

FORM 1
FOR ENVIRONMENTAL CLEARANCE
OF PROPOSED
600 BED HOSPITAL CUM GERIATRIC RESIDENTIAL
BUILDING PROJECT
**‘TRIVANDRUM
INTERNATIONAL MEDICAL CENTRE’**

AT
MAMAM
IN EDACODU AND KIZHUVILAM VILLAGES
CHIRAYINKEEZHU TALUK
THIRUVANANTHAPURAM DISTRICT
KERALA

BY
M/s TRIVANDRUM INTERNATIONAL MEDICAL CENTRE PVT LTD
TC/2/376/36, Near ULLOOR BRIDGE
PALMGROOVE VILLA LANE, PATTOM
THIRUVANANTHAPURAM
PIN 695004

APPENDIX I

FORM 1

(I) Basic Information

Serial Number	Item	Details
1.	Name of the project/s	Trivandrum International Medical Centre
2.	S.No. in the schedule	8 (a) (Category B2)
3.	Proposed capacity/area/length/tonnage to be handled/ command area/lease area/number of wells to be drilled	The proposed project includes a 600 bed hospital, staff quarters and a geriatric centre. It has two separate parking buildings. Built up area of the hospital = 72, 339 m ² Built up area of the staff quarters = 2,052 m ² Built up area of the geriatric centre = 33,754 m ² Built up area of the parking structures = 27519.71m ² The total built up area of the proposed project = 135664.71m ²
4.	New/Expansion/Modernization	New project
5.	Existing Capacity/Area etc.	Not applicable
6.	Category of Project i.e. 'A' or 'B'	Category B
7.	Does it attract the general condition? If yes, please specify.	No, it does not attract the general condition
8.	Does it attract the specific condition? If yes, please specify	No, it does not attract the special condition
9.	Location	Mamam, Attingal, Thiruvananthapuram
	Plot/Survey/Khasra No.	Edacodu Village: 318/1,318/2, 318/3, 318/4, 318/5, 318/6, 318/7, 318/8, 318/9, 318/10, 318/11, 318/12, 318/13, 318/14, 318/15, 318/16, 318/17, 318/18, 319/1, 319/2, 319/3, 319/4, 319/5, 319/6, 319/7, 319/9, 320/1, 320/2, 320/3, 320/4, 320/14, 320/22 Kizhuvilam Village: 225/11, 229/2, 229/4, 229/5, 229/6, 229/7, 229/8, 229/9, 229/10, 229/11.
	Village	Edacodu and Kizhuvilam
	Tehsil	Chirayinkeezhu

	District	Thiruvananthapuram
	State	Kerala
10.	Nearest railway station/airport along with distance in kms	Nearest railway stations are Chirayinkeezhu railway station at an aerial distance of 5.48 km and Kadakkavur railway station at an aerial distance of 7.2 km. The nearest airport is Trivandrum International Airport which is at an aerial distance of 24 km
11.	Nearest Town, city, District Headquarters along with distance in kms.	Nearest town is Attingal at an aerial distance of 2.4 km. Nearest city is Thiruvananthapuram at an aerial distance of 21 km The district head quarters is at Thiruvananthapuram
12.	Village Panchayats, Zilla Parishad., Municipal Corporation, Local body (complete postal addresses with telephone nos. to be given	The site falls under two villages Edacode and Kizhuvilam. Address of Edacode Village Panchayat: Edacode Village Office Chavadimukku Thiruvananthapuram Address of Kizhuvilam Village Panchayat: Kizhuvilam Grama Panchayat Mudapuram P.O. Thiruvananthapuram - 695314 Office Phone:0470-2640342
13.	Name of the applicant	M/s Trivandrum International Medical Centre Pvt Ltd
14.	Registered address	M/s Trivandrum International Medical Centre Pvt Ltd TC/2/376/36, Near Ulloor bridge, Palmgroove Villa lane, Pattom, Thiruvananthapuram Pin 695004
15.	Address for correspondence:	Dr Abdul Nazar Y Managing Director TC/2/376/36 Near Ulloor Bridge, Palmgroove Villa Lane, Pattom, Trivandrum, 695004
	Name	Dr Abdul Nazar Y

	Designation(Owner/Partner/CEO)	Managing Director
	Address	TC/2/376/36 Near Ulloor Bridge, Palmgroove Villa Lane, Pattom, Trivandrum
	Pin Code	695004
	E-mail	reji@artechrealtors.com
	Telephone No.	9387517800
	Fax No.	-
16.	Details of Alternative Sites examined, if any. Location of these sites should be shown on a toposheet.	Not alternative site was considered
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 Not applicable Not applicable
22.	Whether there is any Government Order/Policy relevant/relating to the site?	No Government Order/Policy relevant/relating to the site
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. An affidavit to this regard is attached as Annexure 18 a

"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: 08/01/2016
Place: TRIVANDRUM

Modulryes

Signature of the applicant
With Name and Full Address
(Project Proponent / Authorized Signatory)
for TRIVANDRUM INTERNATIONAL MEDICAL
CENTRE PVT LLL



Authorised Signatory

Managing Director

(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.)

S.No.	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities /rates, wherever possible) with source of information data
1.1	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)	Yes	The project site is coconut and rubber garden land. Site will be developed into a Medical Centre having a 600 bed hospital block, staff quarters and a Geriatric Centre which can accommodate 270 geriatric patients. This involves modification of the topography
1.2	Clearance of existing land, vegetation and buildings?	Yes	Clearance of weeds, rubber trees, end-of-life coconut trees, garden trees and colonizers.
1.3	Creation of new land uses?	Yes	The project site is garden/plantation land. End of life coconut trees and rubber trees will be cleared. Site will be developed into a Medical Centre having a 600 bed hospital block, staff quarters and a Geriatric Centre which can accommodate 270 geriatric patients along with all necessary infrastructure such as STP, ETP, Storm water management Structures etc
1.4	Pre-construction investigations e.g. bore houses, soil testing?	Yes	Geotechnical Investigation has been carried out and is attached as Annexure 14
1.5	Construction works?	Yes	Construction of Medical Centre having a 600 bed hospital block, staff quarters and a Geriatric Centre which can accommodate 270 geriatric patients
1.6	Demolition works?	No	No demolition works are involved
1.7	Temporary sites used for construction works or housing of construction workers?	No	Nil, No housing or construction works involved as the labourers deployed are from the nearby localities. Any accommodation required shall be given offsite
1.8	Above ground buildings, structures or earthworks including linear structures, cut and	Yes	The hospital building has one basement floor and the geriatric

	fill or excavations		building is built on stilt and 4 basement floors. Out of the two parking structures, one has two basements and the other has none. Cutting and filling are needed during construction and road laying. The quantity of earth cutting involved = 71968.75 m³ The quantity of earth filling involved = 38049.75 m³ The quantity of excess earth = 33919 m³ The excess earth available at site shall be reused for landscaping
1.9	Underground works including mining or tunneling?	No	Does not involve mining or tunneling
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 material.
1.15	Facilities for treatment or disposal of solid waste or liquid effluents?	Yes	• For treatment of effluent and sewage, effluent treatment followed by STP will be constructed. • The sludge from STP will be dried composted and used as manure • The solid waste generated shall be segregated at source to biomedical waste, organics and recyclables • Bio medical waste will be segregated & stored separately and conveyed to ground level/based level separate room & then handed over to vendors approved by the Government (IMAGE) • All organic solid waste generated will be treated onsite in mechanized biogas plant • All the recyclable solid

			waste will be sold to recyclers
1.16	Facilities for long term housing of operational workers?	No	All operational workers will be from the nearby places 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. The site has direct access to NH47
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 site is adjacent to NH 47 and hence it 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 is no stream crossing
1.23	Abstraction or transfers of water from ground or surface waters?	Yes	Water will be extracted from the existing bore wells.
1.24	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	There will be an increase in run off after the development which will be intercepted and used to recharge groundwater. Excess runoff will be temporarily detained and released in a controlled way. 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 construction materials during the construction phase. Precautions will be taken to reduce the impact of the vehicular movement by trying to avoid the vehicular trips during 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 medical centre, there will be influx of people to the hospital as well as to the geriatric centre as patients, by standers, visitors etc and there will be

			hospital and geriatric centre staff and other supporting staff also. The maximum occupancy estimated is 3238 persons including visitors
1.29	Introduction of alien species?	No	There will not be any introduction of .alien species. Only indigenous plants will be planted and raised for landscaping
1.30	Loss of native species or genetic diversity?	No	At present the site is a rubber plantation with rubber, end of life coconut trees and weedy bushes. 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 proposed site has rubber plantation with no dwelling unit in it. There are scattered dwelling units around the area.		
2.2	Water (expected source & competing users) unit: KLD	Yes	Descripti on	Quantity of water required (kLD)	Source of water supply
			Construc tion phase		
			For workers (domestic)	10	Bottled cans
			For workers (flushing)	12.5	Bore well
			For constructi on activity	10-20 (Dependi ng on the constructi on activity)	Bore well

			Operation phase (Non Monsoon Season)		
			Domestic	287	Bore well after treatment (filtration and UV disinfection) and Rainwater harvesting
			Flushing	151	Treated sewage from STP
			Gardenin g	26	Treated sewage from STP
			Swimmin g pool	1	Borewell after treatment (filtration and UV disinfection)
			HVAC	456	Treated sewage from STP, Bore well after treatment (filtration and UV disinfection) and Rainwater harvesting
			Total	921	
			Operation phase (Monsoon Season)		
			Domestic	287	Bore well after treatment (filtration and UV disinfection) and Rainwater harvesting
			Flushing	151	Treated sewage from STP
			Swimmin g pool	1	Borewell after treatment (filtration and UV disinfection)
			HVAC	456	Bore well after treatment (filtration and UV disinfection) , Rainwater

					harvesting and treated sewage from STP
			Total	895	
2.3	Minerals (MT)	No	No minerals are required, except for aggregates which are derived from minor minerals.		
2.4	Construction material – stone, aggregates, sand / soil (expected source – MT)	Yes	The construction materials required during the construction phase are Steel: 5728 Tonnes Cement :533898 Bags Fine aggregate :18538 m ³ Coarse aggregate :46345 m ³		
2.5	Forests and timber (source – MT)	No	Not required		
2.6	Energy including electricity and fuels (source, competing users) Unit: fuel (MT), energy (MW)	Yes	Power requirement during the construction phase is 200 kW and during the operation phase is 3957.5 kW		
2.7	Any other natural resources (use appropriate standard units)	Yes	Provision of solar water heaters for hot water. This is expected to effect in 2-3% savings in grid 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, and water supplies)	Yes	The only hazardous materials used during construction will be fuels and engine oils. Proper management of these materials will leave no significant impact on the environment. During the operation phase, for treatment with nuclear medicine, radioactive isotopes will be used. Radioactive source storage, their use, radioactive waste storage and disposal of radioactive waste will be according to the Atomic Energy Regulatory Board guidelines
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 impounded 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	Since the medical centre will have a super speciality hospital with all modern facilities and equipment, it will positively affect the healthcare sector. The Geriatric Centre will provide a calm and serene atmosphere for the elderly to stay along with access to modern health care facilities. Will positively affect the quality of life of local people by providing 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.,	Yes	Since the medical centre will have a super speciality hospital with all modern facilities and equipment, it will positively affect the healthcare sector. The Geriatric Centre will provide a calm and serene atmosphere for the elderly to stay along with access to modern health care facilities
3.5	Any other causes	No	None

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

S.No	Information/Checklist confirmation	Yes/No	Details thereof (with approximate quantities/rates, wherever possible) with source of information data											
4.1	Spoil, overburden or mine wastes	No	Not applicable											
4.2	Municipal waste (domestic and or commercial wastes)	Yes	<table border="1"> <tr> <th rowspan="2">Average No of construction workers per day</th><th colspan="3">Solid Waste generation (kg/day) During construction phase</th></tr> <tr> <th>Non Biodegradable</th><th>Biodegradable</th><th>Total</th></tr> <tr> <td>500</td><td>30</td><td>70</td><td>100</td></tr> </table>	Average No of construction workers per day	Solid Waste generation (kg/day) During construction phase			Non Biodegradable	Biodegradable	Total	500	30	70	100
Average No of construction workers per day	Solid Waste generation (kg/day) During construction phase													
	Non Biodegradable	Biodegradable	Total											
500	30	70	100											

			Buildi ng	Biomedical Waste generation (kg/day) during operation phase from the hospital		
				Biomed cal waste	Non biode grada ble	Total
			Hospi tal beds	108	612	720
			Buildi ng	Non-Infectious Solid Waste generation (kg/day) during operation phase		
				Biodegra dable	Non Biode grada ble	Total non infectiou s waste
			Hospi tal beds	428.4	183.6	612
			Buildi ng	Biomedical Waste generation (kg/day) during operation phase from the hospital		
				Biodegra dable	Non biode grada ble	Total
			Hospi tal and the Geriat rics	959	411	1370
4.3	Hazardous wastes (as per Hazardous Waste Management Rules)	Yes	In the hospital, for treatment with nuclear medicine, radioactive isotopes will be used. Radioactive source storage, their use, radioactive waste storage and disposal of radioactive waste will be according to the Atomic Energy Regulatory Board guidelines. Waste oil generated from DG sets shall be stored at separate location duly marked and will be sold to the CPCB authorized recyclers.			

4.4	Other industrial process wastes	No	Not applicable
4.5	Surplus product	No	Not applicable
4.6	Sewage sludge or other sludge from effluent treatment	Yes	Dried and matured sludge from STP will be used as manure for gardening.
4.7	Construction or demolition wastes	Yes	Construction waste of inorganic origin will be used to lay foundation of roads and walkways.
4.8	Redundant machinery or equipment	No	This 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. Sets will be used during power failure, as per CPCB norms.
5.2	Emissions from production processes	No	Not applicable
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 ready mix concrete will be used. To minimize traffic related dust, areas of vehicular movement will be sprayed with water containing organic humectants; this will reduce quantity of water needed for dust suppression.
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 RMC will eliminate the handling of cement, sand and concrete

			thus dust emission will be minimised Water sprinkling will be done at regular intervals to reduce control of dust generation
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 to suppress dust generated by vehicles - The STP will operate in aerobic mode Proper ventilation will be provided for STP
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 in the open air. Construction waste of inorganic origin will be used to lay foundation of roads and walkways.
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 (but insignificant)	For control of noise following measures shall be adopted: - Properly maintained equipment will be used - High noise generating construction activities would be carried out only during day time - Workers working near high noise construction machinery would be supplied with ear plugs - Work site will be secluded by 3 m high profile sheets
6.2	From industrial or similar processes	No	Not applicable

6.3	From construction or demolition	Yes	Noise pollution will occur due to operation of machinery and movement of the 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 on equipment • Workers working near high noise construction machinery would be supplied with ear plugs
6.4	From blasting or piling	No	Not applicable
6.5	From construction or operational traffic	Yes	During Construction phase: There will be transport of materials for construction work. Vehicular trips will be scheduled for non-peak traffic hours. Operation Phase : Entrance will be 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 and traffic related pollution.
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.
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	In the hospital, for treatment with nuclear medicine, radioactive isotopes will be used. Radioactive source storage, their use, radioactive waste storage and disposal of radioactive waste will be according to the

			Atomic Energy Regulatory Board guidelines Waste oil generated from DG sets shall be stored at separate location duly marked and will be sold to the CPCB authorized recyclers.
7.2	From discharge of sewage or other effluents to water or the land (expected mode and place of discharge)	No	Effluent from the hospital, sewage and sullage will be collected and treated as per norms prescribed by State Pollution Control Board. Activated Sludge Process will be used for treatment of effluent. For treatment of sewage, MBBR technology will be adopted The treated water will be reused for HVAC, flushing and gardening within the premises.
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	Not applicable
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 stable laterite formation and is not prone to landslide or subsidence. Storm water runoff will be controlled by intercepting the run off from 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.
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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.) - housing development - extractive industries - supply industries - other	Yes No No No No	ETP will be installed for treating the effluent and STP will be installed for treating the sewage Residential staff quarters is provided with the hospital which can accommodate around 41 staff. 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	Trivandrum Corporation area is undergoing a very precarious situation regarding infrastructure, especially housing and roads. The project is located on the outskirts. The location will slowly develop in to active suburb with shopping malls and other services to cater to the Medical Centre. The

			project will also create / add job opportunities for support staff like Security, Maintenance, 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 related value	No	None within 15 km radius
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 waters	Arabian Sea Mamam River	7.3km Abutting two sides of the site
5	State, National boundaries	No	None
6	Routes or facilities used by the public for access to recreation or other tourist, pilgrim areas	No	None
7	Defence installations	Pallippuram CRPF camp	8.00 km
8	Densely populated or built-up area	Attingal town	2.00 km

9	Areas occupied by sensitive man-made land uses (<i>hospitals, schools, places of worship, community facilities</i>)	Mamam St.Jude Church	0.8 km
		Mamam Mahadeva Temple	
		Indiyilappan Temple	1 km
		Sreegokulam Public school	1.8 km
		Tvm International School	2 km
		College Of Engineering Attingal	2.8 km
		Ahalya Foundation Eye Hospital	2.1 km
		Melattingal Siva Temple	2 km
		RV Hospital	4.5 km
		Chirayinkeezhu Hospital	4.5 km
		Govt UP school	5.3 km
		Kilimanoor Govt. High school	6.7 km
		Ayiravalli Temple	10 km
		VSSC Central school	13 km
10	Areas containing important, high quality or scarce resources (<i>ground water resources, surface resources, forestry, agriculture, fisheries, tourism, minerals</i>).	No	None
11	Areas already subjected to pollution or environmental damage. (<i>those where existing legal environmental standards are exceeded</i>)	No	None
12	Areas susceptible to natural hazard which could cause the project to present environmental problems (<i>earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions</i>)	No	None

(IV). Proposed Terms of Reference for EIA studies: Not applicable