



सत्यमेव जयते

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Proceedings of the State Environment Impact Assessment Authority Kerala

*Present: Prof. (Dr.) K.P. Joy, Chairman, Dr. J. Subhashini, Member &
Sri. V.S.Senthil I.A.S Member Secretary.*

Sub: SEIAA - Environmental clearance for Housing Project ("Sobha Rio Vista") in Sy. Nos. 159/2B(Part) at Calicut, Feroke Petta (Chandhakadavu), Feroke Village and Panchayath, Kozhikode Taluk, Kozhikode District, Kerala by Sri Ramakrishnan Prabhakaran M/s Sobha Developers Ltd. - EC Granted-Orders issued

State Environment Impact Assessment Authority, Kerala

No. 371/SEIAA/KL/2611/2014

dated, Thiruvananthapuram.20.03.2017

- Ref:**
1. Application dated 09.06.2014 from Sri Ramakrishnan Prabhakaran, Deputy Managing Director & Authorized Signatory of M/s Sobha Developers Ltd
 2. Minutes of the 33rd meeting of SEAC held on 2/3-9-2014
 3. Minutes of the 36th meeting of SEAC held on 31-10-2014
 4. Minutes of the 53rd meeting of SEAC held on 25/26-2-2016
 5. Minutes of the 55th meeting of SEAC held on 10/11/20-05-2016
 6. Minutes of the 54th meeting of SEIAA held on 21-6-2016
 7. Minutes of the 60th meeting of SEAC held on 28/29-7-2016
 8. Minutes of the 59th meeting of SEIAA held on 27-09-2016
 9. Minutes of the 62nd Meeting of SEIAA held on 23-12-2016

ENVIRONMENTAL CLEARANCE NO. 23/ 2017

Sri.Ramakrishnan Prabhakaran, Deputy Managing Director & Authorized Signatory of M/s Sobha Developers Ltd., vide his application received on 09.06.2014 has sought Environmental Clearance under the EIA Notification, 2006 for the Residential cum Commercial project in Sy. Nos. 159/2B (Part) at Feroke Village, Kozhikode Taluk, Kozhikode District, Kerala. It is interalia, noted that the project comes under the Category B, 8(a) of Schedule of EIA Notification 2006. No forest land is involved in the present project.

The height of the proposed building is 87 m and the total plot area of the proposed project is 14802.337 m² and the total built-up area is 58542.09 m². The total power requirement is 2857 KW which will be sourced through Kerala State Electricity Board. Renewable energy devices used are solar water heater and solar based streetlights. The Chaliyar River is located within the 100 m from the project site boundary. Total project cost is Rs.180 Crores. The proponent has stated that there is no litigation pending against the

project and /or land in which the project is proposed to be set up. Other details of the project are as under:

File No.		371/SEIAA/EC4/2611/2014	
Name of project		Environmental Clearance for the Proposed Housing Project ("Sobha Rio Vista") by M/s Sobha Developers Ltd.	
Brief description of the project		Proposed housing project with total plot area 1.48076 ha. (14,802.337 sq. m.) and total built-up area 58,542.09 sq. m.	
Category/Subcategory & Schedule		Category 'B', Schedule 8 (a)	
Location Sy no/ district, Taluk / village etc.		Survey No. 159/2B (P), Calicut FerokePetta (Chandhakavadu), Feroke Village, Kozhikode District, Kerala.	
GPS co-ordinates		Latitude (N)	11°10'51.96" to 11°10'46.69"
		Longitude (E)	75°50'05.81" to 75°50'11.47"
for Construction projects	Built up area (in m ²)	58,542.09 sq.m	
	No. of floors	Basement 1, 2, 3 + Ground + 27 Floors	
	Maximum height from ground level	87 m.	
	Facilities proposed	Proposed 216 apartments, club house & first aid facility etc.	
	Details of project cost	Rs. 180 Crores	
	Financial statement including funding source and details of insurance	Source :- Internal accrual, customer advances & bank loan Insurance :- Contract all risk policy.	
	Activity schedule of the project	45 months	
	Forest clearances	Not applicable	
	Does it attract violation proceedings	No	
	EnvmtMgmt plan/ Eco restoration plan (brief details)	The proposed project has provision for (i) Treatment of sewage and it's partially recycling (ii) The project has made provision for rain water storage tanks (iii) The project has made provision of Organic waste converter (OWC) system within the project site for disposal of the bio-degradable solid waste (iv) As part of the eco restoration, large number of saplings of native species would be planted. (v) D.G. sets with noise control measures and stack for flue gas. (vi) Sufficient parking as per KPBR.	
ABOUT THE PROJECT			
	Environmental parameters considered	Description	
WATER			
	Water requirement &	The total domestic water requirement of 150.66 KLD (which	

sources	includes daily fresh water requirement of 103.82 KL). Treated water from STP to be used for flushing of toilets 51.84 KLD & Horticulture 25.21 KLD. Source :- Stored Rain water, wells and treated water from STP.
RWH units proposed	The project has provision for rain water storage tanks which will be used as source of water during rainy days & non-rainy days.
Facilities for liquid waste treatment	Yes, Sewage Treatment Plant with total capacity 170 KL.
Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No
Water quality meeting requirements	Water quality to meet requirements after the treatment of water (filtration & disinfection).
Does it have provisions for use of recycled water	Yes, Treated water from STP to be used for flushing of toilets 51.84 KLD & Horticulture 25.21 KLD.
LAND	
Proximity to forest lands	No
Access road to the site – Width & Condition	20 m. wide (Feroke-Petta Road) (tarred road)
Storage of explosives /hazardous substances	Yes, all precautionary measures in the storage & handling of HSD & PNG waste will be followed.
Facility for solid waste mgmt	<ul style="list-style-type: none"> ➤ Collection & segregation within the site of bio-degradable waste (green bins) & non-biodegradable waste (blue bins). ➤ The recyclable waste like packaging material, paper etc. would be sold through vendors. ➤ Bio-degradable waste would be disposed through Organic Waste Converter. ➤ The manure from the OWC unit will be utilized as manure.
Topographic features/ slope	There are some native species of trees and different varieties of shrubs, herbs, grass & climbers at site. There is a level difference of about 12 m. between south side to north side of the project site.
Proneness of the area for landslides	No
Significant land disturbance resulting in erosion, subsidence & instability	No
Top soil, overburden	In order to accommodate the parking facility, excavation of

	etc.	earthwork for foundation of structures & for basements will be carried out. The excavated top soil will be used for landscaping purposes. The remaining excavated earth will be used for backfilling, internal road construction purposes.
AIR		
	Air quality meeting requirements	To meet requirements as per rules
	Noise level meeting requirements	To meet requirements as per rules
	Likely emissions affecting environment	Emissions from D.G. sets and from the vehicles only.
ENERGY		
	Energy requirement	2,857 KW
	Energy sources	Kerala State Electricity Board & D. G. Sets (600 kVA x 2 nos. + 750 kVA x 1 no. as back-up)
	Extent of usage of alternative energy resources	<ul style="list-style-type: none"> ➤ Solar water heating system for the hot water generation and solar power operated street lights. ➤ Appropriate setbacks are proposed in the buildings for getting natural lighting and ventilation to the interior areas of the building.
BIODIVERSITY		
	Presence of any endangered species or red listed category	No
	Loss of native species and genetic diversity	<p>Yes.</p> <p>There are some native tree species and different varieties of shrubs, herbs, grass, climbers existing at site. For the development of the proposed project, existing trees, shrubs, herbs, grass & climbers will be cleared. To be rectified as per EMP</p>
	Likely displacement of fauna	No
	Any introduction of alien / invasive species	<p>Yes.</p> <p>Invasive species (shrubs) :-</p> <ul style="list-style-type: none"> ➤ <i>Chromolaena odorata</i> (L.) R.M.King & H. Rob. ➤ <i>Ageratum conyzoides</i> L. ➤ <i>Synedrella nodiflora</i> (L.) Gaertn. <p>Invasive species (climbers) :-</p> <ul style="list-style-type: none"> ➤ <i>Mikania micrantha</i> Kunth ➤ <i>Epipremnum aureum</i>
SOCIAL ASPECTS		
	Proximity to nearest habitation	The project site is within the Panchayat limits and several houses located within the 500 m. radius.
	CSR related to the project/allocation/time frame (details mandatory)	A detailed study on social status of the project site surroundings & need base study on proposed CSR activities were carried out. The summary of the report are:-

Sr. No.	Areas of Intervention	No. of Intervention	Recurring Expenses (in Rs.)	Non Recurring Expenses (in Rs.)
1	Education	6	3,08,500	8,90,000
2	Health	4	5,60,000	--
3	Community Development	3	2,29,000	6,10,000
	Total	13	10,97,500	15,00,000

GENERAL

Does it propose environment management plan	Yes
Does it have eco restoration programmes	Yes Provision for the green area development which includes native species such as medicinal trees, flowering trees, deciduous & evergreen trees, fruit trees, domestic use, medicinal trees, shrubs & grass coverage.
Sufficiency of parking spaces/ traffic management	Yes 382 Cars + 250 Two wheelers
Litigation/court cases, if any, against the project (Provide details)	No

SEAC meetings/ ADDITIONAL CLARIFICATIONS

Details of Authorised Signatory	Sri. Ramakrishnan Prabhakaran, Deputy Managing Director, M/s Sobha Developers Ltd., Sobha, Sarjapur-Marathahalli, Outer Ring Road, Devarabisanahalli, Bellandur Post, Bangalore, Karnataka-560103
Details of NABET approved EIA consultant organisation	M/s Environmental Engineers & Consultants Pvt. Ltd. A1-198, JanakPuri, New Delhi-110058. QCI List at Sr. No. 52, as per NABET list of accredited consultant organizations, Rev. 21A on 19th August, 2014

2. The proposal was first considered in the 33rd meeting of SEAC held on 2/3-9-2014. The Committee deferred the item for site visit and seeking the following additional clarifications from the proponent for further consideration of the proposal.

1. Copy of the joint venture agreement between M/s Sobha Developers Ltd. and the land owner of the present project site.
2. Original cadastral map of the project site.

3. Revised plan showing the provisions made for mechanical ventilation & for supporting the structures of basement floors. In the said plan, the setback stipulated as per Rule 37 (5) of KPBR and the minimum width of 7 m for the drive way should also be demarcated.
4. Details regarding the quantity of removal of ordinary earth and its utilization.
5. Details on the provisions made for ultra-filtration and additional aeration of treated sewage water.
6. KCZMA recommendations.
7. Detailed plan regarding the fire fighting facilities proposed to be installed as part of the present project.

Accordingly a subcommittee of SEAC conducted the field visit on 11.10.2014 by Dr.P.S.Harikumar and Sri. John Mathai. The representatives of the proponent were present during the site inspection. The major observations are as follows:

"The site is located on the southern side of the road leading from Ramanattukara side of bridge over Chaliyar to Feroke. (11° 10' 51" N, 75° 50' 09" E). The land proposed to be developed is a laterite covered moderately sloping land with slope towards north i.e. to the Chaliyar river. Coconut and mixed trees form the dominant landuse. The water table in the plot varies from about 8 m bgl in the upper crestal portion to about 5 m bgl in the lower flanks. On the main riverside adjacent to the road healthy stands of mangroves were noted which means that part of the project site falls in CRZ. Hence statutory clearance from KCZMA is warranted. The proposed footprint of the main building, location of RWH and STP, layout of the road, parking facilities etc were shown to the SEAC members.

Considering the location and other aspects following points may be considered:-

1. *On the southern side near to the elevated part a cutting of about 12 m is proposed to facilitate vehicle parking in the different levels of basement. On analysing the bore logs it is seen that soft water saturated clayey strata with low N values is seen at depth. This need to be supported mechanically so as to prevent slope failures and a safe design must be provided. A safe buffer distance must be provided from the boundary.*
2. *The quantity earth to be removed and transported out of the site must be provided.*
3. *Dependable yield of wells must be provided. Bore wells are not advised in the area due to presence of saline water bodies in the vicinity.*
4. *Ventilation with mechanical exhaust system must be provided in the vehicle parking area*
5. *Internal width of drive way to be at least 7 m with at least 3 m distance between drive way and proposed building. The gradient of the drive way must facilitate smooth movement of vehicles especially fire fighting equipments.*
6. *A barrier to be provided to a depth of at least 4 m from ground level by the side of RWH facility to isolate it from STP/fuelling station on the eastern side. Considering the fresh water scarcity the RWH must have a capacity to store at least one month fresh water need of the project"*

3. The proposal was placed before 36th meeting of SEAC held on 31st October 2014.

Committee deferred the item for want of the following clarifications.

1. Safe design for mechanical support to prevent slope failure must be provided.
2. The quantity of earth to be removed and transported out of the site must be provided.
3. Dependable yield of wells must be provided. Bore wells are not advised in the area due to presence of saline water bodies in the vicinity.
4. Ventilation with mechanical exhaust system must be provided in the vehicle parking area
5. Maintain the internal width of drive way to be at least 7 m with at least 3 m distance between drive way and proposed building. The gradient of the drive way must facilitate smooth movement of vehicles especially fire fighting equipments.
6. A barrier to be provided to a depth of at least 4 m from ground level by the side of RWH facility to isolate it from STP/fuelling station on the eastern side. Considering the fresh water scarcity the RWH must have a capacity to store at least one month fresh water need of the project”

The proponent was addressed for compliance of the above decision vide letter No.371/SEIAA/EC4/2611/2014 dated 19/10/15. The proponent did not responded to above said letter.

4. The proposal was placed in the 53rd meeting of SEAC held on 25/26-2-2016. The proposal was considered by SEAC in its 36th meeting and proponent was required to furnish important details such as safe design for mechanical support to prevent slope failure, ventilation with mechanical exhaust system, isolation RWH from STP and so on. The proponent was addressed from the secretariat to furnish the said details, for which the proponent has failed to respond. Hence the committee decided to recommend to delist the proposal.

5. The proponent on 22-4-2016 submitted the clarifications sought by 33rd and 36th SEAC before placing the case in SEIAA. The proposal was again placed in the 55th meeting of SEAC held on 10th, 11th and 20th of May, 2016. The committee observed that the proposal was recommended to delist in the 53rd meeting of SEAC held on 25/26, February 2016 itself and the item can be considered only after a decision of SEIAA on the above recommendation.

The recommendation of SEAC for delisting the proposal was on the ground that the proponent failed to respond to the decision of SEAC in its 33rd and 36th meetings for additional details. After the decision in 53rd meeting held on 25/26-02-2016, the details called for were furnished on 22/04/2016. As the matter was not brought to the consideration of SEIAA before 22/04/2016, it was proposed to bring the matter of submission of details by the proponent to the notice of SEAC before the matter is placed before SEIAA. However the SEAC in its 55th meeting held on 10/11-20-05-2016 stick to its stand to have the decision of SEIAA as its earlier recommendation to delist the application.

6. The matter was placed in the 54th meeting of SEIAA held on 21-6-2016. It is seen that the decision was on default of the proponent, which has been cured. As of now the reason for the recommendation is non-existent as the replay has been obtained, which SEAC has not

taken in to consideration. The queries raised were mainly on land and design/site plan related matter. Recommendation of KCZMA, - which was called for by SEAC – had also been received (not required). As per O/M No. 22-154/2015 – 1A/III dated 10/11/2015, of MoEF, SEAC need consider only a set of 15 specific environmental parameters. The O.M also states that the SEIAA/SEAC need not focus on the other issues which are normally looked after by concerned local bodies/state Government Department/State Pollution Control Board.

Authority decided to bring the above stipulation of MoEF to the notice of SEAC for appraisal of the project, if there are no other grounds to sustain the earlier decision for delisting.

7. The proposal was again placed in the 60th meeting of SEAC held on 28/29-7-2016. The proposal was appraised by SEAC considering Form I, Form IA, Conceptual Plan and the other documents and details provided by the proponent. The proposal was recommended for issuance of EC subject to general condition in addition to specific condition as follows;

1. Dependable yield of well must be reported to SEIAA
2. Mechanism must be installed at the site to prevent the mixing of harvested rain water and waste water.
3. Excavated earth from the site shall be completely used internally. No part of it shall be taken out of the project site.
4. Proper ventilation shall be provided in the vehicle parking area.

8. The proposal was placed in 59th meeting of SEIAA held on 27-09-2016. The Authority examined the whole case in the light of the recommendations. It is seen that recurring amount given in the CSR undertaking is Rs. 12, 36,500/- whereas schemes worth only Rs.10, 97,500/- have been proposed. The Authority decided that the trees uprooted at the site shall be replanted in the proposed green belt as a part of greening initiatives. Proponent must furnish the entire CSR undertakings rectifying the discrepancy, to be approved by SEIAA for consideration for E.C.

9. The proponent has submitted revised CSR undertakings before SEIAA. The Proposal was again considered in the 62nd Meeting of SEIAA held on 23rd December 2016. The Authority decided to issue EC subject to the production of an affidavit that all the specific and general conditions shall be fulfilled.

10. The proponent has submitted the affidavit on 03.02.2017 stating that all the specific and general conditions shall be fulfilled. Environmental Clearance as per the EIA notification 2006 is therefore granted to the proposed Housing Project (Sobha Rio Vista) in Sy. Nos. 159/2B(Part) at Calicut, Feroke Petta (Chandhakadavu), Feroke Village and Panchayath, Kozhikode Taluk, Kozhikode District, Kerala by Sri.Ramakrishnan Prabhakaran, M/s Sobha Developers Ltd subject to the specific conditions mentioned in para 7 above, the usual general

conditions for projects other than mining appended hereto and the following green conditions should be strictly adhered to.

Green Conditions.

1. Adequate rain water harvesting facilities shall be arranged for.
 2. Technology and capacity of the STP to be indicated with discharge point (if any) of the treated effluent.
 3. Effluent water not conforming to specifications shall not be let out to water bodies.
 4. Maximum reuse of grey water for toilet flushing and gardening and construction work shall be ensured.
 5. Dual plumbing for flushing shall be done.
 6. Provisions for disposal of e-wastes, solid wastes, non-biodegradables and separate parking facility for the buildings shall be provided.
 7. Generation of solar energy to be mandatory for own use and/or to be provided to the grid.
 8. There shall be no compromise on safety conditions and facilities to be provided by the project proponent, which shall be ensured for occupation, regularisation or consent to operate.
11. The clearance will also be subject to full and effective implementation of all the undertakings given in the application form, all the environmental impact mitigation and management measures undertaken by the project proponent in the documents submitted to SEIAA, and the mitigation measures and waste management proposal as assured in the Form - 1 and Form-1A, Environment Management Plan as submitted. The assurances and clarifications given by the proponent in the application and related documents will be deemed to be part of these proceedings as conditions as undertaken by the proponent, as if incorporated herein.
12. Validity of the Environmental Clearance will be seven years from the date of issuance of E.C, subject to inspection by SEIAA on annual basis and compliance of the conditions, subject to earlier review of E.C in case of violation or non-compliance of any of the conditions stipulated herein or genuine complaints from residents within the scrutiny area of the project.
13. Compliance of the conditions herein will be monitored by the State Environment Impact Assessment Authority or its agencies and also by the Regional Office of the Ministry of Environment and Forests, Govt. of India, Bangalore.
- i. Necessary assistance for entry and inspection by the concerned officials and staff should be provided by the project proponents.
 - ii. Instances of violation if any shall be reported to the District Collector, Kozhikode to take legal action under the Environment (Protection) Act 1986.

- iii. The given address for correspondence with the authorized signatory of the project is,
Sri. Ramakrishnan Prabhakaran, Deputy Managing Director, M/s Sobha Developers
Ltd., Sobha, Sarjapur-Marathahalli, Outer Ring Road, Devarabisanahalli, Bellandur
Post, Bangalore, Karnataka-560103

Sd/-
V.S.SENTHIL.I.A.S,
Member Secretary (SEIAA)

To,

Sri. Ramakrishnan Prabhakaran,
Deputy Managing Director,
M/s Sobha Developers Ltd.,
Sobha, Sarjapur-Marathahalli,
Outer Ring Road, Devarabisanahalli,
Bellandur Post, Bangalore,
Karnataka-560103

Copy to:

1. MoEF Regional Office, Southern Zone, Kendriya Sadan, 4th Floor, E&F Wing, II Block, Koramangala, Bangalore-560034
2. The Additional Chief Secretary to Government, Environment Department
3. The District Collector, Kozhikkode
4. The District Town Planner, Kozhikkode
5. The Tahsildhar, Kozhikkode Taluk, Kozhikkode
6. The Member Secretary, Kerala State Pollution Control Board
7. The Director, Dept. of Environment and Climate Change, Govt. of Kerala, Tvm-24
8. The Secretary, Feroke Panchayat, Kozhikkode
9. Chairman, SEIAA, Kerala
11. Website
12. Stock file
13. O/c



Forwarded/By Order

Rajendran

Administrator, SEIAA

GENERAL CONDITIONS *(for projects other than mining)*

- (i) Rain Water Harvesting capacity should be installed as per the prevailing provisions of KMBR / KPBR, unless otherwise specified elsewhere.
- (ii) Environment Monitoring Cell as agreed under the affidavit filed by the proponent should be formed and made functional.
- (iii) Suitable avenue trees should be planted along either side of the tarred road and open parking areas, if any, inclusive of approach road and internal roads.
- (iv) The project shall incorporate devices for solar energy generation and utilization to the maximum possible extent with the possibility of contributing the same to the national grid in future.
- (v) Safety measures should be implemented as per the Fire and Safety Regulations.
- (vi) STP should be installed and made functional as per KSPCB guidelines including that for solid waste management.
- (vii) The conditions specified in the Companies Act, 2013 should be observed for Corporate Social Responsibility.
- (viii) The proponent should plant trees at least 5 times of the loss that has been occurred while clearing the land for the project.
- (ix) Consent from Kerala State Pollution Control Board under Water and Air Act(s) should be obtained before initiating activity.
- (x) All other statutory clearances should be obtained, as applicable, by project proponents from the respective competent authorities including that for blasting and storage of explosives.
- (xi) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Authority.
- (xii) The Authority reserves the right to add additional safeguard measures subsequently, if found necessary, and to take action including revoking of the environment clearance under the provisions of the Environment (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
- (xiii) The stipulations by Statutory Authorities under different Acts and Notifications should be complied with, including the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and control of Pollution) act 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.
- (xiv) The environmental safeguards contained in the EIA Report should be implemented in letter and spirit.
- (xv) Provision should be made for supply of kerosene or cooking gas and pressure cooker to the labourers during construction phase.
- (xvi) Officials from the Regional of MOEF, Bangalore who would be monitoring the implementation of environmental safeguards should be given full co-operation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents submitted to MoEF should be forwarded to the CCF, Regional Office of MOEF, Bangalore.
- (xvii) These stipulations would be enforces among others under the provisions of Water (Prevention and Control of Pollution) Act, 1974, the Air (Prevention and Control Pollution) at 1981, the Environment (Protection) Act, 1986, the Public Liability (Insurance) Act, 1991 and EIA Notification, 2006.

- (xviii) Environmental Clearance is subject to final order of the Hon'ble Supreme Court of India in the matter of Goa Foundation Vs. Union of India in Writ Petition (Civil) No.460 of 2004 as may be applicable to this project.
- (xix) Any appeal against this Environmental Clearance shall lie with the National Environment Appellate Authority, if preferred, within a period of 30 days as prescribed under section 11 of the National Environment Appellate Act, 1997.
- (xx) The project proponent should advertise in at least two local newspapers widely circulated in the region, one of which (both the advertisement and the newspaper) shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the Department of Environment and Climate Change, Govt. of Kerala and may also be seen on the website of the Authority at www.seiaakerala.org. The advertisement should be made within 10 days from the date of receipt of the Clearance letter and a copy of the same signed in all pages should be forwarded to the office of this Authority as confirmation.
- (xxi) A copy of the clearance letter shall be sent by the proponent to concerned GramaPanchayat/ District Panchayat/ Municipality/Corporation/Urban Local Body and also to the Local NGO, if any, from whom suggestions / representations, if any, were received while processing the proposal. The Environmental Clearance shall also be put on the website of the company by the proponent.
- (xxii) The proponent shall submit half yearly reports on the status of compliance of the stipulated EC conditions including results of monitored data **(both in hard copies as well as by e-mail)** and 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 respective Regional Office of MoEF, Govt. of India and also to the Directorate of Environment and Climate Change, Govt. of Kerala.
- (xxiii) The details of Environmental Clearance should be prominently displayed in a metallic board of 3 ft x 3 ft with green background and yellow letters of Times New Roman font of size of not less than 40.
- (xxiv) The proponent should provide notarized affidavit *(indicating the number and date of Environmental Clearance proceedings)* that all the conditions stipulated in the EC shall be scrupulously followed.

SPECIFIC CONDITIONS

I. Construction Phase

- i. "Consent for Establishment" shall be obtained from Kerala State Pollution Control Board under Air and Water Act and a copy shall be submitted to the Ministry before start of any construction work at the site.
- ii. All required sanitary and hygienic measures should be in place before starting construction activities and to be maintained throughout the construction phase.
- iii. A First Aid Room will be provided in the project both during construction and operation of the project.
- iv. Adequate drinking water and sanitary facilities should be provided for construction workers at the site, Provision should be made for mobile toilets. The safe disposal of wastewater and solid wastes generated during the construction phase should be ensured.
- v. All the topsoil excavated during construction activities should be stored for use in horticulture/landscape development within the project site.

- vi. Disposal of muck during construction phase should not create any adverse effect on the neighbouring communities and be disposed taking the necessary precautions for general safety and health aspects of people, only in approved sites with the approval of competent authority.
- vii. Soil and ground water samples will be tested to ascertain that there is no threat to ground water quality by leaching of heavy metals and other toxic contaminants.
- viii. Construction spoils, including bituminous material and other hazardous materials, must not be allowed to contaminate watercourses and the dump sites for such material must be secured so that they should not leach into the ground water.
- ix. Any hazardous waste generated during construction phase, should be disposed off as per applicable rules and norms with necessary approval of the Kerala State Pollution Control Board.
- x. The diesel generator sets to be during construction phase should be low sulphur diesel type and should conform to Environment (Protection) Rules prescribed for air and noise emission standards.
- xi. The diesel required for operating 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 material to the site should be in good condition and should have a pollution check certificate and should conform to the applicable air and noise emission standards and should be operated only during non-peak hours.
- xiii. Ambient noise levels should conform to residential standards both during day and night. Incremental pollution loads on the ambient air and noise quality should be closely monitored during construction phase. Adequate measures should be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB/KSPCB.
- xiv. Fly ash should be used as building material in construction as per the provisions of Fly Ash Notification of September, 1999 and amended as on 27th August 2003. (The above condition is applicable Power Stations).
- xv. Ready mixed concrete must be used in building construction.
- xvi. Storm water control and its re-use per CGWB and BIS standards for various applications.
- xvii. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
- xviii. Permission to draw ground shall be obtained from the Computer Authority prior to construction/operation of the project.
- xix. Separation of grey and black water should be done by the use of dual plumbing line for separation of grey and black water.
- xx. Fixtures for showers, toilet flushing and drinking should be of low flow either by use of aerators or pressure reducing devices or sensor based control.
- xxi. Use of glass may be reduced by upto 40% to reduce the electricity consumption and load on airconditioning. If necessary, use high quality double glass with special reflective coating in windows.
- xxii. Roof should meet prespective requirement as per Energy Conservation Building Code by using appropriate thermal insulation material to fulfil requirement.
- xxiii. Opaque wall should meet perspective requirement as per energy Conservation Building Code which is proposed to be mandatory for all airconditioned spaces while it is aspirational for non-airconditioned spaces by use of appropriate thermal insulation material to fulfil requirement.

- xxiv. The approval of the competent authority shall be obtained for structural safety of the buildings due to earthquake, adequacy of fire fighting equipments, etc. as per National, Building Code including protection measures from lightening etc.
- xxv. Regular supervision of the above and other measures for monitoring should be in place all through the construction phase, so as to avoid disturbance to the surroundings.
- xxvi. Under the provisions of Environment (Protection) Act, 1986, legal action shall be initiated against the project proponent if it was found that construction of the project has been started without obtaining environmental clearance.

II. Operation Phase

- i. The installation of the Sewage Treatment Plant (STP) should be certified by an independent expert and a report in this regard should be submitted to the Ministry 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 decentralised treatment should be done. Discharge of unused treated effluent shall conform to the norms and standards of the Kerala State Pollution Control Board. Necessary measures should be made to mitigate the odour problem from STP.
- ii. The solid waste generated should be properly collected and segregated. Wet garbage should be composted and dry/inert solid waste should be disposed off to the approved sites for land filling after recovering recyclable material.
- iii. Diesel power generating sets proposed as source of back up power for elevators and common area illumination 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. Use low sulphur diesel. The location of the DG sets may be decided with in consultation with Kerala State pollution Control Board.
- iv. Noise should be controlled to ensure that it does not exceed the prescribed standards. During night time the noise levels measured at the boundary of the building shall be restricted to the permissible levels to comply with the prevalent regulations.
- v. The green belt of the adequate width and density preferably with local species along the periphery of the plot shall be raised so as to provide protection against particulates and noise.
- vi. Weep holes in the compound walls shall be provided to ensure natural drainage of rain water in the catchment area during the monsoon period.
- vii. Rain water harvesting for roof run-off and surface run-off, as plan submitted should be implemented. Before recharging the surface run off, pre-treatment must be done to remove suspended matter, oil and grease. The borewell for rainwater recharging should be kept at least 5 mts. above the highest ground water table.
- viii. The ground water level and its quality should be monitored regularly in consultation with Central Ground Water Authority.
- ix. Traffic congestion near the entry and exit points from the roads adjoining the purposed project site must be avoided. Parking should be fully internalized and no public space should be utilized.
- x. A Report on the energy conservation measures conforming to energy conservation norms finalise by Bureau of Energy Efficiency should be prepared incorporating details about building materials & technology, R & U Factors etc and submit to the Ministry in three months time.

- xi. Energy conservation measures like installation of CFLs/TFLs for the lighting the areas outside the building should be integral part of the project design and should be in place before project commissioning. Use 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.
- xii. Adequate measures should be taken to prevent odour problem from solid waste processing plant and STP.
- xiii. The building should have adequate distance between them to allow movement of fresh air and passage of natural light, air and ventilation.

III Post Operational Phase

Environmental Monitoring Committee with defined functions and responsibility should foresee post operational environmental problems e.g. development of slums near the site, increase in traffic congestion, power failure, increase in noise level, natural calamities, and increase in suspended particulate matter etc. solve the problem immediately with mitigation measures

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