



Government of India  
Ministry of Environment, Forest and Climate Change  
(Issued by the State Environment Impact Assessment  
Authority(SEIAA), Orissa)

To,

The Director  
M/S SHUVAM CONSTRUCTION PVT LTD  
Plot No.564, Vivekananda Marg, Nageswar Tangi, Old Town,  
Bhubaneswar, Odisha. -751002

**Subject:** Grant of Environmental Clearance (EC) to the proposed Project Activity  
under the provision of EIA Notification 2006-regarding

Sir/Madam,

This is in reference to your application for Environmental Clearance (EC)  
in respect of project submitted to the SEIAA vide proposal number  
SIA/OR/MIS/227993/2021 dated 07 Oct 2021. The particulars of the environmental  
clearance granted to the project are as below.

- |   |   |
|---|---|
| 1. EC Identification No.                      | EC22B038OR134872  |
| 2. File No.                                   | 227993/54-MIS/09-2021   |
| 3. Project Type                               | New   |
| 4. Category                                   | B2  |
| 5. Project/Activity including<br>Schedule No. | 8(a) Building and Construction projects   |
| 6. Name of Project                            | 2B+G+14 high rise residential apartment<br>building in Mouza- Ghatikia,<br>Bhubaneswar, Dist- Khurda, Odisha. |
| 7. Name of Company/Organization               | M/S SHUVAM CONSTRUCTION PVT<br>LTD  |
| 8. Location of Project                        | Orissa  |
| 9. TOR Date                                   | N/A   |

The project details along with terms and conditions are appended herewith from page  
no 2 onwards.

Date: 22/07/2022

(e-signed)  
Sri Susanta Nanda  
Member Secretary  
SEIAA - (Orissa)

*Note: A valid environmental clearance shall be one that has EC identification  
number & E-Sign generated from PARIVESH. Please quote identification  
number in all future correspondence.*

*This is a computer generated cover page.*

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and Virtuous Environmental Single-Window Hub)





# STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY ODISHA, BHUBANESWAR

(Constituted under the EP Act, 1986 and EIA Notification, 2006 by the MoEF & CC, Govt. of India)  
5RF-2/1, Unit-IX, Bhubaneswar-751022, Tel: 0674-3510075, E-mail-seiaaonssa@gmail.com

**SEIAA File No. 227993/54-MIS/09-2021**

Project: Application of M/s Shuvam Construction Pvt Ltd for Environment Clearance of Proposed Construction of Housing Project of 2B+G+14 High Rise 'Residential Apartment Building' Over a total Plot Area of 10,732.17 Sqmt with total Built Up Area of 56722.86 Sqmt. at Mouza- Ghatikia, Tahasil-Bhubaneswar, Dist-Khordha of Sri. Kantilal Patel (Director) - Environmental Clearance reg.

Ref: Your online application dated 07.10.2021 for issue of EC vide File No: SIA/OR/MIS/227993/2021

Sir,

This has reference to your online application seeking environmental clearance for the above mentioned project. The proposal falls under category "B" or activity 8 (a)' Building and Construction projects' in the schedule of EIA Notification, 2006 as amended from time to time. The proposal has been appraised on the basis of the documents enclosed with the application, such as Form-1, Form-IA, Conceptual Plan (EMP) and clarifications furnished to SEAC in response to their observations.

### **The Project Proposal in nutshell:**

1. This is a proposal of M/s Shuvam Construction Pvt Ltd for Environment Clearance of Proposed Construction of Housing Project of 2B+G+14 High Rise 'Residential Apartment Building' Over a total Plot Area of 10,732.17 Sqmt with total Built Up Area of 56722.86 Sqmt. at Mouza- Ghatikia, Tahasil-Bhubaneswar, Dist-Khordha filed by Sri. Kantilal Patel (Director).
2. M/s Shuvam Construction (P) Ltd proposed 2B+G+14 High Rise Residential Apartment Building project is 2.652 Acres/10732.17sqm. of land at Plot No.: 4016, 4023/ 9099, 4010/10999, 4010/ 9061, 3971, 3969, 4020, 4025, 4019, 4017, 4022, 4026, 4021, 4027, 4018, 4023, 3967/ 9599, 4024, 3967, 3968, 3970, 4011/9062, 4011, 4023/9086, 4010/10998, 4028, khata no-1678, 607, 988/958, 803, 720, 1101, 1678, 238, 1988/87, 1988/86, 535, 1228, 1332, 1123, 1139, 1988/957, Kissam - Gharabari, Mouza-Ghatika, Dist-Khordha. .

3. **Location and connectivity** - The proposed site is located at Ghatikia, Bhubaneswar, Dist-Khordha. The Geographical co-ordinate of the project site is Latitude - 20°16'15.78"N & Longitude - 85° 46'44.81"E. The site is easily accessible from NH-16 Road. The project site is well connected with Ghatikia main road and NH-16 is located at the distance of 0.3 Km & 1.4 km. The nearest Railway station is Bhubaneswar Railway Station at a distance of approximately 5.2 Km away from the project site. The nearest Airport is Biju Patnaik International Airport, Bhubaneswar which is at a distance of 5 Km from the project site. The site is located adjacent to the local landmarks, Kalinga Nagar, Shyampur etc. The site is coming under development plan of Bhubaneswar Development Authority.

4. The Building Area Statement of the Project.

Particular	Proposed	Permissible
Project Name	Proposed Housing Project (High Rise Residential Apartment Building Project)	
Plot Area	10,732.17 Sqm	--
Ground Coverage	3,053.12 Sqm (28.55%)	--
Total Built up Area	56,722.86 Sqm	--
Total FAR Area	44,996.50 Sqm	--
FAR	4.192	7.0
Maximum Height	50.93 meter	--
No. of recharge pit	14	--
Drive Way Width	7.5 meter	--
Parking Area	22,308.36 Sqm	13,498.95 Sqm (30 % of FAR Area)
Green Belt Area	2,641.18 Sqm (24.16 % of Plot area)	2,146.4 Sqm (20% of Plot area)
Power/Electricity Requirement & Sources	Total Power - 1482 KW Power from Solar – 78.5 KW TPCODL- 1403.5 KW	--
No. of DG sets	2 x 500 KVA	--
Fresh Water requirement & Sources	141 KLD Source: Ground Water	--
Sewage Treatment & Disposal	STP Capacity 200 KLD	--
Estimated Population- Residential, Floating/visitors	Residential Population: 1520 Nos. Floating Population: 152 Nos.	--

**Requirement for the Project:**

5. **Water requirement:** The total water requirement for the project is 212 KLD, which constitutes domestic water requirement as 141KLD & flushing water requirement as 71 KLD for the project. The PP has submitted that total fresh

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water requirement for the project will be around 141 KLD. Water will be sourced from ground water.

6. **Wastewater Generation & Treatment:** The PP has submitted that the project will generate approx. 180.16KLD (sewage load) of wastewater. The wastewater will be treated in an onsite STP of 200 KLD capacity. Out of which 171.16 KLD will be recycled within the project, for Flushing (70.7 KLD), Landscaping (10.5KLD), Dust Suppression (15KLD), Vehicles Washing (8.6KLD) & 66.36KLD of surplus water will be discharged to external sewer during non-monsoon period and 76.86 KLD of surplus water will be discharged to external sewer during monsoon period.
7. **Power requirement:** The power supply will be supplied by State Electricity Board. The requirement load for the project will be approx. 1482 KVA. In order to meet emergency power requirements during the grid failure, there is provision of DG set for power back up in the project. Hence, DG set having 500 KVA (2 Nos.) capacities for power back up will be provided in the Residential Housing Project.
8. **Rain Water Harvesting:** The project proponent has submitted that rain water will be harvested through 05 nos. of recharging pits.
9. **Parking Requirement:** Total parking area of 22308.36 Sqmt has been provided in the project.
10. **Firefighting Installations:** Firefighting system will be installed as per recommendation of the Firefighting Officer, Odisha and as per the guideline of NBC (part-4).
11. **Green Belt Development:** As proposed, out of the total area, green belt will be developed over an area of 2641.18 Sqmt (24.16 % of the plot area) by using the local species like Neem, Karang, Golden Champa, Bakul, Bela, mango, Bottle Palm, Cheekoo, Guava etc.
12. **Solid Waste Management:** The solid waste generated from the project shall be approx. 796.8kg per day. The generated solid waste from the residential complex will be segregated as biodegradable and non-biodegradable. This will be collected in separate coloured bins. Proper waste management practices will be adopted during the collection, storing and disposal of the generated solid waste.
13. The total estimated population of the project will be 1672 persons (including Residents(1520) & visitors(152)).
14. The estimated project cost is Rs.95 Crores & Environment Management Cost is Rs.204 lakhs.
15. The project proponent along with the consultant M/s Centre for Envotech & Management Consultancy Pvt. Ltd. Bhubaneswar made a detailed presentation on the proposal on 14.12.2021.
16. The sub-Committee of SEAC visited the project site on dated 25.03.2022.
17. The project proponent furnished additional information / documents on the project to SEAC on 20.05.2022.

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18. The SEAC considered the proposal for EC on 21.05.2022 and recommended for grant of Environmental Clearance for the project valid for a period of 10 years, stipulating various conditions.

The State Environment Impact Assessment Authority (SEIAA), Odisha after considering the appraisal report and recommendations of SEAC, hereby accords Environmental Clearance to the project valid for a period of 10 years under the provisions of EIA Notification 2006 and subsequent amendments thereto, subject to strict compliance of all conditions stipulated below.

Detailed half yearly compliance report of the following conditions has to be submitted by the project proponent to SEIAA on the 1<sup>st</sup> June and 1<sup>st</sup> December each year.

**Stipulated Conditions:**

**Part 'A' : General Conditions: -**

1. The project proponent shall ensure that the guidelines for building and construction projects issued vide MoEF & CC's OM No.19-2/2013-IA.III dated 9<sup>th</sup> June, 2015, are followed to ensure sustainable environmental management.
2. The approval of the Competent Authority shall be obtained in regard to structural safety of buildings against earthquake, adequacy of fire fighting equipment as per National Building Code including protection measures from lightning.
3. The project proponent shall obtain all necessary clearance/ permission from all concerned agencies including Bhubaneswar Development authority before commencement of work. All the construction shall be done in accordance with the local building byelaws.
4. Consent to Establish/Operate for the project shall be obtained from the State Pollution Control Board.
5. 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.
6. A First Aid Room shall be provided in the project both during construction and operations of the project.
7. The company shall draw up and implement corporate social Responsibility plan as per the Companies Act of 2013.
8. As per the MoEF&CC, Govt. of India Office Memorandum dated 30.09.2020, the project proponent is required to prepare and implement Corporate

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Environment Responsibility (CER) Plan. Appropriate funds shall be earmarked for the activities such as infrastructure creation for drinking water supply, sanitation, health, skill development, cross drains, solid waste management facilities, rain water harvesting, soil moisture conservation works, avenue plantation, etc. The activities proposed under CER shall be restricted to the affected area around the project. The activities proposed for CER shall be implemented and to be completed within three years and annual report of implementation of the same along with documentary proof viz. photographs, purchase documents, latitude & longitude of infrastructure developed & road constructed needs to be submitted to Regional Office MoEF&CC annually along with audited statement and to the District Collector. It should be posted on the website of the project proponent.

9. A copy of this Environmental Clearance letter shall be displayed on the website of the Odisha State Pollution Control Board. The EC letter shall also be displayed at the Regional Office, District Industries centre and Collector's Office/ Tahsildar's office for 30 days.
10. Officials from the Regional Office of MoEF&CC, Bhubaneswar/SPCB, Odisha 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.
11. In the case of any change(s) in the scope of the project, the project would require a fresh appraisal by the SEIAA, Odisha.
12. The SEIAA, Odisha 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.
13. 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.
14. All EC condition 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.
15. 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

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and may also be seen on the website of the SEIAA, Odisha. 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 MoEF&CC, Bhubaneswar.

16. A copy of the clearance letter shall be sent by the proponent to concerned Panchayat, ZillaParisad / 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.
17. The proponent shall submit/upload six monthly reports on the status of compliance of the stipulated Environmental Clearance 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, Govt. of India, 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.
18. 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 Odisha 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, Govt. of India by E-mail.

**Part 'B' : Specific Conditions:**

1. The project shall adopt & implement 'Zero discharge' principle to the extent feasible, and shall maximize recycling and reuse of treated waste water generated in the project. All waste water generated shall be treated in the STP and the treated waste water shall be recycled and reused within the project so as to minimize extraction of ground water. Also ground water recharge by surplus waste water in the project plot area shall be maximized. The PP shall formulate and submit a report within two months on the final discharge point of all treated waste water after recycling and use in ground water recharge showing the points of disposal/reuse/recycling in the project. For discharge of any quantity of treated waste water to outside the project area premises, the exact location of drain, etc. to which such discharge will be made and permission of competent authority allowing such discharge have to be reported. The layout of pipe lines, etc to take the waste water to the approved discharge point has to be elaborately depicted on map and submitted. The EC is liable to be revoked if such report is not submitted within the said time period".

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2. The solid waste shall be duly segregated into biodegradable and non-biodegradable components and handled in separate areas earmarked for segregation of solid waste, as per Solid Waste Management Rules, 2016. The biodegradable waste generated shall be utilized through the Organic Waste Converter to be installed at the project site. Solid waste disposal shall be by micro composting of all bio degradable waste inside the premises. The inert waste (bio-non degradable components like plastics) shall be disposed off as per norms only at authorized site. The mode of disposal of all such waste at any approved site shall be reported, even if it is handed over to any authorised vendor. Construction & Demolition (C&D) waste from the project (debris) shall be segregated and managed as per C&D Waste Management Rules, 2016 and the detailed mode of disposal to the final disposal point shall also be reported. The PP shall formulate a concrete implementation plan and submit a report showing on the layout plan of the final disposal point of biodegradable waste, non-biodegradable waste and debris generated during construction. These reports have to be submitted online to SEIAA within a period of two months. The EC is likely to be revoked if such report is not submitted within the said time period.
3. The Proponent before implementation of the project shall convert the land to Gharabari and shall take the ownership of the land if not already taken.
4. The Proponent shall obtain permission/NOC from Executive Engg (PHD) and / or from the appropriate authority for disposal of excess STP treated water to the nearest drain without which the Proponent will not start construction work. Also, in case of the connecting drain passing through others land (Govt. or Private land), the Proponent shall obtain the permission and possession as the case may be.
5. The proponent shall use solar energy at least of 5% of total power requirement as proposed.
6. Trees located within the project area shall be transplanted to alongside the boundary green development area.
7. To reduce discharge of treated water to open drain, the proponent shall use more water for increased number of trees proposed to be planted in the green belt area & shall also utilize this treated water for car washing, floor washing to minimize the surplus discharge to drain.
8. As proposed, 3 tier green belt/tree cover over minimum 20% of the land area should be maintained meticulously.
9. The proponent shall implement the Pollution Control Measures and safeguards as proposed in the Environment Management Plan (EMP) of project report.
10. The proponent shall comply with the provision of structural stability certificate as per the bye- law of the Development Authority.
11. Water Treatment Plant (WTP) shall be provided, if ground water is not potable.

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Adequate Number and Capacity of over head tank for fresh water and treated Water shall be made. Rain Water harvesting pits should be refreshed periodically and its number be increased for greater ground water recharge.

12. Permission of drainage division and sewerage board/WATCO shall be obtained for discharge of STP treated Water.
13. The land between the main road and the plot there is a stretch of Govt. land which is claimed to be road as per CDP 2030. The project proponent shall obtain necessary permission from the concerned authority to establish such Govt. land to be road and develop the same road at own cost if not done by BMC/BDA.
14. It was verified that few Plots belongs to Subham Construction, few plots to Satyam Construction and remaining plots of land owner. The project proponent shall make legal arrangement of land owner for development agreement with Subham Construction. Satyam Construction shall also take Company Board Resolution to develop the land through Subham Construction.
15. Provision shall be made for ventilation in lowest basement, light, fire safety upto roof top terrace for safety & environment health.
16. Since the open drain and the sewerage line is coming up in the main road side, the proponent shall re-engineer the slope of the entire plot to main road side after construction of basement roof.
17. Separate entry and exit gate for Residential building shall be implemented.
18. All compliances submitted/ committed by PP(s) shall be strictly adhered to them in addition to all the conditions/ specific conditions of EC.

**(I) Natural Drainage:**

19. 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.
20. The permission from competent authority will be obtained to discharge the excess storm water to drain if any. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially.
21. Permission for construction of drain alongside the adjacent NH under construction for allowing the proponent to discharge the treated waste water as well excess runoff water during monsoon from NH Authority shall be obtained. The construction of drains shall be synchronized with the completion of the construction of the Housing Project.

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(II) **Water Requirement and Rain Water Harvesting:**

22. No ground water shall be extracted for the project work at any stage during the construction phase without obtaining the permission from the Water Resources Department, Govt. of Odisha/ CGWB.
23. For meeting the total water requirement for the project upto maximum 212 KLD (fresh makeup water requirement is approx. 141 KLD) from ground water source, necessary prior permission has to be obtained from the Water Resources Department, Govt. of Odisha/ CGWB, failing which no ground water is allowed to be tapped. PP shall install water meter at all water drawal and intake points.
24. 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.
25. 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 and SEIAA, Odisha along with six monthly Monitoring reports.
26. 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.
27. 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.
28. 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.
29. Water demand during construction should be reduced by use of pre-mixed concrete, curing agents and other best practices referred.
30. 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. The proponent shall also obtain permission from Water Resources Department, Govt. of Odisha for drawl of water.
31. The proponent shall keep one bore well as standby domestic water source once municipal water supply is made available in the project area.
32. A complete plan for rainwater harvesting at the proposed site shall be drawn up and implemented. The complete rainwater harvesting plan shall be submitted to

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SEIAA within one month from this day. As proposed, 05 nos. of rain water harvesting pits for artificial ground water recharge shall be installed as per CGWB guidelines.

**(III) Solid Waste :**

33. The provisions of the Solid Waste (Management) Rules, 2016, E-Waste (Management) Rules, 2016, and the Plastics Waste (Management) Rules, 2016 shall be followed.
34. Disposal of muck during construction phase shall 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.
35. 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. Adequate 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.
36. 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.
37. A certificate from the competent authority handling municipal solid wastes, indicating the existing civic capacities of handling and their adequacy to cater to the Municipal Solid Waste generated from project shall be obtained.

**(IV) Sewage Treatment Plant:**

38. STP of 200 KLD capacity shall be installed before start of the operation phase of the building. Treatment of 100% grey water by decentralized treatment should be done. The treated waste water from STP shall be recycled / reused to the maximum extent possible. Flushing, washing, watering of the lawns and gardening, filter backwash ,cleaning of the floors, etc facilities are to be met by recycled water. Discharge of unused treated waste water shall conform to the norms and standards of the Odisha State Pollution Control Board. Necessary measures should be taken to mitigate the odour problem from STP. The sewage treatment plant shall be made functional before the completion of Building Complex.
39. 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 SEIAA, Odisha 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.

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40. Excess treated water shall be discharged to the drain only after getting the permission from the concerned authority. The proponent shall renovate the existing drain to accommodate the discharge and maintain it perennially. To this effect the proponent has to give a legal affidavit before going for construction activity.
41. A certificate from the competent authority shall be obtained for discharging treated effluent/ untreated effluents into the Public sewer/disposal/drainage systems along with the final disposal point.
42. The wastewater generated shall not be allowed to mix with storm water. The Project Proponent shall ensure separate approved line for discharge of treated waste water and that of storm water. No sewage or untreated effluent water would be discharged through storm water drains.
43. 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.
44. The proponent shall obtain permission from the concerned authority to discharge the liquid waste to any drain i.e. the competent authority of the drain and "Nala" before commencement of any activity at the project site.

**(V) Energy Conservation:**

45. 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.
46. 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.
47. The proponent shall use renewable energy/ solar power of at least 5% of projected power requirement for the building premises.
48. Solar energy shall be installed to meet electricity generation equivalent to 5% of the demand load or as per the state level/ local building bye-laws requirement, whichever is higher. Follow super ECBC requirement of ECBC 2017 and

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provide compliance report.

49. 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.
50. 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.
51. 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.

**(VI) Air Quality Management and Noise Management:**

52. 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.
53. 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.
54. Notification GSR 94(E) dated 25.01.2018 of MoEF&CC regarding Mandatory Implementation of Dust Mitigation Measures for Construction and Demolition Activities for projects requiring Environmental Clearance shall be complied with.

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55. 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.
56. For indoor air quality the ventilation provisions as per National Building Code of India shall be provided.
57. Ambient noise levels shall conform to residential standard 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.

**(VII) Green cover:**

58. Green-belt & avenue plantation of trees over the area of 2,641.18 Sqm (24.61% of plot area) shall be done using native tree species/shrubs improving greenery & keeping in view aesthetics considerations in the whole complex. The species with heavy foliage, broad leaves and wide canopy cover are desirable. Professional landscape architects should be engaged to design the green layout to provide for multi-tier plantation and green fencing all around, mitigating various environmental pollutants like dust, noise, emissions etc. A minimum of 1 tree for every 80 Sqmt of land should be planted and maintained. At the project site, at least 100 numbers of trees shall be planted and maintained at the site.
59. Rainwater from open spaces shall be collected and reused for landscaping and other purposes. Roof top rain water harvesting shall be adopted for the proposed Buildings. Rainwater harvesting at the proposed site shall be implemented. Before recharging the surface runoff, pre-treatment must be done to remove suspended matter, oil and grease.

**(VIII) Top Soil Preservation and Reuse:**

60. 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.

**(IX) Traffic & Transportation:**

61. A comprehensive mobility plan, as per Ministry of Urban Development 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.

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- 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
62. 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 01 km 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 01 km radius of the site 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.
63. 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.
64. A dedicated entry/exit and parking shall be provided for commercial activities.
65. Barricades shall be provided around project boundary.
66. Speed of the vehicles shall be restricted upto 15 kmph by erecting speed bumps at regular intervals at project site and proper signage shall be provided for guided vehicular movement and speed restrictions.
67. Parking shall be prohibited on the access road to the proposed project site.
68. Footpath shall be seamless with sufficient width.
69. No vehicles shall be allowed to stop and stand in front of the gate on main access.
70. A buffer of minimum 10 m shall be maintained between the entry/exit gate and the road to avoid traffic congestion.
71. The Traffic Management Plan prepared by the proponent shall be duly validated and certified by the State Concerned Competent Authority and shall have also their consent before implementation.

**(X) Environment Management Plan:**

72. An Environmental Management Plan (EMP) shall be prepared and 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,

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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.

73. It shall be mandatory for the project management to submit six (06) monthly compliance reports on post environmental monitoring in respect of the stipulated terms and conditions in this Environmental Clearance to the State Environment Impact Assessment Authority (SEIAA), Odisha, SPCB & Regional Office of the Ministry of Environment & Forest, Odisha in hard and soft copies on 1<sup>st</sup> June and 1<sup>st</sup> December of each calendar year. The proponent shall also upload the compliance report including results of monitored data, as applicable in the website of the Ministry for monitoring of EC Conditions.

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.

Yours faithfully,

  
Member Secretary

Memo No \_\_\_\_\_ / Dt. \_\_\_\_\_

Copy to

1. **Joint Secretary (Environment)**, Ministry of Environment, Forests and Climate Change Govt. of India, Indira Paryavaran Bhavan, Jor Bagh Road, Aliganj, New Delhi-110003 for information.
2. **Additional Chief Secretary**, Forests & Environment Dept., Government of Odisha for information.
3. **Member Secretary**, State Pollution Control Board, Odisha, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-8, Bhubaneswar for information.
4. **Additional Principal Conservator** of Forests, Regional Office (EZ), Ministry of Environment & Forests, A-31, Chandrasekharapur, Bhubaneswar for information.
5. **Member Secretary**, CGWA, 18/11, Jamnagar House, ManSingh Road, New Delhi-110011 for information.
6. **Collector, District Magistrate**, Bhubaneswar, for kind information and necessary action.
7. **Secretary**, SEAC, Paribesh Bhawan, A/118, Nilakantha Nagar, Unit-VIII, Bhubaneswar for kind information.
8. Guard file for record/Website/Parivesh Portal.



  
Member Secretary