FORM-1

FOR

ENVIRONMENTAL CLEARANCE

FOR THE PROPOSED

RESIDENTIAL cum COMMERCIAL BUILDING PROJECT

'ARTECH FERNS'

AT
AMMACHIVEEDU
KOLLAM WEST VILLAGE
KOLLAM TALUK
KOLLAM DISTRICT

BY

MR J FELIX BABU & MR JOHN A FERNS
GREEN LAND, SAKTHIKULANGARA,
KOLLAM TALUK, KOLLAM DISTRICT

FORM 1

(I) Basic Information

Serial Number	Item	Details
1.	Name of the project/s	Artech Ferns Residential cum Commercial Building
2.	S.No. in the schedule	8 (B2)
3.	Proposed capacity/area/length/tonnage to be handled/ command area/lease area/number of wells to be drilled	Total Plot area: 9227.16 m^2 Total Built-up area including residential and commercial: 53807.73 m^2 Built up area for residential: 49163.63 m^2 Built up area for Commercial: 4644.1 m^2 Height of the building: 110m No.of Flats: 225 No.of Floors: B+G+32
4.	New/Expansion/Modernization	New
5.	Existing Capacity/Area etc.	Not Applicable
6.	Category of Project i.e.'A' or 'B'	8 (B2)
7.	Does it attract the general condition? If yes, please specify.	Not Applicable
8.	Does it attract the specific condition? If yes, please specify	Not Applicable
9.	Location	Ammachiveedu
	Plot/Survey/Khasra No.	238/11, 238/11-2
	Village	Kollam West
	Tehsil	Kollam
	District	Kollam
	State	Kerala
10.	Nearest railway station/airport along with distance in kms	Kollam Railway Station at a distance of 2.8 km Trivandrum International Airport at a distance of 68 km
11.	Nearest Town, city, District Headquarters along with distance in kms.	Kollam(Quilon) at a distance of 6 km
12.	Village Panchayats, ZillaParishad., Municipal Corporation, Local body (complete postal	Kollam West Village, Kollam Taluk, Kollam District, Kerala

	addresses with telephone nos. to be given	
13.	Name of the applicant	Mr. Felix Babu and Mr John A Ferns
14.	Registered address	Green Land, Sakthikulangara, Kollam District, Kerala
15.	Address for correspondence:	Mr Viju Varghese Artech Realtors Pvt Ltd Artech House , TC/24/2014(1) Thycaud Thiruvananthapuram, 695014
	Name	Mr Viju Varghese
	Designation(Owner/Partner/CEO)	Deputy General Manager-MEP
	Address	Artech Realtors Pvt Ltd Artech House TC/24/2014(1) Thycaud Thiruvananthapuram, 695014
	Pin Code	695014
	E-mail	viju@artechrealtors.com
	Telephone No.	9388189889
	Fax No.	--
16.	Details of Alternative Sites examined, if any. Location of these sites should be shown on a toposheet.	Not Applicable
17.	Interlinked Projects	No
18.	Whether separate application of interlinked project has been submitted?	Not Applicable
19.	If yes, date of submission	Not Applicable
20.	If no, reason	Not Applicable
21.	Whether the proposal involves approval/clearance under: if yes, details of the same and their status to be given (a)The Forest (Conservation) Act,1980? (b) The Wildlife (Protection) Act,1972? (c) The C.R.Z.Notification,1991?	Not Applicable
22.	Whether there is any Government Order/Policy relevant/relating to the site?	Not Applicable
23.	Forest land involved (hectares)	Not Applicable
24.	Whether there is any litigation pending against the project and / or land in which the project is propose to be set up? (a) Name of the Court (b) Case No. (c) Orders/directions of the Court, if any and its relevance with the proposed project	No

(II) Activity

1. Construction, operation or decommissioning of the Project involving actions, which will cause physical changes in the locality (topography, land use, changes in water bodies, etc.)

<table>
<tr><th>S.No.</th><th>Information/Checklist confirmation</th><th>Yes/No</th><th>Details thereof (with approximate quantities /rates, wherever possible) with source of information data</th></tr>
<tr><td>1.1</td><td>Permanent or temporary change in land use, land cover or topography including increase in intensity of land use (with respect to local land use plan)</td><td>Yes</td><td>The plot has some existing dilapidated and unoccupied residential buildings and a private dispensary and the remaining area is occupied with coconut trees and other garden trees. The existing buildings will be demolished and the private dispensary will be relocated.
There are 5 existing structures at the site. The area statements are as follows. All of them will be demolished.
<table>
<tr><td>Structure</td><td>Area in m^2</td></tr>
<tr><td>1 (12 bed dispensary)</td><td>441.97</td></tr>
<tr><td>2 (staff quarters)</td><td>123.49</td></tr>
<tr><td>3</td><td>328.88</td></tr>
<tr><td>4</td><td>130.48</td></tr>
<tr><td>5</td><td>15.30</td></tr>
</table>
The site will be developed in to a residential cum commercial building</td></tr>
<tr><td>1.2</td><td>Clearance of existing land, vegetation and buildings?</td><td>Yes</td><td>
<table>
<tr><td>Common Name</td><td>Scientific Name</td><td>No.of Trees in the site</td></tr>
<tr><td>Coconut tree</td><td>Cocosnucifera</td><td>110</td></tr>
<tr><td>Indian almond</td><td>Terminaliacatappa</td><td>14</td></tr>
<tr><td>Mango Tree</td><td>Mangiferaindica</td><td>8</td></tr>
<tr><td>Papaya</td><td>Carica papaya</td><td>7</td></tr>
<tr><td>Bamboo</td><td>Bambusoideae</td><td>21</td></tr>
<tr><td>Banana</td><td>Musa acuminata</td><td>28</td></tr>
<tr><td>Teak</td><td>Tectonagrandis</td><td>3</td></tr>
<tr><td>Drumstick</td><td>Moringaoleifera</td><td>5</td></tr>
<tr><td>Neem</td><td>Azadirachtaindica</td><td>3</td></tr>
<tr><td>Jackfruit</td><td>Artocarpusheterophyllus</td><td>5</td></tr>
</table>
</td></tr>
</table>

			tree | | Cashew | *Anacardiumoccidentale* | 4 Rain Tree | *Albizia saman* | 2
1.3	Creation of new land uses?	No	The project site has old residential buildings and a private the remaining area is open plot with end of life coconut trees and some garden trees. Site will be developed as a residential cum commercial building
1.4	Pre-construction investigations e.g. bore houses, soil testing?	Yes	Geotechnical Investigation has been carried out.
1.5	Construction works?	Yes	Construction of Residential and commercial building
1.6	Demolition works?	Yes	Demolition of dilapidated buildings in the project site. The private dispensary will be relocated. There are 5 existing structures at the site. The area statements are as follows. All of them will be demolished. Structure | Area in m^2 1 (12 bed dispensary) | 441.97 2 (staff quarters) | 123.49 3 | 328.88 4 | 130.48 5 | 15.30
1.7	Temporary sites used for construction works or housing of construction workers?	No	No housing for construction workers is planned as the labourers deployed will be accommodated offsite and will be the responsibility of the contractor.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations	Yes	The building has one basement floor, ground floor and 32 above ground floors. The earth obtained from cutting shall be utilized for road laying and levelling.
1.9	Underground works including mining or tunneling?	No	Does not involve mining or tunnelling
1.10	Reclamation works?	No	Not involved
1.11	Dredging?	No	Not involved
1.12	Offshore structures?	No	Not involved
1.13	Production and manufacturing processes?	No	Not involved
1.14	Facilities for storage of goods or materials?	Yes	During construction phase temporary storage facilities will be created to store the construction raw materials.

1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	• For treatment of sewage, STP will be constructed. • Treated sewage will be recycled for flushing and gardening • The sludge from STP will be dried composted and used as manure • The solid waste generated shall be segregated at source to organics and recyclables • All the organic solid waste generated will be treated onsite in a biogas plant • All the recyclable and domestic hazardous solid waste shall be stored and sold to recyclers
1.16	Facilities for long term housing of operational workers?	No	All the operational workers will be from the district itself and no housing accommodation will be provided to them.
1.17	New road, rail or sea traffic during construction or operation?	Yes	Additional road traffic during the operation phase is envisaged
1.18	New road, rail, air waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No	No new transport infrastructure is required. The existing road has the capacity to cater for the additional traffic
1.19	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	No	There will not be any closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements
1.20	New or diverted transmission lines or pipelines?	No	Not Applicable
1.21	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	no	There will not be any impoundment, damming, culverting, realignment or other changes to the hydrology of water courses or aquifers
1.22	Stream crossings?	No	There are no stream crossings
1.23	Abstraction or transfers of water form ground or surface waters?	Yes	Water will be extracted from the existing open wells and the bore wells.
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	There is no water body in the immediate vicinity that may be affected by runoff. There will be an increase in run off after the development which will be intercepted and used to recharge groundwater. Hence runoff likely to be reduced in the post construction scenario.
1.25	Transport of personnel or materials for construction, operation or decommissioning?	Yes	There will be transport of personnel and construction materials during the construction phase. Precautions will be taken to reduce the impact of the vehicular movement by

			scheduling the vehicular trips for non peak hours
1.26	Long-term dismantling or decommissioning or restoration works?	No	Not applicable
1.27	Ongoing activity during decommissioning which could have an impact on the environment?	No	Not applicable
1.28	Influx of people to an area in either temporarily or permanently?	Yes	Since it is a residential cum commercial development, there will be influx of people to occupy the dwelling units. It is estimated that there will be an influx of maximum 2104 persons to occupy the residential units (225 flats/units), commercial space and supporting personnel)
1.29	Introduction of alien species?	No	There will not be any introduction of alien species. Only indigenous plants will be raised in the green belt
1.30	Loss of native species or genetic diversity?	No	Site will be developed into a residential cum commercial building with 225 apartments. At present site has 110 coconut trees, 28plantain tree, 21 bamboo tree, 14 Indian almond, 3 Rain tree, 3 Neem tree, 5 Drum stick, 8 mango tree, 7 papaya 4cashew tree, 6 teaks. These trees along with weeds and colonizers should be cleared. There will not be any loss of native species or genetic diversity.
1.31	Any other actions?	No	Not applicable

2. **Use of Natural resources for construction or operation of the Project (such as land, water, materials or energy, especially any resources which are non-renewable or in short supply):**

S.No.	Information/checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
2.1	Land especially undeveloped or agricultural land (ha)	No	The project site has an existing old hospital with end-of life buildings and garden land with coconut plantation and some other trees. The old buildings will be demolished and new building will be

<table>
<tr><td></td><td></td><td></td><td>constructed.</td></tr>
<tr><td>2.2</td><td>Water (expected source & competing users) unit: m^3</td><td>Yes</td><td>
<table>
<tr><th>Description</th><th>Quantity of water required (m^3)</th><th>Source of water supply</th></tr>
<tr><td colspan="3">Construction Phase</td></tr>
<tr><td>For workers (domestic)</td><td>0.45</td><td>Drinking water cans</td></tr>
<tr><td>For workers (flushing)</td><td>2.3</td><td>Open well and Borewell</td></tr>
<tr><td>For Construction activity</td><td>15</td><td>Open well and bore well</td></tr>
<tr><td colspan="3">Operation Phase (Non Monsoon Season)</td></tr>
<tr><td>Domestic use</td><td>127</td><td>KWA supply, Harvested rain water after filtration and UV disinfection and bore wells</td></tr>
<tr><td>Flushing</td><td>69</td><td>Treated sewage from STP</td></tr>
<tr><td>HVAC</td><td>37</td><td>Treated sewage from STP</td></tr>
<tr><td>Gardening</td><td>21</td><td>Treated sewage from STP</td></tr>
<tr><td>Swimming pool</td><td>1</td><td>KWA supply, Harvested rain water after filtration and UV disinfection and</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td></td><td></td><td></td><td>
<table>
<tr><td></td><td></td><td>bore wells</td></tr>
<tr><td>Total</td><td>255</td><td></td></tr>
<tr><td colspan="3">Operation Phase (Monsoon Season)</td></tr>
<tr><td>Domestic use</td><td>133</td><td>KWA supply, Harvested rain water after filtration and UV disinfection and bore wells</td></tr>
<tr><td>Flushing</td><td>69</td><td>Treated sewage from STP</td></tr>
<tr><td>HVAC</td><td>37</td><td>Treated sewage from STP</td></tr>
<tr><td>Swimming pool</td><td>1</td><td>KWA supply, Harvested rain water after filtration and UV disinfection and bore wells</td></tr>
<tr><td>Total</td><td>234</td><td></td></tr>
</table>
</td></tr>
<tr><td>2.3</td><td>Minerals (MT)</td><td>No</td><td>No minerals are required, except for aggregated which are derived from minor minerals.</td></tr>
<tr><td>2.4</td><td>Construction material – stone, aggregates, sand / soil (expected source – MT)</td><td>Yes</td><td>The construction materials required during the construction phase are
Steel – 2376 MT
Coarse aggregate - 8023 m^3
Fine aggregate – 3894 m^3
Cement - 4412.906 MT(88259 bags of 50 kg)</td></tr>
<tr><td>2.5</td><td>Forests and timber (source – MT)</td><td>No</td><td>Not required</td></tr>
<tr><td>2.6</td><td>Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)</td><td>Yes</td><td>Power requirement during Construction Phase(Residential) – 45 kW

Power requirement during Construction Phase (Commercial)– 20 kW</td></tr>
</table>

			Power requirement during Operation Phase(Residential)- 2000 KVA Power requirement during Operation Phase(commercial)- 160 KVA
2.7	Any other natural resources (use appropriate standard units)	Yes	Provision of solar powered lighting with 15 kW solar panel systems for common area and outdoor lighting. This will save 120 Units/day. Consideration has been taken for maximum use of solar energy

3. Use, storage, transport, handling or production of substances or materials, which could be harmful to human health or the environment or raise concerns about actual or perceived risks to human health.

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
3.1	Use of substances or materials, which are hazardous (as per MSIHC rules) to human health or the environment (flora, fauna, andwater supplies)	No	The only hazardous materials used during construction will be fuels and engine oils in makeup quantities. Proper management of these materials will leave no significant impact on the environment.
3.2	Changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)	No	The site will be maintained free of stagnant water to avoid breeding of vectors. Hence vector borne diseases are not likely to occur.
3.3	Affect the welfare of people e.g. by changing living conditions?	Yes	Will positively affect the quality of life of local people by providing affordable housing and direct employment in the project.
3.4	Vulnerable groups of people who could be affected by the project e.g. hospital patients, children, the elderly etc.,	No	None of the vulnerable groups are located in the neighbourhood of the site.
3.5	Any other causes	No	None

4. Production of solid wastes during construction or operation or decommissioning (MT/month)

<table>
<tr><th>S.No.</th><th>Information/Checklist confirmation</th><th>Yes/No</th><th>Details thereof (with approximate quantities/rates, wherever possible) with source of information data</th></tr>
<tr><td>4.1</td><td>Spoil, overburden or mine wastes</td><td>No</td><td>Not Applicable</td></tr>
<tr><td>4.2</td><td>Municipal waste (domestic and or commercial wastes)</td><td>Yes</td><td>
<table>
<tr><td rowspan="2">Average No. of construction workers per day</td><td colspan="3">Solid Waste generation (kg/day)During construction phase</td></tr>
<tr><td>Non-Biodegradable</td><td>Biodegradable</td><td>Total</td></tr>
<tr><td>150</td><td>9</td><td>21</td><td>30</td></tr>
</table>
<table>
<tr><td colspan="4">Solid Waste generation (kg/day) During operation phase</td></tr>
<tr><td>Building</td><td>Non-Biodegradable</td><td>Bio degradable</td><td>Total</td></tr>
<tr><td>Residential</td><td>242</td><td>565</td><td>807</td></tr>
<tr><td>Commercial</td><td>169</td><td>45</td><td>214</td></tr>
<tr><td>Total</td><td>411</td><td>610</td><td>1021</td></tr>
</table>
</td></tr>
<tr><td>4.3</td><td>Hazardous wastes (as per Hazardous Waste Management Rules)</td><td>Yes</td><td>Waste oil generated from DG set shall be stored at separate location duly marked and will be sold to the CPCB authorized recyclers.</td></tr>
<tr><td>4.4</td><td>Other industrial process wastes</td><td>No</td><td>Not applicable</td></tr>
<tr><td>4.5</td><td>Surplus product</td><td>No</td><td>Not applicable</td></tr>
<tr><td>4.6</td><td>Sewage sludge or other sludge from effluent treatment</td><td>Yes</td><td>Sewage sludge from STP will be digested in the biogas plant</td></tr>
<tr><td>4.7</td><td>Construction or demolition wastes</td><td>Yes</td><td>Construction waste of inorganic origin will be used to lay foundation of roads and walkways.</td></tr>
</table>

4.8	Redundant machinery or equipment	No	Any machinery or equipment used for construction will be removed from site by the contractor as per the terms of contract.
4.9	Contaminated soils or other materials	No	Not applicable
4.10	Agricultural wastes	No	Not applicable
4.11	Other solid wastes	No	Not applicable

5. Release of pollutants or any hazardous, toxic or noxious substances to air (Kg/hr)

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources	Yes	D.G set (Residential-200 KVA, Commercial- 160KVA) will be installed as back up. The DG sets will meet standards prescribed by CPCB.
5.2	Emissions from production processes	No	No production process is involved
5.3	Emissions from materials handling including storage or transport	Yes	Fugitive dust emission due to handling and loading unloading activities is envisaged during construction phase. So as to reduce this offsite produced ready mix concrete will be used. To minimize traffic related dust, areas of vehicular movement in and around the project site will be sprayed with water.
5.4	Emissions from construction activities including plant and equipment	Yes	The project may cause rise in dust levels during construction phase. Precautions would be taken to reduce dust generation during construction phase by the following management practices. • Use of Ready Mix Concrete(RMC) will eliminate the handling of cement, sand and concrete thus dust emission will be minimized • Water will be sprinkled at regular intervals to reduce dust in areas of vehicular movement.

5.5	Dust or odours from handling of materials including construction materials, sewage and waste	Yes	Dust generation will be controlled by • Use of RMC will eliminate the handling of cement, sand and concrete • Water sprinkling will be done at regular intervals • The STP will operate in aerobic mode and no odours are expected • Proper ventilation will be provided for STP to eliminate stagnant air • Food waste will be charged into biogas plant within 24 hours and STP sludge will be digested in the biogas plant
5.6	Emissions from incineration of waste	No	Not applicable
5.7	Emissions from burning of waste in open air (e.g. slash materials, construction debris)	No	As a good environmental management practice, wastes will not be burnt.
5.8	Emissions from any other sources	No	Not applicable

6. Generation of Noise and Vibration, and Emissions of Light and Heat:

S.No.	**Information/Checklist confirmation**	**Yes/No**	**Details thereof (with approximate quantities/rates, wherever possible) with source of information data with source of information data**
6.1	From operation of equipment e.g. engines, ventilation plant, crushers	Yes	For control of noise following measures shall be adopted: • Only permanent installations conforming to CPCB standardswill be present • Noise generating equipment will have regulative measures and performance evaluation • Vibration generating heavy machines will be installed on vibration damping foundation • High noise generating construction activities would be out only during day time • Workers working near high noise construction machinery would be supplied with ear plugs and their

			exposure duration will be as per recommended intervals and duration • No blasting is needed • Construction work will be done only during the day time to avoid annoyance to workers
6.2	From industrial or similar processes	No	Not applicable
6.3	From construction or demolition	Yes	Noise Pollution Control : Noise pollution will occur due to operation of machinery and movement of vehicles. The following good management practices would be implemented. High noise generating construction activities would be carried out only during day time • Installation, use and maintenance of mufflers and silencers on equipment • Workers working near high noise construction machinery would be supplied with ear muffs/ear plugs
6.4	From blasting or piling	No	Not applicable
6.5	From construction or operational traffic	Yes	**During Construction phase:** Vehicular trips will be scheduled for nonpeak traffic hours and avoiding the time slots for conveyance of the school children **Operation Phase :** Entrance to the site is designed and manned to avoid traffic hold up at entrance. Circulation and parking will be one-way only so that traffic flow will be smooth. Adequate parking space is provided to avoid on-road parking. Green belt and garden trees will be planted to mitigate noise, traffic related pollution and heat island effect.
6.6	From lighting or cooling systems	No	Building space will be illuminated according to task based standards. External lighting will be controlled so as not to cause illumination beyond the project site. Vehicular and pedestrian circulation areas will be provided with pathway illuminating fittings so that stray light emission to the

			surroundings can be avoided
6.7	From any other sources	No	Not applicable

7. Risks of contamination of land or water from releases of pollutants into the ground or into sewers, surface waters, groundwater, coastal waters or the sea:

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
7.1	From handling, storage, use or spillage of hazardous materials	No	This is residential cum commercial project. Hence hazardous materials will not be handled except for fuels used in vehicles, and special oils used in vehicles and machinery. No maintenance workshop is proposed on site. Hence hazards from these materials will not occur.
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place ofdischarge)	No	Sewage and sullage will be collected and treated as per norms prescribed by State Pollution Control Board. The treated water will be reused for flushing and gardening within the premises. Excess quantity of treated sewage would be polished through subsurface flow engineered wetland integrated with the landscape and then discharged in to the existing drain.
7.3	By deposition of pollutants emitted to air into the land or into water	No	Dust will be generated during construction phase from earthworks and movement of vehicles. Appropriate fugitive dust control measures, including water sprinkling of exposed areas and dust covers for trucks, will be provided to minimize any impacts. DG stack height shall be as per CPCB guidelines.
7.4	From any other sources	No	Not applicable

7.5	Is there a risk of long term build up of pollutants in the environment from these sources?	No	Not applicable

8. Risk of accidents during construction or operation of the Project, which could affect human health or the environment

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous substances	No	Storage of reserve fuel will be permitted. No hazardous materials will be used.
8.2	From any other causes	No	Not applicable
8.3	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslides, cloudburst etc)?	Yes	The site has a sandy soil formation and is not prone to landslide or subsidence. The site is not prone to flood. Storm water runoff will be controlled by intercepting the run off for roof top harvesting and for ground water recharging. This will help to reduce contribution of the development to offsite flooding. **Earthquake :** The structure of the building is designed as per IS codes for zone III.

9. Factors which should be considered (such as consequential development) which could lead to environmental effects or the potential for cumulative impacts with other existing or planned activities in the locality

S. No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data
9.1	Lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.: • Supporting infrastructure (roads, power supply, waste or waste water treatment, etc.)	Yes Yes	The site is not served by Centralized Sewage System. Independent STP will be installed for treating the sewage This project is for developing residential cum commercial

	• housing development • extractive industries • supply industries • other	 No No No	developments Not applicable Not applicable Not applicable
9.2	Lead to after-use of the site, which could have an impact on the environment	No	Not applicable
9.3	Set a precedent for later developments	Yes	Kollam Corporation area is undergoing a very precarious situation regarding infrastructure, especially housing and roads. The project is located on the outskirts is easily accessible to major locations like Collectorate, NSS college, SN college, Thangassery beach, etc. It is also easily accessible to Schools, Colleges, Hospitals, etc The location will slowly develop in to active suburb with shopping malls and other services to cater to the dwelling units. The project will also create / add job opportunities for support staff like Security, Maintenance, and Household Workers etc.
9.4	Have cumulative effects due to proximity to other existing or planned projects with similar effects	No	Not applicable

(III) Environmental Sensitivity

S.No.	**Areas**	**Name/ Identity**	**Aerial distance (within 15 km.) Proposed project location boundary**
1	Areas protected under international conventions, national or local legislation for their ecological, landscape, cultural or other	No	None within 15 km radius

	related value		
2	Areas which are important or sensitive for ecological reasons - Wetlands, watercourses or other water bodies, coastal zone, biospheres, mountains, forests	No	None within 15 km radius
3	Areas used by protected, important or sensitive species of flora or fauna for breeding, nesting, foraging, resting, over wintering, migration	No	None within 15 km radius
4	Inland, coastal, marine or underground water	Ashtamudi Lake (estuary) Arabian Sea(Thangassery beach)	Distance of 13 km Distance of 1.6 km
5	State, National boundaries	No	None
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	No	---
7	Defence installations	No	Not Applicable
8	Densely populated or built-up area	Kollam	Distance of 6 km

9	Areas occupied by sensitive man-made land uses *(hospitals, schools, places of worship, community facilities)*	**Schools**	
		1. Deva matha convent school	0.35 km
		2. Trinity Lyceum school, cutchery	0.36 km
		3. St. Aloysius H.S school	0.53 km
		Colleges	
		1. NSS College, Kaankathumukk	0.40 km
		2. Karmela Rani Training College	0.53 km
		3. SN College	2 km
		4. Bishop Benziger College	3 km
		5. Fatima Matha National college	3.2 km
		6. SreeNarayana college, Kollam	3.2 km
		Hospitals	
		1. Dr.Kumardas Hospital	0.55 km
		2. Amruthanjaliayurveda Hospital	0.8 km
		3. Kollam District Hospital	1.2 km
		4. ESIC Super speciality Hospital	2 km
		5. Bishop BenzigerHospital	2.3 km
		6. Upasana Hospital	2.5 km
		7. Shankars Hospital	2.7 km
		Temples	
		1. Ammachiveedu moorthy temple	Nearby (100 mtrs)
		2. Mahaganapathy Temple	0.25 km
		3. Devi Temple, Thevally	0.7 km
		4. SreeUmamahesw	

		ara swami temple 5. Thirumullavaram sriMaha Vishnu swami temple 6. Sree Krishna temple **Church** 1. Vaddy church 2. Holy Cross church 3. Infant Jesus Cathedral 4. Thomas Church 5. St.Casimirs church 6. St.Thomas CSI church **Mosque** 1. Collectorate Mosque 2. JonakappuramValiyapalli 3. Mavalli Muslim Jamath 4. Kollam Markaz 5. Pallithottam Mosque	1.4 km 2 km 4.2 km 0.5 km 0.6 km 1 km 1.6 km 1.8 km 3.4 km 0.34 km 0.9 km 1 km 1 km 1.6 km
		Kollam Lighthouse Tourist Facilities-Thangassery Beach, Kollam	Aerial distance of 0.6 km

"I hereby given undertaking that the data and information given in the application and enclosures are true to the best of my knowledge and belief and I am aware that if any part of the data and information submitted is found to be false or misleading at any stage, the project will be rejected and clearance give, if any to the project will be revoked at our risk and cost.

Date: 12th June 2017
Place: Thiruvananthapuram

Mr. Viju Varghese

Deputy General Manager (MEP)

Artech Realtors Pvt Ltd
Artech House
TC 24/2014 (1)
Thycaud
Thiruvananthapuram-14