

F. No.21-363/2017-IA-III  
Government of India  
Ministry of Environment, Forest and Climate Change  
(IA.III Section)

Indira Paryavaran Bhawan,  
Jor Bagh Road, New Delhi - 3

Date: 23<sup>rd</sup> April, 2018

To,

**Shri Sudip Kumar, Managing Director**  
**M/s Saakaar Constructions Pvt Ltd.,**  
5<sup>th</sup> Floor, Sone Bhawan, Beer Chand Patel Marg,  
R Block, Patna- 800001.

Phone: 9431024229

Email: sudip@saakar.com

**Subject: Proposed Group Housing Aqua City Phase 1 at Danapur Patna, Bihar by M/s Saakaar Constructions Pvt Ltd.- Environmental Clearance - reg.**

Sir,

This has reference to your online proposal No. IA/BR/NCP/72364/2017 dated 18<sup>th</sup> January, 2018, submitted to this Ministry for grant of Environmental Clearance (EC) in terms of the provisions of the Environment Impact Assessment (EIA) Notification, 2006 under the Environment (Protection) Act, 1986.

2. The proposal for grant of environmental clearance to the project 'Proposed Group Housing Aqua City Phase 1 at Danapur Patna, Bihar promoted by M/s Saakaar Constructions Pvt Ltd., was considered by the Expert Appraisal Committee (Infra-2) in its 29<sup>th</sup> meeting held on 20<sup>th</sup> March, 2018. The details of the project, as per the documents submitted by the project proponent, and also as informed during the above meeting, are as under:-

- (i) M/s Saakaar Constructions Pvt Ltd proposed Group Housing Aqua City Phase-1 at Danapur Patna, Bihar on a total plot area of 50,216.89 sqm and total built up area is 2,37,003.90 sqm.
- (ii) ToR was granted to the project by MoEF&CC vide letter No. 21-363/2017-IA-III dated 23.02.2018.
- (iii) Proposed project is construction of multi-storeyed group housing project. A total of 7,282 sqm is to be developed as landscape area. The project envisages construction of 23(21+1+1) blocks i.e. 21 Residential Towers + 1 Commercial Project + 1 Temple of 2B+G/PO+21 floors. Total population of the proposed project will be 9889 which includes the population of 7775 residents & 2114 floating.
- (iv) The total water requirement for the project has been estimated to be 770 KLD. This includes domestic water requirement flushing, Car wash/ Street Wash and landscaping. The total fresh water requirement is 544 KLD which includes domestic water requirement. Domestic water requirement will be met through municipal/ground water. The water requirement for flushing, Car wash/ street wash and landscaping will be met through treated water from STP.

- (v) Total waste water generated is 606 KLD which will be treated in onsite STP of 730 KLD. The 226 KLD treated water will be recycled and re-used for flushing, Car Wash/ Street Wash and landscaping & excess treated water of 258 KLD will be used in nearby construction sites/ discharge into Public Sewer.
- (vi) The total electrical load demand has been estimated to be 8810 KVA for the proposed project. The source of power will be from Patna State Electricity Board (PSEB).
- (vii) In case of power failure, DG sets of total capacity of 4200 KVA (7X600) for the proposed project will be provided as power back-up.
- (viii) The domestic solid waste will be generated by the residents of the hospital and people coming to community area will pertain to the Bio-degradable & Non-biodegradable Waste. It is estimated that maximum solid waste generation would be about 4.21 TPD for the proposed project and 480.3 kg of sludge will be generated from the proposed project.
- (ix) Parking facility for four wheelers is proposed to be provided (according to local norms).
- (x) Sanjay Gandhi Biological Park is 7.15 KM/East from the project site.
- (xi) No Court case is pending against the project.
- (xii) Investment Cost of the project is Rs. 270 Crores.
- (xiii) Employment Potential: During operational phase of the project, persons will get employment opportunities as staff for management, maintenance and security. As an estimate, during operation phase, persons will get marginal employment opportunities, who would work as domestic helpers.
- (xiv) Benefit of the Project: This will help in improving the quality of life of economically weaker sections of the local area.

3. The project/activity is covered under category 'B' of item 8(b) 'Townships and Area Development Projects' of the Schedule to the EIA Notification, 2006, and requires appraisal at SEIAA/SEAC, Bihar. However, due to non-availability of SEIAA/SEAC in Bihar, proposal considered at Central level by EAC (Infra-2) in the Ministry.

4. The EAC, in its meeting held on 20<sup>th</sup> March, 2018, after detailed deliberations on the proposal, has recommended for grant of Environmental Clearance to the project. As per recommendations of the EAC, the Ministry of Environment, Forest and Climate Change hereby accords Environmental Clearance to the project Proposed Group Housing Aqua City Phase 1 at Danapur Patna, Bihar promoted by M/s Saakaar Constructions Pvt Ltd., under the provisions of the EIA Notification, 2006 and amendments/circulars issued thereon, and subject to the specific and general conditions as under:-

#### **PART A – SPECIFIC CONDITIONS:**

- (i) The project proponent shall obtain all necessary clearance/ permission from all relevant agencies including town planning authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.

- (ii) Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board as required under the Air (Prevention and Control of Pollution) Act, 1981 and the Water (Prevention and Control of Pollution) Act, 1974.
- (iii) NOC/necessary approval from Sanjay Gandhi Biological Park Authority shall be obtained before commencement of work
- (iv) The approval of the Competent Authority shall be obtained for structural safety of buildings due to earthquakes, adequacy of firefighting equipment etc as per National Building Code including protection measures from lightning etc.

#### **Topography and natural Drainage**

- (v) The natural drain system should be maintained for ensuring unrestricted flow of water. No construction shall be allowed to obstruct the natural drainage through the site, on wetland and water bodies. Check dams, bio-swales, landscape, and other sustainable urban drainage systems (SUDS) are allowed for maintaining the drainage pattern and to harvest rain water. Buildings shall be designed to follow the natural topography as much as possible. Minimum cutting and filling should be done.

#### **Water requirement, Conservation, rain water Harvesting, and Ground Water Recharge**

- (vi) As proposed, fresh water requirement from Municipal/Ground water shall not exceed 544 KLD.
- (vii) At least 20% of the open spaces as required by the local building bye-laws shall be pervious. Use of Grass pavers, paver blocks with at least 50% opening, landscape etc. would be considered as pervious surface.
- (viii) Installation of dual pipe plumbing for supplying fresh water for drinking, cooking and bathing etc and other for supply of recycled water for flushing, landscape irrigation, car washing, thermal cooling, conditioning etc. shall be done.
- (ix) Use of water saving devices/ fixtures (viz. low flow flushing systems; use of low flow faucets tap aerators etc) for water conservation shall be incorporated in the building plan.
- (x) A certificate shall be obtained from the local body supplying water, specifying the total annual water availability with the local authority, the quantity of water already committed the quantity of water allotted to the project under consideration and the balance water available. This should be specified separately for ground water and surface water sources, ensuring that there is no impact on other users.
- (xi) Separation of grey and black water should be done by the use of dual plumbing system. In case of single stack system separate recirculation lines for flushing by giving dual plumbing system be done.
- (xii) Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
- (xiii) The local bye-law provisions on rain water harvesting should be followed. If local bye-law provision is not available, adequate provision for storage and recharge should be followed as per the Ministry of Urban Development Model

Building Byelaws, 2016. As proposed 15 nos. of rain water harvesting recharge pts shall be provided.

- (xiv) Any ground water dewatering should be properly managed and shall conform to the approvals and the guidelines of the CGWA in the matter. Formal approval shall be taken from the CGWA for any ground water abstraction or dewatering.
- (xv) The quantity of fresh water usage, water recycling and rainwater harvesting shall be measured and recorded to monitor the water balance as projected by the project proponent. The record shall be submitted to the Regional Office, MoEF&CC along with six monthly Monitoring reports.

### **Solid Waste Management**

- (xvi) The provisions of the Solid Waste (Management) Rules, 2016, e-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
- (xvii) Disposal of muck during construction phase shall not create any adverse effect on the neighboring 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.
- (xviii) Separate wet and dry bins must be provided in each unit and at the ground level for facilitating segregation of waste. Solid waste shall be segregated into wet garbage and inert materials. Wet garbage shall be composted in Organic Waste Converter. As proposed 200 sqm area shall be provided for solid waste management within the premises which will include area for segregation, composting. The inert waste from group housing project will be sent to dumping site.
- (xix) Any hazardous waste generated during construction phase, shall be disposed off as per applicable rules and norms with necessary approvals of the State Pollution Control Board.
- (xx) A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the M.S.W. generated from project shall be obtained

### **Sewage Treatment Plant**

- (xxi) Sewage shall be treated in the STP based on MBBR Technology with tertiary treatment i.e. Ultra Filtration. The treated effluent from STP shall be recycled/re-used for flushing, gardening, car and street washing and excess treated water shall be used for nearby construction site/discharge to municipal sewer with prior permission.
- (xxii) No sewage or untreated effluent water would be discharged through storm water drains.
- (xxiii) The installation of the Sewage Treatment Plant (STP) shall be certified by an independent expert and a report in this regard shall be submitted to the Ministry before the project is commissioned for operation. Periodical monitoring of water quality of treated sewage shall be conducted. Necessary measures should be made to mitigate the odour problem from STP.

- (xxiv) Sludge from the onsite sewage treatment, including septic tanks, shall be collected, conveyed and disposed as per the Ministry of Urban Development, Central Public Health and Environmental Engineering Organization (CPHEEO) Manual on Sewerage and Sewage Treatment Systems, 2013.
- (xxv) The project/activity shall be dove tailed with the sewerage collection and disposal facilities to be created by the Municipal Corporation/Competent State Authorities so that all sewage generated in the construction and operation phases is disposed accordingly. Necessary permission from the Municipal Authority shall be obtained

## **Energy**

- (xxvi) A certificate of adequacy of available power from the agency supplying power to the project along with the load allowed for the project shall be submitted.
- (xxvii) Compliance with the Energy Conservation Building Code (ECBC) of Bureau of Energy Efficiency shall be ensured. Buildings in the States which have notified their own ECBC, shall comply with the State ECBC. Outdoor and common area lighting shall be LED. Concept of passive solar design that minimize energy consumption in buildings by using design elements, such as building orientation, landscaping, efficient building envelope, appropriate fenestration, increased day lighting design and thermal mass etc. shall be incorporated in the building design. Wall, window, and roof u-values shall be as per ECBC specifications.
- (xxviii) Energy conservation measures like installation of CFLs/ LED for the lighting the area outside the building should be integral part of the project design and should be in place before project commissioning. Used CFLs, TFL and LED shall be properly collected and disposed off/sent for recycling as per the prevailing guidelines/rules of the regulatory authority to avoid mercury contamination.
- (xxix) Solar, wind or other Renewable Energy shall be installed to meet electricity generation equivalent to 1% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher.
- (xxx) Solar based electric power shall be provided to each unit for at least two bulbs/light and one fan. As proposed, central lighting and street lighting shall also be based on solar power.
- (xxxi) Solar power shall be used for lighting in the apartment to reduce the power load on grid. Separate electric meter shall be installed for solar power. Solar water heating shall be provided to meet 20% of the hot water demand of the commercial and institutional building or as per the requirement of the local building bye-laws, whichever is higher. Residential buildings are also recommended to meet its hot water demand from solar water heaters, as far as possible.
- (xxxii) Use of environment friendly materials in bricks, blocks and other construction materials, shall be required for at least 20% of the construction material quantity. These include Fly Ash bricks, hollow bricks, AACs, Fly Ash Lime Gypsum blocks, Compressed earth blocks, and other environment friendly materials. Fly ash should be used as building material in the construction as per the provision of Fly Ash Notification of September, 1999 and amended as

on 27<sup>th</sup> August, 2003 and 25<sup>th</sup> January, 2016. Ready mixed concrete must be used in building construction.

### **Air Quality and Noise**

- (xxxiii) A management plan shall be drawn up and implemented to contain the current exceedance in ambient air quality at the site
- (xxxiv) Construction site shall be adequately barricaded before the construction begins. Dust, smoke & other air pollution prevention measures shall be provided for the building as well as the site. These measures shall include screens for the building under construction, continuous dust/ wind breaking walls all around the site (at least 3 meter height). Plastic/tarpaulin sheet covers shall be provided for vehicles bringing in sand, cement, murrum and other construction materials prone to causing dust pollution at the site as well as taking out debris from the site. Sand, murrum, loose soil, cement, stored on site shall be covered adequately so as to prevent dust pollution. Wet jet shall be provided for grinding and stone cutting. Unpaved surfaces and loose soil shall be adequately sprinkled with water to suppress dust.
- (xxxv) All construction and demolition debris shall be stored at the site (and not dumped on the roads or open spaces outside) before they are properly disposed. All demolition and construction waste shall be managed as per the provisions of the Construction and Demolition Waste Rules, 2016. All workers working at the construction site and involved in loading, unloading, carriage of construction material and construction debris or working in any area with dust pollution shall be provided with dust mask.
- (xxxvi) The diesel generator sets to be used during construction phase shall be low sulphur diesel type and shall conform to Environmental (Protection) prescribed for air and noise emission standards.
- (xxxvii) The gaseous emissions from DG set shall be dispersed through adequate stack height as per CPCB standards. Acoustic enclosure shall be provided to the DG sets to mitigate the noise pollution. Low sulphur diesel shall be used. The location of the DG set and exhaust pipe height shall be as per the provisions of the Central Pollution Control Board (CPCB) norms.
- (xxxviii) For indoor air quality the ventilation provisions as per National Building Code of India.
- (xxxix) Ambient noise levels shall conform to Commercial standards both during day and night as per Noise Pollution (Control and Regulation) Rules, 2000. Incremental pollution loads on the ambient air and noise quality shall be closely monitored during construction phase. Adequate measures shall be made to reduce ambient air and noise level during construction phase, so as to conform to the stipulated standards by CPCB / SPCB.

### **Green Cover**

- (xl) A minimum of 1 tree for every 80 sqm of land should be planted and maintained. The existing trees will be counted for this purpose. Preference should be given to planting native species. Where the trees need to be cut, compensatory plantation in the ratio of 1:3 (i.e. planting of 3 trees for every 1 tree that is cut) shall be done and maintained. As proposed 7282 sqm area shall be provided for green belt development.

## **Top Soil preservation and Reuse**

- (xli) Topsoil should be stripped to a depth of 20 cm from the areas proposed for buildings, roads, paved areas, and external services. It should be stockpiled appropriately in designated areas and reapplied during plantation of the proposed vegetation on site.

## **Transport**

- (xlii) A comprehensive mobility plan, as per MoUD best practices guidelines (URDPFI), shall be prepared to include motorized, non-motorized, public, and private networks. Road should be designed with due consideration for environment, and safety of users. The road system can be designed with these basic criteria.
- Hierarchy of roads with proper segregation of vehicular and pedestrian traffic.
  - Traffic calming measures
  - Proper design of entry and exit points.
  - Parking norms as per local regulation
- (xliii) A detailed traffic management and traffic decongestion plan shall be drawn up to ensure that the current level of service of the roads within a 02 kms radius of the project is maintained and improved upon after the implementation of the project. This plan should be based on cumulative impact of all development and increased habitation being carried out or proposed to be carried out by the project or other agencies in this 02 Kms radius of the site in different scenarios of space and time and the traffic management plan shall be duly validated and certified by the State Urban Development department and the P.W.D./ competent authority for road augmentation and shall also have their consent to the implementation of components of the plan which involve the participation of these departments.
- (xliv) 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 applicable air and noise emission standards be operated only during non-peak hours.
- (xlv) A dedicated entry/exit and parking shall be provided for the commercial activities

## **Environment management Plan**

- (xlvi) An environmental management plan (EMP) as prepared and submitted along with EIA Report shall be implemented to ensure compliance with the environmental conditions specified above. A dedicated Environment Monitoring Cell with defined functions and responsibility shall be put in place to implement the EMP. The environmental cell shall ensure that the environment infrastructure like Sewage Treatment Plant, Landscaping, Rain Water Harvesting, Energy efficiency and conservation, water efficiency and conservation, solid waste management, renewable energy etc. are kept operational and meet the required standards. The environmental cell shall also keep the record of environment monitoring and those related to the environment infrastructure.

## **Others**

- (xlvii) Provisions shall be made for the housing of construction labour within the site with all necessary infrastructure and facilities such as fuel for cooking, mobile toilets, mobile STP, safe drinking water, medical health care, creche etc. The housing may be in the form of temporary structures to be removed after the completion of the project.
- (xlviii) A First Aid Room shall be provided in the project both during construction and operations of the project.
- (xlix) The company shall draw up and implement corporate social Responsibility plan as per the Company's Act of 2013.

## **PART B - GENERAL CONDITIONS**

- (i) A copy of the environmental clearance letter shall also be displayed on the website of the concerned State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tehsildar's office for 30 days.
- (ii) The funds earmarked for environmental protection measures shall be kept in separate account and shall not be diverted for other purpose. Year-wise expenditure shall be reported to this Ministry and its concerned Regional Office.
- (iii) Officials from the Regional Office of MoEF&CC, Ranchi who would be monitoring the implementation of environmental safeguards should be given full cooperation, facilities and documents/data by the project proponents during their inspection. A complete set of all the documents submitted to MoEF&CC shall be forwarded to the APCCF, Regional Office of MoEF&CC, Ranchi.
- (iv) In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by this Ministry.
- (v) The Ministry 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 Environmental (Protection) Act, 1986, to ensure effective implementation of the suggested safeguard measures in a time bound and satisfactory manner.
- (vi) All other statutory clearances such as the approvals for storage of diesel from Chief Controller of Explosives, Fire Department, Civil Aviation Department, the Forest Conservation Act, 1980 and the Wildlife (Protection) Act, 1972 etc. shall be obtained, as applicable by project proponents from the respective competent authorities.
- (vii) These stipulations would be enforced among others under the provisions of the 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 the EIA Notification, 2006.
- (viii) The project proponent shall advertise in at least two local Newspapers widely circulated in the region, one of which shall be in the vernacular language informing that the project has been accorded Environmental Clearance and copies of clearance letters are available with the State Pollution Control Board and may also be seen on the website of the Ministry of Environment, Forest and Climate Change at <http://www.envfor.nic.in>. The advertisement shall be

made within Seven days from the date of receipt of the Clearance letter and a copy of the same shall be forwarded to the Regional Office of this Ministry at Ranchi.

- (ix) Any appeal against this clearance shall lie with the National Green Tribunal, if preferred, within a period of 30 days as prescribed under Section 16 of the National Green Tribunal Act, 2010.
  - (x) A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, Zilla Parisad/Municipal Corporation, Urban Local Body and the Local NGO, if any, from whom suggestions/ representations, if any, were received while processing the proposal. The clearance letter shall also be put on the website of the company by the proponent.
  - (xi) 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&CC, the respective Zonal Office of CPCB and the SPCB. The criteria pollutant levels namely; SPM, RSPM, SO<sub>2</sub>, NO<sub>x</sub> (ambient levels as well as stack emissions) or critical sectoral parameters, indicated for the project shall be monitored and displayed at a convenient location near the main gate of the company in the public domain.
  - (xii) The environmental statement for each financial year ending 31<sup>st</sup> 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 along with the status of compliance of EC conditions and shall also be sent to the respective Regional Offices of MoEF&CC by e-mail.
5. This issues with the approval of the Competent Authority.



**(Kushal Vashist)**  
**Director**

**Copy to:**

- 1) The Principal Secretary, Environment and Forest Department, Government of Bihar, Secretariat, Patna-800015.
- 2) Addl. Principal Chief Conservator of Forests (C), Ministry of Environment, Forests and Climate Change, Regional Office (ECZ, Bungalow No. A-2, Shyamali Colony, Ranchi-834002.
- 3) The Chairman, Central Pollution Control Board Parivesh Bhavan, CBD-cum-Office Complex, East Arjun Nagar, New Delhi - 110 032.
- 4) Member Secretary, Bihar Pollution Control Board, Bihar State Pollution Control Board, Parivesh Bhawan, Plot No. NS-B/2 Paliputra Industrial Area, Patliputra, Patna (Bihar) - 800 023, E-MAIL - bspcb@yahoo.com.
- 5) Monitoring Cell, MoEF&CC, Indira Paryavaran Bhavan, New Delhi.
- 6) Guard File/ Record File/ Notice Board.



**(Kushal Vashist)**  
**Director**