does not exceed 45 m², one two wheeler parking only is required. In addition 10% of total parking is required to be provides as visitors parking.
- v. With the increase in number of dwelling unit because of consideration of additional floors (4 numbers each in both the towers) provision of additional parking is required to be made.

5.7 Energy Saving

- i. All street and staircase lighting should use solar power. The project proponent should reduce the power consumption by at least 20% by replacing CFL lamps with LED lamps, using energy efficient device (solar relay – Bureau of energy efficiency) providing insulated window or insulated glasses and adopting advance elevator and air conditioning technologies as below:-
- ii. Install Energy efficient elevators using gearless machines or regenerative drive technology.
- iii. Inverter technology based Air Conditioning machines should be installed.
- iv. For meeting hot water requirement in kitchen solar energy should be used.
- v. Installation of IR/Thermal switches in corridors/staircases to save energy needs to be promoted.
- vi. The project should obtain GRIHA or any other such rating.

6.0 General Remarks

- i. In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building lay out modeled to incorporate the natural drainage as part of the system rather than redoing/ relaying of the natural drainage system.
- ii. A systematic green belt development is necessary. In all future projects environmental issues like development of green belt, managing surface water runoff, its collection and

recharge etc., provision of solid waste management, and orientation of the building for energy saving should be given priority while designing the layout and the number of dwelling units likely to come up.

- iii. In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site. As the construction works are yet to be completed, the use of construction materials to raise the ground level is avoided as it has all the possibility to affect the nature percolation rate of soil.
- iv. The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of renewable energy, green belt development for effective implementation and monitoring.

Conditions imposed by various agencies

Conditions imposed by Chennai Metropolitan Development Authority (CMDA)

1. To furnish an undertaking to abide by the terms and conditions put forth by CMDA, DF&RS, CMWSSB, AAI, IAF-Tambaram and Police (Traffic).
2. Should apply for the water connection after approval of the sanitary proposal and internal work should be taken up only after the approval of the water application.
3. All wells, overhead tanks are hermitically sealed with properly protected vents to avoid mosquito menace.
4. Rain water harvesting structures shall provide as shown in the approved plans to the satisfaction of the authority.

Conditions imposed by Directorate of Fire & Rescue Services (DF&RS)

1. There should be a Wet riser per 1000 Sq.m area covering all floors including the basement floor with landing valve along with delivery hoses the riser should be fully charged with pressure all times and should have both automatic and manual operation to feed the wet riser an underground static water tank of min. Capacity 1,50,000 litre should be provided with refilling facility. A terrace level tank of capacity of 20,000 litre should be provided for each block and connected to the wet riser system with NRV arrangements. To charge the wet riser and the sprinkler system two electrical pump of capacity 2850 lpm should be provided near the underground water tank. An equal capacity of Diesel pump should also be provided as an alternative arrangement. The pumps should be capable of developing pressure of 3.5 Kg/cm at terrace level hydrant point. One more electrical pump of capacity of 180 LPM should be provided as a jockey pump.
2. Fire service inlet minimum of two numbers at remote distance fitted with NRV at ground level should be provided.
3. Hose reel assembly should be provided per 1000Sq.m covering all floors.
4. Yard hydrant should be provided at all around the all around the two block building.
5. Manual fire alarm call points should be provided at all floors.
6. Automatic sprinkler system should be provided connecting all floors of office occupancy, basement area and other car parking areas.
7. The floor intended for office use should be provided with automatic fire detection system and alarm system.
8. Public address system should be provided connecting all the floors.
9. Alternate and independent power system should be provided to fire pumps, emergency lighting system and fire lifts, including automatic smoke vent system.

10. No of ramps, exits, location and there width, should be conformed to the requirements to the National Building Code of India, 2nd revision Part –IV, 2005.
11. The first aid fire fighting equipment should be provided at all floors in accordance with the IS 2190:1992 requirements.
12. Fire lifts, electrical installations and wiring, A/C ducts and other service ducts should meet the requirement of NBC of India, Part IV, 2nd Revision, 2005
13. Fire lifts should be provided one lift per 1200 sqm. With loading capacity of 8 person (845Kg). The lift shaft and the lift car should be fire rated with separate electric circuit and also with automatic alternate power supply system.
14. All Exit stair cases including in the basement should be protected with self closing fire check doors of minimum 2 hr. rating.
15. The width and height of any arch or gate, if any, should have the clearance of not less than 4.50m and 5.0m respectively.
16. The compulsory open space of 7.0m around the building should be designed to withstand a weight of 45 tons at any point of operation for the use of the Hydraulic platform vehicle.
17. The basement area and other enclosed / enveloped area of other floors should be provided with automatic smoke vent system integrated with fire detection system
18. Floor area exceeding 700 sqm in any floor including common basement floor, shall be segregated with suitable fire separation wall (Compartmentation). Where compartmentation is not practicable, then the sprinkler spacing shall accordingly be reduced.
19. The service ducts such as power cables, communication cable, A/C Ducts etc., should be protected with proper fire ceiling/fire dampers.
20. The fire dampers to be certified by UL555 and for fire and smoke dampers UL555s.
21. The cable Gallery should be routed through fire resistant duct or fire protected tray.
22. Fire resistant and low smoke emission cable should be used.
23. A trained fire officer with a crew shall be arranged along with a fire control room to maintain as well as to operate the fire protection system in case of any need.
24. The fire protection system provided in the building to be approved by the competent authority / certified by any notified bodies.
25. Refugee area 15 sqm or an area equivalent to 0.3 sqm per person to accommodate the occupants of two consecutive floors whichever is higher shall be provided at 24th metre level.
26. During the construction of the building, the following fire protection measures should be provided in good working condition.
 - a) Dry riser of minimum 100mm dia pipe with Hydrant outlets constructed with a fire service inlet to boost the water in the riser from fire service pumps.
 - b) Drums filled with water of 2000 litres with two fire buckets on each floor

c) a water storage tank of 20,000 litres capacity, which may be used for other construction purposes also.

Conditions imposed by Local Body ((Corporation of Chennai (CoC))

1. The Ground floor of the building shall be 0.91mtrs from the abutting road adjacent to the compound wall or centre of the road.
2. The building shall conform to the IS 486; IS 875 and IS 1893 of Bureau of Indian Standards.
3. Rain Water Harvesting should be done as shown in the plan.

Conditions imposed by Police (Traffic)

1. Parking space provided by the applicant should be maintained properly.
2. Entry and exit gate should be provided with bell mouth shape having easy access for the vehicle movement.
3. The driveway provided by the applicant should be maintained properly.
4. The applicant on completion of the construction has to deploy sufficient number of personnel to manage the movement of vehicles at the Entry and Exit gates of the building.
5. The applicant has to ensure that the parking plan inside the campus is strictly followed. The markings for the vehicular parking should be clearly maintained for easy and free movement of vehicles.

Conditions imposed by Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) for Sewage Treatment Plant (STP)

1. The capacity of the proposed in-situ STP of 0.17 MLD (Average Flow-domestic sewage)determined by the applicant, is only considered in scrutiny of design of proposed in-situ STP
2. The influent characteristics of domestic sewage generated from the development and Effluent characteristics in the effluent of STP as assumed and given by the applicant has been considered as basic data in the scrutiny of design in-situ STP and is furnished below PH- 6.5 to 8.0 (Influent), PH-6.5 to 8.0 (Effluent),Suspended Solids 450 mg/l (Influent), < 30 mg/l (Effluent), BOD - 350 mg/l (Influent), < 20 mg/l (Effluent)
3. The applicant has proposed the treatment unit to be constructed below GL with access to treatment units through manholes at GL. The panel board and Air blowers are proposed to be placed in the panel room in still floor of main building. In the Balancing Tank and Aeration Tank aeration arrangements have been provided. The air inflow pipe for blowers and the air vent pipe to be laid below driveway and fixed in the compound wall.
4. The applicant has proposed to construct STP below driveway. As the access to STP units is proposed through manholes, barrication is to be provided around manhole during entry/exit through manholes and with display of caution board indicating "Caution driving – Maintenance".
5. The applicant should ensure that the structures provided for the underground treatment units are waterproof. And also, the internal sewer system for the proposed development should be laid/maintained

subsequently in a manner such that entry of rain water collected in the site is prevented at any point in the internal sewer system.

6. As the treatment units are proposed below ground level, sufficient air circulation through duct arrangements is to be ensured for achieving the desired degree of treatment and safety.
7. The applicant has proposed to reuse the entire quantity of treated effluent (168480 L/D) for toilet flushing and gardening. As such a separate plumbing line is to be provided for conveyance of treated effluent for above reuse purposes. The entire quantity of treated effluent should be utilized within this building.
8. The applicant has proposed to dispose the sludge after lime post treatment.
9. The treated effluent, grit and sludge should be disposed of from the site in the manner as prescribed by TNPCB.

**Conditions imposed by Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) for
Swimming Pool**

1. The provision of extraction of ground water as per the Chennai Metropolitan Area Ground Water (Regulation) Act No 27 of 1987 for the purpose of usage in Swimming pool to be complied with by the applicant.
2. The water for the usage in the swimming pool has to be purchased from CMWSS Board/ local body only and not from the private agencies.
3. The applicant shall recycle the used water of the swimming pool as proposed.
4. The applicant shall comply with all statutory requirements

Conditions imposed by Indian Air Force (IAF)

The Project Proponent informed that the site under reference comes outside the area of responsibility.

Conditions imposed by Airport Authority of India (AAI)

1. The height of the building shall not exceed 53.88 mtrs above the ground level.
2. No radio/TV Antenna, lightening arresters, stair case, Mumtee, Overhead tank and attachments and fixtures of any kind shall project above the height indicated above.
3. The use of electric fire or oil fired furnace is obligatory, within 8 Kms. of aerodrome.
4. No light or a combination of lights which by reason of its intensity, configuration of colour may cause confusion with the Aeronautical ground lights of the Airport shall be installed at the site at any time during or after the construction of the Residential cum Commercial building.
5. Day and night markings with secondary power supply shall be provided as per ICAO standards.

Conditions imposed by State Level Environment Impact Assessment Authority (SEIAA)

Conditions imposed by SEIAA with respect to M/s.Dugar Housing Limited

Part A- Conditions for Pre Construction phase:

- i) The project authorities should advertise with basic details at least in two local newspaper widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of clearance. The press releases also mention that a copy of the clearance letter is available with the State Pollution Control Board and also at website of SEIAA, TN. The copy of the press release should be forwarded to the Regional Office of the Ministry of Environment and Forests located at Chennai and SEIAA-TN.
- ii) In the case of any change(s) in the scope of the project, a fresh appraisal by the SEAC/SEIAA shall be obtained before implementation.
- iii) A copy of the clearance letter shall be sent by the proponent to the Local Body. The clearance letter shall also be put on the website of the Proponent.
- iv) "Consent for Establishment" shall be obtained from the Tamil Nadu Pollution Control Board and a copy shall be submitted to the SEIAA, Tamil Nadu before taking up any construction activity at the site.
- v) Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
- vi) The approval of the competent authority shall be obtained for structural safety of the buildings during earthquake, adequacy of firefighting equipment's, etc. as per National Building Code including protection measures from lightning etc. before commencement of the work.
- vii) All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
- viii) Design of buildings should be in conformity with the Seismic Zone Classifications.
- x) The Construction of the structures should be undertaken as per the plans approved by the concerned local authorities/local administration.
- x) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire and Rescue Services Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wild Life (Protection) Act, 1972, State / Central Ground Water Authority, Coastal Regulatory Zone Authority, other statutory and other authorities as applicable to the project shall be obtained by project proponent from the concerned competent authorities.
- xi) The Project proponent shall have to furnish the probable date of commissioning of the project supported with necessary bar charts to SEIAA-TN.
- xii) No construction activity of any kind shall be taken up in the OSR area.
- xiii) Consent of the local body concerned should be obtained for using the treated sewage in the OSR area for gardening purpose. The quality of treated sewage shall satisfy the bathing quality prescribed by the CPCB.

- xiv) The structural design of the proposed building must be vetted by premier academic institutions like Anna University, IIT Madras, etc., and the fact shall be informed to SEIAA.
- xv) The height and coverage of the constructions shall be in accordance with the existing FSI/FAR norms as per Coastal Regulation Zone Notification, 2011.

Part B- Conditions for construction phase:

- i) All the laborers to be engaged for construction should be screened for health and adequately treated before and during their employment on the work at the site.
- ii) The entire water requirement during construction phase shall be met from out sourcing from the source with approval of the PWD Department of water resources.
- iii) Provision shall be made for the housing labor within the site with all necessary infrastructures and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- iv) A First Aid Room shall be provided in the project site during the entire construction phase of the project.
- v) Adequate drinking water and sanitary facilities should be provided for construction workers at the site. The treatment and disposal of waste water shall be through dispersion trench after treatment through septic tank. The MSW generated shall be disposed through Local Body and the identified dumpsite only.
- vi) The solid waste in the form of excavated earth excluding the top soil generated from the project activity shall be scientifically utilized for construction of approach roads and peripheral roads, as reported.
- vii) All the top soil excavated during construction activities should be stored for use in horticulture/ landscape development within the project site.
- viii) Disposal of other construction debris during construction phase should not create any adverse effect on the neighboring communities and be disposed of only in approved sites, with the approval of Competent Authority with necessary precautions for general safety and health aspects of the people.
- ix) Construction spoils, including bituminous materials and other hazardous materials, must not be allowed to contaminate watercourses. The dump sites for such materials must be secured so that they should not leach into the adjacent land/ lake/ stream etc.
- x) Low Sulphur Diesel shall be used for operating diesel generator sets to be used during construction phase. The air and noise emission shall conform to the standards prescribed in the Rules under the Environment (Protection) Act, 1986, and the Rules framed thereon.
- xi) The diesel required for operating stand by DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.
- xii) Vehicles hired for bringing construction materials to the site should be in good condition and should conform to air and noise emission standards, prescribed by TNPCB/CPCB. The vehicles should be operated only during non-peak hours.
- xiii) Ambient air and noise levels should conform to residential standards prescribed by the TNPCB, both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely

monitored during the construction phase. The pollution abatement measures shall be strictly implemented.

- xiv) Fly- Ash bricks should be used as building material in the construction as per the provision of Fly ash Notification of September, 1999 and amended as on 27th August, 2003.
- xv) Ready-mix concrete shall alone be used in building construction and necessary cub-tests should be conducted to ascertain their quality.
- xvi) Storm water management around the site and on site shall be established by following the guidelines laid down by the storm water manual.
- xvii) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices prevalent.
- xviii) Fixtures for showers, toilet flushing and drinking water should be of low flow type by adopting the use of aerators / pressure reducing devices / sensor based control.
- xix) Use of glass shall be reduced up to 40% to reduce the electricity consumption and load on air conditioning. If necessary, high quality double glass with special reflecting coating shall be used in windows.
- xx) Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material, to fulfill the requirement.
- xxi) Opaque wall should meet prescribed requirement as per Energy Conservation Building Code which is mandatory for all air conditioned spaces by use of appropriate thermal insulation material to fulfill the requirement.
- xxii) Adequate fire protection equipment's and rescue arrangements should be made as per the prescribed standards.
- xxiii) Proper and free approach road for fire-fighting vehicles up to the buildings and for rescue operations in the event of emergency shall be made.
- xxiv) All Energy Conservation Building Code (ECBC) norms have to be adopted.
- xxv) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- xxvi) Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- xxvii) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, and the shortfall shall be strictly reviewed and addressed.
- xxviii) Provision of drainage system for collecting storm water runoff is yet to be made.

- xxix) The natural gradient at the site is altered so that the storm water can be discharged in the proposed drain towards the road.
- xxx) No major green belt is proposed to be developed as the area has either been paved or earmarked for some other activity. Need to realign the infrastructure of the parking and other ancillary units to provide some space for green belt development.

Part C- Conditions for Operation Phase/Post Construction Phase/Entire Life of the Project:

- i. The SEIAA reserves the right to add additional safeguard measures subsequently, if non-compliance of any of the EC conditions is found and to take action, including revoking of this Environmental Clearance as the case may be.
- ii. There shall be no drawl of ground water.
- iii. The Project Proponent shall plant tree species with large potential for carbon capture in the proposed green belt area based on the recommendation of the Forest department well before the project is ready for occupation.
- iv. The Proponent should be responsible for the maintenance of common facilities including greening, rain water harvesting, sewage treatment and disposal, solid waste disposal and environmental monitoring including terrace gardening for a period of 3 years. Within one year after handing over the flats to all allottees a viable society or an association among the allottees shall be formed to take responsibility of continuous maintenance of all facilities with required agreements for compliance of all conditions furnished in Environment Clearance (EC) order issued by the SEIAA-TN or the Proponent himself shall maintain all the above facilities for the entire period. The copy of MOU between the buyers Association and proponent shall be communicated to SEIAA-TN.
- v. The ground water level and its quality should be monitored and recorded regularly in consultation with Central Ground Water Authority.
- vi. The Sewage Treatment Plant (STP) installed should be certified by an independent expert for its adequacy and a report in this regard should be submitted to the SEIAA, TN before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled / reused to the maximum extent possible. Treatment of 100 % grey water by decentralized treatment should be done. The treated sewage shall conform to the norms and standards for bathing quality laid down by CPCB irrespective of any use. Necessary measures should be made to mitigate the odour and mosquito problem from STP. Explore the less power consuming systems viz. baffle reactor etc. for the treatment of sewage.
- vii. The Proponent shall install STP as furnished. Any alteration to satisfy the bathing quality shall be informed to SEIAA-TN.
- viii. The Proponent shall operate STP continuously by providing stand by DG set in case of power failure.
- ix. It is the sole responsibility of the proponent that the treated sewage water disposed for green belt development/ avenue plantation should not pollute the soil/ ground water/ adjacent canals/ lakes/ ponds, etc.

- x. Adequate measures should be taken to prevent odour emanating from solid waste processing plant and STP.
- xi. The Plastic wastes shall be segregated and disposed as per the provisions of Plastic Waste (Management & Handling) Rules 2011.
- xii. The e - waste generated should be collected and disposed to a nearby authorized e-waste centre as per e waste (Management & Handling), Rules 2011.
- xiii. Diesel power generating sets proposed as source of back-up power during operation phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets.
- xiv. The diesel required for operating DG sets shall be stored in underground tanks fulfilling the safety norms and if required, clearance from the Chief Controller of Explosives shall be taken.
- xv. The acoustic enclosures shall be installed at all noise generating equipment's such as DG sets, air conditioning systems, cooling water tower, etc. and the noise level shall be maintained as per MoEF/CPCB/TNPCB guidelines/norms both during day and night time.
- xvi. Spent oil from D.G sets should be stored in HDPE drums in an isolated covered facility and disposed as per the Hazardous Wastes (Management, Handling, Trans boundary Movement) Rules 2008. Spent oil from D.G sets should be disposed of through registered recyclers.
- xvii. The proponent/ Owner of the Flats shall ensure that storm water drain provided at the project site shall be maintained without choking or without causing stagnation and should also ensure that the storm water shall be properly disposed off in the natural drainage / channels without disrupting the adjacent public. Adequate harvesting of the storm water should also be ensured.
- xviii. The proponent/ Owner of the Flats shall ensure that roof rain water collected from the covered roof of the buildings, etc. shall be harvested so as to ensure the maximum beneficiation of rain water harvesting by constructing adequate sumps so that 100% of the harvested water shall be reused.
- xix. Rain water harvesting for surface run-off, as per plan submitted should be implemented. Before recharging the surface run off, pre-treatment with screens, settlers etc. must be done to remove suspended matter, oil and grease, etc. The Proponent shall provide adequate number of bore wells / percolation pits/ etc. as committed. The bore wells / percolation pits/ etc. for rainwater recharging should be kept at least 5 mts. above the highest ground water table.
- xx. Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrids system or fully solar system for a portion of the apartments shall be provided.
- xxi. A report on the energy conservation measures conforming to energy conservation norms prescribed by the Bureau of Energy Efficiency shall be prepared incorporating details about building materials & technology; R & U factors etc. and submitted to the SEIAA in three months' time.
- xxii. Energy conservation measures like installation of CFLs/TFLs for lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Used

CFLs and TFLs should be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.

- xxiii. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site shall be avoided. Parking shall be fully internalized and no public space should be utilized. Parking plan to be as per MoEF norms. The traffic department shall be consulted and any cost effective traffic regulative facility shall be met before commissioning.
- xxiv. The proponent shall prepare completion plans showing Separate pipelines marked with different colors with the following details
 - i. Location of STP, compost system, underground sewer line.
 - ii. Pipe Line conveying the treated effluent for green belt development.
 - iii. Pipe Line conveying the treated effluent for toilet flushing
 - iv. Water supply pipeline
 - v. Gas supply pipe line, if proposed
 - vi. Telephone cable
 - vii. Power cable
 - viii. Storm water drains, and
 - ix. Rain water harvesting system. etc.And it shall be made available to the owners.
- xxv. A First Aid Room shall be provided during operation of the project, with necessary equipment's and life-saving medicines and should be manned all the 24 hours any day.
- xxvi. The buildings should have adequate distance between them to allow free movement of fresh air and passage of natural light, air and ventilation. Landscape plan to be revised accordingly.
- xxvii. The amount of Rupees equivalent to 0.5% of the Project Cost by the proponent under CSR activity should be earmarked for such activities as committed by the proponent for the purpose for which it was allocated.
- xxviii. Lightning arrester shall be properly designed and installed at top of the building and where ever is necessary.
- xxix. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company. The status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Bangalore by e-mail.
- xxx. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance.
- xxxi. The SEIAA, TN may alter/modify the above conditions or stipulate any further condition in the interest of

environment protection, even during the subsequent period.

- xxxii. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
- xxxiii. The SEIAA, TN may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, if, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.
- xxxiv. A copy of the Environmental clearance (EC) letter shall be made available to all the allottees along with the allotment order / sale deed.
- xxxv. The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to the Regional Office of MoEF, Chennai, the respective Zonal Office of CPCB, Bengaluru and the TNPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectorial parameters, indicated for the project shall be monitored.
- xxxvi. A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.
- xxxvii. The Regional Office of the Ministry located at Chennai shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.
- xxxviii. The project proponent shall submit progress reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Chennai, the respective Zonal Office of Central Pollution Control Board, SEIAA, TN and the State Pollution Control Board once in six months.
- xxix. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.
- xl. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law, including the Hon'ble National Green Tribunal relating to the subject matter.

ANNEXURE-II

Non compliance status by the Project Proponents in respect of Conditions imposed by the CMDA / Corporation of Chennai / Police (Traffic) / CMWSSB / IAF / AAI / Local Panchayat / DF&RS

Conditions imposed by CMDA:

S.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
5	The applicant has to furnish NOC from IAF and EIA clearance before issue of Completion Certificate (CC)*.	Not complied with.	Condition not mentioned explicitly in CMDA's approval letter. However, in the Govt. letter it has been mentioned. The applicant has submitted revised plan which has been forwarded to Government for approval. The orders of the Government for the revised proposal are awaited.

Conditions imposed by CMWSSB for STP

C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
7	The applicant has proposed to reuse the entire quantity of treated effluent (168480 L/D) for toilet flushing and gardening. As such a separate plumbing line is to be provided for conveyance of treated effluent for above reuse purposes. The entire quantity of treated effluent should be utilized within this building.	Not fully complied with. As per the proposal doesn't seem to use the entire quantity of treated effluent.	Nil

Conditions imposed by CMWSSB for Swimming Pool

C. No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
3	The applicant shall recycle the used water of the swimming pool as proposed.	Not mentioned in the proposal.	Nil

Compliance of conditions imposed by AAI

C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
4	No light or a combination of lights which by reason of its intensity, configuration of colour may cause confusion with the Aeronautical ground lights of the Airport shall be installed at the site at any time during or after the construction of the Residential cum Commercial building.	No information furnished by the Project Proponent	Nil

Non-Compliance of some major Conditions imposed by SEIAA

Sl.No	CONDITIONS	COMPLIANCE STATUS	REMARKS
1.	"Consent for Establishment" shall be obtained from the Tamil Nadu Pollution Control Board and a copy shall be submitted to the SEIAA, Tamil Nadu before taking up any construction activity at the site.	Not obtained	Not obtained
2.	The Construction of the structures should be undertaken as per the plans approved by the concerned local authorities/local administration.	Revised plan approval is awaited.	Proponent constructed additional 04 floors for which the approval is awaited from CMDA.
3.	Provision of drainage system for collecting storm water runoff is yet to be made.	Not complied.	Site is under construction. No drainage constructed.
4.	The Project Proponent shall plant tree species with large potential for carbon capture in the proposed green belt area based on the recommendation of the Forest department well before the project is ready for occupation.	Not complied.	No green belt was seen.
5.	The Proponent shall install STP as furnished. Any alteration to satisfy the bathing quality shall be informed to SEIAA-TN.	Not constructed.	STP design is inadequate to meet the norms specified by SEIAA and the likely flow of sewage generation after construction of additional 04 floors.
6.	Consent of the local body concerned should be obtained for using the treated sewage in the OSR area for gardening purpose. The quality of treated sewage shall satisfy the bathing quality prescribed by the CPCB.	Not complied.	Not obtained.
7.	Rain water harvesting for surface run-off, as per plan submitted should be implemented. Before recharging the surface run off, pre-treatment with screens, settlers etc must be done to remove suspended matter, oil and grease, etc. The Proponent shall provide adequate number of bore wells / percolation pits/ etc as committed. The bore wells / percolation pits/ etc. for rainwater recharging should be kept at least 5 mts. above the highest ground water table.	Not complied.	No pre-treatment or other such structures seen during inspection. Site is under construction
8.	Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street	Not complied.	Site is under construction. Presently no solar

	lighting in addition to provision for solar water heating. A hybrids system or fully solar system for a portion of the apartments shall be provided.		system installed.
9.	Traffic congestion near the entry and exit points from the roads adjoining the proposed project site shall be avoided. Parking shall be fully internalized and no public space should be utilized. Parking plan to be as per MoEF norms. The traffic department shall be consulted and any cost effective traffic regulative facility shall be met before commissioning.	Not complied.	Site is under construction
10.	The proponent shall prepare completion plans showing Separate pipelines marked with different colors with the following details i. Location of STP, compost system, underground sewer line. ii. Pipe Line conveying the treated effluent for green belt development. iii. Pipe Line conveying the treated effluent for toilet flushing iv. Water supply pipeline v. Gas supply pipe line, if proposed vi. Telephone cable vii. Power cable viii. Storm water drains, and ix. Rain water harvesting system. etc. and it shall be made available to the owners.	Not complied.	Site is under construction

Table 1 : Details of Clearance/Permission/NOCs required for the Construction of Residential Group Development Buildings depending upon project type/size

S. No.	Various Authorities for issuing Clearance/Permission/NOCs	Time of the permission	Permissions required by M/s. Dugar Housing Limited
1	Planning permission from CMDA	Obtained on 28.01.2013	✓ +
2	Environmental Clearance (built up area exceeds 20000 sqm)	Applied on 04.06.2013 and obtained EC on 19.11.2015	✓ +
3.	Coastal Regulation zone clearance	Not Applicable	Not Applicable
4.	Consent for establishment and operation under State Air and Water Acts	Not Applicable Consent for establishment is before commencement and consent for operation after construction before commencing occupation	✓ (Not granted)
5.	Public Health Act	Not Applicable	Not Applicable
6.	Tamil Nadu Lift Act, 1997	Will be followed during erection of lifts	✓ (Not granted)
7.	Tamil Nadu Building and other construction workers (Regulation of employment and condition of service) Rule,2006	Not Applicable	Not Applicable
8.	Interstate Migrant Workmen Act 1980, Tamil Nadu Rule (Regulation of employment and condition of service) Act.1920.	Not Applicable	Not Applicable
9	Directorate of Fire & Rescue Service	Obtained on 07.06.2011	✓ +
10.	Traffic (Police) Dept.	Obtained on 16.06.2012	✓ +
11.	Airport Authority of India when height exceeds 30m.	Obtained on 13.06.2011	✓ +
12.	Indian Air Force	Not Applicable	Not Applicable
13.	PWD (if site is located adjacent to water body).	Not Applicable	Not Applicable
14.	Revenue Dept.,(land reforms act)	Not Applicable	Not Applicable
15.	National Highway Authority.	Not Applicable	Not Applicable
16.	Chennai Metropolitan Water Supply and Sewage Board (CWSSB) (For STP design, swimming pool).	For STP- Obtained on 26.06.2012 For Swimming pool – Obtained on 18.06.2012	✓ +
17.	Archaeological Survey of India (ASI).	Not Applicable	Not Applicable
18.	Railways	Not Applicable	Not Applicable
19.	Department of Explosives	Not Applicable	Not Applicable

✓ : Permission Required

✓ + : Permission granted

Table 2: Energy Management

No.	Project Proponent	Power Requirement (KW/KVA)*	Backup Power (KVA)	Energy saving measures (KWH)			Energy Conservation Materials/Equipment used/to be used in the project	
				Solar Energy	CFL/LED	Others		Total Power Saving & percentage
1.	M/s .Dugar Housing Ltd.	1857 KW	1000	30 / day	79 / day	391 /day	500 KW/day 21.2%	Variable Voltage Frequency Driven (VVFD) motors for all 12 lifts: gearless drive for transmission of power will also be provided. Lift provision will not be made available to first three floors; 30% of the lift will be standby. Light fixtures in Common areas, external lighting with T5 or LED & fixtures with electronic chokes. External light controlled by timer/light sensor switches to switch on& off to save energy. Solar operated street light for % of common area 30lighting; solar waters @ 15 KLD will be made available. VFD for pumps, Air conditioners and other equipments, 4 star and above ratings for all pumps, AC units and other equipments.

*Connected Load;

CFL: Compact Fluorescent Light; LED: Light Emitting Diode; #KWPA - Kilo Watt Per Annum; RMC: Ready Mix Concrete

Table 3 :- Rain Water Harvesting (RWH)

No	Project Proponent	Roof Top Area	Road & Paved Area	Unpaved Area	Annual Potential of roof top RWH* / Underground Storage Tank for roof top RWH (KL)	Percentage storage of roof top RWH	Annual Potential of RWH from open area at Ground level** (KL)	Method of RWH
		(sq.m)						
1.	M/s. Dugar Housing Ltd.	3306.81	4592.39	3889.8	2698 / 200	7.4 %	4494	

* Assuming average annual rainfall intensity: 1200 mm ; Paved and roof top runoff co-efficient = 0.85; Co-efficient for first flush and evaporation = 0.8.

** Assuming average annual rainfall intensity: 1200 mm ; Unpaved area runoff co-efficient = 0.2 and Paved area runoff coefficient: 0.85; Co-efficient for first flush and evaporation = 0.8.

KL – Kilo litre = Cubic Metre

Table 4:- Water and Wastewater Management

S.No	Project Proponent	Fresh Water Requirement (in KLD)		Waste Water (in KLD)			Units of STP/Capacity	Remarks	
		Phase/Supplier	Qty.	Waste water generated	Reuse & Recycle	Excess Quantity to be discharged			Point of discharge
1.	M/s. Dugar Housing Ltd.	Construction: Private Water Tankers	24	Not Applicable as Operation phase not started					Nil
		Operation : CMWSSB	199	266	Toilet Flushing:108 + Gardening:10 =118	135	CMWSSB sewerage	Primary-Secondary(Extended Aeration) Tertiary(Pressure Sand Filter, Activated Carbon, UV) : 280 KLD	Civil works for STP partly done.

* The STP is constructed below ground level, head space is inadequate for free movement and poor accessibility to the STP units, thus preventive maintenance and break down maintenance is difficult. STP units are covered (not visible) and any upsetting in plant operation cannot be visualized and can be only ascertained after results of effluent quality and operating parameters are available.

Qty: Quantity; C: Construction Phase; O: Operation Phase; PWT: Private Water Tankers; STP: Sewage Treatment Plant; SST: Secondary Settling Tank; CMWSSB: Chennai Metropolitan Water Supply and Sewerage Board; MBBR : Moving Bed Bio Reactor; SBR: Sequential Batch Reactor; FBBR: Fluidized Bed Bio Reactor; UF: Ultra Filtration ; UV: Ultra Violet

Table 5: Green Belt Development

S. No	Project Proponent	Area Details (sq.m)			Plantation Proposed			OSR (sq.m)
		Project Area	Built up Area	Area earmarked for Green belt	Trees (No's)	Landscape (sq.m)	Roof garden* (sq.m)	
1.	M/s. Dugar Housing Ltd. *	11789.00	56153.22	2141.07	19	1525.69	496.02	1189.74
					16			
					Trees are existing.			

* Proposed to provide green pavers for retaining the soil substrate.

Saplings already planted.

**REPORT OF M/S SPR AND RG CONSTRUCTION
PVT. LTD**

1.0 Project Proponent - M/s SPR and RG Construction Pvt. Ltd

The project of M/s SPR and RG Construction Pvt. Ltd is spread over an area of 35786.05 m². The project is under construction stage and as informed by CMDA the construction at the stage is in line with the Planning Permission. The details of the project are as under:

- The site is located in a Karambakkam Village, Ambattur Taluk, Thiruvallur District, and Tamil Nadu within the Chennai Metropolitan area.
- The land was purchased during 2010 & 2011 by the Project Proponent and construction activity started on 10.09.2012.
- The land covered in the project are zoned for primary residential use and industrial land use wherein the residential building activities are permissible under special sanction of CMDA.
- At the time of purchase of land, it was vacant and purchased for residential development.
- As per the Master Plan of CMA 2026, the project area falls under primary residential & industrial use zone wherein the residential building activities are permissible under special sanction of CMDA.
- The maximum building height permissible for this category of development as per Development Regulations is 60.00 meters and the normally permissible FSI is 2.5. The height of the building is 43.85 meters and FSI is 3.25(including premium FSI of 0.75).
- National parks/wildlife sanctuaries/Zoos near by the project site –
 - Guindy National Park – 9.0 Kms
- Reservoir / Lake
 - Porur lake – 0.5 KM
- No Reservoir/ protected forest in the vicinity of the project site.
- Seismicity – Seismic Zone III (Moderate)

2.0 Permissions/ Clearances / NOCs required

The project proponent is required to obtain requisite clearances / permissions / NOCs from State / Central Regulatory Agencies/Organizations for initiating construction. The details of the permissions/clearances/NOCs required for construction are given in **Table- 1**. It is covered under multi-storeyed building category. As per the regulations in-force, the project of M/s SPR and RG Construction Pvt. Ltd requires only permissions/clearances/NOCs which is depicted in **Table-1**.

The project proponent, i.e. M/s SPR and RG Construction Pvt. Ltd applied for EC to SEIAA, a mandatory requirement, before starting of construction work or preparation of land on 10.06.2013 after about 08 months of starting the construction. ToR was issued on 07.10.2013 and EC issued on 19.11.2015. The project proponent has taken planning permission from Chennai Metropolitan Development Authority (CMDA) and NOC's from other departments like Indian Air Force, Chennai Metropolitan Water Supply and Sewerage Board (CMWSSB), etc. The Building Permit to the project proponent was accorded by Corporation of Chennai 04.09.2012 subsequent to the approval accorded by CMDA on 20.07.2012. The planning permission for the project was issued by CMDA under the Development Regulation forming the part of the 2nd Master Plan for Chennai Metropolitan area approved by the Tamil Nadu Government under Tamil Nadu Town and Country Planning Act, 1971. The CMDA and other regulatory agencies/organization have specified conditions which need to be complied with by the project proponent and the same is annexed at **Annexure-I**.

The planning permission granted by CMDA was for 982 dwelling units subsequently the proponent submitted request to CMDA for constructing additional dwelling units. The revised planning permission from CMDA is still awaited being site with additional units were under construction.

The EC granted by SEIAA on 19.11.2015 envisages construction of 1050 dwelling units. Construction of additional dwelling units necessitates reassessment of services along with the requirement of fresh water, power demand, parking space requirement, management of additional sewage & solid waste generated, etc.,. The conditions imposed by other agencies such as CMDA, traffic department, CMWSSB, etc. and not complied by the project proponent are annexed at **Annexure-II**. The chart indicates that the major violation by the project proponent has been initiation of the construction activity at site without having the necessary Environmental clearance, a mandatory requirement. The NOC from PWD from inundation point of view and construction of culvert across nullah are obtained.

The Porur Lake is about 0.5 Kms and Guindy National Park about 9 Kms from the project site.

3.0 The Report

This report is submitted with reference to tasks assigned to the Committee.

➤ *Illegal and unauthorized acts and activities carried out by the Respondents.*

The following illegal acts and activities by the Project Proponent have been noted by the Committee:

- Initiated construction at site without obtaining Environmental Clearance under section 2 of the EIA Notification dated 14.09.2006 issued under section 5(3) of Environment (Protection) Rules, 1986 from SEIAA, Tamil Nadu
- Violated condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated by CMDA
- Did not obtain 'Consent to Establish' required for commencement of work from Tamil Nadu Pollution Control Board
- Violated the condition of obtaining EC before starting construction at site as envisaged in the conditions stipulated in the Building Permit by the Panchayat is to be read with conditions of CMDA.
- Constructed additional residential units in violation of the conditions given by CMDA. The proponent has however applied for revised planning permission.....

➤ **Ecological and environmental damage done by these projects**

The ecological and environmental impacts are expected from:

- i) Disposal of solid waste: The solid waste generation needs to be reworked considering the construction of 68 additional dwelling units. The bio degradable fraction of the domestic waste (3.2T/day) is proposed to be disposed through Chennai Corporation and the dried sludge from STP 67 Kg/day used as manure. The non-biodegradable fraction (1.31 T/day) shall be sent to authorize recyclers. Any unscientific disposal of solid waste has all potential to contaminate the groundwater if not disposed scientifically besides being a source of unaesthetic conditions and odour.
- ii) Sewage disposal: The Proponent has installed STP having installed capacity of 700 KLD as against the expected sewage generation of 650 KLD. Part of the treated effluent is proposed to be utilized for meeting the demand of toilet flushing (254

KLD) while 19 KLD is proposed to be used for gardening purposes and the excess treated sewage (358 KLD) to be disposed through CMWSSB system. Till such connectivity is ensured the excess treated sewage will be sent to Koyambedu STP (94 MLD) with the approval of CMWSSB. In absence of trunk sewer connectivity, and no provision for storage of treated sewage for transportation through tankers, there is every possibility of the excess sewage being discharged on land thereby causing soil and groundwater contamination.

- iii) Water abstraction: The Project Proponent proposes to use fresh water supply from CMWSSB during the operational phase of the project and in absence of availability of potable water supply from CMWSSB, water through tankers shall be procured. As per the EC conditions the fresh water supply of 483 KLD is to be sourced from CMWSSB. The fresh water demand needs to be reworked to meet the requirement of additional dwelling units. The project proponent has wells in its premises. Any exploitation of groundwater to meet the water demand would impact the groundwater table. A study needs to be conducted to assess charging rate vis-à-vis the abstraction from the groundwater sources.
- iv) Noise Pollution: There is a possibility of increase in noise levels once the dwellings units are occupied. The increase in noise level can be taken care by providing green belt along the boundary wall and other acoustic measures to cushion the impact of noise.
- v) Air Pollution: As per the 2nd Master Plan for CMA land use which is in force since September 2008, the project land are zoned for primary residential use and industrial use where residential activities are permissible under special sanction of CMDA. As the site is zoned for residential and industrial use it cannot be considered to be contributing to the deterioration in air quality.
- vi) The ground water table is at 2.0 meters from ground level. The construction of 03 levels of basement (one lower basement + 2 upper basements) below the ground water table has all the potential to impact the ground water recharging system.

➤ **Installation of STPs**

- i. The total sewage generation anticipated from the project is 664 KLD. STP with total treatment capacity of 700 KLD has been constructed.
- ii. The size of the STP units indicates adequacy of the system with the norms stipulated by CMWSSB however the actual efficacy can be assessed only after the

mechanical systems are installed and their ratings known. The STP requires to be upgraded to meet the bathing quality norms prescribed by SEIAA for the treated sewage quality.

- iii. No defined green belt was seen at the site. Considering the area proposed for green belt development within the project area, the treated sewage (19 KLD) earmarked for green belt development cannot be fully utilized on daily basis and especially during rainy season. The leftover would be required to be discharged along with the excess sewage.

➤ **Other anti-pollution devices by the Project Proponent**

To meet the power requirement during periods of power failure, gensets using high speed diesel as fuel and meeting the norms prescribed by CPCB are proposed to be installed.

➤ **Proposed point of discharge of sewage and any other untreated waste**

As per the conditions imposed by CMWSSB, the entire quantity of treated sewage has to be reused for toilet flushing and gardening. However, as per the information provided by the Project Proponent 328 KLD of excess treated sewage is to be disposed to CMWSSB system. In the event of non connectivity with the CMWSSB sewerage system the treated sewage shall be disposed through tanker to nearby Koyembedu STP (which has a capacity of 94 MLD), which does not seem feasible considering the large storage area requirement for the treated sewage before loading it to the tankers. Disposal of the treated sewage into the sewerage system does not seem feasible, at least in foreseeable future. The excess treated sewage available will be higher than the proposed, after taking into account the generation of sewage from 68 additional units.

➤ **Source of water during operation phase and otherwise**

As per the information provided by the Project Proponent, water supplied through tankers has been used at the site for the construction activity. In the operation phase, the fresh water requirement of 483 KLD shall be met from CMWSSB supplier or through private tankers. The water requirement is expected to be 561 KLD @ 135 LPCD for the 6038 occupants as per the EC.

➤ **Use of energy efficient devices**

The energy saving measures adopted / proposed include installation of CFL / LED lamps, solar panels for street lighting, and star rated fans/ motors are proposed. The details of the measures taken or proposed for energy saving are given in **Table-2**.

➤ **Ecologically and environmentally sensitive areas**

No national parks / wildlife sanctuaries/Zoos near to the project site.

The nearest park is Guindy National Park which is about 9.0 km and Porur Lake which is about 0.5 KM from the project site.

- No Reservoir/ protected forest in the vicinity of the project site.

➤ **Details of alteration of land its effect on the natural topography**

The project site has been flattened to make way for the construction activity. The contour map indicates a total level difference of 3 to 4 feet. Maximum contour is of 101.5 feet and minimum is of 97.5 feet. However, such undulations were not observed during the visit.

➤ **Effect on natural drainage system**

The site map indicates 01 natural nullah which is being realigned. Permission from PWD to construct culvert across the nullah and permission from revenue authorities for realignment are obtained.

➤ **Adequacy of rainwater harvesting system**

The Project Proponent has to make provision for roof-top rain water harvesting & providing drainage systems. A detail of rain water harvesting is given in **Table 3**.

➤ **Adequacy of parking area and if at all they have been provided**

Provision has been made for providing space for parking 1062 cars and 257 two-wheelers for the 1050 residential units and the commercial block and club house. The parking space needs to be realigned considering the parking conditions imposed by SEIAA requires parking space for 1020 cars & 255 two wheelers. The parking requirement in CMDA permission is considering 982 dwelling units while parking provision has to be made for 1050 dwelling units.

- **Collection and disposal of municipal solid waste at the project site**
- The bio-degradable waste shall be composted using **Organic Waste Converter (OWC)**. The reusable waste such as paper, organic waste etc., shall be disposed through vendors for reuse. The STP sludge is proposed to be used as manure (67 kg/day) while the non-biodegradable fraction shall be used for filling in low lying areas (1313 kg/day). The domestic waste needs to be reassessed considering the construction of 68 additional dwelling units.
- **Compliance of conditions stated in the planning permission and other permissions granted by various authorities**
- The Project Proponent has initiated construction without obtaining EC violating the conditions specified by CMDA and Village Panchayat.
 - Project Proponent has initiated construction without obtaining Consent to Establish from Tamil Nadu Pollution Control Board.
 - Project Proponent has initiated construction without obtaining EC from SEIAA
 - About 20 – 30% work for laying of drainage system for collection of surface runoff has been completed.
 - The Project Proponent proposes to dispose the excess 358 KLD of treated sewage for CMWSSB through tankers to nearby STP (Koyembedu) which is in violation to the conditions imposed by CMWSSB, but in line with EC conditions imposed by SEIAA.
 - The project proponent has constructed additional dwellings than those specified in permission accorded by CMDA.
- **Whether suggestions made by the SEIAA in its meetings adequately take care of environment and ecology?**
- The conditions stipulated by SEIAA in the Environmental Clearance are generic and cover wide spectrum of environment. The condition need to be more specific for effective implementation and monitoring. The conditions with respect to the quantum of energy saving, use of fly ash bricks, rain water storage capacity, area for green belt etc. should be specific and precise to bring uniformity in the conditions imposed.

➤ **Whether demolition or raising of additional structures are required in the interest of environment and ecology**

- i. M/s SPR&RG Construction Pvt. Ltd. Started construction on September 10, 2012, without obtaining EC, a mandatory requirement before starting construction work or preparation of land. The proponent applied for EC on 10.06.2013 is after about 08 months of starting of construction.
- ii. The 700 KLD STP proposed had been designed to meet the treated effluent quality of BOD-20 mg/l and SS-30 mg/l. the EC condition stipulate the requirement of meeting bathing water quality norms i.e. BOD < 3 mg/l, besides the sewage generation is expected to be around 650 KLD.
- iii. Provision need to be made for recycling of treated sewage for flushing in toilets and for roof top rainwater harvesting and its storage, besides making arrangement for proper management of storm water discharge and disposal of treated sewage.
- iv. More space has to be allocated for parking to meet the demand of residents occupying the additional dwelling units to be constructed. This will need realignment of other activities.

4.0 Observations

Based on the assessment of available information and physical visit to the site, the following observations were made:

4.1 General Observation

- i. EC granted by SEIAA on 19.11.2015 when the major construction has been completed.
- ii. Consent to Establish not obtained from Tamil Nadu Pollution Control Board.
- iii. Violated CMDA condition of not commencing activity without obtaining Environmental clearance.
- iv. Constructed additional units beyond that specified in CMDA permission.

4.2 Water Management

The various aspects of water management including the source of water supply, the quantum of sewage generated, its treatment, adequacy of Sewage Treatment Plants, reuse and recycling of the treated effluent and its disposal were examined. The observations made are given in **Table-4**. The major observations are as under:

- i. The tanker water is used for construction.
- ii. The Project Proponent has applied for permission to use private water tanker to meet its requirement of 483 KLD during the operation phase. The fresh water requirement

for 1050 units and 6038 occupants @ 135 LPCD will be 561 KLD after considering reuse of treated sewage for flushing in toilets. As per the EC condition the fresh water requirement is to be met from CMWSSB.

- iii. The STP is in the basement.
- iv. Most of the works for the STP haven been completed. The design of the STP indicates adequacy of the system to meet the norms for treated sewage prescribed by CMDA, however the actual efficacy can be assessed only after the details of mechanical systems installed and their ratings known. The STP would require upgrading to meet the bathing water norms laid down by CPCB and prescribed by SEIAA for the treated sewage. The capacity of STP being to treat 700 KLD has the capacity to treat additional sewage.
- v. The Project Proponent needs to develop environmental laboratory with capacity to monitor the operating parameters of STP and the quality of treated effluent essential for effective operation of the plant/self-monitoring and self-compliance with the norms.
- vi. Till such time connectivity with the trunk sewer is ensured, the 328 KLD of excess treated sewage is proposed to be disposed through tanker to nearby STP.
- vii. In absence of connectivity with the sewerage system and no provision for storage of treated sewage its safe disposal is of concern and the situation aggravates during the rainy period as any discharge of storm water along with sewage may be a cause of unaesthetic conditions and odour problems.
- viii. The unit has proposed to utilize the 19 KLD of excess treated sewage for plantation. No green belt is at the site. The detail of the available land for has not been provided. Besides during the rainy period, when this excess treated sewage cannot be utilized for green belt no provision of storage facility is available within project site, which is likely to result in discharge of the excess sewage along with the storm water and may be a cause of unaesthetic appearance and odour problem.
- ix. Dual pipeline has been provided for utilizing the treated sewage for flushing.
- x. Proper storm water drainage is required inside and outside of the premises for its better management.

4.3 Green Belt Development:

Total green belt area is 2874.00 m². Development of green belt has not been accorded priority by the project proponent as no developed green belt was seen at the site. The project proponents informed of the proposal to develop green belt which seems to be after thought as the area has either been paved or earmarked for some other activity at the site. The Project Proponents need to realign the parking infrastructure and other ancillary units to provide for green belt development. Planted saplings were seen at site. During the site visit, it was informed that 15 trees have been planted and there is a proposal to plant another 400. The Project Proponent need to realign the infrastructure/or any other ancillary units to provide adequate space for proper green belt development. Status of the green belt for the restitution of ecology and environment is given in **Table-5**.

4.4 Construction Waste

Data for construction waste generated during the construction activity and its use was not available with the Project Proponent, except for the information that the construction waste generated has been disposed to fill the low lying area within the premises or outside. Site details outside the premises where construction waste was used to fill low lying areas were not provided by the project proponent.

4.5 Solid Waste

The bio-degradable waste shall be composted using Organic Waste Converter (OWC) system. The recyclable waste (2036 kg/day) is proposed to be disposed through authorized recyclers. The STP sludge is proposed to be used as manure (67 kg/day) while the non-biodegradable fraction shall be used for filling in low lying areas (1313 kg/day).

4.6 Other observations:

- i) As part of energy saving measure, installation of LED/CFL bulbs, energy efficient luminaries and variable frequency drives in pumps are proposed.
- ii) There are 03 entry roads, besides the proposed highway through the site. The entry roads' being narrow, till such time the proposed highway is constructed there is possibility of traffic congestion for which traffic management plan is required to be developed and implemented.
- iii) Fly ash bricks may be used for construction.

- iv) The generator sets for standby power supply proposal shall conform to CPCB norms.
- v) The project envisages construction of 03 levels of basement and the ground water table level being 2.0 meters working below the ground water table level has all possibility to impact the ground water recharging-system.

5.0 SUGGESTIONS

5.1 Conditions stipulated by CMDA

- i. CMDA shall give more emphasis on the environmental aspects including disposal of treated sewage / its utilization, the aspect of solid waste management, development of green belt, etc. Environmental aspects be given the same priority, if not more than those given to parking, fire safety, etc., while designing the lay out and its approval.
- ii. The conditions related to environmental issues and especially those related to Environmental Clearance and imposed in the permission granted by Chennai Metropolitan Development Authority to the project proponent are not uniform and at times not in conformity with the EIA Notification of 2006.
- iii. To have uniformity in approach so that violation of laws is avoided, a coordination mechanism between SEIAA, CMDA and other agencies need to be put into place.
- iv. In case any deterioration in the ambient environment / ground water quality is observed, the proponent shall inform the status to TNPCB and SEIAA and also prepare a time bound action plan for remedial measures.
- v. The proponent shall install piezo wells to monitor the ground water quality quarterly.

5.2 Waste Water Management/Sewage Treatment

- i. The STPs constructed by need to be reworked to meet the norms of bathing water quality prescribed by SEIAA for treated sewage quality. The quality of sewage generation will increase with the construction of additional dwelling units. The quality of treated waste recycled also needs re estimation.
- ii. The project proponent should provide separate electricity meter for the sewage treatment plants and maintain daily record of the power consumed, essential to ensure 24X7 functioning of STP.

- iii. The unit not having provision for discharge of treated sewage cannot be permitted to start operation unless proper arrangements are put in place for its safe handling.
- iv. In no case, the discharge of treated sewage on land can be permitted. Transportation of treated sewage through tankers equipped with GPS system (to monitor their movement to the existing STPs in the area) can be permitted in case adequate treatment capacity is available at STPs installed by CMWSSB. The installation of GPS system will help ensuring, that the tankers are emptied at the STPs only.
- v. The project proponent having permission to discharge the excess treated sewage to existing CMWSSB STPs, should be permitted to discharge the treated effluent conforming to the prescribed effluent norms only.
- vi. Where, the project proponent do not have outlet provisions and are not able to recycle additional sewage back into the system, beyond the presently proposed limits, transporting of the treated sewage conforming to the specified norms for discharge to STPs operated by CMWSSB Board through identified tankers fitted with GPS system for tracking their movements may be considered. The option can be permitted only after the project proponent develops adequate storage capacity for treated effluent.
- vii. To ensure that entire waste water generated is treated, online flow measurement system need to be installed both at the Inlet and Outlet of the STPs, and the pumps/valves integrated through software to provide the flow data.
- viii. The online system is installed to monitor the effluent quality at least for the basic parameters, such as pH, suspended solids and BOD for self-monitoring and self-regulations besides ensuring compliance of the norms. The data will be transferred directly from the analysis.
- ix. The project proponent should develop in-house laboratory for monitoring of the operating parameters of the sewage treatment plants and the treated effluent quality daily.
- x. Color coding of pipelines in the STP's should be done.
- xi. All the plumbing lines carrying raw water, untreated effluent/treated effluent etc. should be color coded.
- xii. The project proponent should not be permitted to operationalize the complexes till such time permission / connectivity for taking potable water from CMWSSB pipeline is received / connectivity ensured to avoid ground water abstraction.

- xiii. The proponent shall ensure that proper storm water drainage system is available in and around the site for transporting excess of storm water runoff to drains, thereby discarding the possibility of flooding in and around the site.
- xiv. The proponent shall ensure back up power supply through DG set for uninterrupted operation of STP.

5.3 Rain Water Harvesting

If provision for discharge of excess surface run off / rain water discharge are not available, flooding in the vicinity and stagnation of the discharged water in the low lying areas around the complex are inevitable. The project proponent should ensure that such situation does not occur either by increasing the capacity of rain water storage sumps or providing additional pits in the surface run off collection drain. The surface runoff shall be treated through screen, settlers, etc. to remove suspended solids, oil & grease etc. before its use for recharging.

5.4 Green Belt Development

- i) Project proponent should plan for scientific green belt development, (exceptions are there for the landscape area or some places earmarked for plantation of trees). Maximum possible space should be left unpaved for recharging of ground water besides the proposed rain water harvesting system. The unpaved area should be covered with green top or any other pervious material to maintain permeability of soil.
- ii) Green belt should be developed all around the site boundary to act as a barrier for air and noise pollution. Ornamental plants / area left for landscape, covered with grass / shrubs and roof top garden shall not be considered in the areas mandatory for green belt development. Sufficient space has to be provided for each tree so that it does not choke to death because of the putting of cement concrete all around the tree.

5.5 Solid Waste Management

- i) The project proponent should prepare an action plan for ensuring segregation, collection, transportation, treatment and scientific disposal of Municipal Solid Waste. This action plan should be submitted to SEIAA and TNPCB for their approval.
- ii) The project proponent should put in place a system for collection of discarded CFL & LED lamp.

- iii) Separate space should be earmarked for storing of construction and demolition waste and its disposal at sites approved by local authorities.
- iv) The proponent should submit a plan for management of grit and STP sludge.
- v) The leaves/biomass should be composted at site and used as manure.

5.6 Traffic Management

- i. Once the complex is occupied, there is all possibility of traffic snarls around. The project proponent needs to submit an action plan to avoid congestion on the road, increased concentration of air pollutants.
- ii. The project proponent should ensure regular sweeping of the roads inside and adjacent to the complex to avoid re-suspension of settled dust, thereby taking care of any possibility of increasing particulate matter levels.
- iii. Car parking requirement for residential development is based on the size of the individual unit and location of the site. In the case of Low Income Group (LIG) dwelling units, which is mandatory and size does not exceed 45 m², one two wheeler parking only is required. In addition 10% of total parking is required to be provides as visitors parking.

5.7 Energy Saving

- i. All street and staircase lighting should use solar power. The project proponent should reduce the power consumption by at least 20% by replacing CFL lamps with LED lamps, using energy efficient device (solar relay – Bureau of energy efficiency) providing insulated window or insulated glasses and adopting advance elevator and air conditioning technologies as below:-
- ii. Install Energy efficient elevators using gearless machines or regenerative drive technology.
- iii. Inverter technology based Air Conditioning machines should be installed.
- iv. For meeting hot water requirement in kitchen solar energy should be used.
- v. Installation of IR/Thermal switches in corridors/staircases to save energy needs to be promoted.
- vi. The project should obtain GRIHA or any other such rating.

6.0 General Remarks

- i. In all future plans, the natural drainage system should be incorporated as a part of the layout plan using it as a water front / water storage and the building lay out modeled to incorporate the natural drainage as part of the system rather than redoing/ relaying of the natural drainage system.
- ii. A systematic green belt development is necessary. In all future projects environmental issues like development of green belt, managing surface water runoff, its collection and recharge etc., provision of solid waste management, and orientation of the building for energy saving should be given priority while designing the layout and the number of dwelling units likely to come up.
- iii. In future projects necessitating earth filling due care should be taken to maintain the coefficient of the surface runoff and porosity of the site. As the construction works are yet to be completed, the use of construction materials to raise the ground level is avoided as it has all the possibility to affect the nature percolation rate of soil.
- iv. The SEIAA conditions should be made more specific with regard to energy saving, rain water harvesting, use of renewable energy, green belt development for effective implementation and monitoring.

ANNEXURE-I

Conditions imposed by various agencies

Conditions imposed by Chennai Metropolitan Development Authority (CMDA)

1. The applicant has to furnish undertakings to abide by the terms and conditions put forth by CMDA, DF&RS, Chennai Police – Traffic, AAI, CMWSSB, NHAI, IAF, PWD.
2. The promoter has to submit necessary sanitary application directly to CMWSSB and only after due sanction he can commence internal sewer works.
3. The applicant should apply for the water connection, after approval of the sanitary proposal and internal works should be taken up only after the approval of water application.
4. It shall be ensured that all wells, over head tanks are hermetically sealed with properly protected vents.
5. Rain water harvesting structures as shown in the approved plans has to be provided to the satisfaction of the Authority.
6. The Applicant has to approach the Commissioner Corporation of Chennai for issue of building permit under the Local Body Act.

Conditions imposed by Directorate of Fire & Rescue Services (DF&RS)

1. There should be one Wet riser per 1000 sqm area covering all floors of all blocks with landing valves along with delivery hose. The riser should be fully charged with water with adequate pressure at all times and should have both automatic and manual operation. To feed the wet riser system an underground static water tank of minimum capacity 75,000 litres should be provided with refilling facility. A terrace level tank of capacity of 10,000 litres also should be provided. To charge the wet riser system one electrical pump of capacity 1620 LPM should be provided near the underground water tank. An equal capacity of Diesel pump should also be provided as an alternative arrangement. The pumps should be capable of developing pressure of 3.5 Kg/cm at terrace level hydrant point. One more electrical pump of capacity of 180 LPM should be provided as a jockey pump. The proposal being the group house scheme instead of individual system for each building, the wet riser system can be installed at a suitable point collectively covering all the blocks subject to the increase of fire pumps (two electrical and one diesel pump of each capacity 2850 LPM) and underground water capacity not less than 150000 litres and overhead water tank water tank of 1000 litres on each block connected to riser system.
2. Yard Hydrant should be provided all around the building.
3. Fire service inlet fitted with NRV at ground level should be provided.
4. Hose reel assembly should be provided covering all floors of all blocks.
5. Manual fire alarm call points should be provided at all floors
6. Automatic sprinkler system should be provided covering all floors of car parking areas.
7. Basement floor should be provided automatic smoke vent system

8. Public address system should be provided connecting all the floors.
9. Alternate and independent power system should be provided to fire pumps, emergency lighting system, fire lift and Integrated Activation System.
10. Number of ramps, exits, location and their width, should be conformed to the requirements to the National Building Code of India, 2nd revision Part –IV, 2005.
11. The first Aid Firefighting equipment should be provided at all floors of all proposed buildings in accordance with IS 2190:1992 requirements.
12. Fire lifts, electrical installations and wiring, A/C ducts & other service ducts and emergency lights covering all critical parts should meet the requirements of NBC of India, Part IV, 2nd Revision, 2005.
13. The width and height of any arch or gate, if any, should have the clearance of not less than 4.50m and 5.0m respectively.
14. The compulsory open space of 7.0m around the building should be designed to withstand a weight of 45 tons at any point of operation for the use of the Hydraulic platform vehicle.
15. The service ducts such as power cables, communication cable, A/C Ducts etc., should be protected with proper fire ceiling/fire dampers.
16. The cable Gallery should be routed through fire resistant duct or fire protected tray.
17. Fire resistant and low smoke emission cable should be used.
18. A trained fire officer with a crew shall be arranged to maintain as well as to operate the fire protection system in case of any need.
19. The fire protection systems provided in the building should be of approved by the competent authority/ certified by any notified bodies.
20. During the construction of the building, the following fire protection measures should be provided in good working condition.
 - a) Dry riser of minimum 100mm dia pipe with Hydrant outlets constructed with a fire service inlet to boost the water in the riser from fire service pumps.
 - b) Drums filled with water of 2000 litres with two fire buckets on each floor.
 - c) A water storage tank of 20,000 litres capacity, which may be used for other construction purposes also.

Conditions imposed by Local Body ((Corporation of Chennai (CoC))

1. The Ground floor of the building shall be 0.91mtrs from the abutting road adjacent to the compound wall or centre of the road.
2. The building shall conform to the IS 486; IS 875 and IS 1893 of Bureau of Indian Standards.
3. RWH should be done as shown in the plan.

Conditions imposed by Police (Traffic)

1. There should provide full-fledged bell mouth shaped entry and exit as shown in the site plan in order to avert any pile up of vehicles while entry and exit of the vehicle from the residential building at service road of Chennai Bye Pass Road on Porur-Maduravoyal Road

2. To install road sign in and out boards and other required sign boards near proposed gates at service road of Chennai Bye Pass Road.
3. To provide sufficient light facilities at the proposed gates at service road of Chennai Bye Pass Road
4. To maintain properly the drive way distance as shown in the site plan for free flow of traffic
5. The applicant should construct and maintain properly the parking spaces shown inside the premises
6. Nil
7. The applicant should be insisted to provide 7m wide gate for entry and exit.

Conditions imposed by Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) for Sewage Treatment Plant (STP)

1. The capacity of the in situ STP of 0.55MLD determined by the applicant is only considered in scrutiny of design of proposed in-situ STP.
2. The influent characteristics of domestic sewage generated from the development and Effluent characteristics in the effluent of STP as assumed and given by the applicant has been considered as basic data in the scrutiny of design in-situ STP and is furnished below PH-6.5 to 8.0 (Influent), PH-6.5 to 8.0 (Effluent), Suspended Solids 450 mg/l (Influent), < 30 mg/l (Effluent), BOD - 350 mg/l (Influent), < 20 mg/l (Effluent)
3. Treatment unit to be constructed below GL with access to treatment units through headroom at GL. The panel board and Air blowers are proposed to be placed in the head room.
4. The applicant should ensure that the structures provided for the underground treatment units are water proof. And also the internal sewer system for the proposed development should be laid / maintained subsequently in a manner such that the entry of rain water collected in the site is prevented at any point in the internal sewer system.
5. As the treatment units are proposed below ground level, sufficient air circulation through duct arrangements is to be ensured for achieving the desired degree of treatment and safety.
6. To reuse the entire quantity of treated effluent (541080 L/D) for toilet flushing and gardening.
7. To dispose the sullage after lime post treatment.
8. The treated effluent, grit and sludge should be disposed of from the site in the manner as prescribed by TNPCB.

Conditions imposed by Chennai Metropolitan Water Supply & Sewerage Board (CMWSSB) for Swimming Pool

1. The provision of extraction of ground water as per the Chennai Metropolitan Area Ground Water (Regulation) Act No 27 of 1987 for the purpose of usage in Swimming pool to be complied with by the applicant.
2. The water for the usage in the swimming pool has to be purchased from CMWSS Board/ local body only and not from the private agencies.
3. The applicant shall recycle the used water of the swimming pool as proposed.
4. The applicant shall comply with all statutory requirements.

Conditions imposed by Indian Air Force (IAF)

The IAF stated that the proposed construction is outside the area of responsibility of AF Station – Tambaram. Therefore, the NOC from IAF is not considered necessary.

Conditions imposed by Airport Authority of India (AAI)

1. The height of the building shall not exceed 43.85 mtrs. above the ground level.
2. No Radio/ TV antenna or Lightning arresters, staircases, muntree, over head water tank and attachments and fixtures of any kind shall project above the height indicated.
3. Uses of electrical fire or oil fired is obligatory within 8.0 Km of the aerodrome
4. No light or combination of light which by reason of its intensity, configuration of colour will cause confusion with the aeronautical ground lights of airport shall be installed at the site at any time duration or after the construction of the residential building.
5. Day and night markings with secondary power supply shall be provided as per ICAO standard.

Conditions imposed by National Highways Authority of India (NHAI)

Permanent structure should be 40.0m away from the centre line of the Chennai - Bye pass.

Conditions imposed by Public Works Department (PWD)

This condition pertains to M/s. SPR&RG Construction Pvt. Limited only among the 07 Project Proponents.

1. The existing Ground Level of the site to be raised to min. level of 13.43m (13.13m [Chettiyaragaram Road] + 0.30m) uniformly with an average filling varying from 0.48m to 2.35m, to avoid inundation during heavy floods.
2. Should not develop any permanent structure along the field channel in S.No 148/6.

Conditions imposed by State Level Environment Impact Assessment Authority (SEIAA)

Part A- Conditions for Pre Construction phase:

- i) The project authorities should advertise with basic details at least in two local newspaper widely circulated, one of which shall be in the vernacular language of the locality concerned, within 7 days of the issue of clearance. The press releases also mention that a copy of the clearance letter is available with the State Pollution Control Board and also at website of SEIAA, TN. The copy of the press release should be forwarded to the Regional Office of the Ministry of Environment and Forests located at Chennai and SEIAA-TN.
- ii) In the case of any change(s) in the scope of the project, a fresh appraisal by the SEAC/SEIAA shall be obtained before implementation.
- iii) A copy of the clearance letter shall be sent by the proponent to the Local Body. The clearance letter shall also be put on the website of the Proponent.
- iv) "Consent for Establishment" shall be obtained from the Tamil Nadu Pollution Control Board and a copy shall be submitted to the SEIAA, Tamil Nadu before taking up any construction activity at the site.
- v) Any appeal against this environmental clearance shall lie with the Hon'ble National Green Tribunal, if

preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.

- vi) The approval of the competent authority shall be obtained for structural safety of the buildings during earthquake, adequacy of firefighting equipment's, etc. as per National Building Code including protection measures from lightning etc. before commencement of the work.
- vii) All required sanitary and hygienic measures should be in place before starting construction activities and they have to be maintained throughout the construction phase.
- viii) Design of buildings should be in conformity with the Seismic Zone Classifications.
- c) The Construction of the structures should be undertaken as per the plans approved by the concerned local authorities/local administration.
- x) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire and Rescue Services Department, Civil Aviation Department, Forest Conservation Act, 1980 and Wild Life (Protection) Act, 1972, State / Central Ground Water Authority, Coastal Regulatory Zone Authority, other statutory and other authorities as applicable to the project shall be obtained by project proponent from the concerned competent authorities.
- xi) The Project proponent shall have to furnish the probable date of commissioning of the project supported with necessary bar charts to SEIAA-TN.
- xii) No construction activity of any kind shall be taken up in the OSR area.
- xiii) Consent of the local body concerned should be obtained for using the treated sewage in the OSR area for gardening purpose. The quality of treated sewage shall satisfy the bathing quality prescribed by the CPCB.
- xiv) The structural design of the proposed building must be vetted by premier academic institutions like Anna University, IIT Madras, etc., and the fact shall be informed to SEIAA.
- xv) The height and coverage of the constructions shall be in accordance with the existing FSI/FAR norms as per Coastal Regulation Zone Notification, 2011.

Part B- Conditions for construction phase:

- i) All the laborers to be engaged for construction should be screened for health and adequately treated before and during their employment on the work at the site.
- ii) The entire water requirement during construction phase shall be met from out sourcing from the source with approval of the PWD Department of water resources.
- iii) Provision shall be made for the housing labor within the site with all necessary infrastructures and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, crèche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- iv) A First Aid Room shall be provided in the project site during the entire construction phase of the project.

- v) Adequate drinking water and sanitary facilities should be provided for construction workers at the site. The treatment and disposal of waste water shall be through dispersion trench after treatment through septic tank. The MSW generated shall be disposed through Local Body and the identified dumpsite only.
- vi) The solid waste in the form of excavated earth excluding the top soil generated from the project activity shall be scientifically utilized for construction of approach roads and peripheral roads, as reported.
- vii) All the top soil excavated during construction activities should be stored for use in horticulture/ landscape development within the project site.
- viii) Disposal of other construction debris during construction phase should not create any adverse effect on the neighboring communities and be disposed of only in approved sites, with the approval of Competent Authority with necessary precautions for general safety and health aspects of the people.
- ix) Construction spoils, including bituminous materials and other hazardous materials, must not be allowed to contaminate watercourses. The dump sites for such materials must be secured so that they should not leach into the adjacent land/ lake/ stream etc.
- x) Low Sulphur Diesel shall be used for operating diesel generator sets to be used during construction phase. The air and noise emission shall conform to the standards prescribed in the Rules under the Environment (Protection) Act, 1986; and the Rules framed thereon.
- xi) The diesel required for operating stand by DG sets shall be stored in underground tanks and if required, clearance from Chief Controller of Explosives shall be taken.
- xii) Vehicles hired for bringing construction materials to the site should be in good condition and should conform to air and noise emission standards, prescribed by TNPCB/CPCB. The vehicles should be operated only during non-peak hours.
- xiii) Ambient air and noise levels should conform to residential standards prescribed by the TNPCB, both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during the construction phase. The pollution abatement measures shall be strictly implemented.
- xiv) Fly- Ash bricks should be used as building material in the construction as per the provision of Fly ash Notification of September, 1999 and amended as on 27th August, 2003.
- xv) Ready-mix concrete shall alone be used in building construction and necessary cub-tests should be conducted to ascertain their quality.
- xvi) Storm water management around the site and on site shall be established by following the guidelines laid down by the storm water manual.
- xvii) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices prevalent.
- xviii) Fixtures for showers, toilet flushing and drinking water should be of low flow type by adopting the use of aerators / pressure reducing devices / sensor based control.

- xix) Use of glass shall be reduced up to 40% to reduce the electricity consumption and load on air conditioning. If necessary, high quality double glass with special reflecting coating shall be used in windows.
- xx) Roof should meet prescriptive requirement as per Energy Conservation Building Code by using appropriate thermal insulation material, to fulfill the requirement.
- xxi) Opaque wall should meet prescribed requirement as per Energy Conservation Building Code which is mandatory for all air conditioned spaces by use of appropriate thermal insulation material to fulfill the requirement.
- xxii) Adequate fire protection equipment's and rescue arrangements should be made as per the prescribed standards.
- xxiii) Proper and free approach road for fire-fighting vehicles up to the buildings and for rescue operations in the event of emergency shall be made.
- xxiv) All Energy Conservation Building Code (ECBC) norms have to be adopted.
- xxv) Personnel working in dusty areas should wear protective respiratory devices and they should also be provided with adequate training and information on safety and health aspects. Occupational health surveillance program of the workers should be undertaken periodically to observe any contractions due to exposure to dust and take corrective measures, if needed.
- xxvi) Periodical medical examination of the workers engaged in the project shall be carried out and records maintained. For the purpose, schedule of health examination of the workers should be drawn and followed accordingly. The workers shall be provided with personnel protective measures such as masks, gloves, boots etc.
- xxvii) A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, and the shortfall shall be strictly reviewed and addressed.
- xxviii) Flow realigned the natural storm water drain passing through their compound in compliance of the condition by the PWD to maintain the natural flow resume at the site.
- xxix) No major green belt is proposed to be developed as the area has either been paved or earmarked for some other activity. Need to realign the infrastructure of the parking and other ancillary units to provide some space for green belt development.

Part C- Conditions for Operation Phase/Post Construction Phase/Entire Life of the Project:

- i. The SEIAA reserves the right to add additional safeguard measures subsequently, if non-compliance of any of the EC conditions is found and to take action, including revoking of this Environmental Clearance as the case may be.
- ii. There shall be no drawl of ground water.
- iii. The Project Proponent shall plant tree species with large potential for carbon capture in the proposed green belt area based on the recommendation of the Forest department well before the project is ready for occupation.

- iv. The Proponent should be responsible for the maintenance of common facilities including greening, rain water harvesting, sewage treatment and disposal, solid waste disposal and environmental monitoring including terrace gardening for a period of 3 years. Within one year after handing over the flats to all allottees a viable society or an association among the allottees shall be formed to take responsibility of continuous maintenance of all facilities with required agreements for compliance of all conditions furnished in Environment Clearance (EC) order issued by the SEIAA-TN or the Proponent himself shall maintain all the above facilities for the entire period. The copy of MOU between the buyers Association and proponent shall be communicated to SEIAA-TN.
- v. The ground water level and its quality should be monitored and recorded regularly in consultation with Central Ground Water Authority.
- vi. The Sewage Treatment Plant (STP) installed should be certified by an independent expert for its adequacy and a report in this regard should be submitted to the SEIAA, TN before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled / reused to the maximum extent possible. Treatment of 100 % grey water by decentralized treatment should be done. The treated sewage shall conform to the norms and standards for bathing quality laid down by CPCB irrespective of any use. Necessary measures should be made to mitigate the odour and mosquito problem from STP. Explore the less power consuming systems viz. baffle reactor etc. for the treatment of sewage.
- vii. The Proponent shall install STP as furnished. Any alteration to satisfy the bathing quality shall be informed to SEIAA-TN.
- viii. The Proponent shall operate STP continuously by providing stand by DG set in case of power failure.
- ix. It is the sole responsibility of the proponent that the treated sewage water disposed for green belt development/ avenue plantation should not pollute the soil/ ground water/ adjacent canals/ lakes/ ponds, etc.
- x. Adequate measures should be taken to prevent odour emanating from solid waste processing plant and STP.
- xi. The Plastic wastes shall be segregated and disposed as per the provisions of Plastic Waste (Management & Handling) Rules 2011.
- xii. The e - waste generated should be collected and disposed to a nearby authorized e-waste centre as per e waste (Management & Handling), Rules 2011.
- xiii. Diesel power generating sets proposed as source of back-up power during operation phase should be of enclosed type and conform to rules made under the Environment (Protection) Act, 1986. The height of stack of DG sets should be equal to the height needed for the combined capacity of all proposed DG sets
- xiv. The diesel required for operating DG sets shall be stored in underground tanks fulfilling the safety norms and if required, clearance from the Chief Controller of Explosives shall be taken.

- xv. The acoustic enclosures shall be installed at all noise generating equipment's such as DG sets, air conditioning systems, cooling water tower, etc. and the noise level shall be maintained as per MoEF/CPCB/TNPCB guidelines/norms both during day and night time.
- xvi. Spent oil from D.G sets should be stored in HDPE drums in an isolated covered facility and disposed as per the Hazardous Wastes (Management, Handling, Trans boundary Movement) Rules 2008. Spent oil from D.G sets should be disposed of through registered recyclers.
- xvii. The proponent/ Owner of the Flats shall ensure that storm water drain provided at the project site shall be maintained without choking or without causing stagnation and should also ensure that the storm water shall be properly disposed of in the natural drainage / channels without disrupting the adjacent public. Adequate harvesting of the storm water should also be ensured.
- xviii. The proponent/ Owner of the Flats shall ensure that roof rain water collected from the covered roof of the buildings, etc. shall be harvested so as to ensure the maximum beneficiation of rain water harvesting by constructing adequate sumps so that 100% of the harvested water shall be reused.
- xix. Rain water harvesting for surface run-off, as per plan submitted should be implemented. Before recharging the surface run off, pre-treatment with screens, settlers etc. must be done to remove suspended matter, oil and grease, etc. The Proponent shall provide adequate number of bore wells / percolation pits/ etc. as committed. The bore wells / percolation pits/ etc. for rainwater recharging should be kept at least 5 mts. above the highest ground water table.
- xx. Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrids system or fully solar system for a portion of the apartments shall be provided.
- xxi. A report on the energy conservation measures conforming to energy conservation norms prescribed by the Bureau of Energy Efficiency shall be prepared incorporating details about building materials & technology; R & U factors etc and submitted to the SEIAA in three months' time.
- xxii. Energy conservation measures like installation of CFLs/TFLs for lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs and TFLs should be properly collected and disposed of/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination. Use of solar panels may be done to the extent possible.
- xxiii. Traffic congestion near the entry and exit points from the roads adjoining the proposed project site shall be avoided. Parking shall be fully internalized and no public space should be utilized. Parking plan to be as per MoEF norms. The traffic department shall be consulted and any cost effective traffic regulative facility shall be met before commissioning.
- xxiv. The proponent shall prepare completion plans showing Separate pipelines marked with different colours with the following details
 - i. Location of STP, compost system, underground sewer line.
 - ii. Pipe Line conveying the treated effluent for green belt development.

- iii. Pipe Line conveying the treated effluent for toilet flushing
- iv. Water supply pipeline
- v. Gas supply pipe line, if proposed
- vi. Telephone cable
- vii. Power cable
- viii. Storm water drains, and
- ix. Rain water harvesting system., etc
And it shall be made available to the owners.
- xxv. A First Aid Room shall be provided during operation of the project, with necessary equipment's and life-saving medicines and should be manned all the 24 hours any day.
- xxvi. The buildings should have adequate distance between them to allow free movement of fresh air and passage of natural light, air and ventilation. Landscape plan to be revised accordingly.
- xxvii. The amount of Rupees equivalent to 0.5% of the Project Cost by the proponent under CSR activity should be earmarked for such activities as committed by the proponent for the purpose for which it was allocated.
- xxviii. Lightning arrester shall be properly designed and installed at top of the building and where ever is necessary.
- xxix. The environmental statement for each financial year ending 31st March in Form-V as is mandated to be submitted by the project proponent to the concerned State Pollution Control Board as prescribed under the Environment (Protection) Rules, 1986, as amended subsequently, shall also be put on the website of the company. The status of compliance of environmental clearance conditions and shall also be sent to the Regional Office of the Ministry of Environment and Forests, Bangalore by e-mail.
- xxx. This Environmental Clearance does not imply that the other statutory / administrative clearances shall be granted to the project by the concerned authorities. Such authorities would be considering the project on merits and be taking decisions independently of the Environmental Clearance.
- xxxi. The SEIAA, TN may alter/modify the above conditions or stipulate any further condition in the interest of environment protection, even during the subsequent period.
- xxxii. The Environmental Clearance does not absolve the applicant/proponent of his obligation/requirement to obtain other statutory and administrative clearances from other statutory and administrative authorities.
- xxxiii. The SEIAA, TN may cancel the environmental clearance granted to this project under the provisions of EIA Notification, 2006, if, at any stage of the validity of this environmental clearance, if it is found or if it comes to the knowledge of this SEIAA, TN that the project proponent has deliberately concealed and/or submitted false or misleading information or inadequate data for obtaining the environmental clearance.
- xxxiv. A copy of the Environmental clearance (EC) letter shall be made available to all the allottees along with the allotment order / sale deed.
- xxxv. The proponent shall upload the status of compliance of the stipulated EC conditions, including results of monitored data on their website and shall update the same periodically. It shall simultaneously be sent to

the Regional Office of MoEF, Chennai, the respective Zonal Office of CPCB, Bengaluru and the TNPCB. The criteria pollutant levels namely; SPM, RSPM, SO₂, NO_x (ambient levels as well as stack emissions) or critical sectorial parameters, indicated for the project shall be monitored.

xxvi. A separate environmental management cell with suitable qualified personnel should be set-up under the control of a Senior Executive, who will report directly to the Head of the Organization.

xxvii. The Regional Office of the Ministry located at Chennai shall monitor compliance of the stipulated conditions. The project authorities should extend full cooperation to the officer (s) of the Regional Office by furnishing the requisite data / information / monitoring reports.

xxviii. The project proponent shall submit progress reports on the status of compliance of the stipulated environmental clearance conditions including results of monitored data (both in hard copies as well as by e-mail) to the Ministry of Environment and Forests, its Regional Office Chennai, the respective Zonal Office of Central Pollution Control Board, SEIAA, TN and the State Pollution Control Board once in six months.

xxix. Failure to comply with any of the conditions mentioned above may result in withdrawal of this clearance and attract action under the provisions of the Environment (Protection) Act, 1986.

xl. The above conditions will be enforced inter-alia, under the provisions of the Water (Prevention & Control of Pollution) Act, 1974, the Air (Prevention & Control of Pollution) Act, 1981, the Environment (Protection) Act, 1986, the Public Liability Insurance Act, 1991, along with their amendments, draft Minor Mineral Conservation & Development Rules, 2010 framed under MMDR Act 1957, National Commission for protection of Child Right Rules, 2006 and rules made there under and also any other orders passed by the Hon'ble Supreme Court of India/Hon'ble High Court of Madras and any other Courts of Law, including the Hon'ble National Green Tribunal relating to the subject matter.

ANNEXURE-II

Project Proponent: M/s. SPR & RG Construction Limited

Conditions imposed by CMDA;

C. No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
1	The P.P. has to furnish undertakings to abide by the terms and conditions put forth by CMDA, DF&RS, Chennai Police – Traffic, AAI, CMWSSB, NHAI, IAF, PWD	Complied for the earlier proposal.	The applicant has submitted revised plan which has been forwarded to Government for approval. The orders of the Government for the revised proposal are awaited.
7	The applicant has to furnish NOC from IAF and EIA clearance before issue of Completion Certificate (CC)*	Not complied with	Condition not mentioned explicitly in CMDA's approval letter. However, in the Govt. letter it has been mentioned.

Conditions imposed by CMWSSB for STP;

C. No	CONDITIONS	COMPLIANCE STATUS	REMARKS
4	To reuse the entire quantity of treated effluent (541080 L/D) for toilet flushing and gardening.	As per the proposal seems to not comply.	Nil
7	To dispose the sludge after lime post treatment.	As per the proposal seems to not comply.	Nil
8	The treated effluent, grit and sludge should be disposed of from the site in the manner as prescribed by TNPCB.	As per the proposal seems to not comply.	Nil

Conditions imposed by CMWSSB for Swimming Pool;

C.No.	CONDITIONS	COMPLIANCE STATUS	REMARKS
3	The applicant shall recycle the used water of the swimming pool as proposed.	Not mentioned in the proposal	Nil

Non-Compliance of some major Conditions imposed by SEIAA

Sl.No	CONDITIONS	COMPLIANCE STATUS	REMARKS
1.	"Consent for Establishment" shall be obtained from the Tamil Nadu Pollution Control Board and a copy shall be submitted to the SEIAA, Tamil Nadu before taking up any construction activity at the site.	Not obtained	Not obtained.
2.	The Construction of the structures should be undertaken as per the plans approved by the concerned local authorities/local administration.	Revised plan approval is awaited	Proponent has constructed additional 68 dwelling units for which the approval is awaited
3.	Provision of drainage system for collecting storm water runoff is yet to be made.	Not complied.	Site is under construction. Partial drainage system was seen.
4.	The Project Proponent shall plant tree species with large potential for carbon capture in the proposed green belt area based on the recommendation of the Forest department well before the project is ready for occupation.	Not complied.	No green belt was seen.
5.	The Sewage Treatment Plant (STP) installed should be certified by an independent expert for its adequacy and a report in this regard should be submitted to the SEIAA, TN before the project is commissioned for operation. Treated effluent emanating from STP shall be recycled / reused to the maximum extent possible. Treatment of 100 % grey water by decentralized treatment should be done. The treated sewage shall conform to the norms and standards for bathing quality laid down by CPCB irrespective of any use. Necessary measures should be made to mitigate the odour and mosquito problem from STP. Explore the less power consuming systems viz. baffle reactor etc. for the treatment of sewage.	STP in place.	STP design is inadequate to meet norms prescribed by SEIAA.
6.	Adequate measures should be taken to prevent odour emanating from solid waste processing plant and STP.	Not complied.	No adequate measures taken.
7.	Rain water harvesting for surface run-off, as per plan submitted should be implemented. Before recharging the surface run off, pre-treatment with screens, settlers etc. must be done to remove suspended matter, oil and grease, etc. The Proponent shall provide adequate number of bore wells / percolation pits/ etc. as committed. The bore wells /	Not complied.	No such pre-treatment and other structures seen during inspection.

	percolation pits/ etc. for rainwater recharging should be kept at least 5 mts. above the highest ground water table.		
8.	Application of solar energy should be incorporated for illumination of common areas, lighting for gardens and street lighting in addition to provision for solar water heating. A hybrids system or fully solar system for a portion of the apartments shall be provided.	Not complied.	Not installed.
9.	Traffic congestion near the entry and exit points from the roads adjoining the proposed project site shall be avoided. Parking shall be fully internalized and no public space should be utilized. Parking plan to be as per MoEF norms. The traffic department shall be consulted and any cost effective traffic regulative facility shall be met before commissioning.	Not complied.	The entry to the site being from narrow lane, traffic congestion during peak periods are expected.
10.	The proponent shall prepare completion plans showing Separate pipelines marked with different colors with the following details i. Location of STP, compost system, underground sewer line. ii. Pipe Line conveying the treated effluent for green belt development. iii. Pipe Line conveying the treated effluent for toilet flushing iv. Water supply pipeline v. Gas supply pipe line, if proposed vi. Telephone cable vii. Power cable viii. Storm water drains, and ix. Rain water harvesting system, etc. and it shall be made available to the owners.	Not complied.	Project still to be completed. Not prepared.

Table 1 : Details of Clearance/Permission/NOCs required for the Construction of Residential Group Development Buildings depending upon project type/size

S. No.	Various Authorities for issuing Clearance/Permission/NOCs	Time of the permission	Permissions required by M/s. SPR&RG constructions Pvt. Ltd.
1	Planning permission from CMDA	Obtained on 20.07.2012	✓ +
2	Environmental Clearance (built up area exceeds 20000 sqm)	Applied on 10.06.2013 and obtained EC on 19.11.2015	✓ +
3.	Coastal Regulation zone clearance	Not Applicable	Not Applicable
4.	Consent for establishment and operation under State Air and Water Acts	Not Applicable Consent for establishment is before commencement and consent for operation after construction before commencing occupation	✓ (Not granted)
5.	Public Health Act	Not Applicable	Not Applicable
6.	Tamil Nadu Lift Act, 1997	Not Applicable	Not Applicable
7.	Tamil Nadu Building and other construction workers (Regulation of employment and condition of service) Rule,2006	Not Applicable	Not Applicable
8.	Interstate Migrant Workmen Act 1980, Tamil Nadu Rule (Regulation of employment and condition of service) Act 1920.	Not Applicable	Not Applicable
9	Directorate of Fire & Rescue Service	Obtained on 25.02.2011	✓ +
10.	Traffic (Police) Dept.	Obtained on 09.03.2011	✓ +
11.	Airport Authority of India when height exceeds 30m.	Obtained on 08.03.2011	✓ +
12.	Indian Air Force	Obtained on 19.03.2011	✓ +
13.	PWD (if site is located adjacent to water body).	Obtained on 28.04.2013	✓ +
14.	Revenue Dept.,(land reforms act)	Obtained on 21.03.2011	✓ +
15.	National Highway Authority.	Obtained on 11.03.2011	✓ +
16.	Chennai Metropolitan Water Supply and Sewage Board (CWSSB) (For STP design, swimming pool).	For STP - Obtained on 11.03.2011 and for Swimming pool ~ 11.03.2011	✓ +
17.	Archaeological Survey of India (ASI).	Not Applicable	Not Applicable
18.	Railways	Not Applicable	Not Applicable
19.	Department of Explosives	Not Applicable	Not Applicable

✓ : Permission Required
 ✓ +: Permission granted

Table 2: Energy Management

No.	Project Proponent	Power Requirement (KW/KVA) *	Backup Power (KVA)	Energy saving measures (KWH)			Energy Conservation Materials/Equipment used/to be used in the project
				Solar Energy	CFL/LED	Others	
1	M/s. SPR&RG Construction Pvt. Ltd.	13790 KW	3500	99000 / Annum	16,10,000 (CFL) / Annum	790000/ Annum	Energy Efficient luminaries, Aerated Concrete Blocks for external walls and Variable Frequency Drives (VFD) in Pumps.
					60000 (LED) / Annum	2599000/ Annum	11.67%

*Connected Load;

CFL: Compact Fluorescent Light; LED: Light Emitting Diode; #KW/PA - Kilo Watt Per Annum; RMC: Ready Mix Concrete

Table 3 :- Rain Water Harvesting (RWH)

No	Project Proponent	Roof Top Area	Road & Paved Area	Unpaved Area	Annual Potential of roof top RWH* / Underground Storage Tank for roof top RWH (KL)	Percentage storage of roof top RWH	Annual Potential of RWH from open area at Ground level** (KL)	Method of RWH
		(sq.m)						
5	M/s. SPR&RG Construction Pvt. Ltd.	9458.00	19046	2874.0	7717 / 1000	12.95 %	16093	

* Assuming average annual rainfall intensity: 1200 mm ; Paved and roof top runoff co-efficient = 0.85; Co-efficient for first flush and evaporation = 0.8.

** Assuming average annual rainfall intensity: 1200 mm ; Unpaved area runoff co-efficient = 0.2 and Paved area run-off coefficient: 0.85; Co-efficient for first flush and evaporation = 0.8.

KL – Kilo litre = Cubic Metre

Table 4:- Water and Wastewater Management

S.No	Project Proponent	Fresh Water Requirement (in KLD)		Waste Water (in KLD)				Units of STP/Capacity	Remarks
		Phase/Supplier	Qty.	Waste water generated	Reuse & Recycle	Excess Quantity to be discharged	Point of discharge		
1.	M/s. SPR&RG Construction Pvt Ltd.	Construction: Private Water Tankers	48						Nil
		Operation: CMWSSB	483	664	Toilet Flushing:254 + Gardening:49	328	CMWSSB/through Tankers to nearby STP.	Primary-Secondary(SBR)-Tertiary(Pressure sand filter, activated carbon, UV): 700 KLD	STP civil construction done. Mechanical units/ System not installed.

* The STP is constructed below ground level, head space is inadequate for free movement and poor accessibility to the STP units, thus preventive maintenance and break down maintenance is difficult. STP units are covered (not visible) and any upsetting in plant operation cannot be visualized and can be only ascertained after results of effluent quality and operating parameters available.

Qty: Quantity; C: Construction Phase; O: Operation Phase; PWT: Private Water Tankers; STP: Sewage Treatment Plant; SST: Secondary Settling Tank; CMWSSB: Chennai Metropolitan Water Supply and Sewerage Board; MBBR : Moving Bed Bio Reactor; SBR: Sequential Batch Reactor; FBRR: Fluidized Bed Bio Reactor; UF: Ultra Filtration ; UV: Ultra Violet

Table 5: Green Belt Development

S. No	Project Proponent	Area Details (sq.m)			Plantation Proposed			OSR (sq.m)
		Project Area	Built up Area	Area earmarked for Green belt	Trees (No's)	Landscape (sq.m)	Roof garden* (sq.m)	
5	M/s. SPR&RG Construction Pvt. Ltd.	35786.50	166479.79	2874.00	400 15 trees are existing	9200	3783.00	3697.00

*Proposed to provide green pavers for retaining the soil substrate.

Saplings already planted.