**Validity expires on 04.02.2025**

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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. P.H. Kurian, I.A.S., Member Secretary.*

Sub: SEIAA- Environmental clearance for proposed Residential Project in Sy. Nos. 1888/1-3-3, 1887/4, 1887, 1886/4, 1887/2, 1886/1-1, 1886/6, 1887/8-1, 1886/1-2, 1886/7, 1886/1, 1886/4, 1886/3, 1886/4, 1886/4-1-1-1, 1886/4, 1886/1, 1814/1-3, 1887/4, 1887, 1887/7, 1887/6, 1887/4, 1886/3, 1887/9, 1814/1-2-5, 1814/1-2, 1814, 1886/4-1, 1886/4-1-1, of Kadakampally Village, Thiruvananthapuram Corporation, Thiruvananthapuram Taluk & District, Kerala by Sri. Mani MadhavanNambiar K.P. (Associate Vice President & Authorized Signatory), M/s MPG Hotels and Infrastructure Ventures Pvt. Ltd. - Granted-Orders issued

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**STATE ENVIRONMENT IMPACT ASSESSMENT AUTHORITY, KERALA**

**No. 1100/EC/SEIAA/ KL/2017** ***dated, Thiruvananthapuram 05.02.2018***

Ref:
1. Application dated 12.10.2016 from Sri. Mani Madhavan Nambiar K.P., (Associate Vice President & Authorized Signatory), M/s MPG Hotels and Infrastructure Ventures Pvt. Ltd.,Muthoot Centre, Punnen Road, Trivandrum-695034.
2. Minutes of the 71st meeting of SEAC held on 20th& 21st April 2017.
3. Minutes of the 75th meeting of SEAC held on 29th& 30th June 2017.
4. Minutes of the 79th meeting SEAC held on 25th& 26th September 2017.
5. Minutes of the 75th meeting of SEIAA held on 28/10/2017.
6. Minutes of the 78th meeting of SEIAA held on 15.12.2017.
7. Lr No: KSCSTE/5993/2017-WTU dated 01.12.2017 from the Coordinator, Wetland Technical Unit, KSCSTE.
8. Affidavit dated 08.12.2017 & 12.01.2018 from Sri. Mani Madhavan Nambiar K.P.

## ENVIRONMENTAL CLEARANCE NO. 17/2018

Mr. Mani Madhavan Nambiar K.P., (Associate Vice President & Authorized Signatory), M/s MPG Hotels and Infrastructure Ventures Pvt. Ltd.,Muthoot Centre, Punnen

Road, Trivandrum- 695034, has submitted an application for Environmental Clearance of the Proposed Residential Project, vide his application received online and has sought environmental clearance under the EIA Notification, 2006 for the project in Sy. Nos. 1888/1-3-3, 1887/4, 1887, 1886/4, 1887/2, 1886/1-1, 1886/6, 1887/8-1, 1886/1-2, 1886/7, 1886/1, 1886/4, 1886/3, 1886/4, 1886/4-1-1-1, 1886/4, 1886/1, 1814/1-3, 1887/4, 1887, 1887/7, 1887/6, 1887/4, 1886/3, 1887/9, 1814/1-2-5, 1814/1-2, 1814, 1886/4-1, 1886/4-1-1, Kadakampally Village, Thiruvananthapuram Corporation, Thiruvananthapuram Taluk & District, Kerala State. It is interalia, noted that the project comes under the Category B, 8(a) of Schedule of EIA Notification 2006.

Details of the project as furnished by the applicant are as follows :-

**BASIC INFORMATION OF BUILDING PROJECT**
**( To be filled in by the Project Proponent)**
**PART A**

| **PROJECT DETAILS** | |
|---|---|
| File No. | 1100/EC/SEIAA/KL/2017 |
| Name /Title of the project | Environmental Clearance for the Proposed Residential Project by M/s MPG Hotels and Infrastructure Ventures Pvt. Ltd |
| Name and address of project proponent. | Mr. Mani Madhavan Nambiar K.P.<br>(Associate Vice President & Authorized Signatory)<br>M/s MPG Hotels and Infrastructure Ventures Pvt. Ltd.<br>Level 2, STN Chambers, Near Geethanjali Hospital,<br>Vazhuthacaud, Thiruvananthapuram, Kerala-695014. |
| Owner of the land | Private own land of M/s MPG Hotels and Infrastructure Ventures Pvt. Ltd. |
| Survey Nos. District/Taluk/ and Village etc. | Sy. Nos. 1888/1-3-3, 1887/4, 1887, 1886/4, 1887/2, 1886/1-1, 1886/6, 1887/8-1, 1886/1-2, 1886/7, 1886/1, 1886/4, 1886/3, 1886/4, 1886/4-1-1-1, 1886/4, 1886/1, 1814/1-3, 1887/4, 1887, 1887/7, 1887/6, 1887/4, 1886/3, 1887/9, 1814/1-2-5, 1814/1-2, 1814, 1886/4-1, 1886/4-1-1, Kadakampally Village, Thiruvananthapuram Corporation, Thiruvananthapuram Taluk & District, Kerala. |
| Date of submission of Application | 13-10-2016 |
| Total Built up Area & No. of floors | 49,485.06 sq.m<br>Basement 1, 2 + Ground + 14 floors |
| No. of apartments | 211 residential apartments, recreational area and |

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| | convenient shops with supporting infrastructure facilities |
| Height of the building from the ground level | 46.20 m. |
| GPS Co-ordinate | Latitude (N): $08^0$30'58.98" to $08^0$30'54.55"<br>Longitude (E): $76^0$54'01.71" to $76^0$53'56.91" |
| Brief description of the project. | Proposed building construction of residential project in plot area of about 0.8615 ha. The total built-up area of about 49,485.06 sq.m. and 211 residential units, recreational area & convenient shops with supporting infrastructure facilities. |
| Is it a new Project or expansion / modification of an existing project? | New project |
| Details of the Project Cost | About Rs. 109.7 Crores |
| If CRZ recommendation applicable? | Not applicable |
| Distance from nearby habitation | The project site is in Kadakampalli Village and is falling in Thiruvananthapuram Corporation limits and several houses located within the 500 m. radius. |
| Distance from nearby forest, if applicable | None within the study area |
| Distance from protected area, Wildlife Sanctuary, National Park etc. | None within the study area |
| Distance from nearby streams/rivers/ National Highway Roads and Airport | Water body - *T.S. Canal* – about 0.25 km. (SW)<br>Highway Road : N.H. 47 Byepass Road – abutting the site (S)<br>Airport –Trivandrum Intl. Airport - about 5 km. (SE) |
| Is ESA applicable? If so, distance from ESA limit | Not applicable |
| **IMPACT ON WATER** | |
| Details of water requirement per day in KLD<br>Water source/sources. | About 152 KL/day<br>(which includes daily fresh water req. of about 98 KLD)<br>Source :- Stored Rain water (Tanks), Wells, KWA water supply and treated water from STP. |
| Details of water requirements met from water harvesting. | The project has provision for rain water storage tanks which will be used as source of water during rainy days (concurrent use) & non-rainy days. |
| What are the impacts of the proposal on the ground water? | The project has provisions for well waters supply as standby arrangement during non rainy days. The ground water abstraction will be of permissible limit of yield of the well. Therefore, no impact on the ground water. |
| **WASTE MANAGEMENT** | |
| Explain the facilities for Liquid waste | Provision of STP for treatment of sewage and it's partially recycling for meeting the water requirement for |

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| Management | flushing & horticulture water requirement within the site. |
| Solid Waste Management | Provision of bio-gas generation plant / bio-bin system within the project site for disposal of the bio-degradable solid waste |
| E-Waste Management | Not applicable |
| Facilities for Sewage Treatment Plant | Yes.<br>Provision of STP for treatment of sewage and it's partially recycling for meeting the water requirement for flushing & horticulture water requirement within the site. |
| How much of the water requirement can be met from the recycling of treated waste water? (Facilities for liquid waste treatment) | The total domestic water requirement of about 152 KLD (which includes daily fresh water requirement of about 98 KL). Treated water from STP to be used for flushing of toilets, Horticulture requirement. |
| What is the incremental pollution load from waste water generated from the proposed activities? | Disposal of excess treated water from STP (with BOD level as per KSPCB norms) will be only after providing additional aeration in the final treated water storage tank. |
| How is the storm water from within the site managed? | Provision of roof rain water storage tanks. The excess runoff from the site will be channelized through drain to de-siltation cum screen arrangement before it is discharged from the site. |
| Will the deployment of construction labourers particularly in the peak period lead to unsanitary conditions around the project site ( Justify with proper explanation) | Yes, The proposed project has provision of labor colony and the domestic sewage will be channelised to the mobile STP for treatment of sewage during the construction period to handle the sewage. Also, it is proposed to have the food waste disposal from labor colony through the microbial bio-bin facility. Also, it is proposed to have a dedicated staff for good house keeping of the construction site premises and the labor colony premises. These measures will ensure a good hygienic conditions around the labour colony. |
| What on- site facilities are provided for the collection, treatment & safe disposal of sewage ? (Give details of the quantities of wastewater generation, treatment capacities with technology & facilities for recycling and disposal) | The project has provision of mobile STP for the treatment of sewage during construction phase and STP of about 147 KL capacity within the project premises to treat the sewage during operation phase. The technology for the treatment of the sewage is up to tertiary level. The total quantity of sewage generation will be 122 KL/day. The treated water will be partially recycled for meeting the flushing & horticulture water requirement. There will be minimal sewage discharge from the proposed project premises after development of the proposed project. |
| Give details of dual plumbing system if treated waste is used for flushing of toilets or any other | The treated waste water from the proposed Sewage Treatment Plant during the operation phase of the project will be used for flushing & horticulture purposes and for |

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| use. | which dual plumbing system is proposed. |
| **TRAFFIC MANAGEMENT** | |
| Sufficiency of parking space (explain) | Parking required as per KMBR = 254 Cars + 252 T.W.<br>Parking Proposed = 260 Cars + 266 T.W. |
| Width of access road | The access road is from 45 m. wide N.H. 47 Byepass Road which is well connected to entire Trivandrum city. |
| **ENERGY CONSERVATION** | |
| Details of power requirement and source of supply, backup source etc. What is the energy consumption assumed per square foot of built-up area ? How have you tried to minimize energy consumption? | The total power requirement is estimated to be about 1,500 kW and will be from by Kerala State Electricity Board. The project will make provision of D.G. Sets (200 kVA x 2 nos. + 62.5 kVA x 1 no.) as standby arrangement of electricity. The proposed project will have provision of power saving and maximum natural light will be provided to minimize energy consumption.<br>Other measures are:<br>➢ Building design to have maximum lighting in the inside portion of the building so as to minimize the energy requirement for lighting.<br>➢ Use of LED lamps which consume less energy would be adopted in the common areas.<br>➢ Use of solar street lights would be adopted in the green area and along the internal roads and in the open parking of the proposed project.<br>➢ The roof will be insulated to minimize heat gain with 50 mm expanded polystyrene or equivalent insulation.<br>➢ Installation of Solar panels (2 ft. x 4 ft. size of 20 nos. 5 kW) as back up for common area (stair and lobby) lighting.<br>➢ Total energy saving is expected to be of about 22% |
| What type of, and capacity of power back-up to you plan to provide? | The project proponent has made provision of D.G. Sets (200 kVA x 2 nos. + 62.5 kVA x 1 no.) as standby arrangement of electricity |
| What are the characteristics of the glass you plan to use? Provide specifications of its characteristics related to both short wave and long wave radiation? | The glass used will be with low emissivity and the other specifications of the glass will comply with the norms as per ECBC. |
| What passive solar architectural features are being used in the building? Illustrate the applications made in the proposed project | All the relevant features are incorporated like the orientation of the building, shading effect etc. |

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| Does the layout of streets & buildings maximize the potential for solar energy devices ? Have you considered the use of street lighting, emergency lighting and solar hot water systems for use in the building complex ? Substantiate with details | Due consideration has been taken for maximum use of the solar energy while preparation of layout plan. The project proponent shall made provision for solar panel system (hot water purpose) in apartment block area and solar energy devices will be used for street lighting, emergency lighting in the proposed project. |
| Is the shading effectively used to reduce cooling/heating loads? What principles have been used to maximize the shading of Walls on the East and the West and the Roof ? How much energy saving has been effected? | All the relevant features are incorporated like the orientation of the building, shading effect etc. |
| Do the structure use energy-efficient space conditioning , lighting and mechanical systems? Provide technical details. Provide details of transformers and motor efficiencies, lighting intensity and air-conditioning load assumptions ? Are you using CFC and HCFC free chillers? Provide specifications. | Suitable energy optimization will be adopted during the calculation of energy load of the proposed project. The space heating load will be minimized using passive solar structure and suitable buildings envelop material. Uses of incandescent lamp and halogen lamps have been avoided and energy efficient LED lamps will be used for all common area. The diesel generator sets shall be automatically controlled to optimize their usage based on the actual load requirements at any time. Variable frequency drive systems would be adopted for the lifts, etc to maximize the energy saving. |
| What are the likely effects of the building activity in altering the micro-climates ? Provide a self assessment on the likely impacts of the proposed construction on creation of heat island & inversion effects? | More open spaces are proposed within the site to creation of any heat islands. The roads and parking spaces would be with concrete slabs intermittent with grass on surrounding. |
| What are the thermal characteristics of the building envelope? (a) roof (b) external walls; and (c) fenestration? Give details of the materials used. | The building construction material namely bricks, concrete and steel are being used in the construction. U-factor, also known as Thermal Transmittance, is heat transmission in unit time through unit area of a material or construction and the boundary air films, induced by unit temperature difference between the environments on each side.<br>The glass used will be with low emissivity and the other specifications of the glass will comply with the norms as per ECBC. |
| What is the rate of air non-conventional energy technologies are utilized in the overall energy consumption? Provide details of the renewable energy | The use of non-conventional source of energy in the proposed construction project are as follows: -<br>Solar Water Heater:-<br>The proposed project would install solar panels for hot water requirements in the apartments (top most floors) |

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| technologies used. | and hence the dependency on electricity for hot water generation can be minimized. This would conserve lot of coal which produces the electricity through public supply and also load on D.G. sets also would be reduced and there by conserve diesel.<br>Solar Street Light: -<br>It is also suggested to use solar cell powered street lights within the proposed project site for conservation of electricity.<br>Use of LED Lamps: -<br>The project proponent would use LED Lamp which conserve less electricity.<br>Lighting: -<br>The building of the proposed project is designed with natural ventilation and natural light so that the use of lights during day time can be minimized. |
| Details of renewable energy (non – conventional) used. | Solar water heating system for the hot water generation and solar power operated street lights. |
| **IMPACT ON AIR ENVIRONMENT** | |
| What are the mitigation measures on generation of dust, smoke , odours, fumes or hazardous gases | The dust generation during construction phase will be controlled by enclosures at appropriate locations and also by sprinkling of water for suppression of dust. The gas/smoke generation expected is from D.G. sets only and the gases will be vented out through stack of appropriate height. |
| Details of internal traffic management of the site. | The internal road width will be as per KMBR for the smooth vehicular movement. It is proposed to have bell mouthed shape with 5 m. wide entry and 5 m. wide exit to the project for the smooth movement of vehicles. |
| Details of noise from traffic, machines and vibrator and mitigation measures | The proposed project is a residential building construction project and there would be some increase in noise and vibration due to the vehicular movement within the project site. The project has provision of large area for the parking for the vehicles and the parking arrangement which is planned, that there would be easy movement of vehicles within the project area and smooth movement is provided for the vehicles to reduce the traffic congestion. |
| Air quality monitoring in detail | The ambient air quality of the site carried out through an accredited laboratory which is well within the standard limit. |
| Will the proposal create shortage of parking space for vehicles? Furnish details of the present level of transport infrastructure and measures proposed for improvement including the traffic management at the entry & exit to the project site. | No shortage of parking space.<br>Parking provisions would be made as per the KMBR requirements.<br>The parking arrangement will be made at Basement floor level, Ground floor level, 1st floor & 2nd floor level within the site.<br>The access road is from 45 m. wide N.H. 47 Byepass Road which is well connected to entire Trivandrum city. |

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| Provide details of the movement patterns with internal roads, bicycles tracks, Pedestrian pathways, footpaths etc., with areas under each category | The conceptual plan clearly shows the internal traffic management with entry and exit to the proposed project site, all internal roads with width, pedestrian path ways etc. Further provision of ramps are proposed for the easy access to the building for physically challenged persons. |
| Will there be significant increase in traffic noise & vibrations? Give details of the sources and the measures proposed for mitigation of the above. | The proposed project is a residential project and there would be some increase in noise and vibration due to the vehicular movement within the project site. The project has provision of large area for the parking for the vehicles and the parking arrangement which is planned, that there would be easy movement of vehicles within the project area and smooth movement is provided for the vehicles to reduce the traffic congestion. |
| What will be impact of DG sets & other equipments on noise levels & vibration in & ambient air quality around the project site? Provide details | The D.G. sets which would be used for the project will be with sound proof acoustic enclosures and hence there will be no impact to the surroundings. The D.G. sets would be attached with proper anti vibration pads to reduce any vibration impact to the site surrounding.<br>The flue gases from the D.G. sets will be vented out through stack of appropriate height as per C.P.C.B. norms to reduce the impacts on air quality around the project site. The ambient noise level of the site is carried out through an accredited laboratory and the ambient noise level is well within the standard limit. |
| **IMPACT ON BIODIVERSITY AND ECO RESTORATION PROGRAMMES** | |
| Will the project involve extensive clearing or modification of vegetation (Provide details) | There are some of native species of trees and different varieties of shrubs, herbs, grass & climbers at site.<br>For the development of the proposed project, existing trees, different varieties of shrubs, herbs, grass & climbers will be cleared. |
| What are the measures proposed to minimize the likely impact on vegetation (details of proposal for tree plantation/ landscaping) | Due to the proposed development, some of the existing trees will be cut from the proposed site. As part of the eco restoration, large number of saplings of native species would be planted. Due to the eco restoration, the impact to floral and faunal ecology will be short term. |
| Is there any displacement of fauna – both terrestrial and aquatic. – If so what are the mitigation measures ?<br>Presence of any endangered species or red listed category (in detail) | There will be no displacement of fauna due to the construction of the proposed project.<br><br>There is no presence of endangered species or red listed category. |
| **SOCIO- ECONOMIC ASPECTS** | |
| Will the proposal result in any change to the demographic structure of local population ? Provide the details. | The proposed project is a residential project. During operation phase, on full occupancy of the project, the maximum population expected is about 1,428 persons and hence there will be influx of people (fixed) to the project area and surrounding. |
| Give details of the existing social infrastructure around the | There are several schools, colleges, religious places, commercial and residential buildings, Govt. and private |

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| proposed project | establishments which are located around the proposed project. The vicinity map showing the surrounding details of the proposed project is provided. |
| Will the project cause adverse effects on local communities, disturbances to sacred sites or other cultural values? What are the safeguards proposed? | The project would not cause any adverse effects on local communities, disturbance to sacred sites or other cultural values. The proposed project is a residential project and thereby the living index of the people around the project site will definitely improve. Also there will be various ancillary activities like convenient shops, transport facilities etc. attached to the project which will benefit the local people and change their living condition. |
| **BUILDING MATERIALS** | |
| May involve the use of building materials with high –embodied energy. Are the construction materials produced with energy efficient process? (Give details of energy conservation measures in the selection of building materials and their energy efficiency) | The proposed residential project and the residential buildings are not centrally air conditioned building; the selection of building materials plays a major role in the energy consumption. The proposed project will make all attempts to use to avoid building materials with high embodied energy. Cement blocks & hollow blocks will be replaced with country made red bricks. Further, the river sand will be replaced by manufactured sand from stone crushers. The glass used will be low emissivity and having U value as per ECBC norms. |
| Transport and handling of materials during construction may result in pollution, noise & public nuisance. What measures are taken to minimize the impacts? | All vehicles which bring construction material to the site would possess Pollution Under Control Certificates (PUC). All vehicles would be of close body to avoid spread of dust from the loose materials, and vehicles which bring sand, stone dust, etc. would ensure that the above mentioned material are properly wetted during transportation to avoid dust generation. Pucca Road to be made in the construction site for the vehicle movement so that the dust generation due to the vehicular movement within the project site can be minimized. Stacking of construction material shall be confined to the project site only. All the D.G. Sets would have attached with Acoustic Enclosure for the sound pollution control and all sound generating construction activity to be minimized. Further barricading of the site with GI sheets of 10 ft height in the side abutting the public road during construction phase. |
| Are recycled materials used in roads and structures? State the extent of savings achieved? | The plastic ( non-biodegradable solid waste ) will be used along with coal tar during the construction of internal roads. This will increase the life of roads. |
| Give details of the methods of collection, segregation & disposal of the garbage generated during the operation phases of the project. | ➢ The Solid Waste Management Rules, 2016 will be followed in the Solid Waste Disposal Mechanism at the site during operation phase.<br>➢ Collection & segregation within the site (bio-degradable waste (green bins), non-biodegradable waste (blue bins) and domestic hazardous waste (yellow bins).<br>➢ The recyclable waste like packaging material, paper |

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| | etc. would be sold through vendors.<br>➢ The Bio-degradable waste would be disposed through the bio-gas generation unit/bio bin system to be installed within the site.<br>➢ The bio-gas generated will be utilized in the kitchen/canteen area and the manure generated will be utilized for green area development within the premises.<br>➢ The domestic hazardous waste which includes discarded painted drums, pesticide cans, CFL bulbs, tube lights, expired medicines, broken mercury thermometers, used batteries, used needles and syringes and contaminated gauge etc. generated at the household level will be collected in yellow bins and to be handed over to authorized waste pickers or waste collectors. |
| **RISK MANAGEMENT** | |
| Are there sufficient measures proposed for risk hazards in case of emergency such as accident at the site during construction & post construction phase. | *Risk hazard from fire - List of equipments proposed for Fire Fighting Measures:-*<br>*A. The major equipments proposed for Fire Fighting Measures are Main Hydrant Pump, Sprinkler Pump, Diesel Engine Pump, Jockey Pump.*<br>*B. Capacity of Fire Water Storage Tanks & Number:-*<br>*It is proposed to have Fire Water Storage Tan appropriate capacity of overhead tank for fire fightin provided at the tower.*<br>*C. Fire Detecting Equipments: -*<br>*The Fire Detecting Equipments would be as per BIS and NBC norms.*<br>D. Other Fire Fighting Measures: -<br>The other Fire Fighting Measures proposed includes, an Emergency Control Room, Separate Fire exit during emergency, all rooms with Fire Detector / Smoke Detector, Fire Extinguishes at each entry and exit point on each floor, (5 Kg, 10 Kg and 9 Ltr. capacity), Public address system etc. The Fire Fighting Measures are backed by Electrical supply from D.G. sets in case of emergency.<br>The nearest fire station is at *Chacka* Fire Station, which is about 4.5 km. away from the project site. |
| Storage of explosives/hazardous substance in detail | Yes, all precautionary measures in the storage & handling of HSD will be followed. |
| What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans | Details already provided above. |

<table>
<tr><td>Litigation/court cases if any</td><td>No any litigation/court case pending.</td></tr>
<tr><td colspan="2">AESTHETICS</td></tr>
<tr><td>Will the proposed constructions in any way result in the obstruction of a view, scenic amenity or landscapes? Are these considerations taken into account by the proponents?</td><td>No.<br>There is no scenic beauty near the project site.</td></tr>
<tr><td>Will there be any adverse impacts from new constructions on the existing structures? What are considerations taken into account?</td><td>The surrounding area is residential / offices / institutional developments. In south direction there is access road (N.H. 47 Byepass road) to the site. Also, there are individual houses with plantation in the vicinity of the site. There will be no any adverse impacts due to the development of the proposed project.</td></tr>
<tr><td>Whether there are any local considerations of urban form & urban design influencing the design criteria? They may be explicitly spelt out.</td><td>The proposed project would be constructed in conformity with the Kerala Municipality Building Rules (KMBR). As per seismic classification, the project site falls in Zone-III. No reported cloudburst in the area. Also, there is no hilly area around the project site, there is no chance of landslide. Structural design aspects as per the seismic codes – IS 1893 (2002), IS 13920 (1993) and IS 456 (2000) as applicable would be incorporated in our project.</td></tr>
<tr><td>Are there any anthropological or archaeological sites or artefacts nearby? State if any other significant features in the vicinity of the proposed site have been considered</td><td>There is no report of existence of any anthropological or archaeological site nearby the project area. The proposed project is located in Corporation limits of Thiruvananthapuram. The vicinity map showing the site & surrounding area is provided.</td></tr>
<tr><td>Details of CSR activity and the amount set apart per year</td><td>Yes.<br>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 is given below :-
<table>
<tr><th>Sl. No.</th><th>Particulars</th><th>Amount (Rs. In lakhs)</th></tr>
<tr><td>1.</td><td>Promotion of Education</td><td>Recurring – Rs. 3.50 Lakhs<br>Non-recurring - Rs. 7.0 Lakhs</td></tr>
<tr><td>2.</td><td>Health Care</td><td>Recurring - Rs. 2.50 Lakhs<br>Non-recurring – Nil</td></tr>
<tr><td>3.</td><td>Environmental Sustainability</td><td>Recurring - Rs. 6.50 Lakhs<br>Non-recurring – Nil</td></tr>
<tr><td>4</td><td>Infrastructure Development</td><td>Recurring - Nil<br>Non-recurring - Rs. 5.0 Lakhs</td></tr>
<tr><td></td><td>Total</td><td>Recurring - Rs. 12.50 Lakhs</td></tr>
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| | Non-recurring - Rs. 12.0 Lakhs<br>The project proponent set apart an amount of about Rs. 41 lakhs over a period of 3 years for CSR activities for the welfare of local community in consultation with the *Thiruvananthapuram Corporation.* |
| Details of NABET approved EIA Consultant engaged-Their name, address and accreditation details | M/s Environmental Engineers & Consultants Pvt. Ltd.<br>(NABET Accredited Consultant Organization)<br>Head Office :- A1-198, Janak Puri, New Delhi.<br>Branch Office:- C-306, Kanchanjunga Apartments, Palarivattom P.O., Kochi, Kerala. |
| Details of Authorized Signatory and address for correspondence | Mr. Mani Madhavan Nambiar K.P.<br>(Associate Vice President & Authorized Signatory)<br>M/s MPG Hotels and Infrastructure Ventures Pvt. Ltd.<br>Level 2, STN Chambers, Near Geethanjali Hospital, Vazhuthacaud, Thiruvananthapuram, Kerala-695014. |
| **SUMMARY AND CONCLUSION** | |
| Overall justification for implementation of the project. | The proposed project is a construction of residential project and the total implementation / completion period for the construction is about 36 months from the start of the construction. |
| Explanation of how adverse impact have been mitigated. | It is predicted that socio-economic impact due to this project will positively increase the chance of more employment opportunities for local inhabitants. There are no Resettlement and Rehabilitation issues involved in this project. The project infrastructures will be of use to people of the area. The revenue of the State Govt. will be definitely increase due to the proposed activity. The entire project area is devoid of any endemic / endangered flora and fauna. As part of the eco restoration with native species to a maximum possible extent. Also, rain water tanks are proposed for storage of rain water and for its subsequent use so as to conserve fresh water consumption. The municipal solid waste will be handled and disposed as per norms. Thus the proposed project is not likely to affect the environment or adjacent ecosystem adversely and will ensure a sustainable development. |

2. The proposal was placed in the 71st meeting of SEAC held on 20th& 21st April 2017. Further to the intimation of SEAC, the proponent and engineer attended the meeting and the engineer made a power point presentation about the salient features of the project briefly. The Committee appraised the proposal based on Form 1, Form I A and conceptual plan.

The proponent agreed to set apart an amount of Rs.60 lakh over a period of 3 years for CSR activities for the welfare of the local community in consultation with the local panchayat.

The Committee decided to defer the item for field visit. The committee also directed the proponent to submit the additional documents/details with respect to the following points.

*a). The area for material recovery facility should be enhanced.*

*b). Disposal of excavated earth.*

*c). Details of power proposed to be utilised from solar sources.*

Accordingly the Sub Committee consisting of Sri V Gopinathan, Chairman, Sri S. Ajayakumar member and Sri John Mathai, member has conducted the site visit on 09th June 2017.The report is as follows;

*The proposal abuts the NH bye pass opposite to the proposed LULU mall. The proposal is for a residential building with some commercial space in the front side facing bye pass. Following are the observations based on the site visit.*

1. *Set back from the road is sufficient.*
2. *260 car parking space and 266 two wheelers parking are provided.*
3. *Commercial space is proposed in the front side facing bye pass. The traffic generated by this commercial space should not be allowed to merge with the traffic of the residential owners. Visitors parking for residential uses and shop visitors shall be separated and sufficient space shall be provided in the front yard for parking of shop visitors. Revised conceptual plan reflecting this and other factors mentioned below shall be submitted.*
4. *The proponents told that they have made arrangements for disposing excess earth. They will show proof for this condition*
5. *STP is proposed at a level 4.5 m below road level. Zero discharge conditions should be ensured. Since maintenance shall be entrusted with the association of owners, the system should not be excessively complicated.*
6. *Rain water storage tank should be of capacity to hold 7 days average demand.*
7. *Fresh water sources shall be developed and the yield test results shall also be submitted.*

3. The proposal was again placed in the 75th meeting of SEAC held on 29th& 30th June 2017.The Committee appraised the proposal based on Form 1, Form I A, field inspection report of the Sub Committee and all other documents submitted with the proposal. The Committee decided to defer the item for submission of the following additional documents/clarifications.

*a) Visitor's parking for residential uses and shop visitors shall be seperated and sufficient space shall be provided in the front yard for parking for vistors to the commercial space. Revised conceptual plan reflecting this and other factors mentioned below shall be submitted.*

*b) Location of rain water harvesting tanks with a minimum capacity to hold 7 days demand.*

*c) Details of power proposed to be utilised from solar sources.*

The proponent has submitted the documents sought by SEAC.

4. The proposal was considered in the 79th meeting SEAC held on 25th& 26th September 2017. The Committee took in to record the additional documents submitted by the proponent vide letter dt.17.08.2017. The Committee appraised the proposal based on Form 1, Form I A, field inspection report of the Sub Committee and all other documents submitted with the proposal. The Committee decided to Recommend for issuance of EC subject to general conditions in addition to the following specific conditions.

1. *STP is proposed at a level 4.5 m below road level. Zero discharge conditions should be ensured. Since maintenance shall be entrusted with the association of owners, the system should not be excessively sophisticated.*
2. *Rain water storage tank should be of capacity to hold 1200 KL.*
3. *The commitment to utilize 5 KW energy from solar sources should be adhered to.*
4. *Material recovery facility should be enhanced to 100 $m^2$.*
5. *23,000 m3 of excavated earth is proposed to be utilised for the development of NISH campus at Akkulam which should be strictly adhered to.*

A complaint is also received from Sri.K.J.Chacko an Environmentalist and social worker against the project which states that the land of the proposed project is included in the wetland.

5. The proposal was placed in the 75th meeting of SEIAA held on 28/10/2017. Authority decided that the complaint is to be forwarded to Wetland Cell, Science & Technology to clarify whether the land belongs to wetland or not.

Kerala State Council for Science Technology and Environment has reported that the area with the survey numbers referred above are not categorized as wetlands vide reference 7th cited.

6. The proposal was placed in the 78th meeting of SEIAA held on 15.12.2017. Authority accepted the recommendation of SEAC and decided to issue EC subject to general conditions in addition to the specific conditions, suggested by SEAC as noted above.

*As per the landmark judgment dated 3rd September 2017 of the Principle Bench of National Green Tribunal (NGT), developers should give a satisfactory explanation on the facilities provided for open space, recreational grounds and parking facilities at the project site as they have an important bearing on the life of people. The above direction has to be complied by the Proponent.*

2% of the total project cost should be set apart for CSR activities for taking up welfare activities of the local community in consultation with the local body. The CSR amount

should be utilised before the completion of the project and include in the annual account of the company and the expenditure statement should be submitted to SEIAA along with the compliance report after getting certified by a Chartered Accountant. A notarised affidavit for the commitment of CSR activities and also agreeing all the general conditions should be submitted before the issuance of EC.

7. The proponent has submitted the affidavit dated 08.12.2017 & 12.01.2018 vide ref (8) above and stating that all the specific and general conditions shall be strictly implemented. Environmental Clearance as per the EIA notification 2006 is therefore granted to the Residential project, M/s MPG Hotels and Infrastructure Ventures Pvt. Ltd by Sri. Mani MadhavanNambiar K.P. (Associate Vice President & Authorized Signatory) in Sy. Nos. 1888/1-3-3, 1887/4, 1887, 1886/4, 1887/2, 1886/1-1, 1886/6, 1887/8-1, 1886/1-2, 1886/7, 1886/1, 1886/4, 1886/3, 1886/4, 1886/4-1-1-1, 1886/4, 1886/1, 1814/1-3, 1887/4, 1887, 1887/7, 1887/6, 1887/4, 1886/3, 1887/9, 1814/1-2-5, 1814/1-2, 1814, 1886/4-1, 1886/4-1-1, Kadakampally Village, Thiruvananthapuram Corporation, Thiruvananthapuram Taluk & District, Kerala subject to the specific conditions mentioned in para 4 & 6 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.

8. 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.

9. 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.

10. 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, Thiruvananthapuram to take legal action under the Environment (Protection) Act 1986.

iii. The given address for correspondence with the authorized signatory of the project is, Mr. Mani Madhavan Nambiar K.P., (Associate Vice President & Authorized Signatory), M/s MPG Hotels and Infrastructure Ventures Pvt. Ltd.,Muthoot Centre, Punnen Road, Trivandrum- 695034.

Sd/-

**P.H. KURIAN, .I.A.S,**
**Member Secretary (SEIAA)**

To,

Mr. Mani Madhavan Nambiar K.P.,
Associate Vice President & Authorized Signatory,
M/s MPG Hotels and Infrastructure Ventures Pvt. Ltd.,
Muthoot Centre, Punnen Road,
Trivandrum- 695034

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, Thiruvananthapuram
4. The District Town Planner, Thiruvananthapuram
5. The Tahsildhar, Thiruvananthapuram Taluk
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, Municipal Corporation of Thiruvananthapuram, VikasBhavan P.O, Tvpm – 695 033
9. Chairman, SEIAA, Kerala
10. Website
11. Stock file
12. O/c



Forwarded/By Order

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, Banglore 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 protect 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 affluent 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 affluent 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 confirming 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

For Member Secretary, SEIAA