Validity expires on 11.02.2025

सत्यमेव जयते

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 the Residential Apartments cum Commercial Complex building project in Sy. Nos. 111/7, 112/ (1, 7-13, 14, 15, 16, 18, 23-25, 28) 116 (5, 6, 14) of Pangappara Village, Thiruvananthapuram Taluk, Thiruvananthapuram District, Kerala by Sri. M. Najeeb, President of M/s Spring Infradev Limited – Granted - Orders issued**

State Environment Impact Assessment Authority, Kerala

No. 1099/EC/SEIAA/ KL/2017 dated, Thiruvananthapuram 12.02.2018

Ref: 1. Application received on 18.04.2017 from Mr.M. Najeeb, President of M/s Spring Infradev Limited, TC – 37/3315, Pavithram, Thirumala P.O, Thiruvananthapuram, Kerala
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 80th meeting of SEAC held on 11th October 2017
5. Minutes of the 75th meeting of SEIAA held on 28th October 2017
6. Minutes of the 78th meeting of SEIAA held on 15th December 2017
7. Affidavit received on 02.02.2018 from Mr.M. Najeeb, President of M/s Spring Infradev Limited

ENVIRONMENTAL CLEARANCE NO.20/2018

Mr.M. Najeeb, President of M/s Spring Infradev Limited, TC – 37/3315, Pavithram, Thirumala P.O, Thiruvananthapuram, Kera a vide his application received on 18.04.2017 has sought Environmental Clearance under EIA Notification, 2006 for the residential apartments cum commercial complex building project in Sy. Nos. 111/7, 112/ (1, 7-13,14, 15,16,18,23-25,28) 116 (5,6,14) of Pangappara Village, Thiruvananthapuram Taluk, Thiruvananthapuram District , Kerala. It is interalia, noted that the project comes under the Category B, 8(a) of Schedule of EIA Notification 2006.

The proposed project site falls within 8°33'42.34"N and 76°53'58.49"E. The total plot area of the proposed project site is 1.948 Ha(19480 sq.m) and the total built-up area is 107773.54 sq.m. The total project cost is 190 Crores.

Details of the project as provided by the project proponent.

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

PROJECT DETAILS	
File No	1099/EC/SEIAA/2017
Name /Title of the project	Spring Infradev Ltd
Name and address of project proponent.	Mr. M. Najeeb TC – 37/3315, Pavithram, Thirumala P.O, Thiruvananthapuram, Kerala. Mobile: 9349 349 999 E-Mail: trv@springindia.in
Owner of the land	M/s Spring Infradev Ltd
Survey Nos. District/Taluk/ and Village etc.	Sy. Nos. 111/7, 112/ (1, 7-13, 14,15, 16, 18, 23-25, 28) 116(5, 6, 14) Pangappara Village, Thiruvananthapuram Taluk, Thiruvananthapuram District, Kerala State.
Category/Sub Category and Schedule	Category 'B' 8(a)
Date of submission of Application	04/10/2016
Total Built up Area & No. of Floors	Build Up Area – 107773.54 sq.m& Floor – Basement (3 Floors) + 31
No of apartments	370 Apartments
Height of the building from the ground level	137.82 mtrs
GPS Co-ordinate	Latitude (N) $8^0$33'42.34" N Longitude(E) $76^0$53'58.49" E
Brief description of the project.	The construction project is situated at Sy. Nos. Sy. Nos. 111/7, 112/ (1, 7-13, 14,15, 16, 18, 23-25, 28) 116 (5, 6, 14) Pangappara Village, Thiruvananthapuram Taluk, Thiruvananthapuram District, Kerala State with built-up area 107773.54 sq.m which is more than 20,000 sq.m and less than 1,50,000sq.m. Total plot area = 1.948 Ha(19480 sq.m) And the project is proposed as Residential Apartments cum commercial complex building project.
Is it a new Project or expansion/modification of an existing project?	New Project
Details of the Project Cost	Rs. 190 Crores
If CRZ recommendation applicable?	Not Applicable
Distance from nearby habitation	50 mtrs

Distance from nearby forest, if applicable	No
Distance from protected area, Wildlife Sanctuary, National Park etc.	No
Distance from nearby streams/rivers/National Highway Roads and Airport	Direct access from the MDR Trivandrum International Airport – 10km
Is ESA applicable? If so, distance from ESA limit	Not Applicable
IMPACT ON WATER	
Details of water requirement per day in KLD	For construction purposes requirement would be about 40 KL per day will be met from treated water from STP & stored rain water. The total daily domestic water consumption for the proposed project would be 370. KLD (45 ltr. Per capital per day for staffs, 70 ltr. Per capita per day for restaurant, 135 ltr per day for service apartments).
Water source/sources.	1. Rain Water (Rainy Days) (Non-flushing requirement) 2. Treated water from STP (Flushing Req.) (Entire Year)
Details of water requirements met from water harvesting.	Sufficient quantity will be maintained from RWH
What are the impacts of the proposal on the ground water?	No impacts noticed
WASTE MANAGEMENT	
Explain the facilities for Liquid waste Management	The domestic water requirement is expected to be 30 KL per day and for construction purposes would be about 40 KL per day. Further, by use of ready mix concrete (RMC) & curing agents the water will be reduced by substantially. The major part of this quantity will be fully consumed and the liquid waste generation during period would be about 25 KL/day and this quantity of domestic waste would be disposed through the mobile sanitation systems which would be provided to the labourers and the sewage from the mobile toilets would be connected to a sewage treatment plant to be constructed within the site. The non bio-degradable waste, the empty cement bags, other packaging materials etc. would be disposed to the vendors.
Solid Waste Management	Some waste will be sent along with bio-degradable waste and sent to the bio-gas generation plant.
E-Waste Management	Various types of electronic waste including PC shall be collected separately and stored in an identified room and will be disposed as per E Waste (Management & Handling) Rules, 2012.

Facilities for Sewage Treatment Plant	The sludge from S.T.P. will be partially recycled for enhancing biological treatment and the excess sludge will be sent to the bio-gas generation facility and the bio-gas produced will be used within the premises and the manure produced will be used in green area during operation phase.
How much of the water requirement can be met from the recycling of treated waste water? (Facilities for liquid waste treatment)	The proposed project has provision for treatment of sewage and the quantity of treated water from STP which is fit for recycling to meet flushing requirement (105 KLD), horticulture (35KLD) requirement and (100 KLD) make-up water for cooling towers attached to HVAC system requirement. The daily fresh water requirement (200 KLD) will be reduced by recycling of treated waste water. The details of recycling and it's usage are provided.
What is the incremental pollution load from waste water generated from the proposed activities?	There would be no incremental pollution load from wastewater generated from the proposed activity because the whole waste water of this project would be treated through proposed S.T.P. within the project area and the treated water from STP will be fully re-used. Therefore, no discharge to the external sewage system. Therefore, no impact from the project site.
How is the storm water from within the site managed?	The rain water will be stored for meeting the non-flushing water requirement during rainy days. The surface runoff will be properly channelized to the storm water drain after de-silting and oil removal.
Will the deployment of construction labourers particularly in the peak period lead to unsanitary conditions around the project site (Justify with proper explanation)	The proposed project has provision of portable sanitation system during the construction period to handle the construction workers. Further, the sewage from the mobile sanitation system will be channelized to a sewage treatment plant (350 KLD capacity) to be installed during construction phase.
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 proposed construction project has provision of Sewage Treatment Plant (S.T.P.) of 300.KL per day capacity to treat sewage during construction phase and an STP of capacity of about 260 KL/day (20% extra capacity) within the project premises to treat the sewage during operation phase with treatment theory based on MBBR technology. The total quantity of sewage generation will be 290 KL/day. The treated water of about 180 KL/day will be recycled for meeting the

	flushing, horticulture and cooling requirement. There will be no discharge from the proposed project after development of the proposed project.
Give details of dual plumbing system if treated waste is used for flushing of toilets or any other use.	The treated waste water from the proposed Sewage Treatment Plant will be used for flushing, horticulture and cooling purposes and for which dual plumbing system is proposed.
TRAFFIC MANAGEMENT	
Sufficiency of Parking Space (Explain)	Adequate parking is provided. Car parking – 505 cars Two wheeler - 1500
Widthof access road	The public road has a width of about 7 m
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?	4406Kw. Kerala State Electricity Board & D.G. Sets (standby)
What type of, and capacity of power back-up to you plan to provide?	The project proponent has made provision of D.G. Sets 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 low emissivity with 26% of façade area and low U value which will meeting the specification as per ECBC code. The further details are :- Roof will be insulated with vermiculite (50 mm) + brick coba (100 mm) + tiles (25 mm) above the RCC slab (150 mm).
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.
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 plans. The project proponent shall make provision for solar panel system (hot water purpose) in Hotel / Restaurant and solar energy devices will be used for street lighting, emergency lighting in the proposed project. Further, provision would be made to set-up a Solar Power Plant based on Photo-Voltaic (PV) technology, on the roof top of the building. The size of the proposed solar power plant is calculated to be 20 KWP, which would require an area of around 280 sq.m. on the roof top which is available. The solar power plant is proposed to be connected at LT level (0.433 kV) in paralled with the electrical grid of the institute. The solar power plant would be able to generate more than 30,000

	units annually and cater to partial electrical requirement of the building during the day. The entire generation from the solar power plant would be self-consumed by the commercial complex and hence batteries are not required for storage purposes. Additional requirement of power during the day would be met by the supply from electrical grid or D.G. sets. It is envisaged that the proposed solar power plant would result in substantial saving of electricity from the gird or diesel consumption in D.G. sets.
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.
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?	In order to bring down the pollution level to its permissible values (as per the directives of pollution Control Board), the project proponent will use only low Sulphur fuel i.e. 0.25% or lower and install an Acoustic Enclosure/ canopy over this D.G. set to achieve minimum 25 dBA insertion loss as per CPCB regulation.
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.
What is the rate of air non-conventional energy technologies are utilized in the overall energy consumption? Provide details of the renewable energy technologies used.	The total power requirement 4406 Kw will be supplied by Kerala State Electricity Board. The project will make provision of D.G. Sets (1,600 kVA x 2 nos+ 1000 kVA + 500kVA.) as standby arrangement of electricity. The proposed project will have provision of power saving light and

	maximum natural light will be provided to minimize energy consumption. 1. Water cooled chillers in place of air cooled chillers which are energy intensive & the treated water available from STP would be used as make-up water attached to the water cooled chillers. 2. Solar Energy operated Photovoltaic lighting for partial external areas 3. Savings in energy by the use of LED lamps. 4. Solar water heating system for hot water requirement in the restaurant/foodcourt. 5. Electrical fixtures & HVAC unit would be of 5 star series as per Bureau of Energy Efficiency (BEE) to achieve reduction in energy consumption. 6. As per Climate Zone Map of India Classification, the project site falls in "Warm & Humid Zone" 7. Building materials selection would be in compliance to Energy Conservation Building Code (ECBC) for the above climate zone since the building proposed is a centrally air conditioned building. The project proponent has made provision of D.G. Sets as standby arrangement of electricity.
Details of renewable energy (non – conventional) used.	Not Applicable
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.
Details of internal traffic management of the site.	Traffic will be managed without generating air pollution.
Details of noise from traffic, machines and vibrator and mitigation measures	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	Impact of air quality is measured through monitoring of parameters such as: Suspended Particulate Matter (SPM)

	Sulphur dioxide (SO_2) Oxides of Nitrogen (NO_x) Carbon monoxide (CO)
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 Traffic Management study report prepared by NATPAC is enclosed with the application.
Provide details of the movement patterns with internal roads, bicycles tracks, Pedestrian pathways, footpaths etc., with areas under each category	NATPAC Report is submitted.
Will there be significant increase in traffic noise & vibrations? Give details of the sources and the measures proposed for mitigation of the above.	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 not be any significant impact to the surroundings. The D.G. sets would be attached with proper anti vibration pads to reduce to any vibration impact to the site surrounding.
IMPACT ON BIODIVERSITY AND ECO RESTORATION PROGRAMMES	
Will the project involve extensive clearing or modification of vegetation (Provide details)	Not applicable
What ate the measures proposed to minimize the likely impact on vegetation (details of proposal for tree plantation/ landscaping)	Not applicable
Is there any displacement of fauna – both terrestrial and aquatic – If so what are the mitigation measures ? Presence of any endangered species or red listed category (in detail)	Not Applicable
SOCIO- ECONOMIC ASPECTS	
Will the proposal result in any change to the demographic structure of local population ? Provide the details.	The proposed Residential cum commercial building project in operation phase would occupy about 2200 Persons (floating) etc.
Give details of the existing social infrastructure around the proposed project	There are several schools, colleges, religious places commercial and residential buildings, Govt. and private offices 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?	No
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 building is a centrally air conditioned building, the selection of building materials plays a major role in the energy consumption. The proposed project will make all attempt 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 low U value.
Transport and handling of materials during construction may result in pollution, noise & public nuisance. What measures are taken to minimize the impacts?	All vehicles transporting 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 transporting 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.
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 details are given below:- SOLID WASTE • The proposed project will generate about 680 Kg/day from the proposed project. • The solid waste from the proposed project will be segregated into two categories at source itself as per Municipal Solid Waste Rules, 2000 by providing appropriate colored bins i.e., Bio-degradable (green bins) & non-biodegradable (blue bins). • BARC model bio-gas generation plant would be installed for disposal of bio-degradable waste & sludge from STP. • The bio-gas generated (expected to be

	about 25 kg/day) would be consumed in the kitchen attached with a restaurant within the site. • The manure produced from the bio-gas generation facility would be used for green area development within the premises • Non-biodegradable waste like empty bottles, plastic bags etc. will be sold to the vendors. HAZARDOUS WASTE • As per Hazardous Waste (Management & Handling Rules), 2003, the hazardous waste i.e., the used oil from D.G. sets, discarded oil filters and discarded batteries and stored separately and will be disposed to CPCB / SPCB authorized vendors only. • M/s Pefect Alloys, Chenganpur, M/s Peejay Enterprises, Thiruvalla , M/s Excel Petrochemicals, Kochi and M/s CeeJee Lubricants, Aluva are the approved recyclers for discarded batteries & used oil located in Kerala. e-WASTE • Various types of electronic waste including PC shall be collected separately and stored in an identified room and will be disposed as per E Waste (Management & Handling) Rules, 2012.
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.	No disaster is; however as an emergency the assistance of the hospital, police station and fire brigade will be arranged I war-foot level
Storage of explosives/hazardous substance in detail	Not Applicable
What precautions & safety measures are proposed against fire hazards? Furnish details of emergency plans	Not Applicable
Litigation/court cases if any	Not Applicable
AESTHETICS	
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?	There are no features / structures which are of scenic beauty and therefore, the proposed project in no way work as an obstruction of view.
Will there be any adverse impacts from	There will be no any adverse impacts due to the

new constructions on the existing structures? What are considerations taken into account?	development of the proposed project
Whether there are any local considerations of urban form & urban design influencing the design criteria? They may be explicitly spelt out.	The proposed project would be constructed in conformity with the Kerala Municipal Building Rules (KMBR).
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	There is no report of existence of any anthropological or archaeological site nearby the project area. The proposed project is located in Residential / Commercial Area. The vicinity map showing the site & surrounding area is provided.
Details of CSR activity and the amount set apart per year	Yes, Total CSR proposal is for Rs. 30,00,000. Recurring- Rs. 23,00,000 and Non Recurring- Rs. 7,00,000
Details of NABET approved EIA Consultant engaged-Their name, address and accreditation details	**LALL & ASSOCIATES,** Architecture Engineering Planning, E-29, Green Park Main, New Delhi.
Details of Authorized Signatory and address for correspondence	Mr. M. Najeeb TC – 37/3315, Pavithram, Thirumala P.O, Thiruvananthapuram, Kerala. Mobile: 9349 349 999 E-Mail: trv@springindia.in
SUMMARY AND CONCLUSION	
Overall justification for implementation of the project.	The project infrastructures can be utilized for the benefit of the local people of the area. The revenue of the State Govt. will be definitely increasing due to the proposed activity by means of CRP as well as the processing fee for appropriate statutory clearances involved in the procedures. The entire project area is devoid of any endangered flora and fauna as specified in the IUCN records and the area is totally far from any other protected areas under the Wildlife Protection Act as well as the Forest Act. It is proposed to reclaim the land and develop green cover for eco-restoration with native species to a maximum extent as far as possible.
Explanation of how adverse impact have been mitigated.	a. The pit shall be fenced. b. Proper and adequate security at the entrance to prevent entry of unauthorized person with proper gates under lock. c. All the above will be examined by manager once in a week to ensure that they are in order.

2. The proposal was placed in the 71st meeting of SEAC held on 20th& 21st April 2017 and decided to defer the item for field inspection. The committee also directed the proponent to submit the following additional documents/ details.

1. *Water balance chart with clarity*
2. *Details of waste management facility*
3. *Quantification of earth cutting & filling*
4. *Details of streams passing through the site*
5. *Proper earmarking of common assembly point and material recovery space.*
6. *A proper parking diagram.*
7. *Rainwater storage facility for atleast 10 days' requirement.*
8. *Quantify the total energy proposed to be met from solar energy.*
9. *Details of tree planting proposed in the area.*

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 is for a residential cum commercial project located along the busy NH 66 at Pangappara between Sreekaryam and Kazhakkoottam. The sloping segment of NH takes a sharp turn near the plot and the one among the two entry/exits to/from the project is planned towards this curve. The plot slopes down from the NH to a valley and rises up on the other side. This valley is part of an elongated stretch of now disused wetland for which the proponents have obtained permission to convert under KLU order 1968. The proposal consists of four residential towers and a commercial building with frontage towards the NH. Following are the observations based on the site visit.

1. *Car parking provision is made for 505 cars and 1500 two wheelers which is adequate*
2. *The exit /entry for the project are directly from the NH where service road is not available and very near to a sharp turn. There will be heavy traffic generated from this project bound for both directions. This will create conflict points in the NH where traffic is busy and fast which may create accidents and congestion which is not advisable. The proponents may be advised to submit traffic management plans prepared by NATPAC or some other reputed agencies to mitigate this situation*
3. *Proponents should submit a copy KLU order.*
4. *Proponents' plans to leave 16.2 m set back from the centre line of the NH based on directions from the NH authorities. Again minimum 4.5m set back shall be provided.*

The proponents have claimed that they have provided more than this requirement. The distance of 16.2 m and 4.5 m planned as set back is mandatory. Additional space in the form of a service road for the to and fro movement/queue of vehicles from the project site is also needed. They should submit an updated map indicating the space allocated for the above purpose.

5. *Proponents should submit the latest cadastral map of the project site and its vicinity*
6. *The storm water channel that passes through the site is presently defunct. This should be regenerated keeping it entry point and exit point same as before. The channel should be of sufficient capacity to drain the peak runoff without causing flooding.*
7. *Rain water harvesting pond capacity of 300 KL should be provided and location marked*
8. *STP shall be of zero discharge*
9. *Earth cutting/filling quantity must be submitted along with slope stability measures to be adopted during construction and after. The common boundary with NH shall be properly benched/graded so as to prevent any event of slope failure*

3. The proposal was 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 additional documents/clarifications as suggested by the inspection team.

4. The proponent has submitted the documents sought by 75th SEAC. The proposal was considered in the 80th meeting SEAC held on 11th October 2017. The proposal was appraised by SEAC considering Form I, Form IA, Conceptual plan, field visit report and all other documents and details provided by the proponent. The Committee decided to Recommend for issuance of EC subject to the general conditions in addition to the following specific condition.

1. *Since the site of the proposal is adjacent to a National Highway with heavy traffic, the suggestions and recommendations detailed by NATPAC in its report No. 01/TMP/HED/NATPAC dated 15.09.2017 shall be strictly adhered to.*
2. *The stormwater channel that passes through the site is presently defunct. This should be regenerated keeping it entry point and exit point same as before. The channel should be of sufficient capacity to drain the peak runoff without causing flooding.*
3. *Rain water harvesting pond capacity should be of 300 KL.*

4. *STP shall be of zero discharge*

SEIAA may obtain an appropriate commitment from the proponent towards CSR activities.

5. The proposal was placed before 75th SEIAA meeting held on 28/10/2017. As the height of the building is 137.82 mtrs from the ground level, Authority decided to ask the proponent to get the sanction from the Airport Authority. Also opinion from the fire safety department regarding the permissible height of the building should be submitted. After examination Authority also decided to have a personal hearing with the proponent, in view of the remarks of the inspection team.

6. The proponent has submitted the relevant documents sought by the Authority. The proposal was again placed in the 78th meeting of SEIAA held on 15th December 2017. The proponent and the Engineer attended the hearing.

Authority accepted the recommendation of SEAC and decided to issue EC subject to general conditions in addition to the following specific conditions.

1. *Since the site of the proposal is adjacent to a National Highway with heavy traffic, the suggestions and recommendations detailed by NATPAC in its report No. 01/TMP/HED/NATPAC dated 15.09.2017 shall be strictly adhered to.*
2. *The storm water channel that passes through the site is presently defunct. This should be regenerated keeping it entry point and exit point same as before. The channel should be of sufficient capacity to drain the peak runoff without causing flooding.*
3. *Rain water harvesting pond capacity should be of 300 KL.*
4. *STP shall be of zero discharge.*
5. *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.*

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. The proponent has submitted the affidavit vide

reference 7th cited.

7. Environmental Clearance as per the EIA Notification 2006 is therefore granted for the residential apartments cum commercial complex building project in Sy. Nos. 111/7, 112/ (1, 7-13, 14, 15, 16, 18, 23-25, 28) 116 (5, 6, 14) of Pangappara Village, Thiruvananthapuram Taluk, Thiruvananthapuram District of Mr.M. Najeeb, President of M/s Spring Infradev Limited, TC – 37/3315, Pavithram, Thirumala P.O, Thiruvananthapuram, Kerala, subject to the conditions in para 6 above and 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.M. Najeeb, President of M/s Spring Infradev Limited, TC – 37/3315, Pavithram, Thirumala P.O, Thiruvananthapuram, Kerala – 695006.

Sd/-
P.H.KURIAN I.A.S
Member Secretary (SEIAA)

To,

Mr.M. Najeeb,
President of M/s Spring Infradev Limited,
TC – 37/3315, Pavithram, Thirumala P.O,
Thiruvananthapuram, Kerala - 695006

Copy to:

1. MoEF Regional Office, Southern Zone, KendriyaSadan, 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, Thiruvananthapuram
6. The Member Secretary, Kerala State Pollution Control Board
7. The Secretary, Thiruvananthapuram Corporation, Thiruvananthapuram – 695 033
8. Chairman, SEIAA, Kerala
9. Website
10. Stock file
11. 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