Initial Environmental Examination

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IND: Agartala City Urban Development Project – Upgradation of Major Roads in Agartala City PART C

Prepared by Project Management Unit, Agartala Smart City Limited, Government of Tripura for the Asian Development Bank.

No.	Questions to be considered in Scoping	Yes / No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
9.4	By placing increased demands on local facilities or services eg housing, education, health?	Yes	increased demand on local facilities which increases the load on natural resources consumption.	No. The impact on the local facilities will not be significant.
9.5	By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	Yes	Requirement of labour for the construction works prioritize the local people hence, providing employment opportunities to the local people.	Yes (Positive impact) The workers (both skilled and unskilled) will gain experience that they can use in the future in other similar kind of works. Improvement of roads will create new business opportunities.
9.6	Any other causes?			
Question - Are there any other 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?				
10.1	Will the project lead to pressure for consequential development which could have significant impact on the environment e.g. more housing, new roads, new supporting industries or utilities, etc?	Yes	The roads will act as catalyst for development of the surrounding areas and there may be new developments like commercial establishments, malls etc.,	Yes. The anticipated new developments followed by the road projects will result significant environmental impacts due to raw material requirement for the subsequent developments.
10.2	Will the project 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	Yes	Yes, the project may lead to other developmental projects.	Yes. The project will lead to overall development in the area. Positive Impact

No.	Questions to be considered in Scoping	Yes / No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	(roads, power supply, waste or waste water treatment, etc) housing development extractive industries supply industries other?			
10.3	Will the project lead to after-use of the site which could have an impact on the environment?	No	-	-
10.4	Will the project set a precedent for later developments?	Yes	Improved road infrastructure may create opportunities for other developmental infrastructures.	Yes Quality of life of the Agartala citizens will be improved with all the developmental works. Positive Impact.
10.5	Will the project have cumulative effects due to proximity to other existing or planned projects with similar effects?	Yes		

Part 2 - Characteristics of the Project Environment (Environmental Sensitivity)

Question 1 - Are there features of the local environment on or around the Project location which could be affected by the Project?	
• Areas which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No
• Other areas which are important or sensitive for reasons of their ecology e.g. • Wetlands, • Watercourses or other waterbodies, • the coastal zone, • mountains, • forests or woodlands	No
• Areas used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No No
• Inland, coastal, marine or underground waters?	Yes, the road proposed for the development is passes from main city roads from Post office Chowmuhani to connecting Akhaura road having commercial establishments and is susceptible to traffic congestion during the construction phase that may provide discomfort to the passer-by and
• Areas or features of high landscape or scenic value?	

• Routes or facilities used by the public for access to recreation or other facilities? • Transport routes which are susceptible to congestion or which cause environmental problems? • Areas or features of historic or cultural importance?	may disrupt the access to the roadside shops and houses There are no temples and cultural important places along the Mantribari road. However, the road construction is within the RoW, so no long-term impact is envisaged. The access to these temples will be temporarily affected during the period of construction.
Question 2 - Is the Project in a location where it is likely to be highly visible to many people?	Yes. the road proposed for the development is passes from main city roads from Post office Chowmuhani to connecting Akhaura road having commercial establishments and is visible to people.
Question 3 - Is the Project located in a previously undeveloped area where there will be loss of Greenfield land?	No
Question - Are there existing land uses on or around the Project location which could be affected by the Project? For example: • Homes, gardens, other private property, • Industry, • Commerce, • Recreation, • public open space, • community facilities, • agriculture, • forestry, • tourism, • mining or quarrying	Yes The houses, shops and other properties will be affected during the construction period due to disturbance in access to the property, air and noise pollution due to the construction activities etc.
Question 4 - Are there any plans for future land uses on or around the location which could be affected by the Project?	No
Question 5 - Are there any areas on or around the location which are densely populated or built-up, which could be affected by the Project?	Yes, there is dense population growth along all the roads proposed for development, these may people will be affected during the construction phase of the project. A well managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 6 - Are there any areas on or around the location which are occupied by sensitive land uses which could be affected by the Project? • hospitals, • schools, • places of worship, • community facilities	Yes, there will be temporary disturbance to access to the existing hospitals, offices, commercial establishments and community facilities along the roads proposed for development. A well managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 7 - Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the Project? For example: • groundwater resources, • surface waters,	No

• forestry, • agriculture, • fisheries, • tourism, • minerals.	
Question 8 - Are there any areas on or around the location of the Project which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No
Question 9 - Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes, the project area lies under Zone V. The structures in the proposed project are being built by following IS 1893 – Part 1 for Earthquake resistant designs for structures.
Question 10 - Is the Project likely to affect the physical condition of any environmental media? • The atmospheric environment including microclimate and local and larger scale climatic conditions? • Water – e.g. quantities, flows or levels of rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Soils – e.g. quantities, depths, humidity, stability or erodibility of soils? • Geological and ground conditions?	No, the project will not affect any physical condition of the environment; there will be improved road infrastructure after operation of road.
Question 11 - Are releases from the Project likely to have effects on the <u>quality</u> of any environmental media? • Local air quality? • Global air quality including climate change and ozone depletion • Water quality – rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Nutrient status and eutrophication of waters? • Acidification of soils or waters? • Soils • Noise? • Temperature, light or electromagnetic radiation including electrical interference? • Productivity of natural or agricultural systems?	Yes, the construction activities may affect local air quality through dust emissions especially during dry season. It also generates noise pollution by the movement of vehicles for transporting materials, and demolition works of RoW for road construction works.
Question 12 - Is the Project likely to affect the availability or scarcity of any resources either locally or globally? • Fossil fuels? • Water? • Minerals and aggregates? • Timber? • Other non-renewable resources? • Infrastructure capacity in the locality - water, sewerage, power generation and transmission,	No

telecommunications, waste disposal roads, rail?	
Question 13 - Is the Project likely to affect human or community health or welfare? • The quality or toxicity of air, water, foodstuffs and other products consumed by humans? • Morbidity or mortality of individuals, communities or populations by exposure to pollution? • Occurrence or distribution of disease vectors including insects? • Vulnerability of individuals, communities or populations to disease? • Individuals' sense of personal security? • Community cohesion and identity? • Cultural identity and associations? • Minority rights? • Housing conditions? • Employment and quality of employment? • Economic conditions? • Social institutions?	Yes, • This project may offer employment to the local people to involve as a construction worker. This can be viewed as positive impact of the project. • This project may also result in the occurrence or distribution of disease vector due to the temporary settlement of workers as they may not have access to safe water supply and sanitation. • Similarly, this project if properly implemented will have positive effect on the welfare of the local people as they will have better road infrastructure and pedestrian pathways, improved traffic flow which will improve their commuting experience.

Part 3: Significance of Impacts

Questions to be Considered
1. Will there be a large change in environmental conditions?
2. Will new features be out-of-scale with the existing environment?
3. Will the effect be unusual in the area or particularly complex?
4. Will the effect extend over a large area?
5. Will there be any potential for trans boundary impact?
6. Will many people be affected?
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?
8. Will valuable or scarce features or resources be affected?
9. Is there a risk that environmental standards will be breached?
10. Is there a risk that protected sites, areas, features will be affected?
11. Is there a high probability of the effect occurring?
12. Will the effect continue for a long time?
13. Will the effect be permanent rather than temporary?
14. Will the impact be continuous rather than intermittent?
15. If it is intermittent will it be frequent rather than rare?
16. Will the impact be irreversible?
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?

Thakurpalli Road
"No Mitigation Scenario Checklist" (Scoping Checklist)

Part 1 - Questions on Project Characteristics

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1. Will construction, operation or decommissioning of the Project involves actions which will cause physical changes in the locality (topography, land use, changes in water bodies, etc)?				
1.1	Permanent or temporary change in land use, land cover or topography including increases in intensity of land use?	Yes	The proposed project involves up gradation of the Thakurpalli Road, which is within the existing RoW. Following works are proposed for the sub project 1. Dismantling above ground utilities like electric, telephone cables 2. Clearing of drain silts 3. Dismantling existing brick storm water drains 4. Construction of RCC Drain 5. Repositioning of existing water lines, wherever required. 6. Development of Carriageway/ Road Surface 7. Improvement of Pathways/ walkways 8. Proposal for Underground Utility Corridors 9. Proposal for suitable streetscaping	No, there will not be any changes in land use and land cover, but, there will be changes in topography in terms of level of roads. The proposed project is to improve the road footpath conditions in Thakurpalli road, the land area will remain the same as there is no land acquisition involved and work will carried out in existing RoW.
1.2	Clearance of existing land, vegetation and buildings?	Yes	No clearance of land as this is reconstruction of existing road of 2.117 km length within the existing RoW.	No, Due to short length of road the duration of impact will be of short time and limited to construction phase only.
			Total 5 trees are required to be cut, 1 along the right side of the road and 4 along the left side of the road	Yes. The proposed trees to cut are common species. No threatened or endangered species of plant are sited in the proposed Thakurpalli road development area as per the 'Checklist of Rare and Threatened Plants of Tripura' listed in www.indiabiodiversity.org/checklist/show/201 The proposed tree cutting to may change the microclimatic conditions of the area.
1.3	Creation of new land uses?	No		
1.4	Pre-construction investigations e.g. boreholes, soil testing?	Yes	None. Soil investigation/ testing will be conducted for the road works, but this involves small area.	No. Geotechnical investigations will involve only obtaining a borehole sample for proposed infrastructures. Since undisturbed

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
				core would be extracted using a core cutter there would be no impacts on the topography or the geology.
1.5	Construction works?	Yes	Only immediate vicinity of the road will be affected. Road and allied works will potentially impact the immediate environment in terms of air quality due to generation of dusts and vehicle emissions, water pollution due to generation of wastewater from washings and siltation of the water bodies due to solid wastes from demolition and other construction activities. The roads will include utilities Existing Brick walled Storm water drains are proposed to be reconstructed into RCC structures below road surface. Two vent RCC structure is proposed. one vent (Towards the carriageway) shall carry Storm Water and other one (Towards the property line) shall carry Electrical and OFC cables. The vent for Electrical & OFC system will be provided below the footpath and SWD vent shall be provided below the carriageway OFC & Electrical cable is proposed in RCC cable trench system as per IS-1255: 1983. Footpath is provided above the RCC cable trench system.	Yes, because the construction works will take 21 months' time. The construction activities specially the wastes and emissions bring significant adverse impact to the receptors in the area (e.g. institutions and residential/ commercial establishments along the road).
1.6	Demolition works?	Yes	Demolition of existing roads drains and pathways for construction of new roads. The demolition will generate approx 3300 m3 muck from all the roads.	Yes. The demolition wastes will pose challenge to the passerby and surrounding people also it may result in siltation of water bodies if not removed immediately from the site.
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	Labour camps will be put up temporarily. There is a possibility of disposal of the solid and liquid wastes to nearby land or water bodies by the construction workers.	Yes. Depending on the size and number of laborers in the construction camps. Pollution of receiving bodies of water around the camps and degradation of aesthetics due to dumping of solid wastes are likely.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
				The construction camps will generate solid and liquid waste, these will change the water quality of the receiving water bodies and harm the aesthetics of the area if dumped openly without any processing.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations?	Yes	Earthwork excavation of quantity around 31,000 Cum for all the road works may temporarily affect the land use obstructing the access to by-roads, roadside premises, and houses. Cleaning of drains will generate around 1000 cum spoil	Yes. The storage of excavated material and other raw material stored will cause problems to people visiting park and passerby. Siltation of the water bodies at the downstream is also a problem during monsoon season.
1.9	Underground works including mining or tunneling?	Yes	No mining or Tunneling is involved in the project. Excavation for utility trenches and drainage system maximum to the depth of 2.5-3m is proposed.	Yes. Excavation for construction of roads and utility trenches lead to generation of muck, which if not disposed from site will contaminate the nearby water body and pose obstruction to the residents and passerby.
1.10	Reclamation works?	No		
1.11	Dredging?	No		
1.12	Coastal structures eg seawalls, piers?	No		
1.13	Offshore structures?	No		
1.14	Production and manufacturing processes?	No		
1.15	Facilities for storage of goods or materials?	Yes	Construction material excavated material etc. will be stored in heaps along the roads, these material heaps could affect aesthetics at the site, and mobility or free movement of pedestrians and vehicles.	Yes. The obstructions brought about by the material heaps could impede the flow of pedestrians and vehicles in the road stretch.
1.16	Facilities for treatment or disposal of solid wastes or liquid effluents?	Yes	Labour camp for about 25 inhabitants will generates both solid and liquid waste of around 10 Kg/ day and 2.7 KLD respectively. The solid and liquid wastes generated from the labour camps will pose water quality, soil quality and health issues if not processed/ handled properly.	Yes. The sewage generated from the labour camp may cause pollution of nearby water bodies if not treated, solid waste from the labour camp waste may also cause land contamination as well as pollution of water bodies.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
				The solid waste generated if not handled properly will contaminate the land and water bodies.
1.17	Facilities for long term housing of operational workers?	No		
1.18	New road, rail or sea traffic during construction or operation?	No		
1.19	New road, rail, air, waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No		
1.20	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	Yes	The construction will be in phased manner, closure of the road during construction works will be required. Some interior roads may also need temporary closure during construction.	Yes, Road closures during construction phase limited to the length of construction only.
1.21	New or diverted transmission lines or pipelines?	Yes	ICT Line, LT and HT Lines converted from above ground to underground networks and the excavation for underground trenches will generate excavated earth which if not stored and handled properly will pose environmental and safety issues.	Yes, The construction of utility duct and excavation involved will pose environmental, health and safety and aesthetic impacts due to contamination of water bodies, unsafe access to passerby.
1.22	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Slopes and design capacity of drains will be done as per existing rainfall data of the area	
1.23	Stream crossings?	No	Thakurpalli road will cross 9 drains. Cross drains across the roads are maintained as it is.	No, There is no change in the existing cross drain structures.
1.24	Abstraction or transfers of water from ground or surface waters?	No		
1.25	Changes in water bodies or the land surface affecting	Yes	The roadside storm water drains will be demolished and will be converted to underground RCC drains.	Yes. Short term impact only during the construction period.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	drainage or run-off?			However, the project will improve the drainage system by reduction in operation and maintenance issues.
1.26	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Transportation vehicles for the movement of around 25 workers/ personnel, construction equipment, and construction materials will generate dust and noise.	Yes. The dust and noise generated due to transportation of manpower and material will cause discomfort to the occupants of establishments and institutions in the area.
1.27	Long term dismantling or decommissioning or restoration works?	No	-	-
1.28	Ongoing activity during decommissioning which could have an impact on the environment?	No	-	-
1.29	Influx of people to an area in either temporarily or permanently?	No	-	-
1.30	Introduction of alien species?	No	-	-
1.31	Loss of native species or genetic diversity?	Yes	For the construction of Thakurpalli road, 31 trees will be cut, the species exist in those lands are common to the area and therefore no loss of native or genetic diversity is expected.	Yes. Local shrubs and trees are required to remove from the existing area for the construction activities
1.32	Any other actions?	No	-	-
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?				
2.1	Land especially undeveloped or agricultural land?	No	Construction of road and pathway is within the existing RoW, hence no land resource will be utilized.	No The works are proposed in already developed urban areas and it will not impact any underdeveloped or agriculture land.
2.2	Water?	Yes	During the construction phase, water would be used for construction purposes. During the operations phase, water would be used for watering the road side plantations and ornamental trees.	No, The quantity of water to be used during the construction phase is in small. In Agartala no new water source would be constructed as part of the project. The existing source (municipal water supply and ground water) would be sufficient to supply water for construction.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
2.3	Minerals?	Yes	Sand, gravel and soil for sub base of road. This will be sourced from Government approved quarries.	Yes. The huge quantities of sand and aggregates will likely have a significant impact to the aesthetics, topography and ecosystem at the sites or locations where they are sourced or quarried. Transportation of aggregate will also cause air pollution.
2.4	Aggregates?	Yes	The new road surface construction and excavated road repair would be the part of the project. This new construction and repairing of the pavement and concrete works in the project would require aggregates	
2.5	Forests and timber?	No	-	-
2.6	Energy including electricity and fuels?	Yes	None. The required energy, electricity, and fuel during construction activities, vehicle, equipment, and machinery operations are negligible compared to supply.	No. The site is located within urban area where electricity from grid is easily available.
2.7	Any other resources?	No		
3. Will the Project involve 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?				
3.1	Will the project involve use of substances or materials which are hazardous or toxic to human health or the environment (flora, fauna, water supplies)?	Yes	During the construction stage, likely leakage of discharge of Fuels like diesel, Petrol, and Oil & Grease will affect human health and environment.	Yes. Any Discharge of these substances will have adverse impacts to environmental quality and human health and may also affect the nearby flora and fauna.
3.2	Will the project result in changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)?	Yes	The labour camps would generate 10 kg per day of solid waste as well as 2.7 KLD of sewage. Thus, the camps have potential to spread diseases.	Yes. Airborne, water-borne or vector-borne diseases could spread or transmitted easily from the construction camps to the outside communities.
3.3	Will the project affect the welfare of people e.g. by changing living conditions?	Yes	Better traffic circulation, pedestrian movement and streetscapes will improve the living conditions of the residents	Yes, Throughout the operation stage of the project. This is a significant positive impact
3.4	Are there especially vulnerable groups of people who could be affected	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	by the project e.g. hospital patients, the elderly?			
3.5	Any other causes?	No		
4. Will the Project produce solid wastes during construction or operation or decommissioning?				
4.1	Spoil, overburden or mine wastes?	Yes	Excavation of drains and roads will produce spoil of around 30700 cum, of this around 5000 cum will be reused at site for backfilling and rest will be disposed at AMC authorized site. The spoil if not readily disposed at safe site, it will occupy the land and may create discomfort to the passer-by.	Yes. The material generated due to excavation will affect the regular walkway and passerby, during the construction period, the material may end up in water body if not stored and disposed properly.
4.2	Municipal waste (household and or commercial wastes)?	Yes	There would be generation of municipal waste from construction camps and during operation phase due to influx of visitors.	Yes. Municipal solid waste generated during the project may cause contamination of land and water bodies if not managed appropriately.
4.3	Hazardous or toxic wastes (including radioactive wastes)?	Yes	Bitumen will be used for the construction of roads, the likely leakage and emissions will cause health and environmental impacts.	Yes, The accidental spills/ leakages of bitumen will cause water and land pollution. Also, the emission from the bitumen during heating will pose health impacts to the workers and passerby.
4.4	Other industrial process wastes?	No		
4.5	Surplus product?	No		
4.6	Sewage sludge or other sludge from effluent treatment?	Yes	The sewage generated from labour camp of around 2.7 KLD may pose environmental and health impacts due to untreated discharge.	Yes, The sewage generated if discharged without treatment will cause ground and surface water pollution.
4.7	Construction or demolition wastes?	Yes	The drain dismantling work will generate around 3300 cum of demolition waste. The waste if not disposed at designated site, will pose environmental and safety issues by siltation of water bodies and causing uncomfort to passerby.	Yes. Construction and demolition wastes generated or produced during construction phase will change the aesthetics in the project area. Excavated Soil and demolition debris could clog drainages and could cause siltation of drains and pose difficulties to residents and passer-by for access.
4.8	Redundant machinery or equipment?	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
4.9	Contaminated soils or other material?	No		
4.10	Agricultural wastes?	No		
4.11	Any other solid wastes?	No		
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?				
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources?	Yes	Use of generators, machinery, and heavy vehicles during excavation and construction will generate emissions.	Yes. The impact of these emissions is significant to the health of all human receptors along the road construction sites.
5.2	Emissions from production processes?	No	-	-
5.3	Emissions from materials handling including storage or transport?	Yes	Vehicles used for transport of construction, material and machinery will produce emissions. Dust generation during unloading of materials such as cement, aggregates, etc. There is also a likelihood of re-entrainment of dust particle at the construction site due to movement of vehicles	Yes. The impact of these emissions is significant to the health of all human receptors around the construction sites.
5.4	Emissions from construction activities including plant and equipment?	Yes	Concrete batching plants, hot-mix plants for bituminous material production during road surfacing will cause emissions.	Yes. The impact of these emissions is significant to the health of all human receptors around the road construction sites.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste?	Yes	Air pollution due to dust generation during construction of roads, excavation and backfilling, handling of excavated and fill material, cement, sand, gravel, aggregates, etc.	Yes. The impact of these emissions is significant to the health of all people residing nearby and passerby.
5.6	Emissions from incineration of waste?	No	-	-
5.7	Emissions from burning of waste in open air (eg slash material, construction debris)?	Yes	The locality of the worker's camp may be affected by the open burning of waste generated from the worker's camp.	Yes. The impact of these emissions is significant to the health of all human receptors living in construction camps and those around the construction camp sites.
5.8	Emissions from any other sources?	No		
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?				

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
6.1	From operation of equipment eg: engines, ventilation plant, crushers?	Yes	Excavation of trenches by heavy machinery, cutters, etc. and subsequent compaction and road surfacing, use of generators, heavy vehicle movements will generate noise and vibration.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the road construction sites, including the workers.
6.2	From industrial or similar processes?	Yes	Production of concrete and bituminous products will generate noise. Crushers and borrow operations will generate high levels of noise.	Yes. The concrete mixers will cause noise in and around the area and bituminous hot mixes will result in heat radiation which will impact the surrounding population and passerby.
6.3	From construction or demolition?	Yes	The noise generated from the demolition of RoW for construction of roads and pathways may disturb the people residing at and passerby of core bazaar area.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the construction sites, including the workers.
6.4	From blasting or piling?	No		
6.5	From construction or operational traffic?	Yes	Movement of heavy machinery used for construction work and vehicles transporting construction materials may generate noise that would cause inconvenience to the surrounding communities of road.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the traffic congested sites, including the workers working at these sites.
6.6	From lighting or cooling systems?	No	Night time construction is not envisaged.	No. As per current practices the construction works are allowed only in day time and no lighting for night time working is required.
6.7	From sources of electromagnetic radiation (consider effects on nearby sensitive equipment as well as people)?	No	-	-
6.8	From any other sources?	No	-	-
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into sewers, surface waters, groundwater, coastal waters or the sea?				
7.1	From handling, storage, use or spillage of hazardous or toxic materials?	Yes	Due to accidental spillage / leakage of fuel and bitumen will pollute the land and water bodies.	Yes. The leakage / spillage of fuel and bitumen will result in land contamination and water pollution.
7.2	From discharge of sewage or other effluents (whether	Yes	The land and water bodies nearby the workers camp may be polluted	Yes. The impact of discharge of sewage or effluents to land is significant as

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	treated or untreated) to water or the land?		by the discharge of sewage from camp.	they could seep into the ground and pollute the groundwater. Likewise, the impact of discharge of sewage or effluent to receiving bodies of water in the area is significant as they could pollute the water and subsequently the aquatic species.
7.3	By deposition of pollutants emitted to air, onto the land or into water?	Yes	The land nearby the workers' camp may be polluted by the construction related activities and daily activities of the workers residing there temporarily.	Yes. The discharge of pollutants to air, water or soil will contaminate these natural resources.
7.4	From any other sources?	No		
7.5	Is there a risk of long-term build-up of pollutants in the environment from these sources?	No		
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?				
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous or toxic substances?	Yes	Road work involves handling of hot-mix, and such jobs have potential for causing burn injuries to workers. Similarly, handling of cement, paints, solvent and production/handling of concrete, may affect the workers' health if not handled properly.	Yes. The explosion and spillage will result in human injury and may pose contamination of land and water and thus it is a significant impact.
8.2	From events beyond the limits of normal environmental protection e.g. failures of pollution control systems?	No	-	-
8.3	From any other causes?	Yes	Accidents can happen due to the carelessness of workers and lapses of safety procedures at the construction sites during the excavation, laying of bitumen etc., and these accidents will impact the human health in terms of injury.	Yes. The impact of accidents is very significant because it can lead to either disability or loss of lives of workers or community people.
8.4	Could the project be affected by natural disasters causing environmental damage (e.g. floods,	Yes	The project location is situated in High risk earth quake zone (Zone V) as per the Earthquake map released from National Disaster Management Authority (NDMA), Ministry of Home Affairs (MoH) Government of India. There may be impacts related to earthquake and flooding.	Yes. There would be damages to the structures in case of earthquake and flooding incidences

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	earthquakes, landslip, etc)?			
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?				
9.1	Changes in population size, age, structure, social groups etc?	Yes	Increased service level of transportation and reliability will create a higher demand for property in the project beneficiary areas.	Yes. There is a chance of in-migration due to this project that will marginally affect the existing community structure and economic conditions etc. This will create a pressure on existing infrastructure.
9.2	By resettlement of people or demolition of homes or communities or community facilities e.g. schools, hospitals, social facilities?	No		
9.3	Through in-migration of new residents or creation of new communities?	Yes	Such in-migration is possible; however, the numbers would be not much, as the area is already developed commercially and residentially.	No. The number of people migrating will not be much.
9.4	By placing increased demands on local facilities or services eg housing, education, health?	Yes	Due to migration, there will be increased demand on local facilities which increases the load on natural resources consumption.	No. The impact on the local facilities will not be significant.
9.5	By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	Yes	Requirement of labour for the construction works prioritize the local people hence, providing employment opportunities to the local people.	Yes (Positive impact) The workers (both skilled and unskilled) will gain experience that they can use in the future in other similar kind of works. Improvement of roads will create new business opportunities.
9.6	Any other causes?			
Question - Are there any other 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?				
10.1	Will the project lead to pressure for consequential development which could have significant impact on the environment e.g.	Yes	The roads will act as catalyst for development of the surrounding areas and there may be new developments like commercial establishments, malls etc.,	Yes. The anticipated new developments followed by the road projects will result significant environmental impacts due to raw material requirement for the subsequent developments.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	more housing, new roads, new supporting industries or utilities, etc?			
10.2	Will the project 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	Yes, the project may lead to other developmental projects.	Yes. The project will lead to overall development in the area. Positive Impact
10.3	Will the project lead to after-use of the site which could have an impact on the environment?	No	-	-
10.4	Will the project set a precedent for later developments?	Yes	Improved road infrastructure may create opportunities for other developmental infrastructures.	Yes Quality of life of the Agartala citizens will be improved with all the developmental works. Positive Impact.
10.5	Will the project have cumulative effects due to proximity to other existing or planned projects with similar effects?	Yes		

Part 2 - Characteristics of the Project Environment (Environmental Sensitivity)

Question 1 - Are there features of the local environment on or around the Project location which could be affected by the Project? • Areas which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be	No

affected by the project? • Other areas which are important or sensitive for reasons of their ecology e.g. • Wetlands, • Watercourses or other waterbodies, • the coastal zone, • mountains, • forests or woodlands • Areas used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project? • Inland, coastal, marine or underground waters? • Areas or features of high landscape or scenic value? • Routes or facilities used by the public for access to recreation or other facilities? • Transport routes which are susceptible to congestion or which cause environmental problems? • Areas or features of historic or cultural importance?	No No No Yes, the road proposed for the development are core city roads and may be susceptible to traffic congestion during the construction phase that may provide discomfort to the passer-by and may disrupt the access to the roadside shops and houses Durgabari and Laxminarayan temples are there along the Thakurpalli road. However, the road construction is within the RoW, so no long term impact is envisaged. The access to these temples will be temporarily affected during the period of construction.
Question 2 - Is the Project in a location where it is likely to be highly visible to many people?	Yes. The project encompasses development of main road of city of Agartala, which includes the area adjacent to Ujjayanta Palace (state tourism site) due to which it will be highly visible to many people.
Question 3 - Is the Project located in a previously undeveloped area where there will be loss of Greenfield land?	No
Question - Are there existing land uses on or around the Project location which could be affected by the Project? For example: • Homes, gardens, other private property, • Industry, • Commerce, • Recreation, • public open space, • community facilities, • agriculture, • forestry, • tourism, • mining or quarrying	Yes The houses, shops and other properties will be affected during the construction period due to disturbance in access to the property, air and noise pollution due to the construction activities etc.
Question 4 - Are there any plans for future land uses on or around the location which could be affected by the Project?	No
Question 5 - Are there any areas on or around the location which are densely populated or built-up, which could be affected by the	Yes, there is dense population growth along all the roads proposed for development, these may people will be affected during the construction

Project?	phase of the project. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 6 - Are there any areas on or around the location which are occupied by sensitive land uses which could be affected by the Project? • hospitals, • schools, • places of worship, • community facilities	Yes, there will be temporary disturbance to access to the existing hospitals, schools, places of worship and community facilities along the roads proposed for development. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 7 - Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the Project? For example: • groundwater resources, • surface waters, • forestry, • agriculture, • fisheries, • tourism, • minerals.	No
Question 8 - Are there any areas on or around the location of the Project which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No
Question 9 - Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes, the project area lies under Zone V. The structures in the proposed project are being built by following IS 1893 – Part 1 for Earthquake resistant designs for structures.
Question 10 - Is the Project likely to affect the physical condition of any environmental media? • The atmospheric environment including microclimate and local and larger scale climatic conditions? • Water – e.g. quantities, flows or levels of rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Soils – e.g. quantities, depths, humidity, stability or erodibility of soils? • Geological and ground conditions?	No, the project will not affect any physical condition of the environment; there will be improved road infrastructure after operation of road.
Question 11 - Are releases from the Project likely to have effects on the <u>quality</u> of any environmental media? • Local air quality? • Global air quality including climate change and ozone depletion • Water quality – rivers, lakes, groundwater. Estuaries, coastal waters or the sea?	Yes, the construction activities may affect local air quality through dust emissions especially during dry season. It also generates noise pollution by the movement of vehicles for transporting materials, and demolition works of RoW for road construction works.

• Nutrient status and eutrophication of waters? • Acidification of soils or waters? • Soils • Noise? • Temperature, light or electromagnetic radiation including electrical interference? • Productivity of natural or agricultural systems?	
Question 12 - Is the Project likely to affect the availability or scarcity of any resources either locally or globally? • Fossil fuels? • Water? • Minerals and aggregates? • Timber? • Other non-renewable resources? • Infrastructure capacity in the locality - water, sewerage, power generation and transmission, telecommunications, waste disposal roads, rail?	No
Question 13 - Is the Project likely to affect human or community health or welfare? • The quality or toxicity of air, water, foodstuffs and other products consumed by humans? • Morbidity or mortality of individuals, communities or populations by exposure to pollution? • Occurrence or distribution of disease vectors including insects? • Vulnerability of individuals, communities or populations to disease? • Individuals' sense of personal security? • Community cohesion and identity? • Cultural identity and associations? • Minority rights? • Housing conditions? • Employment and quality of employment? • Economic conditions? • Social institutions?	Yes, • This project may offer employment to the local people to involve as a construction worker. This can be viewed as positive impact of the project. • This project may also result in the occurrence or distribution of disease vector due to the temporary settlement of workers as they may not have access to safe water supply and sanitation. • Similarly, this project if properly implemented will have positive effect on the welfare of the local people as they will have better road infrastructure and pedestrian pathways, improved traffic flow which will improve their commuting experience.

Part 3: Significance of Impacts

Questions to be Considered
1. Will there be a large change in environmental conditions?
2. Will new features be out-of-scale with the existing environment?
3. Will the effect be unusual in the area or particularly complex?
4. Will the effect extend over a large area?
5. Will there be any potential for trans boundary impact?
6. Will many people be affected?
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?
8. Will valuable or scarce features or resources be affected?
9. Is there a risk that environmental standards will be breached?
10. Is there a risk that protected sites, areas, features will be affected?
11. Is there a high probability of the effect occurring?
12. Will the effect continue for a long time?
13. Will the effect be permanent rather than temporary?
14. Will the impact be continuous rather than intermittent?
15. If it is intermittent will it be frequent rather than rare?

16. Will the impact be irreversible?
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?

Barjala Road
"No Mitigation Scenario Checklist" (Scoping Checklist)

Part 1 - Questions on Project Characteristics

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies etc.)?				
1.1	Permanent or temporary change in land use, land cover or topography including increases in intensity of land use?	Yes	The proposed project involves upgradation of the Barjala Road, which is within the existing RoW. Following works are proposed for the sub project 1. Dismantling above ground utilities like electric, telephone cables. 2. Clearing of drain silts 3. Dismantling Existing Brickwork drains 4. Construction of RCC Drain 5. Repositioning of existing water lines, wherever required. 6. Development of Carriageway/ Road Surface 7. Proposal for Pathways/ walkways 8. Proposal for Underground Utility Corridors Proposal for suitable streetscaping	No, there will not be any changes in land use and land cover, but, there will be changes in topography in terms of level of roads. The proposed project is to improve the road footpath conditions in Barjala, the land area will remain the same as there is no land acquisition involved and work will be carried out in existing RoW.
1.2	Clearance of existing land, vegetation and buildings?	Yes	No clearance of land as this is reconstruction of existing road of 4.05 km length within the existing RoW.	No. Clearing of land is not involved in the road project, as the work is being carried out in existing RoW.
			Total 97 trees are required to be cut for the proposed road work.	Yes. The proposed trees to cut are common species. No threatened or endangered species of plant are sited in the proposed Barjala road development area as per the 'Checklist of Rare and Threatened Plants of Tripura' listed in www.indiabiodiversity.org/checklist/show/201.
1.3	Creation of new land uses?	No		
1.4	Pre-construction investigations e.g. boreholes, soil testing?	Yes	None. Soil investigation/ testing will be conducted for the road works, but this involves small area.	No, Geotechnical investigations will involve only obtaining a borehole sample for proposed

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
				infrastructures. Since undisturbed core would be extracted using a core cutter there would be no impacts on the topography or the geology.
1.5	Construction works?	Yes	Only immediate vicinity of the road will be affected. Road and allied works will potentially impact the immediate environment in terms of air quality due to generation of dusts and vehicle emissions, water pollution due to generation of wastewater from washings and siltation of the water bodies due to solid wastes from demolition and other construction activities. The roads will include utilities Existing Brick walled Storm water drains are proposed to be reconstructed into RCC structures below road surface. Two vent RCC structure is proposed. one vent (Towards the carriageway) shall carry Storm Water and other one (Towards the property line) shall carry Electrical and OFC cables. The vent for Electrical & OFC system will be provided below the footpath and SWD vent shall be provided below the carriageway OFC & Electrical cable is proposed in RCC cable trench system as per IS-1255: 1983. Footpath is provided above the RCC cable trench system.	Yes, because the construction works will take 21 months' time. The construction activities specially the wastes and emissions bring significant adverse impact to the receptors in the area (e.g. institutions and residential/ commercial establishments along the road).
1.6	Demolition works?	Yes	Demolition of existing roads drains will generate wastes and air emissions which will impact the air, water and noise quality of the road area. The demolition will generate approx 10,000 m3 muck from the road stretch.	Yes. The demolition wastes will pose challenge to the passerby and surrounding people also it may result in siltation of water bodies if not removed immediately from the site.
1.7	Temporary sites used for construction works or housing	Yes	There is a possibility of disposal of the solid and liquid wastes to nearby land or water bodies by the construction workers, which	Yes. Depending on the size and number of laborers in the construction camps. Pollution of receiving bodies of water

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	of construction workers?		could affect the water bodies and soil environment.	around the camps and degradation of aesthetics due to dumping of solid wastes are likely. The construction camps will generate solid and liquid waste, these will change the water quality of the receiving water bodies and harm the aesthetics of the area if dumped openly without any processing.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations?	Yes	Excavated earth of quantity around 51,500 Cum for all the road works may temporarily affect the land use obstructing the access to by-roads, roadside premises, and houses. Cleaning of drains will generate around 2000 cum spoil.	Yes. The storage of excavated material and other raw material stored will cause problems to people visiting park and passerby. Siltation of the water bodies at the downstream is also a problem during monsoon season.
1.9	Underground works including mining or tunneling?	Yes	No mining or Tunneling is involved in the project. Excavation for utility trenches and drainage system maximum to the depth of 2.5-3m is proposed.	Yes. Excavation for construction of roads and utility trenches lead to generation of muck, which if not disposed from site will contaminate the nearby water body and pose obstruction to the residents and passerby.
1.10	Reclamation works?	No		
1.11	Dredging?	No		
1.12	Coastal structures eg seawalls, piers?	No		
1.13	Offshore structures?	No		
1.14	Production and manufacturing processes?	No		
1.15	Facilities for storage of goods or materials?	Yes	Construction material excavated material etc. will be stored in heaps along the roads, these material heaps could affect aesthetics at the site, and mobility or free movement of pedestrians and vehicles.	Yes. The obstructions brought about by the material heaps could impede the flow of pedestrians and vehicles in the road stretch.
1.16	Facilities for treatment or disposal of solid	Yes	Labour camp for about 25 inhabitants will generates both solid and liquid waste of around	Yes, The solid and liquid waste generated will cause soil contamination, water

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	wastes or liquid effluents?		10 Kg/ day and 2.7 KLD respectively. The solid and liquid wastes generated from the labour camps will pose water quality, soil quality and health issues if not processed/ handled properly.	contamination if not treated and let into the nature.
1.17	Facilities for long term housing of operational workers?	No		
1.18	New road, rail or sea traffic during construction or operation?	No		
1.19	New road, rail, air, waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No		
1.20	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	Yes	The construction will be in phased manner, closure of the road during construction works will be required. Some interior roads may also need temporary closure during construction.	Yes, Road closures during construction phase will cause temporary traffic jams and related issues.
1.21	New or diverted transmission lines or pipelines?	Yes	ICT Line, LT and HT Lines converted from above ground to underground networks and the excavation for underground trenches will generate excavated earth which if not stored and handled properly will pose environmental and safety issues.	Yes, The construction of utility duct and excavation involved will pose environmental, health and safety and aesthetic impacts due to contamination of water bodies, unsafe access to passerby.
1.22	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Slopes and design capacity of drains will be done as per existing rainfall data of the area.	.
1.23	Stream crossings?	Yes	Proposed Barjala road will cross 3 drains. Cross drains across the roads are maintained as it is.	No, There is no change in the existing cross drain structures.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.24	Abstraction or transfers of water from ground or surface waters?	No		
1.25	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	The roadside storm water drains will be demolished and will be converted to underground RCC drains.	Yes. Short term impact only during the construction period. However, the project will improve the drainage system by reduction in operation and maintenance issues.
1.26	Transport of personnel or materials for construction, operation or decommissioning ?	Yes	Transportation vehicles for the movement of workers/ personnel, construction equipment, and construction materials will generate dust and noise.	Yes. The dust and noise generated due to transportation of manpower and material will cause discomfort to the occupants of establishments and institutions in the area.
1.27	Long term dismantling or decommissioning or restoration works?	No	-	-
1.28	Ongoing activity during decommissioning which could have an impact on the environment?	No	-	-
1.29	Influx of people to an area in either temporarily or permanently?	Yes	The construction phase will increase the personnel movement for a temporary period and operation phase will also result in influx of people due to change in better aesthetics and better traffic facilities.	Yes, The people will be housed in labour camps and this will cause the solid and liquid waste generation from the camps and subsequent contamination of soil and water contaminations and pose health issues
1.30	Introduction of alien species?	No	-	-
1.31	Loss of native species or genetic diversity?	Yes	For the construction of Barjala road, 117 trees will be cut, the species exist in those lands are common to the area and therefore no loss of native or genetic diversity is expected.	Yes. Local shrubs and trees are required to remove from the existing area for the construction activities.
1.32	Any other actions?	No	-	-
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?				

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
2.1	Land especially undeveloped or agricultural land?	No	Construction of road and pathway is within the existing ROW, hence no land resource will be utilized.	No The works are proposed in already developed urban areas and it will not impact any underdeveloped or agriculture land.
2.2	Water?	Yes	During the construction phase, water would be used for construction purposes. During the operations phase, water would be used for watering the road side plantations and ornamental trees.	No, The quantity of water to be used during the construction phase is in small. In Agartala no new water source would be constructed as part of the project. The existing source (municipal water supply and ground water) would be sufficient to supply water for construction.
2.3	Minerals?	Yes	Sand, gravel and soil for subbase of road. This will be sourced from Government approved quarries.	Yes. The huge quantities of sand and aggregates will likely have a significant impact to the aesthetics, topography and ecosystem at the sites or locations where they are sourced or quarried. Transportation of aggregate will also cause air pollution.
2.4	Aggregates?	Yes	The new road surface construction and excavated road repair would be the part of the project. This new construction and repairing of the pavement and concrete works in the project would require aggregates	
2.5	Forests and timber?	No	-	-
2.6	Energy including electricity and fuels?	Yes	None. The required energy, electricity, and fuel during construction activities, vehicle, equipment, and machinery operations are negligible compared to supply.	No. The site is located within urban area where electricity from grid is easily available.
2.7	Any other resources?	No		
3. Will the Project involve 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?				
3.1	Will the project involve use of substances or materials which are hazardous or toxic to human health or the environment (flora, fauna, water supplies)?	Yes	During the construction stage, likely leakage of discharge of Fuels like diesel, Petrol, and Oil & Grease will affect human health and environment.	Yes. Any Discharge of these substances will have adverse impacts to environmental quality and human health and may also affect the nearby flora and fauna.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
3.2	Will the project result in changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)?	Yes	The labour camps would generate solid waste as well as sewage. Thus, the camps have potential to spread diseases.	Yes. Airborne, water-borne or vector-borne diseases could spread or transmitted easily from the construction camps to the outside communities.
3.3	Will the project affect the welfare of people e.g. by changing living conditions?	Yes	Better traffic circulation, pedestrian movement and streetscapes will improve the living conditions of the residents	Yes, Throughout the operation stage of the project. This is a significant positive impact
3.4	Are there especially vulnerable groups of people who could be affected by the project e.g. hospital patients, the elderly?	Yes	Apnaghar Old age home for ladies is adjacent to the proposed Barjala road.	Yes, The probable traffic disruption and emission to air and water contamination may residents of the old age home.
3.5	Any other causes?	No		
4. Will the Project produce solid wastes during construction or operation or decommissioning?				
4.1	Spoil, overburden or mine wastes?	Yes	Excavation of drains and roads will produce spoil. The spoil if not readily disposed at safe site, it will occupy the land and may create discomfort to the passer-by.	Yes. The material generated due to excavation will affect the regular walkway and passerby, during the construction period, the material may end up in water body if not stored and disposed properly.
4.2	Municipal waste (household and or commercial wastes)?	Yes	There would be generation of municipal waste from construction camps and during operation phase due to influx of visitors.	Yes. Municipal solid waste generated during the project may cause contamination of land and water bodies if not managed appropriately.
4.3	Hazardous or toxic wastes (including radioactive wastes)?	Yes	Bitumen will be used for the construction of roads, the likely leakage and emissions will cause health and environmental impacts.	Yes, The accidental spills/ leakages of bitumen will cause water and land pollution. Also, the emission from the bitumen during heating will pose health impacts to the workers and passerby.
4.4	Other industrial process wastes?	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
4.5	Surplus product?	No		
4.6	Sewage sludge or other sludge from effluent treatment?	Yes	The 2.7 KLD sewage generated from labour camp may pose environmental and health impacts due to untreated discharge.	Yes, The sewage generated if discharged without treatment will cause ground and surface water pollution.
4.7	Construction or demolition wastes?	Yes	Construction of Roads, pathways and utility trenches will produce construction and demolition waste. The waste if not disposed at designated site, will pose environmental and safety issues by siltation of water bodies and causing uncomfort to passerby.	Yes. Construction and demolition wastes generated or produced during construction phase will change the aesthetics in the project area. Excavated Soil and demolition debris could clog drainages and could cause siltation of drains and pose difficulties to residents and passer-by for access.
4.8	Redundant machinery or equipment?	No		
4.9	Contaminated soils or other material?	No		
4.10	Agricultural wastes?	No		
4.11	Any other solid wastes?	No		
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?				
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources?	Yes	Use of generators, machinery, and heavy vehicles during excavation and construction will generate emissions.	Yes. The impact of these emissions is significant to the health of all human receptors along the road construction sites.
5.2	Emissions from production processes?	No	-	-
5.3	Emissions from materials handling including storage or transport?	Yes	Vehicles used for transport of construction, material and machinery will produce emissions. Dust generation during unloading of materials such as cement, aggregates, etc. There is also a likelihood of re-entrainment of dust particle at the construction site due to movement of vehicles	Yes. The impact of these emissions is significant to the health of all human receptors around the construction sites.
5.4	Emissions from construction activities including plant and equipment?	Yes	Concrete batching plants, hot-mix plants for bituminous material production during road surfacing will cause emissions.	Yes. The impact of these emissions is significant to the health of all human receptors around the road construction sites.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
5.5	Dust or odours from handling of materials including construction materials, sewage and waste?	Yes	Air pollution due to dust generation during construction of roads, excavation and backfilling, handling of excavated and fill material, cement, sand, gravel, aggregates, etc.	Yes. The impact of these emissions is significant to the health of all people residing nearby and passerby.
5.6	Emissions from incineration of waste?	No	-	-
5.7	Emissions from burning of waste in open air (eg slash material, construction debris)?	Yes	The locality of the worker's camp may be affected by the open burning of waste generated from the worker's camp.	Yes. The impact of these emissions is significant to the health of all human receptors living in construction camps and those around the construction camp sites.
5.8	Emissions from any other sources?	No		
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?				
6.1	From operation of equipment eg: engines, ventilation plant, crushers?	Yes	Excavation of trenches by heavy machinery, cutters, etc. and subsequent compaction and road surfacing, use of generators, heavy vehicle movements will generate noise and vibration.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the road construction sites, including the workers.
6.2	From industrial or similar processes?	Yes	Production of concrete and bituminous products will generate noise. Crushers and borrow operations will generate high levels of noise.	Yes. The concrete mixers will cause noise in and around the area and bituminous hot mixes will result in heat radiation which will impact the surrounding population and passerby.
6.3	From construction or demolition?	Yes	The noise generated from the demolition of RoW for construction of roads and pathways may disturb the people residing at and passerby of core bazaar area.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the construction sites, including the workers.
6.4	From blasting or piling?	No		
6.5	From construction or operational traffic?	Yes	Movement of heavy machinery used for construction work and vehicles transporting construction materials may generate noise that would cause inconvenience to the surrounding communities of road.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the traffic congested sites, including the workers working at these sites.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
6.6	From lighting or cooling systems?	No	Night time construction is not envisaged.	No. As per current practices the construction works are allowed only in day time and no lighting for night time working is required.
6.7	From sources of electromagnetic radiation (consider effects on nearby sensitive equipment as well as people)?	No	-	-
6.8	From any other sources?	No	-	-
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into sewers, surface waters, groundwater, coastal waters or the sea?				
7.1	From handling, storage, use or spillage of hazardous or toxic materials?	Yes	Due to accidental spillage / leakage of fuel and bitumen will pollute the land and water bodies.	Yes. The leakage / spillage of fuel and bitumen will result in land contamination and water pollution.
7.2	From discharge of sewage or other effluents (whether treated or untreated) to water or the land?	Yes	The land and water bodies nearby the workers camp may be polluted by the discharge of sewage from camp.	Yes. The impact of discharge of sewage or effluents to land is significant as they could seep into the ground and pollute the groundwater. Likewise, the impact of discharge of sewage or effluent to receiving bodies of water in the area is significant as they could pollute the water and subsequently the aquatic species.
7.3	By deposition of pollutants emitted to air, onto the land or into water?	Yes	The land nearby the workers' camp may be polluted by the construction related activities and daily activities of the workers residing there temporarily.	Yes. The discharge of pollutants to air, water or soil will contaminate these natural resources.
7.4	From any other sources?	No		
7.5	Is there a risk of long-term build-up of pollutants in the environment from these sources?	No		
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?				

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous or toxic substances?	Yes	Road work involves use of bitumen hot mixes, the accidental fire or explosion of hot mixes and resulting spillages will result in severe impact on human health and as well as environment.	Yes. The explosion and spillage will result in human injury and may pose contamination of land and water and thus it is a significant impact.
8.2	From events beyond the limits of normal environmental protection e.g. failures of pollution control systems?	No	-	-
8.3	From any other causes?	Yes	Accidents can happen due to the carelessness of workers and lapses of safety procedures at the construction sites during the excavation, laying of bitumen etc., and these accidents will impact the human health in terms of injury.	Yes. The impact of accidents is very significant because it can lead to either disability or loss of lives of workers or community people.
8.4	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslip, etc)?	Yes	The project location is situated in High risk earth quake zone (Zone V) as per the Earthquake map released from National Disaster Management Authority (NDMA), Ministry of Home Affairs (MoH) Government of India. There may be impacts related to earthquake and flooding.	Yes. There would be damages to the structures in case of earthquake and flooding incidences
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?				
9.1	Changes in population size, age, structure, social groups etc.?	Yes	Increased service level of transportation and reliability will create a higher demand for property in the project beneficiary areas.	Yes. There is a chance of in-migration due to this project that will marginally affect the existing community structure and economic conditions etc. This will create a pressure on existing infrastructure.
9.2	By resettlement of people or demolition of homes or communities or community facilities e.g. schools, hospitals, social facilities?	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
9.3	Through in-migration of new residents or creation of new communities?	Yes	Such in-migration is possible; however, the numbers would be not much, as the area is already developed commercially and residentially.	No. The number of people migrating will not be much.
9.4	By placing increased demands on local facilities or services eg housing, education, health?	Yes	Due to migration, there will be increased demand on local facilities which increases the load on natural resources consumption.	No. The impact on the local facilities will not be significant.
9.5	By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	Yes	Requirement of labour for the construction works prioritize the local people hence, providing employment opportunities to the local people.	Yes (Positive impact) The workers (both skilled and unskilled) will gain experience that they can use in the future in other similar kind of works. Improvement of roads will create new business opportunities.
9.6	Any other causes?			
Question - Are there any other 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?				
10.1	Will the project lead to pressure for consequential development which could have significant impact on the environment e.g. more housing, new roads, new supporting industries or utilities, etc?	Yes	The roads will act as catalyst for development of the surrounding areas and there may be new developments like commercial establishments, malls etc.,	Yes. The anticipated new developments followed by the road projects will result significant environmental impacts due to raw material requirement for the subsequent developments.
10.2	Will the project lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the	Yes	Yes, the project may lead to other developmental projects.	Yes. The project will lead to overall development in the area. Positive Impact

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	environment e.g. supporting infrastructure (roads, power supply, waste or waste water treatment, etc) housing development extractive industries supply industries other?			
10.3	Will the project lead to after-use of the site which could have an impact on the environment?	No	-	-
10.4	Will the project set a precedent for later developments?	Yes	Improved road infrastructure may create opportunities for other developmental infrastructures.	Yes Quality of life of the Agartala citizens will be improved with all the developmental works. Positive Impact.
10.5	Will the project have cumulative effects due to proximity to other existing or planned projects with similar effects?	Yes		

Part 2 - Characteristics of the Project Environment (Environmental Sensitivity)

Question 1 - Are there features of the local environment on or around the Project location which could be affected by the Project?	
• Areas which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No
• Other areas which are important or sensitive for reasons of their ecology e.g. • Wetlands, • Watercourses or other water bodies, • the coastal zone, • mountains, • forests or woodlands	
• Areas used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No
• Inland, coastal, marine or underground waters?	No No

• Areas or features of high landscape or scenic value? • Routes or facilities used by the public for access to recreation or other facilities? • Transport routes which are susceptible to congestion or which cause environmental problems? • Areas or features of historic or cultural importance?	Yes, the road proposed for the development is passes from main city roads from Durga Chowmuhani to Barjala Chowmuhani having commercial establishments and is susceptible to traffic congestion during the construction phase that may provide discomfort to the passer-by and may disrupt the access to the roadside shops and houses No There are few temples along the road. However, the road construction is within the RoW, so no long-term impact is envisaged. The access to these temples will be temporarily affected during the period of construction.
Question 2 - Is the Project in a location where it is likely to be highly visible to many people?	Yes. the road proposed for the development passes from main city roads from Durga Chowmuhani to Barjala Chowmuhani having commercial establishments and is visible to people.
Question 3 - Is the Project located in a previously undeveloped area where there will be loss of greenfield land?	No
Question - Are there existing land uses on or around the Project location which could be affected by the Project? For example: • Homes, gardens, other private property, • Industry, • Commerce, • Recreation, • public open space, • community facilities, • agriculture, • forestry, • tourism, • mining or quarrying	Yes The houses, shops and other properties will be affected during the construction period due to disturbance in access to the property, air and noise pollution due to the construction activities etc.
Question 4 - Are there any plans for future land uses on or around the location which could be affected by the Project?	No
Question 5 - Are there any areas on or around the location which are densely populated or built-up, which could be affected by the Project?	Yes Some part of the road there is dense population residing and also the commercial establishments. Whereas, there is no dense population growth in some of the areas. Along the roadside proposed for development, these may people will be affected during the construction phase of the project. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 6 - Are there any areas on or around the location which are occupied by sensitive land uses which could be affected by the Project?	Yes, there will be temporary disturbance to access existing facilities along the roads proposed for development.

• hospitals, • schools, • places of worship, • community facilities	A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 7 - Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the Project? For example: • groundwater resources, • surface waters, • forestry, • agriculture, • fisheries, • tourism, • minerals.	No
Question 8 - Are there any areas on or around the location of the Project which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No
Question 9 - Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes, the project area lies under Zone V. The structures in the proposed project are being built by following IS 1893 – Part 1 for Earthquake resistant designs for structures.
Question 10 - Is the Project likely to affect the physical condition of any environmental media? • The atmospheric environment including microclimate and local and larger scale climatic conditions? • Water – e.g. quantities, flows or levels of rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Soils – e.g. quantities, depths, humidity, stability or erodibility of soils? • Geological and ground conditions?	No, the project will not affect any physical condition of the environment; there will be improved road infrastructure after operation of road.
Question 11 - Are releases from the Project likely to have effects on the <u>quality</u> of any environmental media? • Local air quality? • Global air quality including climate change and ozone depletion • Water quality – rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Nutrient status and eutrophication of waters? • Acidification of soils or waters? • Soils • Noise? • Temperature, light or electromagnetic radiation including electrical interference? • Productivity of natural or agricultural systems?	Yes, the construction activities may affect local air quality through dust emissions especially during dry season. It also generates noise pollution by the movement of vehicles for transporting materials, and demolition works of RoW for road construction works.

Question 12 - Is the Project likely to affect the availability or scarcity of any resources either locally or globally? • Fossil fuels? • Water? • Minerals and aggregates? • Timber? • Other non-renewable resources? • Infrastructure capacity in the locality - water, sewerage, power generation and transmission, telecommunications, waste disposal roads, rail?	No
Question 13 - Is the Project likely to affect human or community health or welfare? • The quality or toxicity of air, water, foodstuffs and other products consumed by humans? • Morbidity or mortality of individuals, communities or populations by exposure to pollution? • Occurrence or distribution of disease vectors including insects? • Vulnerability of individuals, communities or populations to disease? • Individuals' sense of personal security? • Community cohesion and identity? • Cultural identity and associations? • Minority rights? • Housing conditions? • Employment and quality of employment? • Economic conditions? • Social institutions?	Yes, • This project may offer employment to the local people to involve as a construction worker. This can be viewed as positive impact of the project. • This project may also result in the occurrence or distribution of disease vector due to the temporary settlement of workers as they may not have access to safe water supply and sanitation. • Similarly, this project if properly implemented will have positive effect on the welfare of the local people as they will have better road infrastructure and pedestrian pathways, improved traffic flow which will improve their commuting experience. This will also help in improving the economic conditions of the Agartala.

Part 3: Significance of Impacts

Questions to be Considered
1. Will there be a large change in environmental conditions?
2. Will new features be out-of-scale with the existing environment?
3. Will the effect be unusual in the area or particularly complex?
4. Will the effect extend over a large area?
5. Will there be any potential for trans boundary impact?
6. Will many people be affected?
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?
8. Will valuable or scarce features or resources be affected?
9. Is there a risk that environmental standards will be breached?
10. Is there a risk that protected sites, areas, features will be affected?
11. Is there a high probability of the effect occurring?
12. Will the effect continue for a long time?
13. Will the effect be permanent rather than temporary?
14. Will the impact be continuous rather than intermittent?
15. If it is intermittent will it be frequent rather than rare?
16. Will the impact be irreversible?
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?

BT Road
"No Mitigation Scenario Checklist" (Scoping Checklist)

Part 1 - Questions on Project Characteristics

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies etc.)?				
1.1	Permanent or temporary change in land use, land cover or topography including increases in intensity of land use?	Yes	The proposed project involves upgradation of the BT Road, which is within the existing RoW. Following works are proposed for the sub project 1. Dismantling above ground utilities like electric, telephone cables. 2. Clearing of drain silts 3. Dismantling Existing Brickwork drains 4. Construction of RCC Drain 5. Repositioning of existing water lines, wherever required. 6. Development of Carriageway/ Road Surface 7. Proposal for Pathways/ walkways 8. Proposal for Underground Utility Corridors Proposal for suitable streetscaping	No, there will not be any changes in land use and land cover, but, there will be changes in topography in terms of level of roads. The proposed project is to improve the road footpath conditions in BT Road, the land area will remain the same as there is no land acquisition involved and work will be carried out in existing RoW.
1.2	Clearance of existing land, vegetation and buildings?	Yes	No clearance of land as this is reconstruction of existing road of 0.28 km length within the existing RoW.	No. Clearing of land is not involved in the road project, as the work is being carried out in existing RoW.
			Total 21 trees are required to be cut for the proposed road work.	Yes. The proposed trees to cut are common species. No threatened or endangered species of plant are sited in the proposed BT road development area as per the 'Checklist of Rare and Threatened Plants of Tripura' listed in www.indiabiodiversity.org/checklist/show/201.
1.3	Creation of new land uses?	No		
1.4	Pre-construction investigations e.g.	Yes	None. Soil investigation/ testing will be conducted for	No,

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	boreholes, soil testing?		the road works, but this involves small area.	Geotechnical investigations will involve only obtaining a borehole sample for proposed infrastructures. Since undisturbed core would be extracted using a core cutter there would be no impacts on the topography or the geology.
1.5	Construction works?	Yes	Only immediate vicinity of the road will be affected. Road and allied works will potentially impact the immediate environment in terms of air quality due to generation of dusts and vehicle emissions, water pollution due to generation of wastewater from washings and siltation of the water bodies due to solid wastes from demolition and other construction activities. The roads will include utilities Existing Brick walled Storm water drains are proposed to be reconstructed into RCC structures below road surface. Two vent RCC structure is proposed. one vent (Towards the carriageway) shall carry Storm Water and other one (Towards the property line) shall carry Electrical and OFC cables. The vent for Electrical & OFC system will be provided below the footpath and SWD vent shall be provided below the carriageway OFC & Electrical cable is proposed in RCC cable trench system as per IS-1255: 1983. Footpath is provided above the RCC cable trench system.	Yes, because the construction works will take 21 months' time. The construction activities specially the wastes and emissions bring significant adverse impact to the receptors in the area (e.g. residences along the road).
1.6	Demolition works?	Yes	Demolition of existing roads drains will generate wastes and air emissions which will impact the air, water and noise quality of the road area. The demolition will generate approx 130 m3 muck from the road stretch.	Yes. The demolition wastes will pose challenge to the passerby and surrounding people also it may result in siltation of water bodies if not removed immediately from the site.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	There is a possibility of disposal of the solid and liquid wastes to nearby land or water bodies by the construction workers, which could affect the water bodies and soil environment.	Yes. Depending on the size and number of laborers in the construction camps. Pollution of receiving bodies of water around the camps and degradation of aesthetics due to dumping of solid wastes are likely. The construction camps will generate solid and liquid waste, these will change the water quality of the receiving water bodies and harm the aesthetics of the area if dumped openly without any processing.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations?	Yes	Excavated earth of quantity around 2200 Cum for all the road works may temporarily affect the land use obstructing the access to by-roads, roadside premises, and houses. Cleaning of drains will generate around 150 cum spoil.	Yes. The storage of excavated material and other raw material stored will cause problems to people visiting park and passerby. Siltation of the water bodies at the downstream is also a problem during monsoon season.
1.9	Underground works including mining or tunneling?	Yes	No mining or Tunneling is involved in the project. Excavation for utility trenches and drainage system maximum to the depth of 2.5-3m is proposed.	Yes. Excavation for construction of roads and utility trenches lead to generation of muck, which if not disposed from site will contaminate the nearby water body and pose obstruction to the residents and passerby.
1.10	Reclamation works?	No		
1.11	Dredging?	No		
1.12	Coastal structures eg seawalls, piers?	No		
1.13	Offshore structures?	No		
1.14	Production and manufacturing processes?	No		
1.15	Facilities for storage of goods or materials?	Yes	Construction material excavated material etc. will be stored in heaps along the roads, these material heaps could affect aesthetics at the site, and mobility or free	Yes. The obstructions brought about by the material heaps could impede the flow of pedestrians and vehicles in the road stretch.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			movement of pedestrians and vehicles.	
1.16	Facilities for treatment or disposal of solid wastes or liquid effluents?	Yes	Labour camp for about 25 inhabitants will generates both solid and liquid waste of around 10 Kg/ day and 2.7 KLD respectively. The solid and liquid wastes generated from the labour camps will pose water quality, soil quality and health issues if not processed/ handled properly.	Yes, The solid and liquid waste generated will cause soil contamination, water contamination if not treated and let into the nature.
1.17	Facilities for long term housing of operational workers?	No		
1.18	New road, rail or sea traffic during construction or operation?	No		
1.19	New road, rail, air, waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No		
1.20	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	Yes	The construction will be in phased manner, closure of the road during construction works will be required. Some interior roads may also need temporary closure during construction.	Yes, Road closures during construction phase will cause temporary traffic jams and related issues.
1.21	New or diverted transmission lines or pipelines?	Yes	ICT Line, LT and HT Lines converted from above ground to underground networks and the excavation for underground trenches will generate excavated earth which if not stored and handled properly will pose environmental and safety issues.	Yes, The construction of utility duct and excavation involved will pose environmental, health and safety and aesthetic impacts due to contamination of water bodies, unsafe access to passerby.
1.22	Impoundment, damming, culverting, realignment or other changes to	No	Slopes and design capacity of drains will be done as per existing rainfall data of the area.	.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	the hydrology of watercourses or aquifers?			
1.23	Stream crossings?	Yes	Proposed BT road will cross 2 drains. Cross drains across the roads are maintained as it is.	No, There is no change in the existing cross drain structures.
1.24	Abstraction or transfers of water from ground or surface waters?	No		
1.25	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	The roadside storm water drains will be demolished and will be converted to underground RCC drains.	Yes. Short term impact only during the construction period. However, the project will improve the drainage system by reduction in operation and maintenance issues.
1.26	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Transportation vehicles for the movement of workers/ personnel, construction equipment, and construction materials will generate dust and noise.	Yes. The dust and noise generated due to transportation of manpower and material will cause discomfort to the occupants of establishments and institutions in the area.
1.27	Long term dismantling or decommissioning or restoration works?	No	-	-
1.28	Ongoing activity during decommissioning which could have an impact on the environment?	No	-	-
1.29	Influx of people to an area in either temporarily or permanently?	Yes	The construction phase will increase the personnel movement for a temporary period and operation phase will also result in influx of people due to change in better aesthetics and better traffic facilities.	Yes, The people will be housed in labour camps and this will cause the solid and liquid waste generation from the camps and subsequent contamination of soil and water contaminations and pose health issues
1.30	Introduction of alien species?	No	-	-
1.31	Loss of native species or genetic diversity?	Yes	For the construction of BT road, 24 trees will be cut, the species exist in those lands are common to the area and therefore no loss of native or genetic diversity is expected.	Yes. Local shrubs and trees are required to remove from the existing area for the construction activities.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.32	Any other actions?	No	-	-
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?				
2.1	Land especially undeveloped or agricultural land?	No	Construction of road and pathway is within the existing RoW, hence no land resource will be utilized.	No The works are proposed in already developed urban areas and it will not impact any underdeveloped or agriculture land.
2.2	Water?	Yes	During the construction phase, water would be used for construction purposes. During the operations phase, water would be used for watering the road side plantations and ornamental trees.	No, The quantity of water to be used during the construction phase is in small. In Agartala no new water source would be constructed as part of the project. The existing source (municipal water supply and ground water) would be sufficient to supply water for construction.
2.3	Minerals?	Yes	Sand, gravel and soil for subbase of road. This will be sourced from Government approved quarries.	Yes. The huge quantities of sand and aggregates will likely have a significant impact to the aesthetics, topography and ecosystem at the sites or locations where they are sourced or quarried. Transportation of aggregate will also cause air pollution.
2.4	Aggregates?	Yes	The new road surface construction and excavated road repair would be the part of the project. This new construction and repairing of the pavement and concrete works in the project would require aggregates	
2.5	Forests and timber?	No	-	-
2.6	Energy including electricity and fuels?	Yes	None. The required energy, electricity, and fuel during construction activities, vehicle, equipment, and machinery operations are negligible compared to supply.	No. The site is located within urban area where electricity from grid is easily available.
2.7	Any other resources?	No		
3. Will the Project involve 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?				
3.1	Will the project involve use of substances or	Yes	During the construction stage, likely leakage of discharge of Fuels like diesel, Petrol, and	Yes. Any Discharge of these

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	materials which are hazardous or toxic to human health or the environment (flora, fauna, water supplies)?		Oil & Grease will affect human health and environment.	substances will have adverse impacts to environmental quality and human health and may also affect the nearby flora and fauna.
3.2	Will the project result in changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)?	Yes	The labour camps would generate solid waste as well as sewage. Thus, the camps have potential to spread diseases.	Yes. Airborne, water-borne or vector-borne diseases could spread or transmitted easily from the construction camps to the outside communities.
3.3	Will the project affect the welfare of people e.g. by changing living conditions?	Yes	Better traffic circulation, pedestrian movement and streetscapes will improve the living conditions of the residents	Yes, Throughout the operation stage of the project. This is a significant positive impact
3.4	Are there especially vulnerable groups of people who could be affected by the project e.g. hospital patients, the elderly?	No	There are no hospitals are situated in BT Road	
3.5	Any other causes?	No		
4. Will the Project produce solid wastes during construction or operation or decommissioning?				
4.1	Spoil, overburden or mine wastes?	Yes	Excavation of drains and roads will produce spoil. The spoil if not readily disposed at safe site, it will occupy the land and may create discomfort to the passer-by.	Yes. The material generated due to excavation will affect the regular walkway and passerby, during the construction period, the material may end up in water body if not stored and disposed properly.
4.2	Municipal waste (household and or commercial wastes)?	Yes	There would be generation of municipal waste from construction camps and during operation phase due to influx of visitors.	Yes. Municipal solid waste generated during the project may cause contamination of land and water bodies if not managed appropriately.
4.3	Hazardous or toxic wastes (including radioactive wastes)?	Yes	Bitumen will be used for the construction of roads, the likely leakage and emissions will cause health and environmental impacts.	Yes, The accidental spills/ leakages of bitumen will cause water and land pollution. Also, the emission from the bitumen during heating

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
				will pose health impacts to the workers and passerby.
4.4	Other industrial process wastes?	No		
4.5	Surplus product?	No		
4.6	Sewage sludge or other sludge from effluent treatment?	Yes	The 2.7 KLD sewage generated from labour camp may pose environmental and health impacts due to untreated discharge.	Yes, The sewage generated if discharged without treatment will cause ground and surface water pollution.
4.7	Construction or demolition wastes?	Yes	Construction of Roads, pathways and utility trenches will produce construction and demolition waste. The waste if not disposed at designated site, will pose environmental and safety issues by siltation of water bodies and causing uncomfort to passerby.	Yes. Construction and demolition wastes generated or produced during construction phase will change the aesthetics in the project area. Excavated Soil and demolition debris could clog drainages and could cause siltation of drains and pose difficulties to residents and passer-by for access.
4.8	Redundant machinery or equipment?	No		
4.9	Contaminated soils or other material?	No		
4.10	Agricultural wastes?	No		
4.11	Any other solid wastes?	No		
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?				
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources?	Yes	Use of generators, machinery, and heavy vehicles during excavation and construction will generate emissions.	Yes. The impact of these emissions is significant to the health of all human receptors along the road construction sites.
5.2	Emissions from production processes?	No	-	-
5.3	Emissions from materials handling including storage or transport?	Yes	Vehicles used for transport of construction, material and machinery will produce emissions. Dust generation during unloading of materials such as cement, aggregates, etc. There is also a likelihood of re-entrainment of dust particle at the construction site due to movement of vehicles	Yes. The impact of these emissions is significant to the health of all human receptors around the construction sites.
5.4	Emissions from construction	Yes	Concrete batching plants, hot-mix plants for bituminous	Yes.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	activities including plant and equipment?		material production during road surfacing will cause emissions.	The impact of these emissions is significant to the health of all human receptors around the road construction sites.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste?	Yes	Air pollution due to dust generation during construction of roads, excavation and backfilling, handling of excavated and fill material, cement, sand, gravel, aggregates, etc.	Yes. The impact of these emissions is significant to the health of all people residing nearby and passerby.
5.6	Emissions from incineration of waste?	No	-	-
5.7	Emissions from burning of waste in open air (eg slash material, construction debris)?	Yes	The locality of the worker's camp may be affected by the open burning of waste generated from the worker's camp.	Yes. The impact of these emissions is significant to the health of all human receptors living in construction camps and those around the construction camp sites.
5.8	Emissions from any other sources?	No		
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?				
6.1	From operation of equipment eg: engines, ventilation plant, crushers?	Yes	Excavation of trenches by heavy machinery, cutters, etc. and subsequent compaction and road surfacing, use of generators, heavy vehicle movements will generate noise and vibration.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the road construction sites, including the workers.
6.2	From industrial or similar processes?	Yes	Production of concrete and bituminous products will generate noise. Crushers and borrow operations will generate high levels of noise.	Yes. The concrete mixers will cause noise in and around the area and bituminous hot mixes will result in heat radiation which will impact the surrounding population and passerby.
6.3	From construction or demolition?	Yes	The noise generated from the demolition of RoW for construction of roads and pathways may disturb the people residing at and passerby of core bazaar area.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the construction sites, including the workers.
6.4	From blasting or piling?	No		
6.5	From construction or operational traffic?	Yes	Movement of heavy machinery used for construction work and vehicles transporting	Yes. The impact of noise and vibration is significant to the health of all human receptors around the

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			construction materials may generate noise that would cause inconvenience to the surrounding communities of road.	traffic congested sites, including the workers working at these sites.
6.6	From lighting or cooling systems?	No	Night time construction is not envisaged.	No. As per current practices the construction works are allowed only in day time and no lighting for night time working is required.
6.7	From sources of electromagnetic radiation (consider effects on nearby sensitive equipment as well as people)?	No	-	-
6.8	From any other sources?	No	-	-
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into sewers, surface waters, groundwater, coastal waters or the sea?				
7.1	From handling, storage, use or spillage of hazardous or toxic materials?	Yes	Due to accidental spillage / leakage of fuel and bitumen will pollute the land and water bodies.	Yes. The leakage / spillage of fuel and bitumen will result in land contamination and water pollution.
7.2	From discharge of sewage or other effluents (whether treated or untreated) to water or the land?	Yes	The land and water bodies nearby the workers camp may be polluted by the discharge of sewage from camp.	Yes. The impact of discharge of sewage or effluents to land is significant as they could seep into the ground and pollute the groundwater. Likewise, the impact of discharge of sewage or effluent to receiving bodies of water in the area is significant as they could pollute the water and subsequently the aquatic species.
7.3	By deposition of pollutants emitted to air, onto the land or into water?	Yes	The land nearby the workers' camp may be polluted by the construction related activities and daily activities of the workers residing there temporarily.	Yes. The discharge of pollutants to air, water or soil will contaminate these natural resources.
7.4	From any other sources?	No		
7.5	Is there a risk of long-term build-up of pollutants in the environment from these sources?	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?				
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous or toxic substances?	Yes	Road work involves use of bitumen hot mixes, the accidental fire or explosion of hot mixes and resulting spillages will result in severe impact on human health and as well as environment.	Yes. The explosion and spillage will result in human injury and may pose contamination of land and water and thus it is a significant impact.
8.2	From events beyond the limits of normal environmental protection e.g. failures of pollution control systems?	No	-	-
8.3	From any other causes?	Yes	Accidents can happen due to the carelessness of workers and lapses of safety procedures at the construction sites during the excavation, laying of bitumen etc., and these accidents will impact the human health in terms of injury.	Yes. The impact of accidents is very significant because it can lead to either disability or loss of lives of workers or community people.
8.4	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslip, etc)?	Yes	The project location is situated in High risk earth quake zone (Zone V) as per the Earthquake map released from National Disaster Management Authority (NDMA), Ministry of Home Affairs (MoH) Government of India. There may be impacts related to earthquake and flooding.	Yes. There would be damages to the structures in case of earthquake and flooding incidences
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?				
9.1	Changes in population size, age, structure, social groups etc.?	Yes	Increased service level of transportation and reliability will create a higher demand for property in the project beneficiary areas.	Yes. There is a chance of in-migration due to this project that will marginally affect the existing community structure and economic conditions etc. This will create a pressure on existing infrastructure.
9.2	By resettlement of people or demolition of homes or communities or community	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	facilities e.g. schools, hospitals, social facilities?			
9.3	Through in-migration of new residents or creation of new communities?	Yes	Such in-migration is possible; however, the numbers would be not much, as the area is already developed residentially.	No. The number of people migrating will not be much.
9.4	By placing increased demands on local facilities or services eg housing, education, health?	Yes	Due to migration, there will be increased demand on local facilities which increases the load on natural resources consumption.	No. The impact on the local facilities will not be significant.
9.5	By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	Yes	Requirement of labour for the construction works prioritize the local people hence, providing employment opportunities to the local people.	Yes (Positive impact) The workers (both skilled and unskilled) will gain experience that they can use in the future in other similar kind of works. Improvement of roads will create new business opportunities.
9.6	Any other causes?			
Question - Are there any other 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?				
10.1	Will the project lead to pressure for consequential development which could have significant impact on the environment e.g. more housing, new roads, new supporting industries or utilities, etc?	Yes	The roads will act as catalyst for development of the surrounding areas and there may be new developments like commercial establishments.	Yes. The anticipated new developments followed by the road projects will result significant environmental impacts due to raw material requirement for the subsequent developments.
10.2	Will the project lead to development of supporting facilities, ancillary development or development stimulated by the project which could have impact on the environment e.g.	Yes	Yes, the project may lead to other developmental projects.	Yes. The project will lead to overall development in the area. Positive Impact

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	supporting infrastructure (roads, power supply, waste or waste water treatment, etc) housing development extractive industries supply industries other?			
10.3	Will the project lead to after-use of the site which could have an impact on the environment?	No	-	-
10.4	Will the project set a precedent for later developments?	Yes	Improved road infrastructure may create opportunities for other developmental infrastructures.	Yes Quality of life of the Agartala citizens will be improved with all the developmental works. Positive Impact.
10.5	Will the project have cumulative effects due to proximity to other existing or planned projects with similar effects?	Yes		

Part 2 - Characteristics of the Project Environment (Environmental Sensitivity)

Question 1 - Are there features of the local environment on or around the Project location which could be affected by the Project?	
• Areas which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No
• Other areas which are important or sensitive for reasons of their ecology e.g.	
• Wetlands,	
• Watercourses or other water bodies,	
• the coastal zone,	No
• mountains,	
• forests or woodlands	No
• Areas used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No
• Inland, coastal, marine or underground waters?	
• Areas or features of high landscape or scenic	

value? • Routes or facilities used by the public for access to recreation or other facilities? • Transport routes which are susceptible to congestion or which cause environmental problems? • Areas or features of historic or cultural importance?	Yes, the road proposed for the development passes from Jail Road to Jail backside and is susceptible to traffic congestion during the construction phase that may provide discomfort to the passer-by and may disrupt the access to the roadside shops and houses There are no temples and cultural important places along the BT road. However, the road construction is within the RoW, so no long-term impact is envisaged. The access to these temples will be temporarily affected during the period of construction.
Question 2 - Is the Project in a location where it is likely to be highly visible to many people?	Yes, the road proposed for the development is passes from Jail Road to Jail Backside, hence it is visible to many people.
Question 3 - Is the Project located in a previously undeveloped area where there will be loss of greenfield land?	No
Question - Are there existing land uses on or around the Project location which could be affected by the Project? For example: • Homes, gardens, other private property, • Industry, • Commerce, • Recreation, • public open space, • community facilities, • agriculture, • forestry, • tourism, • mining or quarrying	Yes The houses and other properties will be affected during the construction period due to disturbance in access to the property, air and noise pollution due to the construction activities etc.
Question 4 - Are there any plans for future land uses on or around the location which could be affected by the Project?	No
Question 5 - Are there any areas on or around the location which are densely populated or built-up, which could be affected by the Project?	Yes Some part of the road there is dense population residing. Whereas, there is no dense population growth in some of the areas. Along the roadside proposed for development, these may people will be affected during the construction phase of the project. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 6 - Are there any areas on or around the location which are occupied by sensitive land uses which could be affected by the Project? • hospitals, • schools, • places of worship, • community facilities	Yes, there will be temporary disturbance to access existing facilities along the roads proposed for development. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.

Question 7 - Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the Project? For example: • groundwater resources, • surface waters, • forestry, • agriculture, • fisheries, • tourism, • minerals.	No
Question 8 - Are there any areas on or around the location of the Project which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No
Question 9 - Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes, the project area lies under Zone V. The structures in the proposed project are being built by following IS 1893 – Part 1 for Earthquake resistant designs for structures.
Question 10 - Is the Project likely to affect the physical condition of any environmental media? • The atmospheric environment including microclimate and local and larger scale climatic conditions? • Water – e.g. quantities, flows or levels of rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Soils – e.g. quantities, depths, humidity, stability or erodibility of soils? • Geological and ground conditions?	No, the project will not affect any physical condition of the environment; there will be improved road infrastructure after operation of road.
Question 11 - Are releases from the Project likely to have effects on the <u>quality</u> of any environmental media? • Local air quality? • Global air quality including climate change and ozone depletion • Water quality – rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Nutrient status and eutrophication of waters? • Acidification of soils or waters? • Soils • Noise? • Temperature, light or electromagnetic radiation including electrical interference? • Productivity of natural or agricultural systems?	Yes, the construction activities may affect local air quality through dust emissions especially during dry season. It also generates noise pollution by the movement of vehicles for transporting materials, and demolition works of RoW for road construction works.
Question 12 - Is the Project likely to affect the availability or scarcity of any resources either locally or globally? • Fossil fuels?	No

• Water? • Minerals and aggregates? • Timber? • Other non-renewable resources? • Infrastructure capacity in the locality - water, sewerage, power generation and transmission, telecommunications, waste disposal roads, rail?	
Question 13 - Is the Project likely to affect human or community health or welfare? • The quality or toxicity of air, water, foodstuffs and other products consumed by humans? • Morbidity or mortality of individuals, communities or populations by exposure to pollution? • Occurrence or distribution of disease vectors including insects? • Vulnerability of individuals, communities or populations to disease? • Individuals' sense of personal security? • Community cohesion and identity? • Cultural identity and associations? • Minority rights? • Housing conditions? • Employment and quality of employment? • Economic conditions? • Social institutions?	Yes, • This project may offer employment to the local people to involve as a construction worker. This can be viewed as positive impact of the project. • This project may also result in the occurrence or distribution of disease vector due to the temporary settlement of workers as they may not have access to safe water supply and sanitation. • Similarly, this project if properly implemented will have positive effect on the welfare of the local people as they will have better road infrastructure and pedestrian pathways, improved traffic flow which will improve their commuting experience. This will also help in improving the economic conditions of the Agartala.

Part 3: Significance of Impacts

Questions to be Considered
1. Will there be a large change in environmental conditions?
2. Will new features be out-of-scale with the existing environment?
3. Will the effect be unusual in the area or particularly complex?
4. Will the effect extend over a large area?
5. Will there be any potential for trans boundary impact?
6. Will many people be affected?
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?
8. Will valuable or scarce features or resources be affected?
9. Is there a risk that environmental standards will be breached?
10. Is there a risk that protected sites, areas, features will be affected?
11. Is there a high probability of the effect occurring?
12. Will the effect continue for a long time?
13. Will the effect be permanent rather than temporary?
14. Will the impact be continuous rather than intermittent?
15. If it is intermittent will it be frequent rather than rare?
16. Will the impact be irreversible?
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?

GB Road
"No Mitigation Scenario Checklist" (Scoping Checklist)

Part 1 - Questions on Project Characteristics

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies etc.)?				
1.1	Permanent or temporary change in land use, land cover or topography including increases in intensity of land use?	Yes	The proposed project involves upgradation of the GB Road, which is within the existing RoW. Following works are proposed for the sub project 1. Dismantling above ground utilities like electric, telephone cables. 2. Clearing of drain silts 3. Dismantling Existing Brickwork drains 4. Construction of RCC Drain 5. Repositioning of existing water lines, wherever required. 6. Development of Carriageway/ Road Surface 7. Proposal for Pathways/ walkways 8. Proposal for Underground Utility Corridors Proposal for suitable streetscaping	No, there will not be any changes in land use and land cover, but, there will be changes in topography in terms of level of roads. The proposed project is to improve the road footpath conditions in GB Road, the land area will remain the same as there is no land acquisition involved and work will be carried out in existing RoW.
1.2	Clearance of existing land, vegetation and buildings?	Yes	No clearance of land as this is reconstruction of existing road of 4.09 km length within the existing RoW.	No. Clearing of land is not involved in the road project, as the work is being carried out in existing RoW.
			Total 4 trees are required to be cut for the proposed road work.	Yes. The proposed trees to cut are common species. No threatened or endangered species of plant are sited in the proposed GB road development area as per the 'Checklist of Rare and Threatened Plants of Tripura' listed in www.indiabiodiversity.org/checklist/show/201.
1.3	Creation of new land uses?	No		
1.4	Pre-construction investigations e.g. boreholes, soil testing?	Yes	None. Soil investigation/ testing will be conducted for the road works, but this involves small area.	No, Geotechnical investigations will involve only obtaining a borehole sample for proposed

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
				infrastructures. Since undisturbed core would be extracted using a core cutter there would be no impacts on the topography or the geology.
1.5	Construction works?	Yes	Only immediate vicinity of the road will be affected. Road and allied works will potentially impact the immediate environment in terms of air quality due to generation of dusts and vehicle emissions, water pollution due to generation of wastewater from washings and siltation of the water bodies due to solid wastes from demolition and other construction activities. The roads will include utilities Existing Brick walled Storm water drains are proposed to be reconstructed into RCC structures below road surface. Two vent RCC structure is proposed. one vent (Towards the carriageway) shall carry Storm Water and other one (Towards the property line) shall carry Electrical and OFC cables. The vent for Electrical & OFC system will be provided below the footpath and SWD vent shall be provided below the carriageway OFC & Electrical cable is proposed in RCC cable trench system as per IS-1255: 1983. Footpath is provided above the RCC cable trench system.	Yes, because the construction works will take 21 months' time. The construction activities specially the wastes and emissions bring significant adverse impact to the receptors in the area (e.g. institutions and residential/ commercial establishments along the road).
1.6	Demolition works?	Yes	Demolition of existing roads drains will generate wastes and air emissions which will impact the air, water and noise quality of the road area. The demolition will generate approx 8400 m3 muck from the road stretch.	Yes. The demolition wastes will pose challenge to the passerby and surrounding people also it may result in siltation of water bodies if not removed immediately from the site.
1.7	Temporary sites used for construction works	Yes	There is a possibility of disposal of the solid and liquid wastes to nearby land or water bodies by	Yes. Depending on the size and number of laborers in the

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	or housing of construction workers?		the construction workers, which could affect the water bodies and soil environment.	construction camps. Pollution of receiving bodies of water around the camps and degradation of aesthetics due to dumping of solid wastes are likely. The construction camps will generate solid and liquid waste, these will change the water quality of the receiving water bodies and harm the aesthetics of the area if dumped openly without any processing.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations?	Yes	Excavated earth of quantity around 50,000 Cum for all the road works may temporarily affect the land use obstructing the access to by-roads, roadside premises, and houses. Cleaning of drains will generate around 2000 cum spoil.	Yes. The storage of excavated material and other raw material stored will cause problems to people visiting park and passerby. Siltation of the water bodies at the downstream is also a problem during monsoon season.
1.9	Underground works including mining or tunneling?	Yes	No mining or Tunneling is involved in the project. Excavation for utility trenches and drainage system maximum to the depth of 2.5-3m is proposed.	Yes. Excavation for construction of roads and utility trenches lead to generation of muck, which if not disposed from site will contaminate the nearby water body and pose obstruction to the residents and passerby.
1.10	Reclamation works?	No		
1.11	Dredging?	No		
1.12	Coastal structures eg seawalls, piers?	No		
1.13	Offshore structures?	No		
1.14	Production and manufacturing processes?	No		
1.15	Facilities for storage of goods or materials?	Yes	Construction material excavated material etc. will be stored in heaps along the roads, these material heaps could affect aesthetics at the site, and mobility or free movement of pedestrians and vehicles.	Yes. The obstructions brought about by the material heaps could impede the flow of pedestrians and vehicles in the road stretch.
1.16	Facilities for treatment or	Yes	Labour camp for about 25 inhabitants will generates both	Yes,

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	disposal of solid wastes or liquid effluents?		solid and liquid waste of around 10 Kg/ day and 2.7 KLD respectively. The solid and liquid wastes generated from the labour camps will pose water quality, soil quality and health issues if not processed/ handled properly.	The solid and liquid waste generated will cause soil contamination, water contamination if not treated and let into the nature.
1.17	Facilities for long term housing of operational workers?	No		
1.18	New road, rail or sea traffic during construction or operation?	No		
1.19	New road, rail, air, waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No		
1.20	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	Yes	The construction will be in phased manner, closure of the road during construction works will be required. Some interior roads may also need temporary closure during construction.	Yes, Road closures during construction phase will cause temporary traffic jams and related issues.
1.21	New or diverted transmission lines or pipelines?	Yes	ICT Line, LT and HT Lines converted from above ground to underground networks and the excavation for underground trenches will generate excavated earth which if not stored and handled properly will pose environmental and safety issues.	Yes, The construction of utility duct and excavation involved will pose environmental, health and safety and aesthetic impacts due to contamination of water bodies, unsafe access to passerby.
1.22	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Slopes and design capacity of drains will be done as per existing rainfall data of the area.	.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.23	Stream crossings?	Yes	Proposed GB road will cross 4 drains. Cross drains across the roads are maintained as it is.	No, There is no change in the existing cross drain structures.
1.24	Abstraction or transfers of water from ground or surface waters?	No		
1.25	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	The roadside storm water drains will be demolished and will be converted to underground RCC drains.	Yes. Short term impact only during the construction period. However, the project will improve the drainage system by reduction in operation and maintenance issues.
1.26	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Transportation vehicles for the movement of workers/ personnel, construction equipment, and construction materials will generate dust and noise.	Yes. The dust and noise generated due to transportation of manpower and material will cause discomfort to the occupants of establishments and institutions in the area.
1.27	Long term dismantling or decommissioning or restoration works?	No	-	-
1.28	Ongoing activity during decommissioning which could have an impact on the environment?	No	-	-
1.29	Influx of people to an area in either temporarily or permanently?	Yes	The construction phase will increase the personnel movement for a temporary period and operation phase will also result in influx of people due to change in better aesthetics and better traffic facilities.	Yes, The people will be housed in labour camps and this will cause the solid and liquid waste generation from the camps and subsequent contamination of soil and water contaminations and pose health issues
1.30	Introduction of alien species?	No	-	-
1.31	Loss of native species or genetic diversity?	Yes	For the construction of GB road, 49 trees will be cut, the species exist in those lands are common to the area and therefore no loss of native or genetic diversity is expected.	Yes. Local shrubs and trees are required to remove from the existing area for the construction activities.
1.32	Any other actions?	No	-	-
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?				

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
2.1	Land especially undeveloped or agricultural land?	No	Construction of road and pathway is within the existing RoW, hence no land resource will be utilized.	No The works are proposed in already developed urban areas and it will not impact any underdeveloped or agriculture land.
2.2	Water?	Yes	During the construction phase, water would be used for construction purposes. During the operations phase, water would be used for watering the road side plantations and ornamental trees.	No, The quantity of water to be used during the construction phase is in small. In Agartala no new water source would be constructed as part of the project. The existing source (municipal water supply and ground water) would be sufficient to supply water for construction.
2.3	Minerals?	Yes	Sand, gravel and soil for subbase of road. This will be sourced from Government approved quarries.	Yes. The huge quantities of sand and aggregates will likely have a significant impact to the aesthetics, topography and ecosystem at the sites or locations where they are sourced or quarried. Transportation of aggregate will also cause air pollution.
2.4	Aggregates?	Yes	The new road surface construction and excavated road repair would be the part of the project. This new construction and repairing of the pavement and concrete works in the project would require aggregates	
2.5	Forests and timber?	No	-	-
2.6	Energy including electricity and fuels?	Yes	None. The required energy, electricity, and fuel during construction activities, vehicle, equipment, and machinery operations are negligible compared to supply.	No. The site is located within urban area where electricity from grid is easily available.
2.7	Any other resources?	No		
3. Will the Project involve 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?				
3.1	Will the project involve use of substances or materials which are hazardous or toxic to human health or the environment (flora,	Yes	During the construction stage, likely leakage of discharge of Fuels like diesel, Petrol, and Oil & Grease will affect human health and environment.	Yes. Any Discharge of these substances will have adverse impacts to environmental quality and human health and may also affect the nearby flora and fauna.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	fauna, water supplies)?			
3.2	Will the project result in changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)?	Yes	The labour camps would generate solid waste as well as sewage. Thus, the camps have potential to spread diseases.	Yes. Airborne, water-borne or vector-borne diseases could spread or transmitted easily from the construction camps to the outside communities.
3.3	Will the project affect the welfare of people e.g. by changing living conditions?	Yes	Better traffic circulation, pedestrian movement and streetscapes will improve the living conditions of the residents	Yes, Throughout the operation stage of the project. This is a significant positive impact
3.4	Are there especially vulnerable groups of people who could be affected by the project e.g. hospital patients, the elderly?	Yes	GB Hospital is situated at the start of the road.	
3.5	Any other causes?	No		
4. Will the Project produce solid wastes during construction or operation or decommissioning?				
4.1	Spoil, overburden or mine wastes?	Yes	Excavation of drains and roads will produce spoil. The spoil if not readily disposed at safe site, it will occupy the land and may create discomfort to the passer-by.	Yes. The material generated due to excavation will affect the regular walkway and passerby, during the construction period, the material may end up in water body if not stored and disposed properly.
4.2	Municipal waste (household and or commercial wastes)?	Yes	There would be generation of municipal waste from construction camps and during operation phase due to influx of visitors.	Yes. Municipal solid waste generated during the project may cause contamination of land and water bodies if not managed appropriately.
4.3	Hazardous or toxic wastes (including radioactive wastes)?	Yes	Bitumen will be used for the construction of roads, the likely leakage and emissions will cause health and environmental impacts.	Yes, The accidental spills/ leakages of bitumen will cause water and land pollution. Also, the emission from the bitumen during heating will pose health impacts to the workers and passerby.
4.4	Other industrial process wastes?	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
4.5	Surplus product?	No		
4.6	Sewage sludge or other sludge from effluent treatment?	Yes	The 2.7 KLD sewage generated from labour camp may pose environmental and health impacts due to untreated discharge.	Yes, The sewage generated if discharged without treatment will cause ground and surface water pollution.
4.7	Construction or demolition wastes?	Yes	Construction of Roads, pathways and utility trenches will produce construction and demolition waste. The waste if not disposed at designated site, will pose environmental and safety issues by siltation of water bodies and causing uncomfort to passerby.	Yes. Construction and demolition wastes generated or produced during construction phase will change the aesthetics in the project area. Excavated Soil and demolition debris could clog drainages and could cause siltation of drains and pose difficulties to residents and passer-by for access.
4.8	Redundant machinery or equipment?	No		
4.9	Contaminated soils or other material?	No		
4.10	Agricultural wastes?	No		
4.11	Any other solid wastes?	No		
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?				
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources?	Yes	Use of generators, machinery, and heavy vehicles during excavation and construction will generate emissions.	Yes. The impact of these emissions is significant to the health of all human receptors along the road construction sites.
5.2	Emissions from production processes?	No	-	-
5.3	Emissions from materials handling including storage or transport?	Yes	Vehicles used for transport of construction, material and machinery will produce emissions. Dust generation during unloading of materials such as cement, aggregates, etc. There is also a likelihood of re-entrainment of dust particle at the construction site due to movement of vehicles	Yes. The impact of these emissions is significant to the health of all human receptors around the construction sites.
5.4	Emissions from construction activities including plant and equipment?	Yes	Concrete batching plants, hot-mix plants for bituminous material production during road surfacing will cause emissions.	Yes. The impact of these emissions is significant to the health of all human receptors around the road construction sites.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
5.5	Dust or odours from handling of materials including construction materials, sewage and waste?	Yes	Air pollution due to dust generation during construction of roads, excavation and backfilling, handling of excavated and fill material, cement, sand, gravel, aggregates, etc.	Yes. The impact of these emissions is significant to the health of all people residing nearby and passerby.
5.6	Emissions from incineration of waste?	No	-	-
5.7	Emissions from burning of waste in open air (eg slash material, construction debris)?	Yes	The locality of the worker's camp may be affected by the open burning of waste generated from the worker's camp.	Yes. The impact of these emissions is significant to the health of all human receptors living in construction camps and those around the construction camp sites.
5.8	Emissions from any other sources?	No		
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?				
6.1	From operation of equipment eg: engines, ventilation plant, crushers?	Yes	Excavation of trenches by heavy machinery, cutters, etc. and subsequent compaction and road surfacing, use of generators, heavy vehicle movements will generate noise and vibration.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the road construction sites, including the workers.
6.2	From industrial or similar processes?	Yes	Production of concrete and bituminous products will generate noise. Crushers and borrow operations will generate high levels of noise.	Yes. The concrete mixers will cause noise in and around the area and bituminous hot mixes will result in heat radiation which will impact the surrounding population and passerby.
6.3	From construction or demolition?	Yes	The noise generated from the demolition of RoW for construction of roads and pathways may disturb the people residing at and passerby of core bazaar area.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the construction sites, including the workers.
6.4	From blasting or piling?	No		
6.5	From construction or operational traffic?	Yes	Movement of heavy machinery used for construction work and vehicles transporting construction materials may generate noise that would cause inconvenience to the surrounding communities of road.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the traffic congested sites, including the workers working at these sites.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
6.6	From lighting or cooling systems?	No	Night time construction is not envisaged.	No. As per current practices the construction works are allowed only in day time and no lighting for night time working is required.
6.7	From sources of electromagnetic radiation (consider effects on nearby sensitive equipment as well as people)?	No	-	-
6.8	From any other sources?	No	-	-
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into sewers, surface waters, groundwater, coastal waters or the sea?				
7.1	From handling, storage, use or spillage of hazardous or toxic materials?	Yes	Due to accidental spillage / leakage of fuel and bitumen will pollute the land and water bodies.	Yes. The leakage / spillage of fuel and bitumen will result in land contamination and water pollution.
7.2	From discharge of sewage or other effluents (whether treated or untreated) to water or the land?	Yes	The land and water bodies nearby the workers camp may be polluted by the discharge of sewage from camp.	Yes. The impact of discharge of sewage or effluents to land is significant as they could seep into the ground and pollute the groundwater. Likewise, the impact of discharge of sewage or effluent to receiving bodies of water in the area is significant as they could pollute the water and subsequently the aquatic species.
7.3	By deposition of pollutants emitted to air, onto the land or into water?	Yes	The land nearby the workers' camp may be polluted by the construction related activities and daily activities of the workers residing there temporarily.	Yes. The discharge of pollutants to air, water or soil will contaminate these natural resources.
7.4	From any other sources?	No		
7.5	Is there a risk of long-term build-up of pollutants in the environment from these sources?	No		
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?				
8.1	From explosions, spillages, fires etc from storage,	Yes	Road work involves use of bitumen hot mixes, the accidental fire or explosion of	Yes. The explosion and spillage will result in human injury and may

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	handling, use or production of hazardous or toxic substances?		hot mixes and resulting spillages will result in severe impact on human health and as well as environment.	pose contamination of land and water and thus it is a significant impact.
8.2	From events beyond the limits of normal environmental protection e.g. failures of pollution control systems?	No	-	-
8.3	From any other causes?	Yes	Accidents can happen due to the carelessness of workers and lapses of safety procedures at the construction sites during the excavation, laying of bitumen etc., and these accidents will impact the human health in terms of injury.	Yes. The impact of accidents is very significant because it can lead to either disability or loss of lives of workers or community people.
8.4	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslip, etc)?	Yes	The project location is situated in High risk earth quake zone (Zone V) as per the Earthquake map released from National Disaster Management Authority (NDMA), Ministry of Home Affairs (MoH) Government of India. There may be impacts related to earthquake and flooding.	Yes. There would be damages to the structures in case of earthquake and flooding incidences
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?				
9.1	Changes in population size, age, structure, social groups etc.?	Yes	Increased service level of transportation and reliability will create a higher demand for property in the project beneficiary areas.	Yes. There is a chance of in-migration due to this project that will marginally affect the existing community structure and economic conditions etc. This will create a pressure on existing infrastructure.
9.2	By resettlement of people or demolition of homes or communities or community facilities e.g. schools, hospitals, social facilities?	No		
9.3	Through in-migration of new residents or	Yes	Such in-migration is possible; however, the numbers would be not much, as the area is already developed	No. The number of people migrating will not be much.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	creation of new communities?		commercially and residentially.	
9.4	By placing increased demands on local facilities or services eg housing, education, health?	Yes	Due to migration, there will be increased demand on local facilities which increases the load on natural resources consumption.	No. The impact on the local facilities will not be significant.
9.5	By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	Yes	Requirement of labour for the construction works prioritize the local people hence, providing employment opportunities to the local people.	Yes (Positive impact) The workers (both skilled and unskilled) will gain experience that they can use in the future in other similar kind of works. Improvement of roads will create new business opportunities.
9.6	Any other causes?			
Question - Are there any other 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?				
10.1	Will the project lead to pressure for consequential development which could have significant impact on the environment e.g. more housing, new roads, new supporting industries or utilities, etc?	Yes	The roads will act as catalyst for development of the surrounding areas and there may be new developments like commercial establishments, malls etc.,	Yes. The anticipated new developments followed by the road projects will result significant environmental impacts due to raw material requirement for the subsequent developments.
10.2	Will the project 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 project may lead to other developmental projects.	Yes. The project will lead to overall development in the area. Positive Impact

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	housing development extractive industries supply industries other?			
10.3	Will the project lead to after-use of the site which could have an impact on the environment?	No	-	-
10.4	Will the project set a precedent for later developments?	Yes	Improved road infrastructure may create opportunities for other developmental infrastructures.	Yes Quality of life of the Agartala citizens will be improved with all the developmental works. Positive Impact.
10.5	Will the project have cumulative effects due to proximity to other existing or planned projects with similar effects?	Yes		

Part 2 - Characteristics of the Project Environment (Environmental Sensitivity)

Question 1 - Are there features of the local environment on or around the Project location which could be affected by the Project?	
• Areas which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No
• Other areas which are important or sensitive for reasons of their ecology e.g. • Wetlands, • Watercourses or other water bodies,	
• the coastal zone,	No
• mountains,	
• forests or woodlands	No
• Areas used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No
• Inland, coastal, marine or underground waters?	
• Areas or features of high landscape or scenic value?	Yes, the road proposed for the development passes from main city roads from G B Bazaar to Ramthankur Club having commercial establishments and is susceptible to traffic congestion during the construction phase that may provide discomfort to the passer-by and may disrupt the access to the roadside shops and
• Routes or facilities used by the public for access to recreation or other facilities?	

• Transport routes which are susceptible to congestion or which cause environmental problems? • Areas or features of historic or cultural importance?	houses. There are few temples along the road. However, the road construction is within the RoW, so no long-term impact is envisaged. The access to these temples will be temporarily affected during the period of construction.
Question 2 - Is the Project in a location where it is likely to be highly visible to many people?	Yes, the road proposed for the development is passes from Jail Road to Jail Backside, hence it is visible to many people.
Question 3 - Is the Project located in a previously undeveloped area where there will be loss of greenfield land?	No
Question - Are there existing land uses on or around the Project location which could be affected by the Project? For example: • Homes, gardens, other private property, • Industry, • Commerce, • Recreation, • public open space, • community facilities, • agriculture, • forestry, • tourism, • mining or quarrying	Yes The houses, shops and other properties will be affected during the construction period due to disturbance in access to the property, air and noise pollution due to the construction activities etc.
Question 4 - Are there any plans for future land uses on or around the location which could be affected by the Project?	No
Question 5 - Are there any areas on or around the location which are densely populated or built-up, which could be affected by the Project?	Yes Some part of the road there is dense population residing and also the commercial establishments. Whereas, there is no dense population growth in some of the areas. Along the roadside proposed for development, these may people will be affected during the construction phase of the project. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 6 - Are there any areas on or around the location which are occupied by sensitive land uses which could be affected by the Project? • hospitals, • schools, • places of worship, • community facilities	Yes, there will be temporary disturbance to access existing facilities along the roads proposed for development. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 7 - Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the Project? For example: • groundwater resources, • surface waters,	No

• forestry, • agriculture, • fisheries, • tourism, • minerals.	
Question 8 - Are there any areas on or around the location of the Project which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No
Question 9 - Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes, the project area lies under Zone V. The structures in the proposed project are being built by following IS 1893 – Part 1 for Earthquake resistant designs for structures.
Question 10 - Is the Project likely to affect the physical condition of any environmental media? • The atmospheric environment including microclimate and local and larger scale climatic conditions? • Water – e.g. quantities, flows or levels of rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Soils – e.g. quantities, depths, humidity, stability or erodibility of soils? • Geological and ground conditions?	No, the project will not affect any physical condition of the environment; there will be improved road infrastructure after operation of road.
Question 11 - Are releases from the Project likely to have effects on the <u>quality</u> of any environmental media? • Local air quality? • Global air quality including climate change and ozone depletion • Water quality – rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Nutrient status and eutrophication of waters? • Acidification of soils or waters? • Soils • Noise? • Temperature, light or electromagnetic radiation including electrical interference? • Productivity of natural or agricultural systems?	Yes, the construction activities may affect local air quality through dust emissions especially during dry season. It also generates noise pollution by the movement of vehicles for transporting materials, and demolition works of RoW for road construction works.
Question 12 - Is the Project likely to affect the availability or scarcity of any resources either locally or globally? • Fossil fuels? • Water? • Minerals and aggregates? • Timber? • Other non-renewable resources? • Infrastructure capacity in the locality - water, sewerage, power generation and transmission,	No

telecommunications, waste disposal roads, rail?	
Question 13 - Is the Project likely to affect human or community health or welfare? • The quality or toxicity of air, water, foodstuffs and other products consumed by humans? • Morbidity or mortality of individuals, communities or populations by exposure to pollution? • Occurrence or distribution of disease vectors including insects? • Vulnerability of individuals, communities or populations to disease? • Individuals' sense of personal security? • Community cohesion and identity? • Cultural identity and associations? • Minority rights? • Housing conditions? • Employment and quality of employment? • Economic conditions? • Social institutions?	Yes, • This project may offer employment to the local people to involve as a construction worker. This can be viewed as positive impact of the project. • This project may also result in the occurrence or distribution of disease vector due to the temporary settlement of workers as they may not have access to safe water supply and sanitation. • Similarly, this project if properly implemented will have positive effect on the welfare of the local people as they will have better road infrastructure and pedestrian pathways, improved traffic flow which will improve their commuting experience. This will also help in improving the economic conditions of the Agartala.

Part 3: Significance of Impacts

Questions to be Considered
1. Will there be a large change in environmental conditions?
2. Will new features be out-of-scale with the existing environment?
3. Will the effect be unusual in the area or particularly complex?
4. Will the effect extend over a large area?
5. Will there be any potential for trans boundary impact?
6. Will many people be affected?
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?
8. Will valuable or scarce features or resources be affected?
9. Is there a risk that environmental standards will be breached?
10. Is there a risk that protected sites, areas, features will be affected?
11. Is there a high probability of the effect occurring?
12. Will the effect continue for a long time?
13. Will the effect be permanent rather than temporary?
14. Will the impact be continuous rather than intermittent?
15. If it is intermittent will it be frequent rather than rare?
16. Will the impact be irreversible?
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?

IT Hub Surrounding Road
"No Mitigation Scenario Checklist" (Scoping Checklist)
Part 1 - Questions on Project Characteristics

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies etc.)?				
1.1	Permanent or temporary change in land use, land cover or topography including increases in intensity of land use?	Yes	The proposed project involves upgradation of the IT Hub Surrounding Road, which is within the existing RoW. Following works are proposed for the sub project 1. Dismantling above ground utilities like electric, telephone cables. 2. Clearing of drain silts 3. Dismantling Existing Brickwork drains 4. Construction of RCC Drain 5. Repositioning of existing water lines, wherever required. 6. Development of Carriageway/ Road Surface 7. Proposal for Pathways/ walkways 8. Proposal for Underground Utility Corridors Proposal for suitable streetscaping	No, there will not be any changes in land use and land cover, but, there will be changes in topography in terms of level of roads. The proposed project is to improve the road footpath conditions in IT Hub Surrounding Road, the land area will remain the same as there is no land acquisition involved and work will be carried out in existing RoW.
1.2	Clearance of existing land, vegetation and buildings?	Yes	No clearance of land as this is reconstruction of existing road of 0.57 km length within the existing RoW.	No. Clearing of land is not involved in the road project, as the work is being carried out in existing RoW.
			Total 26 trees are required to be cut for the proposed road work.	Yes. The proposed trees to cut are common species. No threatened or endangered species of plant are sited in the proposed IT hub surrounding road development area as per the 'Checklist of Rare and Threatened Plants of Tripura' listed in www.indiabiodiversity.org/checklist/show/201.
1.3	Creation of new land uses?	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.4	Pre-construction investigations e.g. boreholes, soil testing?	Yes	None. Soil investigation/ testing will be conducted for the road works, but this involves small area.	No, Geotechnical investigations will involve only obtaining a borehole sample for proposed infrastructures. Since undisturbed core would be extracted using a core cutter there would be no impacts on the topography or the geology.
1.5	Construction works?	Yes	Only immediate vicinity of the road will be affected. Road and allied works will potentially impact the immediate environment in terms of air quality due to generation of dusts and vehicle emissions, water pollution due to generation of wastewater from washings and siltation of the water bodies due to solid wastes from demolition and other construction activities. The roads will include utilities Existing Brick walled Storm water drains are proposed to be reconstructed into RCC structures below road surface. Two vent RCC structure is proposed. one vent (Towards the carriageway) shall carry Storm Water and other one (Towards the property line) shall carry Electrical and OFC cables. The vent for Electrical & OFC system will be provided below the footpath and SWD vent shall be provided below the carriageway OFC & Electrical cable is proposed in RCC cable trench system as per IS-1255: 1983. Footpath is provided above the RCC cable trench system.	Yes, because the construction works will take 21 months' time. The construction activities specially the wastes and emissions bring significant adverse impact to the receptors in the area (e.g. residential establishments along the road).
1.6	Demolition works?	Yes	Demolition of existing roads drains will generate wastes and air emissions which will impact the air, water and noise quality of the road area. The demolition will generate approx.. 1000 m3 muck from the road stretch.	Yes. The demolition wastes will pose challenge to the passerby and surrounding people also it may result in siltation of water bodies if not removed immediately from the site.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	There is a possibility of disposal of the solid and liquid wastes to nearby land or water bodies by the construction workers, which could affect the water bodies and soil environment.	Yes. Depending on the size and number of laborers in the construction camps. Pollution of receiving bodies of water around the camps and degradation of aesthetics due to dumping of solid wastes are likely. The construction camps will generate solid and liquid waste, these will change the water quality of the receiving water bodies and harm the aesthetics of the area if dumped openly without any processing.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations?	Yes	Excavated earth of quantity around 6500 Cum for all the road works may temporarily affect the land use obstructing the access to by-roads, roadside premises, and houses. Cleaning of drains will generate around 280 cum spoil.	Yes. The storage of excavated material and other raw material stored will cause problems to people visiting park and passerby. Siltation of the water bodies at the downstream is also a problem during monsoon season.
1.9	Underground works including mining or tunneling?	Yes	No mining or Tunneling is involved in the project. Excavation for utility trenches and drainage system maximum to the depth of 2.5-3m is proposed.	Yes. Excavation for construction of roads and utility trenches lead to generation of muck, which if not disposed from site will contaminate the nearby water body and pose obstruction to the residents and passerby.
1.10	Reclamation works?	No		
1.11	Dredging?	No		
1.12	Coastal structures eg seawalls, piers?	No		
1.13	Offshore structures?	No		
1.14	Production and manufacturing processes?	No		
1.15	Facilities for storage of goods or materials?	Yes	Construction material excavated material etc. will be stored in heaps along the roads, these material heaps could affect aesthetics at the	Yes. The obstructions brought about by the material heaps could impede the flow of pedestrians

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			site, and mobility or free movement of pedestrians and vehicles.	and vehicles in the road stretch.
1.16	Facilities for treatment or disposal of solid wastes or liquid effluents?	Yes	Labour camp for about 25 inhabitants will generates both solid and liquid waste of around 10 Kg/ day and 2.7 KLD respectively. The solid and liquid wastes generated from the labour camps will pose water quality, soil quality and health issues if not processed/ handled properly.	Yes, The solid and liquid waste generated will cause soil contamination, water contamination if not treated and let into the nature.
1.17	Facilities for long term housing of operational workers?	No		
1.18	New road, rail or sea traffic during construction or operation?	No		
1.19	New road, rail, air, waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No		
1.20	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	Yes	The construction will be in phased manner, closure of the road during construction works will be required. Some interior roads may also need temporary closure during construction.	Yes, Road closures during construction phase will cause temporary traffic jams and related issues.
1.21	New or diverted transmission lines or pipelines?	Yes	ICT Line, LT and HT Lines converted from above ground to underground networks and the excavation for underground trenches will generate excavated earth which if not stored and handled properly will pose environmental and safety issues.	Yes, The construction of utility duct and excavation involved will pose environmental, health and safety and aesthetic impacts due to contamination of water bodies, unsafe access to passerby.
1.22	Impoundment, damming, culverting, realignment or other changes to the hydrology of	No	Slopes and design capacity of drains will be done as per existing rainfall data of the area.	.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	watercourses or aquifers?			
1.23	Stream crossings?	Yes	Proposed It Hub surrounding road will cross 1 drains. Cross drains across the roads are maintained as it is.	No, There is no change in the existing cross drain structures.
1.24	Abstraction or transfers of water from ground or surface waters?	No		
1.25	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	The roadside storm water drains will be demolished and will be converted to underground RCC drains.	Yes. Short term impact only during the construction period. However, the project will improve the drainage system by reduction in operation and maintenance issues.
1.26	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Transportation vehicles for the movement of workers/ personnel, construction equipment, and construction materials will generate dust and noise.	Yes. The dust and noise generated due to transportation of manpower and material will cause discomfort to the occupants of establishments and institutions in the area.
1.27	Long term dismantling or decommissioning or restoration works?	No	-	-
1.28	Ongoing activity during decommissioning which could have an impact on the environment?	No	-	-
1.29	Influx of people to an area in either temporarily or permanently?	Yes	The construction phase will increase the personnel movement for a temporary period and operation phase will also result in influx of people due to change in better aesthetics and better traffic facilities.	Yes, The people will be housed in labour camps and this will cause the solid and liquid waste generation from the camps and subsequent contamination of soil and water contaminations and pose health issues
1.30	Introduction of alien species?	No	-	-
1.31	Loss of native species or genetic diversity?	Yes	For the construction of IT hub surrounding road, 16 trees will be cut, the species exist in those lands are common to the area and therefore no loss of	Yes. Local shrubs and trees are required to remove from the existing area for the construction activities.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			native or genetic diversity is expected.	
1.32	Any other actions?	No	-	-
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?				
2.1	Land especially undeveloped or agricultural land?	No	Construction of road and pathway is within the existing RoW, hence no land resource will be utilized.	No The works are proposed in already developed urban areas and it will not impact any underdeveloped or agriculture land.
2.2	Water?	Yes	During the construction phase, water would be used for construction purposes. During the operations phase, water would be used for watering the road side plantations and ornamental trees.	No, The quantity of water to be used during the construction phase is in small. In Agartala no new water source would be constructed as part of the project. The existing source (municipal water supply and ground water) would be sufficient to supply water for construction.
2.3	Minerals?	Yes	Sand, gravel and soil for subbase of road. This will be sourced from Government approved quarries.	Yes. The huge quantities of sand and aggregates will likely have a significant impact to the aesthetics, topography and ecosystem at the sites or locations where they are sourced or quarried. Transportation of aggregate will also cause air pollution.
2.4	Aggregates?	Yes	The new road surface construction and excavated road repair would be the part of the project. This new construction and repairing of the pavement and concrete works in the project would require aggregates	
2.5	Forests and timber?	No	-	-
2.6	Energy including electricity and fuels?	Yes	None. The required energy, electricity, and fuel during construction activities, vehicle, equipment, and machinery operations are negligible compared to supply.	No. The site is located within urban area where electricity from grid is easily available.
2.7	Any other resources?	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
3. Will the Project involve 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?				
3.1	Will the project involve use of substances or materials which are hazardous or toxic to human health or the environment (flora, fauna, water supplies)?	Yes	During the construction stage, likely leakage of discharge of Fuels like diesel, Petrol, and Oil & Grease will affect human health and environment.	Yes. Any Discharge of these substances will have adverse impacts to environmental quality and human health and may also affect the nearby flora and fauna.
3.2	Will the project result in changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)?	Yes	The labour camps would generate solid waste as well as sewage. Thus, the camps have potential to spread diseases.	Yes. Airborne, water-borne or vector-borne diseases could spread or transmitted easily from the construction camps to the outside communities.
3.3	Will the project affect the welfare of people e.g. by changing living conditions?	Yes	Better traffic circulation, pedestrian movement and streetscapes will improve the living conditions of the residents	Yes, Throughout the operation stage of the project. This is a significant positive impact
3.4	Are there especially vulnerable groups of people who could be affected by the project e.g. hospital patients, the elderly?	No	No such structures present in the road.	
3.5	Any other causes?	No		
4. Will the Project produce solid wastes during construction or operation or decommissioning?				
4.1	Spoil, overburden or mine wastes?	Yes	Excavation of drains and roads will produce spoil. The spoil if not readily disposed at safe site, it will occupy the land and may create discomfort to the passer-by.	Yes. The material generated due to excavation will affect the regular walkway and passerby, during the construction period, the material may end up in water body if not stored and disposed properly.
4.2	Municipal waste (household and or commercial wastes)?	Yes	There would be generation of municipal waste from construction camps and during operation phase due to influx of visitors.	Yes. Municipal solid waste generated during the project may cause contamination of land and water bodies if not managed appropriately.
4.3	Hazardous or toxic wastes (including	Yes	Bitumen will be used for the construction of roads, the likely	Yes,

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	radioactive wastes)?		leakage and emissions will cause health and environmental impacts.	The accidental spills/ leakages of bitumen will cause water and land pollution. Also, the emission from the bitumen during heating will pose health impacts to the workers and passerby.
4.4	Other industrial process wastes?	No		
4.5	Surplus product?	No		
4.6	Sewage sludge or other sludge from effluent treatment?	Yes	The 2.7 KLD sewage generated from labour camp may pose environmental and health impacts due to untreated discharge.	Yes, The sewage generated if discharged without treatment will cause ground and surface water pollution.
4.7	Construction or demolition wastes?	Yes	Construction of Roads, pathways and utility trenches will produce construction and demolition waste. The waste if not disposed at designated site, will pose environmental and safety issues by siltation of water bodies and causing uncomfort to passerby.	Yes. Construction and demolition wastes generated or produced during construction phase will change the aesthetics in the project area. Excavated Soil and demolition debris could clog drainages and could cause siltation of drains and pose difficulties to residents and passer-by for access.
4.8	Redundant machinery or equipment?	No		
4.9	Contaminated soils or other material?	No		
4.10	Agricultural wastes?	No		
4.11	Any other solid wastes?	No		
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?				
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources?	Yes	Use of generators, machinery, and heavy vehicles during excavation and construction will generate emissions.	Yes. The impact of these emissions is significant to the health of all human receptors along the road construction sites.
5.2	Emissions from production processes?	No	-	-
5.3	Emissions from materials handling including storage or transport?	Yes	Vehicles used for transport of construction, material and machinery will produce emissions. Dust generation during unloading of materials such as cement, aggregates, etc. There is also a likelihood of re-entrainment of dust particle	Yes. The impact of these emissions is significant to the health of all human receptors around the construction sites.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			at the construction site due to movement of vehicles	
5.4	Emissions from construction activities including plant and equipment?	Yes	Concrete batching plants, hot-mix plants for bituminous material production during road surfacing will cause emissions.	Yes. The impact of these emissions is significant to the health of all human receptors around the road construction sites.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste?	Yes	Air pollution due to dust generation during construction of roads, excavation and backfilling, handling of excavated and fill material, cement, sand, gravel, aggregates, etc.	Yes. The impact of these emissions is significant to the health of all people residing nearby and passerby.
5.6	Emissions from incineration of waste?	No	-	-
5.7	Emissions from burning of waste in open air (eg slash material, construction debris)?	Yes	The locality of the worker's camp may be affected by the open burning of waste generated from the worker's camp.	Yes. The impact of these emissions is significant to the health of all human receptors living in construction camps and those around the construction camp sites.
5.8	Emissions from any other sources?	No		
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?				
6.1	From operation of equipment eg: engines, ventilation plant, crushers?	Yes	Excavation of trenches by heavy machinery, cutters, etc. and subsequent compaction and road surfacing, use of generators, heavy vehicle movements will generate noise and vibration.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the road construction sites, including the workers.
6.2	From industrial or similar processes?	Yes	Production of concrete and bituminous products will generate noise. Crushers and borrow operations will generate high levels of noise.	Yes. The concrete mixers will cause noise in and around the area and bituminous hot mixes will result in heat radiation which will impact the surrounding population and passerby.
6.3	From construction or demolition?	Yes	The noise generated from the demolition of RoW for construction of roads and pathways may disturb the people residing at and passerby of core bazaar area.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the construction sites, including the workers.
6.4	From blasting or piling?	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
6.5	From construction or operational traffic?	Yes	Movement of heavy machinery used for construction work and vehicles transporting construction materials may generate noise that would cause inconvenience to the surrounding communities of road.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the traffic congested sites, including the workers working at these sites.
6.6	From lighting or cooling systems?	No	Night time construction is not envisaged.	No. As per current practices the construction works are allowed only in day time and no lighting for night time working is required.
6.7	From sources of electromagnetic radiation (consider effects on nearby sensitive equipment as well as people)?	No	-	-
6.8	From any other sources?	No	-	-
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into sewers, surface waters, groundwater, coastal waters or the sea?				
7.1	From handling, storage, use or spillage of hazardous or toxic materials?	Yes	Due to accidental spillage / leakage of fuel and bitumen will pollute the land and water bodies.	Yes. The leakage / spillage of fuel and bitumen will result in land contamination and water pollution.
7.2	From discharge of sewage or other effluents (whether treated or untreated) to water or the land?	Yes	The land and water bodies nearby the workers camp may be polluted by the discharge of sewage from camp.	Yes. The impact of discharge of sewage or effluents to land is significant as they could seep into the ground and pollute the groundwater. Likewise, the impact of discharge of sewage or effluent to receiving bodies of water in the area is significant as they could pollute the water and subsequently the aquatic species.
7.3	By deposition of pollutants emitted to air, onto the land or into water?	Yes	The land nearby the workers' camp may be polluted by the construction related activities and daily activities of the workers residing there temporarily.	Yes. The discharge of pollutants to air, water or soil will contaminate these natural resources.
7.4	From any other sources?	No		
7.5	Is there a risk of long-term build-up of pollutants in the	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	environment from these sources?			
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?				
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous or toxic substances?	Yes	Road work involves use of bitumen hot mixes, the accidental fire or explosion of hot mixes and resulting spillages will result in severe impact on human health and as well as environment.	Yes. The explosion and spillage will result in human injury and may pose contamination of land and water and thus it is a significant impact.
8.2	From events beyond the limits of normal environmental protection e.g. failures of pollution control systems?	No	-	-
8.3	From any other causes?	Yes	Accidents can happen due to the carelessness of workers and lapses of safety procedures at the construction sites during the excavation, laying of bitumen etc., and these accidents will impact the human health in terms of injury.	Yes. The impact of accidents is very significant because it can lead to either disability or loss of lives of workers or community people.
8.4	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslip, etc)?	Yes	The project location is situated in High risk earth quake zone (Zone V) as per the Earthquake map released from National Disaster Management Authority (NDMA), Ministry of Home Affairs (MoH) Government of India. There may be impacts related to earthquake and flooding.	Yes. There would be damages to the structures in case of earthquake and flooding incidences
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?				
9.1	Changes in population size, age, structure, social groups etc.?	Yes	Increased service level of transportation and reliability will create a higher demand for property in the project beneficiary areas.	Yes. There is a chance of in-migration due to this project that will marginally affect the existing community structure and economic conditions etc. This will create a pressure on existing infrastructure.
9.2	By resettlement of people or demolition of homes or communities or community facilities	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	e.g. schools, hospitals, social facilities?			
9.3	Through in-migration of new residents or creation of new communities?	Yes	Such in-migration is possible; however, the numbers would be not much, as the area is already developed residentially.	No. The number of people migrating will not be much.
9.4	By placing increased demands on local facilities or services eg housing, education, health?	Yes	Due to migration, there will be increased demand on local facilities which increases the load on natural resources consumption.	No. The impact on the local facilities will not be significant.
9.5	By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	Yes	Requirement of labour for the construction works prioritize the local people hence, providing employment opportunities to the local people.	Yes (Positive impact) The workers (both skilled and unskilled) will gain experience that they can use in the future in other similar kind of works. Improvement of roads will create new business opportunities.
9.6	Any other causes?			
Question - Are there any other 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?				
10.1	Will the project lead to pressure for consequential development which could have significant impact on the environment e.g. more housing, new roads, new supporting industries or utilities, etc?	Yes	The roads will act as catalyst for development of the surrounding areas and there may be new developments like commercial establishments.	Yes. The anticipated new developments followed by the road projects will result significant environmental impacts due to raw material requirement for the subsequent developments.
10.2	Will the project 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	Yes	Yes, the project may lead to other developmental projects.	Yes. The project will lead to overall development in the area. Positive Impact

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	waste water treatment, etc) housing development extractive industries supply industries other?			
10.3	Will the project lead to after-use of the site which could have an impact on the environment?	No	-	-
10.4	Will the project set a precedent for later developments?	Yes	Improved road infrastructure may create opportunities for other developmental infrastructures.	Yes Quality of life of the Agartala citizens will be improved with all the developmental works. Positive Impact.
10.5	Will the project have cumulative effects due to proximity to other existing or planned projects with similar effects?	Yes		

Part 2 - Characteristics of the Project Environment (Environmental Sensitivity)

Question 1 - Are there features of the local environment on or around the Project location which could be affected by the Project?	
• Areas which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No
• Other areas which are important or sensitive for reasons of their ecology e.g. • Wetlands, • Watercourses or other water bodies,	
• the coastal zone,	No
• mountains,	
• forests or woodlands	No
• Areas used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No
• Inland, coastal, marine or underground waters?	
• Areas or features of high landscape or scenic value?	Yes, the road proposed for the development passes from main city roads from Jail Ashram road to Jail Backside is susceptible to traffic congestion during the construction phase that may provide discomfort to the passer-by and may disrupt the access to the roadside shops and houses.
• Routes or facilities used by the public for access to recreation or other facilities?	

• Transport routes which are susceptible to congestion or which cause environmental problems? • Areas or features of historic or cultural importance?	There are few temples along the road. However, the road construction is within the RoW, so no long-term impact is envisaged. The access to these temples will be temporarily affected during the period of construction.
Question 2 - Is the Project in a location where it is likely to be highly visible to many people?	Yes, the road proposed for the development is passes from Jail Ashram Road to Jail Backside, hence it is visible to many people.
Question 3 - Is the Project located in a previously undeveloped area where there will be loss of greenfield land?	No
Question - Are there existing land uses on or around the Project location which could be affected by the Project? For example: • Homes, gardens, other private property, • Industry, • Commerce, • Recreation, • public open space, • community facilities, • agriculture, • forestry, • tourism, • mining or quarrying	Yes The houses, shops and other properties will be affected during the construction period due to disturbance in access to the property, air and noise pollution due to the construction activities etc.
Question 4 - Are there any plans for future land uses on or around the location which could be affected by the Project?	No
Question 5 - Are there any areas on or around the location which are densely populated or built-up, which could be affected by the Project?	Yes Some part of the road there is dense population residing. Along the roadside proposed for development, these many people will be affected during the construction phase of the project. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 6 - Are there any areas on or around the location which are occupied by sensitive land uses which could be affected by the Project? • hospitals, • schools, • places of worship, • community facilities	Yes, there will be temporary disturbance to access existing facilities along the roads proposed for development. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 7 - Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the Project? For example: • groundwater resources, • surface waters, • forestry, • agriculture,	No

• fisheries, • tourism, • minerals.	
Question 8 - Are there any areas on or around the location of the Project which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No
Question 9 - Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes, the project area lies under Zone V. The structures in the proposed project are being built by following IS 1893 – Part 1 for Earthquake resistant designs for structures.
Question 10 - Is the Project likely to affect the physical condition of any environmental media? • The atmospheric environment including microclimate and local and larger scale climatic conditions? • Water – e.g. quantities, flows or levels of rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Soils – e.g. quantities, depths, humidity, stability or erodibility of soils? • Geological and ground conditions?	No, the project will not affect any physical condition of the environment; there will be improved road infrastructure after operation of road.
Question 11 - Are releases from the Project likely to have effects on the <u>quality</u> of any environmental media? • Local air quality? • Global air quality including climate change and ozone depletion • Water quality – rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Nutrient status and eutrophication of waters? • Acidification of soils or waters? • Soils • Noise? • Temperature, light or electromagnetic radiation including electrical interference? • Productivity of natural or agricultural systems?	Yes, the construction activities may affect local air quality through dust emissions especially during dry season. It also generates noise pollution by the movement of vehicles for transporting materials, and demolition works of RoW for road construction works.
Question 12 - Is the Project likely to affect the availability or scarcity of any resources either locally or globally? • Fossil fuels? • Water? • Minerals and aggregates? • Timber? • Other non-renewable resources? • Infrastructure capacity in the locality - water, sewerage, power generation and transmission, telecommunications, waste disposal roads, rail?	No
Question 13 - Is the Project likely to affect	Yes,

human or community health or welfare? • The quality or toxicity of air, water, foodstuffs and other products consumed by humans? • Morbidity or mortality of individuals, communities or populations by exposure to pollution? • Occurrence or distribution of disease vectors including insects? • Vulnerability of individuals, communities or populations to disease? • Individuals' sense of personal security? • Community cohesion and identity? • Cultural identity and associations? • Minority rights? • Housing conditions? • Employment and quality of employment? • Economic conditions? • Social institutions?	• This project may offer employment to the local people to involve as a construction worker. This can be viewed as positive impact of the project. • This project may also result in the occurrence or distribution of disease vector due to the temporary settlement of workers as they may not have access to safe water supply and sanitation. • Similarly, this project if properly implemented will have positive effect on the welfare of the local people as they will have better road infrastructure and pedestrian pathways, improved traffic flow which will improve their commuting experience. This will also help in improving the economic conditions of the Agartala.

Part 3: Significance of Impacts

Questions to be Considered
1. Will there be a large change in environmental conditions?
2. Will new features be out-of-scale with the existing environment?
3. Will the effect be unusual in the area or particularly complex?
4. Will the effect extend over a large area?
5. Will there be any potential for trans boundary impact?
6. Will many people be affected?
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?
8. Will valuable or scarce features or resources be affected?
9. Is there a risk that environmental standards will be breached?
10. Is there a risk that protected sites, areas, features will be affected?
11. Is there a high probability of the effect occurring?
12. Will the effect continue for a long time?
13. Will the effect be permanent rather than temporary?
14. Will the impact be continuous rather than intermittent?
15. If it is intermittent will it be frequent rather than rare?
16. Will the impact be irreversible?
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?

ITI Road
"No Mitigation Scenario Checklist" (Scoping Checklist)

Part 1 - Questions on Project Characteristics

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies etc.)?				
1.1	Permanent or temporary change in land use, land cover or topography including increases in intensity of land use?	Yes	The proposed project involves upgradation of the ITI Road, which is within the existing RoW. Following works are proposed for the sub project 1. Dismantling above ground utilities like electric, telephone cables. 2. Clearing of drain silts 3. Dismantling Existing Brickwork drains 4. Construction of RCC Drain 5. Repositioning of existing water lines, wherever required. 6. Development of Carriageway/ Road Surface 7. Proposal for Pathways/ walkways 8. Proposal for Underground Utility Corridors Proposal for suitable streetscaping	No, there will not be any changes in land use and land cover, but, there will be changes in topography in terms of level of roads. The proposed project is to improve the footpath conditions in ITI Road, the land area will remain the same as there is no land acquisition involved and work will be carried out in existing RoW.
1.2	Clearance of existing land, vegetation and buildings?	Yes	No clearance of land as this is reconstruction of existing road of 0.39 km length within the existing RoW.	No. Clearing of land is not involved in the road project, as the work is being carried out in existing RoW.
			No trees will be cut for the proposed road work.	
1.3	Creation of new land uses?	No		
1.4	Pre-construction investigations e.g. boreholes, soil testing?	Yes	None. Soil investigation/ testing will be conducted for the road works, but this involves small area.	No, Geotechnical investigations will involve only obtaining a borehole sample for proposed infrastructures. Since undisturbed core would be extracted using a core cutter there would be no impacts on the topography or the geology.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.5	Construction works?	Yes	Only immediate vicinity of the road will be affected. Road and allied works will potentially impact the immediate environment in terms of air quality due to generation of dusts and vehicle emissions, water pollution due to generation of wastewater from washings and siltation of the water bodies due to solid wastes from demolition and other construction activities. The roads will include utilities Existing Brick walled Storm water drains are proposed to be reconstructed into RCC structures below road surface. Two vent RCC structure is proposed. one vent (Towards the carriageway) shall carry Storm Water and other one (Towards the property line) shall carry Electrical and OFC cables. The vent for Electrical & OFC system will be provided below the footpath and SWD vent shall be provided below the carriageway OFC & Electrical cable is proposed in RCC cable trench system as per IS-1255: 1983. Footpath is provided above the RCC cable trench system.	Yes, because the construction works will take 21 months' time. The construction activities specially the wastes and emissions bring significant adverse impact to the receptors in the area (e.g. institutions and residential/ commercial establishments along the road).
1.6	Demolition works?	Yes	Demolition of existing roads drains will generate wastes and air emissions which will impact the air, water and noise quality of the road area. The demolition will generate approx 1000 m3 muck from the road stretch.	Yes. The demolition wastes will pose challenge to the passerby and surrounding people also it may result in siltation of water bodies if not removed immediately from the site.
1.7	Temporary sites used for construction works or housing of	Yes	There is a possibility of disposal of the solid and liquid wastes to nearby land or water bodies by the	Yes. Depending on the size and number of laborers in the construction camps. Pollution of

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	construction workers?		construction workers, which could affect the water bodies and soil environment.	receiving bodies of water around the camps and degradation of aesthetics due to dumping of solid wastes are likely. The construction camps will generate solid and liquid waste, will change the water quality of the receiving water bodies and harm the aesthetics of the area if dumped openly without any processing.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations?	Yes	Excavated earth of quantity around 5250 Cum for all the road works may temporarily affect the land use obstructing the access to by-roads, roadside premises, and houses. Cleaning of drains will generate around 190 cum spoil.	Yes. The storage of excavated material and other raw material stored will cause problems to people visiting park and passerby. Siltation of the water bodies at the downstream is also a problem during monsoon season.
1.9	Underground works including mining or tunneling?	Yes	No mining or Tunneling is involved in the project. Excavation for utility trenches and drainage system maximum to the depth of 2.5-3m is proposed.	Yes. Excavation for construction of roads and utility trenches lead to generation of muck, which if not disposed from site will contaminate the nearby water body and pose obstruction to the residents and passerby.
1.10	Reclamation works?	No		
1.11	Dredging?	No		
1.12	Coastal structures eg seawalls, piers?	No		
1.13	Offshore structures?	No		
1.14	Production and manufacturing processes?	No		
1.15	Facilities for storage of goods or materials?	Yes	Construction material excavated material etc. will be stored in heaps along the roads, these material heaps could affect aesthetics at the site, and mobility or free movement of pedestrians and vehicles.	Yes. The obstructions brought about by the material heaps could impede the flow of pedestrians and vehicles in the road stretch.
1.16	Facilities for treatment or disposal of solid wastes or liquid effluents?	Yes	Labour camp for about 25 inhabitants will generates both solid and liquid waste of around 10 Kg/ day and 2.7 KLD respectively.	Yes, The solid and liquid waste generated will cause soil contamination, water

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			The solid and liquid wastes generated from the labour camps will pose water quality, soil quality and health issues if not processed/ handled properly.	contamination if not treated and let into the nature.
1.17	Facilities for long term housing of operational workers?	No		
1.18	New road, rail or sea traffic during construction or operation?	No		
1.19	New road, rail, air, waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No		
1.20	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	Yes	The construction will be in phased manner, closure of the road during construction works will be required. Some interior roads may also need temporary closure during construction.	Yes, Road closures during construction phase will cause temporary traffic jams and related issues.
1.21	New or diverted transmission lines or pipelines?	Yes	ICT Line, LT and HT Lines converted from above ground to underground networks and the excavation for underground trenches will generate excavated earth which if not stored and handled properly will pose environmental and safety issues.	Yes, The construction of utility duct and excavation involved will pose environmental, health and safety and aesthetic impacts due to contamination of water bodies, unsafe access to passerby.
1.22	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Slopes and design capacity of drains will be done as per existing rainfall data of the area.	.
1.23	Stream crossings?	Yes	Proposed ITI road will cross 10 drains. Cross drains across the roads are maintained as it is.	No, There is no change in the existing cross drain structures.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.24	Abstraction or transfers of water from ground or surface waters?	No		
1.25	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	The roadside storm water drains will be demolished and will be converted to underground RCC drains.	Yes. Short term impact only during the construction period. However, the project will improve the drainage system by reduction in operation and maintenance issues.
1.26	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Transportation vehicles for the movement of workers/ personnel, construction equipment, and construction materials will generate dust and noise.	Yes. The dust and noise generated due to transportation of manpower and material will cause discomfort to the occupants of establishments and institutions in the area.
1.27	Long term dismantling or decommissioning or restoration works?	No	-	-
1.28	Ongoing activity during decommissioning which could have an impact on the environment?	No	-	-
1.29	Influx of people to an area in either temporarily or permanently?	Yes	The construction phase will increase the personnel movement for a temporary period and operation phase will also result in influx of people due to change in better aesthetics and better traffic facilities.	Yes, The people will be housed in labour camps and this will cause the solid and liquid waste generation from the camps and subsequent contamination of soil and water contaminations and pose health issues
1.30	Introduction of alien species?	No	-	-
1.31	Loss of native species or genetic diversity?	No	No trees will be cut for the proposed road work.	
1.32	Any other actions?	No	-	-
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?				
2.1	Land especially undeveloped or agricultural land?	No	Construction of road and pathway is within the existing	No The works are proposed in already developed urban areas

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			RoW, hence no land resource will be utilized.	and it will not impact any underdeveloped or agriculture land.
2.2	Water?	Yes	During the construction phase, water would be used for construction purposes. During the operations phase, water would be used for watering the road side plantations and ornamental trees.	No, The quantity of water to be used during the construction phase is in small. In Agartala no new water source would be constructed as part of the project. The existing source (municipal water supply and ground water) would be sufficient to supply water for construction.
2.3	Minerals?	Yes	Sand, gravel and soil for subbase of road. This will be sourced from Government approved quarries.	Yes. The huge quantities of sand and aggregates will likely have a significant impact to the aesthetics, topography and ecosystem at the sites or locations where they are sourced or quarried. Transportation of aggregate will also cause air pollution.
2.4	Aggregates?	Yes	The new road surface construction and excavated road repair would be the part of the project. This new construction and repairing of the pavement and concrete works in the project would require aggregates	
2.5	Forests and timber?	No	-	-
2.6	Energy including electricity and fuels?	Yes	None. The required energy, electricity, and fuel during construction activities, vehicle, equipment, and machinery operations are negligible compared to supply.	No. The site is located within urban area where electricity from grid is easily available.
2.7	Any other resources?	No		
3. Will the Project involve 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?				
3.1	Will the project involve use of substances or materials which are hazardous or toxic to human health or the environment (flora, fauna, water supplies)?	Yes	During the construction stage, likely leakage of discharge of Fuels like diesel, Petrol, and Oil & Grease will affect human health and environment.	Yes. Any Discharge of these substances will have adverse impacts to environmental quality and human health and may also affect the nearby flora and fauna.
3.2	Will the project result in changes in	Yes	The labour camps would generate solid waste as well	Yes.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)?		as sewage. Thus, the camps have potential to spread diseases.	Airborne, water-borne or vector-borne diseases could spread or transmitted easily from the construction camps to the outside communities.
3.3	Will the project affect the welfare of people e.g. by changing living conditions?	Yes	Better traffic circulation, pedestrian movement and streetscapes will improve the living conditions of the residents	Yes, Throughout the operation stage of the project. This is a significant positive impact
3.4	Are there especially vulnerable groups of people who could be affected by the project e.g. hospital patients, the elderly?	No	No hospitals and old age homes are present in the road stretch	
3.5	Any other causes?	No		
4. Will the Project produce solid wastes during construction or operation or decommissioning?				
4.1	Spoil, overburden or mine wastes?	Yes	Excavation of drains and roads will produce spoil. The spoil if not readily disposed at safe site, it will occupy the land and may create discomfort to the passer-by.	Yes. The material generated due to excavation will affect the regular walkway and passerby, during the construction period, the material may end up in water body if not stored and disposed properly.
4.2	Municipal waste (household and or commercial wastes)?	Yes	There would be generation of municipal waste from construction camps and during operation phase due to influx of visitors.	Yes. Municipal solid waste generated during the project may cause contamination of land and water bodies if not managed appropriately.
4.3	Hazardous or toxic wastes (including radioactive wastes)?	Yes	Bitumen will be used for the construction of roads, the likely leakage and emissions will cause health and environmental impacts.	Yes, The accidental spills/ leakages of bitumen will cause water and land pollution. Also, the emission from the bitumen during heating will pose health impacts to the workers and passerby.
4.4	Other industrial process wastes?	No		
4.5	Surplus product?	No		
4.6	Sewage sludge or other sludge from effluent treatment?	Yes	The 2.7 KLD sewage generated from labour camp may pose environmental and health impacts due to untreated discharge.	Yes, The sewage generated if discharged without treatment will cause ground and surface water pollution.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
4.7	Construction or demolition wastes?	Yes	Construction of Roads, pathways and utility trenches will produce construction and demolition waste. The waste if not disposed at designated site, will pose environmental and safety issues by siltation of water bodies and causing uncomfort to passerby.	Yes. Construction and demolition wastes generated or produced during construction phase will change the aesthetics in the project area. Excavated Soil and demolition debris could clog drainages and could cause siltation of drains and pose difficulties to residents and passer-by for access.
4.8	Redundant machinery or equipment?	No		
4.9	Contaminated soils or other material?	No		
4.10	Agricultural wastes?	No		
4.11	Any other solid wastes?	No		
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?				
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources?	Yes	Use of generators, machinery, and heavy vehicles during excavation and construction will generate emissions.	Yes. The impact of these emissions is significant to the health of all human receptors along the road construction sites.
5.2	Emissions from production processes?	No	-	-
5.3	Emissions from materials handling including storage or transport?	Yes	Vehicles used for transport of construction, material and machinery will produce emissions. Dust generation during unloading of materials such as cement, aggregates, etc. There is also a likelihood of re-entrainment of dust particle at the construction site due to movement of vehicles	Yes. The impact of these emissions is significant to the health of all human receptors around the construction sites.
5.4	Emissions from construction activities including plant and equipment?	Yes	Concrete batching plants, hot-mix plants for bituminous material production during road surfacing will cause emissions.	Yes. The impact of these emissions is significant to the health of all human receptors around the road construction sites.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste?	Yes	Air pollution due to dust generation during construction of roads, excavation and backfilling, handling of excavated and fill material, cement, sand, gravel, aggregates, etc.	Yes. The impact of these emissions is significant to the health of all people residing nearby and passerby.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
5.6	Emissions from incineration of waste?	No	-	-
5.7	Emissions from burning of waste in open air (eg slash material, construction debris)?	Yes	The locality of the worker's camp may be affected by the open burning of waste generated from the worker's camp.	Yes. The impact of these emissions is significant to the health of all human receptors living in construction camps and those around the construction camp sites.
5.8	Emissions from any other sources?	No		
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?				
6.1	From operation of equipment eg: engines, ventilation plant, crushers?	Yes	Excavation of trenches by heavy machinery, cutters, etc. and subsequent compaction and road surfacing, use of generators, heavy vehicle movements will generate noise and vibration.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the road construction sites, including the workers.
6.2	From industrial or similar processes?	Yes	Production of concrete and bituminous products will generate noise. Crushers and borrow operations will generate high levels of noise.	Yes. The concrete mixers will cause noise in and around the area and bituminous hot mixes will result in heat radiation which will impact the surrounding population and passerby.
6.3	From construction or demolition?	Yes	The noise generated from the demolition of RoW for construction of roads and pathways may disturb the people residing at and passerby of core bazaar area.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the construction sites, including the workers.
6.4	From blasting or piling?	No		
6.5	From construction or operational traffic?	Yes	Movement of heavy machinery used for construction work and vehicles transporting construction materials may generate noise that would cause inconvenience to the surrounding communities of road.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the traffic congested sites, including the workers working at these sites.
6.6	From lighting or cooling systems?	No	Night time construction is not envisaged.	No. As per current practices the construction works are allowed only in day time and no lighting

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
				for night time working is required.
6.7	From sources of electromagnetic radiation (consider effects on nearby sensitive equipment as well as people)?	No	-	-
6.8	From any other sources?	No	-	-
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into sewers, surface waters, groundwater, coastal waters or the sea?				
7.1	From handling, storage, use or spillage of hazardous or toxic materials?	Yes	Due to accidental spillage / leakage of fuel and bitumen will pollute the land and water bodies.	Yes. The leakage / spillage of fuel and bitumen will result in land contamination and water pollution.
7.2	From discharge of sewage or other effluents (whether treated or untreated) to water or the land?	Yes	The land and water bodies nearby the workers camp may be polluted by the discharge of sewage from camp.	Yes. The impact of discharge of sewage or effluents to land is significant as they could seep into the ground and pollute the groundwater. Likewise, the impact of discharge of sewage or effluent to receiving bodies of water in the area is significant as they could pollute the water and subsequently the aquatic species.
7.3	By deposition of pollutants emitted to air, onto the land or into water?	Yes	The land nearby the workers' camp may be polluted by the construction related activities and daily activities of the workers residing there temporarily.	Yes. The discharge of pollutants to air, water or soil will contaminate these natural resources.
7.4	From any other sources?	No		
7.5	Is there a risk of long-term build-up of pollutants in the environment from these sources?	No		
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?				
8.1	From explosions, spillages, fires etc from storage, handling, use or production of	Yes	Road work involves use of bitumen hot mixes, the accidental fire or explosion of hot mixes and resulting spillages will result in severe	Yes. The explosion and spillage will result in human injury and may pose contamination of land and water and thus it is a significant impact.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	hazardous or toxic substances?		impact on human health and as well as environment.	
8.2	From events beyond the limits of normal environmental protection e.g. failures of pollution control systems?	No	-	-
8.3	From any other causes?	Yes	Accidents can happen due to the carelessness of workers and lapses of safety procedures at the construction sites during the excavation, laying of bitumen etc., and these accidents will impact the human health in terms of injury.	Yes. The impact of accidents is very significant because it can lead to either disability or loss of lives of workers or community people.
8.4	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslip, etc)?	Yes	The project location is situated in High risk earth quake zone (Zone V) as per the Earthquake map released from National Disaster Management Authority (NDMA), Ministry of Home Affairs (MoH) Government of India. There may be impacts related to earthquake and flooding.	Yes. There would be damages to the structures in case of earthquake and flooding incidences
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?				
9.1	Changes in population size, age, structure, social groups etc.?	Yes	Increased service level of transportation and reliability will create a higher demand for property in the project beneficiary areas.	Yes. There is a chance of in-migration due to this project that will marginally affect the existing community structure and economic conditions etc. This will create a pressure on existing infrastructure.
9.2	By resettlement of people or demolition of homes or communities or community facilities e.g. schools, hospitals, social facilities?	No		
9.3	Through in-migration of new residents or creation of new communities?	Yes	Such in-migration is possible; however, the numbers would be not much, as the area is already developed commercially and	No. The number of people migrating will not be much.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			residentially.	
9.4	By placing increased demands on local facilities or services eg housing, education, health?	Yes	Due to migration, there will be increased demand on local facilities which increases the load on natural resources consumption.	No. The impact on the local facilities will not be significant.
9.5	By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	Yes	Requirement of labour for the construction works prioritize the local people hence, providing employment opportunities to the local people.	Yes (Positive impact) The workers (both skilled and unskilled) will gain experience that they can use in the future in other similar kind of works. Improvement of roads will create new business opportunities.
9.6	Any other causes?			
Question - Are there any other 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?				
10.1	Will the project lead to pressure for consequential development which could have significant impact on the environment e.g. more housing, new roads, new supporting industries or utilities, etc?	Yes	The roads will act as catalyst for development of the surrounding areas and there may be new developments like commercial establishments, malls etc.,	Yes. The anticipated new developments followed by the road projects will result significant environmental impacts due to raw material requirement for the subsequent developments.
10.2	Will the project 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	Yes, the project may lead to other developmental projects.	Yes. The project will lead to overall development in the area. Positive Impact
10.3	Will the project lead to after-use of the	No	-	-

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	site which could have an impact on the environment?			
10.4	Will the project set a precedent for later developments?	Yes	Improved road infrastructure may create opportunities for other developmental infrastructures.	Yes Quality of life of the Agartala citizens will be improved with all the developmental works. Positive Impact.
10.5	Will the project have cumulative effects due to proximity to other existing or planned projects with similar effects?	Yes		

Part 2 - Characteristics of the Project Environment (Environmental Sensitivity)

Question 1 - Are there features of the local environment on or around the Project location which could be affected by the Project?	
• Areas which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No
• Other areas which are important or sensitive for reasons of their ecology e.g.	
• Wetlands,	
• Watercourses or other water bodies,	
• the coastal zone,	No
• mountains,	
• forests or woodlands	No
• Areas used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No
• Inland, coastal, marine or underground waters?	
• Areas or features of high landscape or scenic value?	Yes, the road proposed for the development passes from ITI-GB Road tri-junction to ITI College and is susceptible to traffic congestion during the construction phase that may provide discomfort to the passer-by and may disrupt the access to the roadside shops and houses
• Routes or facilities used by the public for access to recreation or other facilities?	
• Transport routes which are susceptible to congestion or which cause environmental problems?	There are no temples and cultural important places along the ITI road. However, the road construction is within the RoW, so no long-term impact is envisaged. The access to these temples will be temporarily affected during the period of construction.
• Areas or features of historic or cultural importance?	

Question 2 - Is the Project in a location where it is likely to be highly visible to many people?	Yes, the road proposed for the development passes from ITI-GB Road tri-junction to ITI College, hence it is visible to many people.
Question 3 - Is the Project located in a previously undeveloped area where there will be loss of greenfield land?	No
Question - Are there existing land uses on or around the Project location which could be affected by the Project? For example: • Homes, gardens, other private property, • Industry, • Commerce, • Recreation, • public open space, • community facilities, • agriculture, • forestry, • tourism, • mining or quarrying	Yes The houses, shops and other properties will be affected during the construction period due to disturbance in access to the property, air and noise pollution due to the construction activities etc.
Question 4 - Are there any plans for future land uses on or around the location which could be affected by the Project?	No
Question 5 - Are there any areas on or around the location which are densely populated or built-up, which could be affected by the Project?	Yes Some part of the road there is dense population residing and also the commercial establishments. Whereas, there is no dense population growth in some of the areas. Along the roadside proposed for development, these may people will be affected during the construction phase of the project. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 6 - Are there any areas on or around the location which are occupied by sensitive land uses which could be affected by the Project? • hospitals, • schools, • places of worship, • community facilities	Yes, there will be temporary disturbance to access existing facilities along the roads proposed for development. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 7 - Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the Project? For example: • groundwater resources, • surface waters, • forestry, • agriculture, • fisheries, • tourism, • minerals.	No
Question 8 - Are there any areas on or around the location of the Project which are already subject to pollution or environmental damage e.g. where existing legal environmental	No

standards are exceeded, which could be affected by the project?	
Question 9 - Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes, the project area lies under Zone V. The structures in the proposed project are being built by following IS 1893 – Part 1 for Earthquake resistant designs for structures.
Question 10 - Is the Project likely to affect the physical condition of any environmental media? • The atmospheric environment including microclimate and local and larger scale climatic conditions? • Water – e.g. quantities, flows or levels of rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Soils – e.g. quantities, depths, humidity, stability or erodibility of soils? • Geological and ground conditions?	No, the project will not affect any physical condition of the environment; there will be improved road infrastructure after operation of road.
Question 11 - Are releases from the Project likely to have effects on the <u>quality</u> of any environmental media? • Local air quality? • Global air quality including climate change and ozone depletion • Water quality – rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Nutrient status and eutrophication of waters? • Acidification of soils or waters? • Soils • Noise? • Temperature, light or electromagnetic radiation including electrical interference? • Productivity of natural or agricultural systems?	Yes, the construction activities may affect local air quality through dust emissions especially during dry season. It also generates noise pollution by the movement of vehicles for transporting materials, and demolition works of RoW for road construction works.
Question 12 - Is the Project likely to affect the availability or scarcity of any resources either locally or globally? • Fossil fuels? • Water? • Minerals and aggregates? • Timber? • Other non-renewable resources? • Infrastructure capacity in the locality - water, sewerage, power generation and transmission, telecommunications, waste disposal roads, rail?	No
Question 13 - Is the Project likely to affect human or community health or welfare? • The quality or toxicity of air, water, foodstuffs and other products consumed by humans? • Morbidity or mortality of individuals, communities or populations by exposure to pollution? • Occurrence or distribution of disease vectors including insects?	Yes, • This project may offer employment to the local people to involve as a construction worker. This can be viewed as positive impact of the project. • This project may also result in the occurrence or distribution of disease vector due to the temporary

• Vulnerability of individuals, communities or populations to disease? • Individuals' sense of personal security? • Community cohesion and identity? • Cultural identity and associations? • Minority rights? • Housing conditions? • Employment and quality of employment? • Economic conditions? • Social institutions?	settlement of workers as they may not have access to safe water supply and sanitation. • Similarly, this project if properly implemented will have positive effect on the welfare of the local people as they will have better road infrastructure and pedestrian pathways, improved traffic flow which will improve their commuting experience. This will also help in improving the economic conditions of the Agartala.

Part 3: Significance of Impacts

Questions to be Considered
1. Will there be a large change in environmental conditions?
2. Will new features be out-of-scale with the existing environment?
3. Will the effect be unusual in the area or particularly complex?
4. Will the effect extend over a large area?
5. Will there be any potential for trans boundary impact?
6. Will many people be affected?
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?
8. Will valuable or scarce features or resources be affected?
9. Is there a risk that environmental standards will be breached?
10. Is there a risk that protected sites, areas, features will be affected?
11. Is there a high probability of the effect occurring?
12. Will the effect continue for a long time?
13. Will the effect be permanent rather than temporary?
14. Will the impact be continuous rather than intermittent?
15. If it is intermittent will it be frequent rather than rare?
16. Will the impact be irreversible?
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?

Jail Ashram Road
"No Mitigation Scenario Checklist" (Scoping Checklist)

Part 1 - Questions on Project Characteristics

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies etc.)?				
1.1	Permanent or temporary change in land use, land cover or topography including increases in intensity of land use?	Yes	The proposed project involves upgradation of the Jail Ashram Road, which is within the existing RoW. Following works are proposed for the sub project 1. Dismantling above ground utilities like electric, telephone cables. 2. Clearing of drain silts 3. Dismantling Existing Brickwork drains 4. Construction of RCC Drain 5. Repositioning of existing water lines, wherever required. 6. Development of Carriageway/ Road Surface 7. Proposal for Pathways/ walkways 8. Proposal for Underground Utility Corridors Proposal for suitable streetscaping	No, there will not be any changes in land use and land cover, but, there will be changes in topography in terms of level of roads. The proposed project is to improve the footpath conditions in Jail Ashram Road, the land area will remain the same as there is no land acquisition involved and work will be carried out in existing RoW.
1.2	Clearance of existing land, vegetation and buildings?	Yes	No clearance of land as this is reconstruction of existing road of 1.45 km length within the existing RoW.	No. Clearing of land is not involved in the road project, as the work is being carried out in existing RoW.
			Total 43 trees are required to be cut for the proposed road work.	Yes. The proposed trees to cut are common species. No threatened or endangered species of plant are sited in the proposed Jail Ashram road development area as per the 'Checklist of Rare and Threatened Plants of Tripura' listed in www.indiabiodiversity.org/checklist/show/201.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.3	Creation of new land uses?	No		
1.4	Pre-construction investigations e.g. boreholes, soil testing?	Yes	None. Soil investigation/ testing will be conducted for the road works, but this involves small area.	No, Geotechnical investigations will involve only obtaining a borehole sample for proposed infrastructures. Since undisturbed core would be extracted using a core cutter there would be no impacts on the topography or the geology.
1.5	Construction works?	Yes	Only immediate vicinity of the road will be affected. Road and allied works will potentially impact the immediate environment in terms of air quality due to generation of dusts and vehicle emissions, water pollution due to generation of wastewater from washings and siltation of the water bodies due to solid wastes from demolition and other construction activities. The roads will include utilities Existing Brick walled Storm water drains are proposed to be reconstructed into RCC structures below road surface. Two vent RCC structure is proposed. one vent (Towards the carriageway) shall carry Storm Water and other one (Towards the property line) shall carry Electrical and OFC cables. The vent for Electrical & OFC system will be provided below the footpath and SWD vent shall be provided below the carriageway OFC & Electrical cable is proposed in RCC cable trench system as per IS-1255: 1983. Footpath is provided above the RCC cable trench system.	Yes, because the construction works will take 21 months' time. The construction activities specially the wastes and emissions bring significant adverse impact to the receptors in the area (e.g. institutions and residential/ commercial establishments along the road).

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.6	Demolition works?	Yes	Demolition of existing roads drains will generate wastes and air emissions which will impact the air, water and noise quality of the road area. The demolition will generate approx 5400 m3 muck from the road stretch.	Yes. The demolition wastes will pose challenge to the passerby and surrounding people also it may result in siltation of water bodies if not removed immediately from the site.
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	There is a possibility of disposal of the solid and liquid wastes to nearby land or water bodies by the construction workers, which could affect the water bodies and soil environment.	Yes. Depending on the size and number of laborers in the construction camps. Pollution of receiving bodies of water around the camps and degradation of aesthetics due to dumping of solid wastes are likely. The construction camps will generate solid and liquid waste, these will change the water quality of the receiving water bodies and harm the aesthetics of the area if dumped openly without any processing.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations?	Yes	Excavated earth of quantity around 23,700 Cum for all the road works may temporarily affect the land use obstructing the access to by-roads, roadside premises, and houses. Cleaning of drains will generate around 700 cum spoil.	Yes. The storage of excavated material and other raw material stored will cause problems to people visiting park and passerby. Siltation of the water bodies at the downstream is also a problem during monsoon season.
1.9	Underground works including mining or tunneling?	Yes	No mining or Tunneling is involved in the project. Excavation for utility trenches and drainage system maximum to the depth of 2.5-3m is proposed.	Yes. Excavation for construction of roads and utility trenches lead to generation of muck, which if not disposed from site will contaminate the nearby water body and pose obstruction to the residents and passerby.
1.10	Reclamation works?	No		
1.11	Dredging?	No		
1.12	Coastal structures eg seawalls, piers?	No		
1.13	Offshore structures?	No		
1.14	Production and manufacturing processes?	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.15	Facilities for storage of goods or materials?	Yes	Construction material excavated material etc. will be stored in heaps along the roads, these material heaps could affect aesthetics at the site, and mobility or free movement of pedestrians and vehicles.	Yes. The obstructions brought about by the material heaps could impede the flow of pedestrians and vehicles in the road stretch.
1.16	Facilities for treatment or disposal of solid wastes or liquid effluents?	Yes	Labour camp for about 25 inhabitants will generates both solid and liquid waste of around 10 Kg/ day and 2.7 KLD respectively. The solid and liquid wastes generated from the labour camps will pose water quality, soil quality and health issues if not processed/ handled properly.	Yes, The solid and liquid waste generated will cause soil contamination, water contamination if not treated and let into the nature.
1.17	Facilities for long term housing of operational workers?	No		
1.18	New road, rail or sea traffic during construction or operation?	No		
1.19	New road, rail, air, waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No		
1.20	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	Yes	The construction will be in phased manner, closure of the road during construction works will be required. Some interior roads may also need temporary closure during construction.	Yes, Road closures during construction phase will cause temporary traffic jams and related issues.
1.21	New or diverted transmission lines or pipelines?	Yes	ICT Line, LT and HT Lines converted from above ground to underground networks and the excavation for underground trenches will generate excavated earth which if not stored and handled properly	Yes, The construction of utility duct and excavation involved will pose environmental, health and safety and aesthetic impacts due to contamination of water bodies, unsafe access to passerby.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			will pose environmental and safety issues.	
1.22	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Slopes and design capacity of drains will be done as per existing rainfall data of the area.	.
1.23	Stream crossings?	Yes	Proposed Jail Ashram road will cross 6 drains. Cross drains across the roads are maintained as it is.	No, There is no change in the existing cross drain structures.
1.24	Abstraction or transfers of water from ground or surface waters?	No		
1.25	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	The roadside storm water drains will be demolished and will be converted to underground RCC drains.	Yes. Short term impact only during the construction period. However, the project will improve the drainage system by reduction in operation and maintenance issues.
1.26	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Transportation vehicles for the movement of workers/ personnel, construction equipment, and construction materials will generate dust and noise.	Yes. The dust and noise generated due to transportation of manpower and material will cause discomfort to the occupants of establishments and institutions in the area.
1.27	Long term dismantling or decommissioning or restoration works?	No	-	-
1.28	Ongoing activity during decommissioning which could have an impact on the environment?	No	-	-
1.29	Influx of people to an area in either temporarily or permanently?	Yes	The construction phase will increase the personnel movement for a temporary period and operation phase will also result in influx of people due to change in better aesthetics and better traffic facilities.	Yes, The people will be housed in labour camps and this will cause the solid and liquid waste generation from the camps and subsequent contamination of soil and water contaminations and pose health issues

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.30	Introduction of alien species?	No	-	-
1.31	Loss of native species or genetic diversity?	Yes	For the construction of Jail Ashram road, 50 trees will be cut, the species exist in those lands are common to the area and therefore no loss of native or genetic diversity is expected.	Yes. Local shrubs and trees are required to remove from the existing area for the construction activities.
1.32	Any other actions?	No	-	-
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?				
2.1	Land especially undeveloped or agricultural land?	No	Construction of road and pathway is within the existing RoW, hence no land resource will be utilized.	No The works are proposed in already developed urban areas and it will not impact any underdeveloped or agriculture land.
2.2	Water?	Yes	During the construction phase, water would be used for construction purposes. During the operations phase, water would be used for watering the road side plantations and ornamental trees.	No, The quantity of water to be used during the construction phase is in small. In Agartala no new water source would be constructed as part of the project. The existing source (municipal water supply and ground water) would be sufficient to supply water for construction.
2.3	Minerals?	Yes	Sand, gravel and soil for subbase of road. This will be sourced from Government approved quarries.	Yes. The huge quantities of sand and aggregates will likely have a significant impact to the aesthetics, topography and ecosystem at the sites or locations where they are sourced or quarried. Transportation of aggregate will also cause air pollution.
2.4	Aggregates?	Yes	The new road surface construction and excavated road repair would be the part of the project. This new construction and repairing of the pavement and concrete works in the project would require aggregates	
2.5	Forests and timber?	No	-	-
2.6	Energy including electricity and fuels?	Yes	None. The required energy, electricity, and fuel during construction activities, vehicle, equipment, and machinery operations are negligible compared to supply.	No. The site is located within urban area where electricity from grid is easily available.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
2.7	Any other resources?	No		
3. Will the Project involve 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?				
3.1	Will the project involve use of substances or materials which are hazardous or toxic to human health or the environment (flora, fauna, water supplies)?	Yes	During the construction stage, likely leakage of discharge of Fuels like diesel, Petrol, and Oil & Grease will affect human health and environment.	Yes. Any Discharge of these substances will have adverse impacts to environmental quality and human health and may also affect the nearby flora and fauna.
3.2	Will the project result in changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)?	Yes	The labour camps would generate solid waste as well as sewage. Thus, the camps have potential to spread diseases.	Yes. Airborne, water-borne or vector-borne diseases could spread or transmitted easily from the construction camps to the outside communities.
3.3	Will the project affect the welfare of people e.g. by changing living conditions?	Yes	Better traffic circulation, pedestrian movement and streetscapes will improve the living conditions of the residents	Yes, Throughout the operation stage of the project. This is a significant positive impact
3.4	Are there especially vulnerable groups of people who could be affected by the project e.g. hospital patients, the elderly?	No	No hospitals and old age homes are present in the road stretch	
3.5	Any other causes?	No		
4. Will the Project produce solid wastes during construction or operation or decommissioning?				
4.1	Spoil, overburden or mine wastes?	Yes	Excavation of drains and roads will produce spoil. The spoil if not readily disposed at safe site, it will occupy the land and may create discomfort to the passer-by.	Yes. The material generated due to excavation will affect the regular walkway and passerby, during the construction period, the material may end up in water body if not stored and disposed properly.
4.2	Municipal waste (household and or commercial wastes)?	Yes	There would be generation of municipal waste from construction camps and during operation phase due to influx of visitors.	Yes. Municipal solid waste generated during the project may cause contamination of land and water bodies if not managed appropriately.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
4.3	Hazardous or toxic wastes (including radioactive wastes)?	Yes	Bitumen will be used for the construction of roads, the likely leakage and emissions will cause health and environmental impacts.	Yes, The accidental spills/ leakages of bitumen will cause water and land pollution. Also, the emission from the bitumen during heating will pose health impacts to the workers and passerby.
4.4	Other industrial process wastes?	No		
4.5	Surplus product?	No		
4.6	Sewage sludge or other sludge from effluent treatment?	Yes	The 2.7 KLD sewage generated from labour camp may pose environmental and health impacts due to untreated discharge.	Yes, The sewage generated if discharged without treatment will cause ground and surface water pollution.
4.7	Construction or demolition wastes?	Yes	Construction of Roads, pathways and utility trenches will produce construction and demolition waste. The waste if not disposed at designated site, will pose environmental and safety issues by siltation of water bodies and causing uncomfort to passerby.	Yes. Construction and demolition wastes generated or produced during construction phase will change the aesthetics in the project area. Excavated Soil and demolition debris could clog drainages and could cause siltation of drains and pose difficulties to residents and passer-by for access.
4.8	Redundant machinery or equipment?	No		
4.9	Contaminated soils or other material?	No		
4.10	Agricultural wastes?	No		
4.11	Any other solid wastes?	No		
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?				
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources?	Yes	Use of generators, machinery, and heavy vehicles during excavation and construction will generate emissions.	Yes. The impact of these emissions is significant to the health of all human receptors along the road construction sites.
5.2	Emissions from production processes?	No	-	-
5.3	Emissions from materials handling including storage or transport?	Yes	Vehicles used for transport of construction, material and machinery will produce emissions. Dust generation during unloading of materials such as cement, aggregates, etc. There is	Yes. The impact of these emissions is significant to the health of all human receptors around the construction sites.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			also a likelihood of re-entrainment of dust particle at the construction site due to movement of vehicles	
5.4	Emissions from construction activities including plant and equipment?	Yes	Concrete batching plants, hot-mix plants for bituminous material production during road surfacing will cause emissions.	Yes. The impact of these emissions is significant to the health of all human receptors around the road construction sites.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste?	Yes	Air pollution due to dust generation during construction of roads, excavation and backfilling, handling of excavated and fill material, cement, sand, gravel, aggregates, etc.	Yes. The impact of these emissions is significant to the health of all people residing nearby and passerby.
5.6	Emissions from incineration of waste?	No	-	-
5.7	Emissions from burning of waste in open air (eg slash material, construction debris)?	Yes	The locality of the worker's camp may be affected by the open burning of waste generated from the worker's camp.	Yes. The impact of these emissions is significant to the health of all human receptors living in construction camps and those around the construction camp sites.
5.8	Emissions from any other sources?	No		
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?				
6.1	From operation of equipment eg: engines, ventilation plant, crushers?	Yes	Excavation of trenches by heavy machinery, cutters, etc. and subsequent compaction and road surfacing, use of generators, heavy vehicle movements will generate noise and vibration.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the road construction sites, including the workers.
6.2	From industrial or similar processes?	Yes	Production of concrete and bituminous products will generate noise. Crushers and borrow operations will generate high levels of noise.	Yes. The concrete mixers will cause noise in and around the area and bituminous hot mixes will result in heat radiation which will impact the surrounding population and passerby.
6.3	From construction or demolition?	Yes	The noise generated from the demolition of RoW for construction of roads and pathways may disturb the people residing at and	Yes. The impact of noise and vibration is significant to the health of all human receptors

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			passerby of core bazaar area.	around the construction sites, including the workers.
6.4	From blasting or piling?	No		
6.5	From construction or operational traffic?	Yes	Movement of heavy machinery used for construction work and vehicles transporting construction materials may generate noise that would cause inconvenience to the surrounding communities of road.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the traffic congested sites, including the workers working at these sites.
6.6	From lighting or cooling systems?	No	Night time construction is not envisaged.	No. As per current practices the construction works are allowed only in day time and no lighting for night time working is required.
6.7	From sources of electromagnetic radiation (consider effects on nearby sensitive equipment as well as people)?	No	-	-
6.8	From any other sources?	No	-	-
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into sewers, surface waters, groundwater, coastal waters or the sea?				
7.1	From handling, storage, use or spillage of hazardous or toxic materials?	Yes	Due to accidental spillage / leakage of fuel and bitumen will pollute the land and water bodies.	Yes. The leakage / spillage of fuel and bitumen will result in land contamination and water pollution.
7.2	From discharge of sewage or other effluents (whether treated or untreated) to water or the land?	Yes	The land and water bodies nearby the workers camp may be polluted by the discharge of sewage from camp.	Yes. The impact of discharge of sewage or effluents to land is significant as they could seep into the ground and pollute the groundwater. Likewise, the impact of discharge of sewage or effluent to receiving bodies of water in the area is significant as they could pollute the water and subsequently the aquatic species.
7.3	By deposition of pollutants emitted to air, onto the land or into water?	Yes	The land nearby the workers' camp may be polluted by the construction related activities and daily	Yes. The discharge of pollutants to air, water or soil will contaminate these natural resources.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			activities of the workers residing there temporarily.	
7.4	From any other sources?	No		
7.5	Is there a risk of long-term build-up of pollutants in the environment from these sources?	No		
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?				
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous or toxic substances?	Yes	Road work involves use of bitumen hot mixes, the accidental fire or explosion of hot mixes and resulting spillages will result in severe impact on human health and as well as environment.	Yes. The explosion and spillage will result in human injury and may pose contamination of land and water and thus it is a significant impact.
8.2	From events beyond the limits of normal environmental protection e.g. failures of pollution control systems?	No	-	-
8.3	From any other causes?	Yes	Accidents can happen due to the carelessness of workers and lapses of safety procedures at the construction sites during the excavation, laying of bitumen etc., and these accidents will impact the human health in terms of injury.	Yes. The impact of accidents is very significant because it can lead to either disability or loss of lives of workers or community people.
8.4	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslip, etc)?	Yes	The project location is situated in High risk earth quake zone (Zone V) as per the Earthquake map released from National Disaster Management Authority (NDMA), Ministry of Home Affairs (MoH) Government of India. There may be impacts related to earthquake and flooding.	Yes. There would be damages to the structures in case of earthquake and flooding incidences
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?				
9.1	Changes in population size, age,	Yes	Increased service level of transportation and reliability will create a higher demand	Yes. There is a chance of in-migration due to this project that

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	structure, social groups etc.?		for property in the project beneficiary areas.	will marginally affect the existing community structure and economic conditions etc. This will create a pressure on existing infrastructure.
9.2	By resettlement of people or demolition of homes or communities or community facilities e.g. schools, hospitals, social facilities?	No		
9.3	Through in-migration of new residents or creation of new communities?	Yes	Such in-migration is possible; however, the numbers would be not much, as the area is already developed commercially and residentially.	No. The number of people migrating will not be much.
9.4	By placing increased demands on local facilities or services eg housing, education, health?	Yes	Due to migration, there will be increased demand on local facilities which increases the load on natural resources consumption.	No. The impact on the local facilities will not be significant.
9.5	By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	Yes	Requirement of labour for the construction works prioritize the local people hence, providing employment opportunities to the local people.	Yes (Positive impact) The workers (both skilled and unskilled) will gain experience that they can use in the future in other similar kind of works. Improvement of roads will create new business opportunities.
9.6	Any other causes?			
Question - Are there any other 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?				
10.1	Will the project lead to pressure for consequential development which could have significant impact on the environment e.g. more housing, new roads, new supporting industries or utilities, etc?	Yes	The roads will act as catalyst for development of the surrounding areas and there may be new developments like commercial establishments, malls etc.,	Yes. The anticipated new developments followed by the road projects will result significant environmental impacts due to raw material requirement for the subsequent developments.
10.2	Will the project lead to development of supporting facilities,	Yes	Yes, the project may lead to other developmental projects.	Yes. The project will lead to overall development in the area.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	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?			Positive Impact
10.3	Will the project lead to after-use of the site which could have an impact on the environment?	No	-	-
10.4	Will the project set a precedent for later developments?	Yes	Improved road infrastructure may create opportunities for other developmental infrastructures.	Yes Quality of life of the Agartala citizens will be improved with all the developmental works. Positive Impact.
10.5	Will the project have cumulative effects due to proximity to other existing or planned projects with similar effects?	Yes		

Part 2 - Characteristics of the Project Environment (Environmental Sensitivity)

Question 1 - Are there features of the local environment on or around the Project location which could be affected by the Project?	
• Areas which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No
• Other areas which are important or sensitive for reasons of their ecology e.g.	
• Wetlands,	
• Watercourses or other water bodies,	
• the coastal zone,	No
• mountains,	
• forests or woodlands	No
• Areas used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No

• Inland, coastal, marine or underground waters? • Areas or features of high landscape or scenic value? • Routes or facilities used by the public for access to recreation or other facilities? • Transport routes which are susceptible to congestion or which cause environmental problems? • Areas or features of historic or cultural importance?	Yes, the road proposed for the development passes from main city roads from Lalbahadur Club to Ashram Chowmuhani having commercial establishments and is susceptible to traffic congestion during the construction phase that may provide discomfort to the passer-by and may disrupt the access to the roadside shops and houses There are few temples and cultural important places along the road. However, the road construction is within the RoW, so no long-term impact is envisaged. The access to these temples will be temporarily affected during the period of construction.
Question 2 - Is the Project in a location where it is likely to be highly visible to many people?	Yes, the road proposed for the development passes from Lalbahadur Club to Ashram Chowmuhani, hence it is visible to many people.
Question 3 - Is the Project located in a previously undeveloped area where there will be loss of greenfield land?	No
Question - Are there existing land uses on or around the Project location which could be affected by the Project? For example: • Homes, gardens, other private property, • Industry, • Commerce, • Recreation, • public open space, • community facilities, • agriculture, • forestry, • tourism, • mining or quarrying	Yes The houses, shops and other properties will be affected during the construction period due to disturbance in access to the property, air and noise pollution due to the construction activities etc.
Question 4 - Are there any plans for future land uses on or around the location which could be affected by the Project?	No
Question 5 - Are there any areas on or around the location which are densely populated or built-up, which could be affected by the Project?	Yes Some part of the road there is dense population residing and also the commercial establishments. Along the roadside proposed for development, these many people will be affected during the construction phase of the project. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 6 - Are there any areas on or around the location which are occupied by sensitive land uses which could be affected by the Project? • hospitals,	Yes, there will be temporary disturbance to access existing facilities along the roads proposed for development.

• schools, • places of worship, • community facilities	A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 7 - Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the Project? For example: • groundwater resources, • surface waters, • forestry, • agriculture, • fisheries, • tourism, • minerals.	No
Question 8 - Are there any areas on or around the location of the Project which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No
Question 9 - Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes, the project area lies under Zone V. The structures in the proposed project are being built by following IS 1893 – Part 1 for Earthquake resistant designs for structures.
Question 10 - Is the Project likely to affect the physical condition of any environmental media? • The atmospheric environment including microclimate and local and larger scale climatic conditions? • Water – e.g. quantities, flows or levels of rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Soils – e.g. quantities, depths, humidity, stability or erodibility of soils? • Geological and ground conditions?	No, the project will not affect any physical condition of the environment; there will be improved road infrastructure after operation of road.
Question 11 - Are releases from the Project likely to have effects on the <u>quality</u> of any environmental media? • Local air quality? • Global air quality including climate change and ozone depletion • Water quality – rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Nutrient status and eutrophication of waters? • Acidification of soils or waters? • Soils • Noise? • Temperature, light or electromagnetic radiation including electrical interference? • Productivity of natural or agricultural systems?	Yes, the construction activities may affect local air quality through dust emissions especially during dry season. It also generates noise pollution by the movement of vehicles for transporting materials, and demolition works of RoW for road construction works.
Question 12 - Is the Project likely to affect the	No

availability or scarcity of any resources either locally or globally? • Fossil fuels? • Water? • Minerals and aggregates? • Timber? • Other non-renewable resources? • Infrastructure capacity in the locality - water, sewerage, power generation and transmission, telecommunications, waste disposal roads, rail?	
Question 13 - Is the Project likely to affect human or community health or welfare? • The quality or toxicity of air, water, foodstuffs and other products consumed by humans? • Morbidity or mortality of individuals, communities or populations by exposure to pollution? • Occurrence or distribution of disease vectors including insects? • Vulnerability of individuals, communities or populations to disease? • Individuals' sense of personal security? • Community cohesion and identity? • Cultural identity and associations? • Minority rights? • Housing conditions? • Employment and quality of employment? • Economic conditions? • Social institutions?	Yes, • This project may offer employment to the local people to involve as a construction worker. This can be viewed as positive impact of the project. • This project may also result in the occurrence or distribution of disease vector due to the temporary settlement of workers as they may not have access to safe water supply and sanitation. • Similarly, this project if properly implemented will have positive effect on the welfare of the local people as they will have better road infrastructure and pedestrian pathways, improved traffic flow which will improve their commuting experience. This will also help in improving the economic conditions of the Agartala.

Part 3: Significance of Impacts

Questions to be Considered
1. Will there be a large change in environmental conditions?
2. Will new features be out-of-scale with the existing environment?
3. Will the effect be unusual in the area or particularly complex?
4. Will the effect extend over a large area?
5. Will there be any potential for trans boundary impact?
6. Will many people be affected?
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?
8. Will valuable or scarce features or resources be affected?
9. Is there a risk that environmental standards will be breached?
10. Is there a risk that protected sites, areas, features will be affected?
11. Is there a high probability of the effect occurring?
12. Will the effect continue for a long time?
13. Will the effect be permanent rather than temporary?
14. Will the impact be continuous rather than intermittent?
15. If it is intermittent will it be frequent rather than rare?
16. Will the impact be irreversible?
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?

Jail Road
"No Mitigation Scenario Checklist" (Scoping Checklist)

Part 1 - Questions on Project Characteristics

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies etc.)?				
1.1	Permanent or temporary change in land use, land cover or topography including increases in intensity of land use?	Yes	The proposed project involves upgradation of the Jail Road, which is within the existing RoW. Following works are proposed for the sub project 1. Dismantling above ground utilities like electric, telephone cables. 2. Clearing of drain silts 3. Dismantling Existing Brickwork drains 4. Construction of RCC Drain 5. Repositioning of existing water lines, wherever required. 6. Development of Carriageway/ Road Surface 7. Proposal for Pathways/ walkways 8. Proposal for Underground Utility Corridors Proposal for suitable streetscaping	No, there will not be any changes in land use and land cover, but, there will be changes in topography in terms of level of roads. The proposed project is to improve the footpath conditions in Jail Road, the land area will remain the same as there is no land acquisition involved and work will be carried out in existing RoW.
1.2	Clearance of existing land, vegetation and buildings?	Yes	No clearance of land as this is reconstruction of existing road of 0.5 km length within the existing RoW.	No. Clearing of land is not involved in the road project, as the work is being carried out in existing RoW.
			Total 3 trees are required to be cut for the proposed road work.	Yes. The proposed trees to cut are common species. No threatened or endangered species of plant are sited in the proposed Jail road development area as per the 'Checklist of Rare and Threatened Plants of Tripura' listed in www.indiabiodiversity.org/checklist/show/201.
1.3	Creation of new land uses?	No		
1.4	Pre-construction investigations e.g.	Yes	None. Soil investigation/ testing will be conducted for the road	No, Geotechnical investigations will involve only obtaining a

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	boreholes, soil testing?		works, but this involves small area.	borehole sample for proposed infrastructures. Since undisturbed core would be extracted using a core cutter there would be no impacts on the topography or the geology.
1.5	Construction works?	Yes	Only immediate vicinity of the road will be affected. Road and allied works will potentially impact the immediate environment in terms of air quality due to generation of dusts and vehicle emissions, water pollution due to generation of wastewater from washings and siltation of the water bodies due to solid wastes from demolition and other construction activities. The roads will include utilities Existing Brick walled Storm water drains are proposed to be reconstructed into RCC structures below road surface. Two vent RCC structure is proposed. one vent (Towards the carriageway) shall carry Storm Water and other one (Towards the property line) shall carry Electrical and OFC cables. The vent for Electrical & OFC system will be provided below the footpath and SWD vent shall be provided below the carriageway OFC & Electrical cable is proposed in RCC cable trench system as per IS-1255: 1983. Footpath is provided above the RCC cable trench system.	Yes, because the construction works will take 21 months' time. The construction activities specially the wastes and emissions bring significant adverse impact to the receptors in the area (e.g. institutions and residential/ commercial establishments along the road).
1.6	Demolition works?	Yes	Demolition of existing roads drains will generate wastes and air emissions which will impact the air, water and noise quality of the road area. The demolition will generate approx 570 m3 muck from the road stretch.	Yes. The demolition wastes will pose challenge to the passerby and surrounding people also it may result in siltation of water bodies if not removed immediately from the site.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	There is a possibility of disposal of the solid and liquid wastes to nearby land or water bodies by the construction workers, which could affect the water bodies and soil environment.	Yes. Depending on the size and number of laborers in the construction camps. Pollution of receiving bodies of water around the camps and degradation of aesthetics due to dumping of solid wastes are likely. The construction camps will generate solid and liquid waste, these will change the water quality of the receiving water bodies and harm the aesthetics of the area if dumped openly without any processing.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations?	Yes	Excavated earth of quantity around 3700 Cum for all the road works may temporarily affect the land use obstructing the access to by-roads, roadside premises, and houses. Cleaning of drains will generate around 240 cum spoil.	Yes. The storage of excavated material and other raw material stored will cause problems to people visiting park and passerby. Siltation of the water bodies at the downstream is also a problem during monsoon season.
1.9	Underground works including mining or tunneling?	Yes	No mining or Tunneling is involved in the project. Excavation for utility trenches and drainage system maximum to the depth of 2.5-3m is proposed.	Yes. Excavation for construction of roads and utility trenches lead to generation of muck, which if not disposed from site will contaminate the nearby water body and pose obstruction to the residents and passerby.
1.10	Reclamation works?	No		
1.11	Dredging?	No		
1.12	Coastal structures eg seawalls, piers?	No		
1.13	Offshore structures?	No		
1.14	Production and manufacturing processes?	No		
1.15	Facilities for storage of goods or materials?	Yes	Construction material excavated material etc. will be stored in heaps along the roads, these material heaps could affect aesthetics at the site, and mobility or free movement of pedestrians and vehicles.	Yes. The obstructions brought about by the material heaps could impede the flow of pedestrians and vehicles in the road stretch.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.16	Facilities for treatment or disposal of solid wastes or liquid effluents?	Yes	Labour camp for about 25 inhabitants will generates both solid and liquid waste of around 10 Kg/ day and 2.7 KLD respectively. The solid and liquid wastes generated from the labour camps will pose water quality, soil quality and health issues if not processed/ handled properly.	Yes, The solid and liquid waste generated will cause soil contamination, water contamination if not treated and let into the nature.
1.17	Facilities for long term housing of operational workers?	No		
1.18	New road, rail or sea traffic during construction or operation?	No		
1.19	New road, rail, air, waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No		
1.20	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	Yes	The construction will be in phased manner, closure of the road during construction works will be required. Some interior roads may also need temporary closure during construction.	Yes, Road closures during construction phase will cause temporary traffic jams and related issues.
1.21	New or diverted transmission lines or pipelines?	Yes	ICT Line, LT and HT Lines converted from above ground to underground networks and the excavation for underground trenches will generate excavated earth which if not stored and handled properly will pose environmental and safety issues.	Yes, The construction of utility duct and excavation involved will pose environmental, health and safety and aesthetic impacts due to contamination of water bodies, unsafe access to passerby.
1.22	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Slopes and design capacity of drains will be done as per existing rainfall data of the area.	.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.23	Stream crossings?	Yes	Proposed Jail road will cross 2 drains. Cross drains across the roads are maintained as it is.	No, There is no change in the existing cross drain structures.
1.24	Abstraction or transfers of water from ground or surface waters?	No		
1.25	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	The roadside storm water drains will be demolished and will be converted to underground RCC drains.	Yes. Short term impact only during the construction period. However, the project will improve the drainage system by reduction in operation and maintenance issues.
1.26	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Transportation vehicles for the movement of workers/ personnel, construction equipment, and construction materials will generate dust and noise.	Yes. The dust and noise generated due to transportation of manpower and material will cause discomfort to the occupants of establishments and institutions in the area.
1.27	Long term dismantling or decommissioning or restoration works?	No	-	-
1.28	Ongoing activity during decommissioning which could have an impact on the environment?	No	-	-
1.29	Influx of people to an area in either temporarily or permanently?	Yes	The construction phase will increase the personnel movement for a temporary period and operation phase will also result in influx of people due to change in better aesthetics and better traffic facilities.	Yes, The people will be housed in labour camps and this will cause the solid and liquid waste generation from the camps and subsequent contamination of soil and water contaminations and pose health issues
1.30	Introduction of alien species?	No	-	-
1.31	Loss of native species or genetic diversity?	Yes	For the construction of Jail road, 3 trees will be cut, the species exist in those lands are common to the area and therefore no loss of native or genetic diversity is expected.	Yes. Local shrubs and trees are required to remove from the existing area for the construction activities.
1.32	Any other actions?	No	-	-

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?				
2.1	Land especially undeveloped or agricultural land?	No	Construction of road and pathway is within the existing RoW, hence no land resource will be utilized.	No The works are proposed in already developed urban areas and it will not impact any underdeveloped or agriculture land.
2.2	Water?	Yes	During the construction phase, water would be used for construction purposes. During the operations phase, water would be used for watering the road side plantations and ornamental trees.	No, The quantity of water to be used during the construction phase is in small. In Agartala no new water source would be constructed as part of the project. The existing source (municipal water supply and ground water) would be sufficient to supply water for construction.
2.3	Minerals?	Yes	Sand, gravel and soil for subbase of road. This will be sourced from Government approved quarries.	Yes. The huge quantities of sand and aggregates will likely have a significant impact to the aesthetics, topography and ecosystem at the sites or locations where they are sourced or quarried. Transportation of aggregate will also cause air pollution.
2.4	Aggregates?	Yes	The new road surface construction and excavated road repair would be the part of the project. This new construction and repairing of the pavement and concrete works in the project would require aggregates	
2.5	Forests and timber?	No	-	-
2.6	Energy including electricity and fuels?	Yes	None. The required energy, electricity, and fuel during construction activities, vehicle, equipment, and machinery operations are negligible compared to supply.	No. The site is located within urban area where electricity from grid is easily available.
2.7	Any other resources?	No		
3. Will the Project involve 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?				
3.1	Will the project involve use of substances or materials which are hazardous or toxic to human health or the environment (flora,	Yes	During the construction stage, likely leakage of discharge of Fuels like diesel, Petrol, and Oil & Grease will affect human health and environment.	Yes. Any Discharge of these substances will have adverse impacts to environmental quality and human health and may also affect the nearby

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	fauna, water supplies)?			flora and fauna.
3.2	Will the project result in changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)?	Yes	The labour camps would generate solid waste as well as sewage. Thus, the camps have potential to spread diseases.	Yes. Airborne, water-borne or vector-borne diseases could spread or transmitted easily from the construction camps to the outside communities.
3.3	Will the project affect the welfare of people e.g. by changing living conditions?	Yes	Better traffic circulation, pedestrian movement and streetscapes will improve the living conditions of the residents	Yes, Throughout the operation stage of the project. This is a significant positive impact
3.4	Are there especially vulnerable groups of people who could be affected by the project e.g. hospital patients, the elderly?	No	No hospitals and old age homes are present in the road stretch	
3.5	Any other causes?	No		
4. Will the Project produce solid wastes during construction or operation or decommissioning?				
4.1	Spoil, overburden or mine wastes?	Yes	Excavation of drains and roads will produce spoil. The spoil if not readily disposed at safe site, it will occupy the land and may create discomfort to the passer-by.	Yes. The material generated due to excavation will affect the regular walkway and passerby, during the construction period, the material may end up in water body if not stored and disposed properly.
4.2	Municipal waste (household and or commercial wastes)?	Yes	There would be generation of municipal waste from construction camps and during operation phase due to influx of visitors.	Yes. Municipal solid waste generated during the project may cause contamination of land and water bodies if not managed appropriately.
4.3	Hazardous or toxic wastes (including radioactive wastes)?	Yes	Bitumen will be used for the construction of roads, the likely leakage and emissions will cause health and environmental impacts.	Yes, The accidental spills/ leakages of bitumen will cause water and land pollution. Also, the emission from the bitumen during heating will pose health impacts to the workers and passerby.
4.4	Other industrial process wastes?	No		
4.5	Surplus product?	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
4.6	Sewage sludge or other sludge from effluent treatment?	Yes	The 2.7 KLD sewage generated from labour camp may pose environmental and health impacts due to untreated discharge.	Yes, The sewage generated if discharged without treatment will cause ground and surface water pollution.
4.7	Construction or demolition wastes?	Yes	Construction of Roads, pathways and utility trenches will produce construction and demolition waste. The waste if not disposed at designated site, will pose environmental and safety issues by siltation of water bodies and causing uncomfort to passerby.	Yes. Construction and demolition wastes generated or produced during construction phase will change the aesthetics in the project area. Excavated Soil and demolition debris could clog drainages and could cause siltation of drains and pose difficulties to residents and passer-by for access.
4.8	Redundant machinery or equipment?	No		
4.9	Contaminated soils or other material?	No		
4.10	Agricultural wastes?	No		
4.11	Any other solid wastes?	No		
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?				
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources?	Yes	Use of generators, machinery, and heavy vehicles during excavation and construction will generate emissions.	Yes. The impact of these emissions is significant to the health of all human receptors along the road construction sites.
5.2	Emissions from production processes?	No	-	-
5.3	Emissions from materials handling including storage or transport?	Yes	Vehicles used for transport of construction, material and machinery will produce emissions. Dust generation during unloading of materials such as cement, aggregates, etc. There is also a likelihood of re-entrainment of dust particle at the construction site due to movement of vehicles	Yes. The impact of these emissions is significant to the health of all human receptors around the construction sites.
5.4	Emissions from construction activities including plant and equipment?	Yes	Concrete batching plants, hot-mix plants for bituminous material production during road surfacing will cause emissions.	Yes. The impact of these emissions is significant to the health of all human receptors around the road construction sites.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
5.5	Dust or odours from handling of materials including construction materials, sewage and waste?	Yes	Air pollution due to dust generation during construction of roads, excavation and backfilling, handling of excavated and fill material, cement, sand, gravel, aggregates, etc.	Yes. The impact of these emissions is significant to the health of all people residing nearby and passerby.
5.6	Emissions from incineration of waste?	No	-	-
5.7	Emissions from burning of waste in open air (eg slash material, construction debris)?	Yes	The locality of the worker's camp may be affected by the open burning of waste generated from the worker's camp.	Yes. The impact of these emissions is significant to the health of all human receptors living in construction camps and those around the construction camp sites.
5.8	Emissions from any other sources?	No		
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?				
6.1	From operation of equipment eg: engines, ventilation plant, crushers?	Yes	Excavation of trenches by heavy machinery, cutters, etc. and subsequent compaction and road surfacing, use of generators, heavy vehicle movements will generate noise and vibration.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the road construction sites, including the workers.
6.2	From industrial or similar processes?	Yes	Production of concrete and bituminous products will generate noise. Crushers and borrow operations will generate high levels of noise.	Yes. The concrete mixers will cause noise in and around the area and bituminous hot mixes will result in heat radiation which will impact the surrounding population and passerby.
6.3	From construction or demolition?	Yes	The noise generated from the demolition of RoW for construction of roads and pathways may disturb the people residing at and passerby of core bazaar area.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the construction sites, including the workers.
6.4	From blasting or piling?	No		
6.5	From construction or operational traffic?	Yes	Movement of heavy machinery used for construction work and vehicles transporting construction materials may generate noise that would cause inconvenience to the surrounding communities of road.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the traffic congested sites, including the workers working at these sites.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
6.6	From lighting or cooling systems?	No	Night time construction is not envisaged.	No. As per current practices the construction works are allowed only in day time and no lighting for night time working is required.
6.7	From sources of electromagnetic radiation (consider effects on nearby sensitive equipment as well as people)?	No	-	-
6.8	From any other sources?	No	-	-
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into sewers, surface waters, groundwater, coastal waters or the sea?				
7.1	From handling, storage, use or spillage of hazardous or toxic materials?	Yes	Due to accidental spillage / leakage of fuel and bitumen will pollute the land and water bodies.	Yes. The leakage / spillage of fuel and bitumen will result in land contamination and water pollution.
7.2	From discharge of sewage or other effluents (whether treated or untreated) to water or the land?	Yes	The land and water bodies nearby the workers camp may be polluted by the discharge of sewage from camp.	Yes. The impact of discharge of sewage or effluents to land is significant as they could seep into the ground and pollute the groundwater. Likewise, the impact of discharge of sewage or effluent to receiving bodies of water in the area is significant as they could pollute the water and subsequently the aquatic species.
7.3	By deposition of pollutants emitted to air, onto the land or into water?	Yes	The land nearby the workers' camp may be polluted by the construction related activities and daily activities of the workers residing there temporarily.	Yes. The discharge of pollutants to air, water or soil will contaminate these natural resources.
7.4	From any other sources?	No		
7.5	Is there a risk of long-term build-up of pollutants in the environment from these sources?	No		
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?				
8.1	From explosions, spillages, fires etc	Yes	Road work involves use of bitumen hot mixes, the	Yes.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	from storage, handling, use or production of hazardous or toxic substances?		accidental fire or explosion of hot mixes and resulting spillages will result in severe impact on human health and as well as environment.	The explosion and spillage will result in human injury and may pose contamination of land and water and thus it is a significant impact.
8.2	From events beyond the limits of normal environmental protection e.g. failures of pollution control systems?	No	-	-
8.3	From any other causes?	Yes	Accidents can happen due to the carelessness of workers and lapses of safety procedures at the construction sites during the excavation, laying of bitumen etc., and these accidents will impact the human health in terms of injury.	Yes. The impact of accidents is very significant because it can lead to either disability or loss of lives of workers or community people.
8.4	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslip, etc)?	Yes	The project location is situated in High risk earth quake zone (Zone V) as per the Earthquake map released from National Disaster Management Authority (NDMA), Ministry of Home Affairs (MoH) Government of India. There may be impacts related to earthquake and flooding.	Yes. There would be damages to the structures in case of earthquake and flooding incidences
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?				
9.1	Changes in population size, age, structure, social groups etc.?	Yes	Increased service level of transportation and reliability will create a higher demand for property in the project beneficiary areas.	Yes. There is a chance of in-migration due to this project that will marginally affect the existing community structure and economic conditions etc. This will create a pressure on existing infrastructure.
9.2	By resettlement of people or demolition of homes or communities or community facilities e.g. schools, hospitals, social facilities?	No		
9.3	Through in-migration of new residents or creation of new communities?	Yes	Such in-migration is possible; however, the numbers would be not much, as the area is already developed	No. The number of people migrating will not be much.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			commercially and residentially.	
9.4	By placing increased demands on local facilities or services eg housing, education, health?	Yes	Due to migration, there will be increased demand on local facilities which increases the load on natural resources consumption.	No. The impact on the local facilities will not be significant.
9.5	By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	Yes	Requirement of labour for the construction works prioritize the local people hence, providing employment opportunities to the local people.	Yes (Positive impact) The workers (both skilled and unskilled) will gain experience that they can use in the future in other similar kind of works. Improvement of roads will create new business opportunities.
9.6	Any other causes?			
Question - Are there any other 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?				
10.1	Will the project lead to pressure for consequential development which could have significant impact on the environment e.g. more housing, new roads, new supporting industries or utilities, etc?	Yes	The roads will act as catalyst for development of the surrounding areas and there may be new developments like commercial establishments, malls etc.,	Yes. The anticipated new developments followed by the road projects will result significant environmental impacts due to raw material requirement for the subsequent developments.
10.2	Will the project 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	Yes, the project may lead to other developmental projects.	Yes. The project will lead to overall development in the area. Positive Impact
10.3	Will the project lead to after-use of the site which could	No	-	-

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	have an impact on the environment?			
10.4	Will the project set a precedent for later developments?	Yes	Improved road infrastructure may create opportunities for other developmental infrastructures.	Yes Quality of life of the Agartala citizens will be improved with all the developmental works. Positive Impact.
10.5	Will the project have cumulative effects due to proximity to other existing or planned projects with similar effects?	Yes		

Part 2 - Characteristics of the Project Environment (Environmental Sensitivity)

Question 1 - Are there features of the local environment on or around the Project location which could be affected by the Project?	
• Areas which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No
• Other areas which are important or sensitive for reasons of their ecology e.g. • Wetlands, • Watercourses or other water bodies,	
• the coastal zone,	No
• mountains,	
• forests or woodlands	No
• Areas used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No
• Inland, coastal, marine or underground waters?	
• Areas or features of high landscape or scenic value?	Yes, the road proposed for the development passes from Old Central Jail (proposed IT Hub) to Math Chowmuhani and is susceptible to traffic congestion during the construction phase that may provide discomfort to the passer-by and may disrupt the access to the roadside shops and houses
• Routes or facilities used by the public for access to recreation or other facilities?	
• Transport routes which are susceptible to congestion or which cause environmental problems?	There are no temples and cultural important places along the Jail road. However, the road construction is within the RoW, so no long-term impact is envisaged. The access to these temples will be temporarily affected during the period of construction.
• Areas or features of historic or cultural importance?	
Question 2 - Is the Project in a location where it is likely to be highly visible to many people?	Yes, the road proposed for the development passes from Old Central Jail (proposed IT Hub) to

	Math Chowmuhani, hence it is visible to many people.
Question 3 - Is the Project located in a previously undeveloped area where there will be loss of greenfield land?	No
Question - Are there existing land uses on or around the Project location which could be affected by the Project? For example: • Homes, gardens, other private property, • Industry, • Commerce, • Recreation, • public open space, • community facilities, • agriculture, • forestry, • tourism, • mining or quarrying	Yes The houses, shops and other properties will be affected during the construction period due to disturbance in access to the property, air and noise pollution due to the construction activities etc.
Question 4 - Are there any plans for future land uses on or around the location which could be affected by the Project?	No
Question 5 - Are there any areas on or around the location which are densely populated or built-up, which could be affected by the Project?	Yes Some part of the road there is dense population residing and also the commercial establishments. Along the roadside proposed for development, these many people will be affected during the construction phase of the project. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 6 - Are there any areas on or around the location which are occupied by sensitive land uses which could be affected by the Project? • hospitals, • schools, • places of worship, • community facilities	Yes, there will be temporary disturbance to access existing facilities along the roads proposed for development. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 7 - Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the Project? For example: • groundwater resources, • surface waters, • forestry, • agriculture, • fisheries, • tourism, • minerals.	No
Question 8 - Are there any areas on or around the location of the Project which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No

Question 9 - Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes, the project area lies under Zone V. The structures in the proposed project are being built by following IS 1893 – Part 1 for Earthquake resistant designs for structures.
Question 10 - Is the Project likely to affect the physical condition of any environmental media? • The atmospheric environment including microclimate and local and larger scale climatic conditions? • Water – e.g. quantities, flows or levels of rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Soils – e.g. quantities, depths, humidity, stability or erodibility of soils? • Geological and ground conditions?	No, the project will not affect any physical condition of the environment; there will be improved road infrastructure after operation of road.
Question 11 - Are releases from the Project likely to have effects on the <u>quality</u> of any environmental media? • Local air quality? • Global air quality including climate change and ozone depletion • Water quality – rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Nutrient status and eutrophication of waters? • Acidification of soils or waters? • Soils • Noise? • Temperature, light or electromagnetic radiation including electrical interference? • Productivity of natural or agricultural systems?	Yes, the construction activities may affect local air quality through dust emissions especially during dry season. It also generates noise pollution by the movement of vehicles for transporting materials, and demolition works of RoW for road construction works.
Question 12 - Is the Project likely to affect the availability or scarcity of any resources either locally or globally? • Fossil fuels? • Water? • Minerals and aggregates? • Timber? • Other non-renewable resources? • Infrastructure capacity in the locality - water, sewerage, power generation and transmission, telecommunications, waste disposal roads, rail?	No
Question 13 - Is the Project likely to affect human or community health or welfare? • The quality or toxicity of air, water, foodstuffs and other products consumed by humans? • Morbidity or mortality of individuals, communities or populations by exposure to pollution? • Occurrence or distribution of disease vectors including insects? • Vulnerability of individuals, communities or populations to disease?	Yes, • This project may offer employment to the local people to involve as a construction worker. This can be viewed as positive impact of the project. • This project may also result in the occurrence or distribution of disease vector due to the temporary settlement of workers as they may not have access to safe water supply and sanitation.

• Individuals' sense of personal security? • Community cohesion and identity? • Cultural identity and associations? • Minority rights? • Housing conditions? • Employment and quality of employment? • Economic conditions? • Social institutions?	• Similarly, this project if properly implemented will have positive effect on the welfare of the local people as they will have better road infrastructure and pedestrian pathways, improved traffic flow which will improve their commuting experience. This will also help in improving the economic conditions of the Agartala.

Part 3: Significance of Impacts

Questions to be Considered
1. Will there be a large change in environmental conditions?
2. Will new features be out-of-scale with the existing environment?
3. Will the effect be unusual in the area or particularly complex?
4. Will the effect extend over a large area?
5. Will there be any potential for trans boundary impact?
6. Will many people be affected?
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?
8. Will valuable or scarce features or resources be affected?
9. Is there a risk that environmental standards will be breached?
10. Is there a risk that protected sites, areas, features will be affected?
11. Is there a high probability of the effect occurring?
12. Will the effect continue for a long time?
13. Will the effect be permanent rather than temporary?
14. Will the impact be continuous rather than intermittent?
15. If it is intermittent will it be frequent rather than rare?
16. Will the impact be irreversible?
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?

Lankamura Road
"No Mitigation Scenario Checklist" (Scoping Checklist)

Part 1 - Questions on Project Characteristics

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies etc.)?				
1.1	Permanent or temporary change in land use, land cover or topography including increases in intensity of land use?	Yes	The proposed project involves upgradation of the Lankamura Road, which is within the existing RoW. Following works are proposed for the sub project 1. Dismantling above ground utilities like electric, telephone cables. 2. Clearing of drain silts 3. Dismantling Existing Brickwork drains 4. Construction of RCC Drain 5. Repositioning of existing water lines, wherever required. 6. Development of Carriageway/ Road Surface 7. Proposal for Pathways/ walkways 8. Proposal for Underground Utility Corridors Proposal for suitable streetscaping	No, there will not be any changes in land use and land cover, but, there will be changes in topography in terms of level of roads. The proposed project is to improve the footpath conditions in Lankamura Road, the land area will remain the same as there is no land acquisition involved and work will be carried out in existing RoW.
1.2	Clearance of existing land, vegetation and buildings?	Yes	No clearance of land as this is reconstruction of existing road of 0.21 km length within the existing RoW.	No. Clearing of land is not involved in the road project, as the work is being carried out in existing RoW.
			No trees are required to be cut for the proposed road work.	
1.3	Creation of new land uses?	No		
1.4	Pre-construction investigations e.g. boreholes, soil testing?	Yes	None. Soil investigation/ testing will be conducted for the road works, but this involves small area.	No, Geotechnical investigations will involve only obtaining a borehole sample for proposed infrastructures. Since undisturbed core would be extracted using a core cutter there would be no impacts on the topography or the geology.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.5	Construction works?	Yes	Only immediate vicinity of the road will be affected. Road and allied works will potentially impact the immediate environment in terms of air quality due to generation of dusts and vehicle emissions, water pollution due to generation of wastewater from washings and siltation of the water bodies due to solid wastes from demolition and other construction activities. The roads will include utilities Existing Brick walled Storm water drains are proposed to be reconstructed into RCC structures below road surface. Two vent RCC structure is proposed. one vent (Towards the carriageway) shall carry Storm Water and other one (Towards the property line) shall carry Electrical and OFC cables. The vent for Electrical & OFC system will be provided below the footpath and SWD vent shall be provided below the carriageway OFC & Electrical cable is proposed in RCC cable trench system as per IS-1255: 1983. Footpath is provided above the RCC cable trench system.	Yes, because the construction works will take 21 months' time. The construction activities specially the wastes and emissions bring significant adverse impact to the receptors in the area (e.g. institutions and residential/ commercial establishments along the road).
1.6	Demolition works?	Yes	Demolition of existing roads drains will generate wastes and air emissions which will impact the air, water and noise quality of the road area. The demolition will generate approx. 360 m3 muck from the road stretch.	Yes. The demolition wastes will pose challenge to the passerby and surrounding people also it may result in siltation of water bodies if not removed immediately from the site.
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	There is a possibility of disposal of the solid and liquid wastes to nearby land or water bodies by the construction workers, which could affect the water bodies and soil environment.	Yes. Depending on the size and number of laborers in the construction camps. Pollution of receiving bodies of water around the camps and degradation of aesthetics due to

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
				dumping of solid wastes are likely. The construction camps will generate solid and liquid waste, these will change the water quality of the receiving water bodies and harm the aesthetics of the area if dumped openly without any processing.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations?	Yes	Excavated earth of quantity around 3000 Cum for all the road works may temporarily affect the land use obstructing the access to by-roads, roadside premises, and houses. Cleaning of drains will generate around 100 cum spoil.	Yes. The storage of excavated material and other raw material stored will cause problems to people visiting park and passerby. Siltation of the water bodies at the downstream is also a problem during monsoon season.
1.9	Underground works including mining or tunneling?	Yes	No mining or Tunneling is involved in the project. Excavation for utility trenches and drainage system maximum to the depth of 2.5-3m is proposed.	Yes. Excavation for construction of roads and utility trenches lead to generation of muck, which if not disposed from site will contaminate the nearby water body and pose obstruction to the residents and passerby.
1.10	Reclamation works?	No		
1.11	Dredging?	No		
1.12	Coastal structures eg seawalls, piers?	No		
1.13	Offshore structures?	No		
1.14	Production and manufacturing processes?	No		
1.15	Facilities for storage of goods or materials?	Yes	Construction material excavated material etc. will be stored in heaps along the roads, these material heaps could affect aesthetics at the site, and mobility or free movement of pedestrians and vehicles.	Yes. The obstructions brought about by the material heaps could impede the flow of pedestrians and vehicles in the road stretch.
1.16	Facilities for treatment or disposal of solid wastes or liquid effluents?	Yes	Labour camp for about 25 inhabitants will generates both solid and liquid waste of around 10 Kg/ day and 2.7 KLD respectively. The solid and liquid wastes generated from the labour	Yes, The solid and liquid waste generated will cause soil contamination, water contamination if not treated and let into the nature.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			camps will pose water quality, soil quality and health issues if not processed/ handled properly.	
1.17	Facilities for long term housing of operational workers?	No		
1.18	New road, rail or sea traffic during construction or operation?	No		
1.19	New road, rail, air, waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No		
1.20	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	Yes	The construction will be in phased manner, closure of the road during construction works will be required. Some interior roads may also need temporary closure during construction.	Yes, Road closures during construction phase will cause temporary traffic jams and related issues.
1.21	New or diverted transmission lines or pipelines?	Yes	ICT Line, LT and HT Lines converted from above ground to underground networks and the excavation for underground trenches will generate excavated earth which if not stored and handled properly will pose environmental and safety issues.	Yes, The construction of utility duct and excavation involved will pose environmental, health and safety and aesthetic impacts due to contamination of water bodies, unsafe access to passerby.
1.22	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Slopes and design capacity of drains will be done as per existing rainfall data of the area.	.
1.23	Stream crossings?	Yes	Proposed Lankamura road will cross 4 drains. Cross drains across the roads are maintained as it is.	No, There is no change in the existing cross drain structures.
1.24	Abstraction or transfers of water	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	from ground or surface waters?			
1.25	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	The roadside storm water drains will be demolished and will be converted to underground RCC drains.	Yes. Short term impact only during the construction period. However, the project will improve the drainage system by reduction in operation and maintenance issues.
1.26	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Transportation vehicles for the movement of workers/ personnel, construction equipment, and construction materials will generate dust and noise.	Yes. The dust and noise generated due to transportation of manpower and material will cause discomfort to the occupants of establishments and institutions in the area.
1.27	Long term dismantling or decommissioning or restoration works?	No	-	-
1.28	Ongoing activity during decommissioning which could have an impact on the environment?	No	-	-
1.29	Influx of people to an area in either temporarily or permanently?	Yes	The construction phase will increase the personnel movement for a temporary period and operation phase will also result in influx of people due to change in better aesthetics and better traffic facilities.	Yes, The people will be housed in labour camps and this will cause the solid and liquid waste generation from the camps and subsequent contamination of soil and water contaminations and pose health issues
1.30	Introduction of alien species?	No	-	-
1.31	Loss of native species or genetic diversity?	No	No trees will be cut for the proposed road works.	
1.32	Any other actions?	No	-	-
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?				
2.1	Land especially undeveloped or agricultural land?	No	Construction of road and pathway is within the existing RoW, hence no land resource will be utilized.	No The works are proposed in already developed urban areas and it will not impact any

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
				underdeveloped or agriculture land.
2.2	Water?	Yes	During the construction phase, water would be used for construction purposes. During the operations phase, water would be used for watering the road side plantations and ornamental trees.	No, The quantity of water to be used during the construction phase is in small. In Agartala no new water source would be constructed as part of the project. The existing source (municipal water supply and ground water) would be sufficient to supply water for construction.
2.3	Minerals?	Yes	Sand, gravel and soil for subbase of road. This will be sourced from Government approved quarries.	Yes. The huge quantities of sand and aggregates will likely have a significant impact to the aesthetics, topography and ecosystem at the sites or locations where they are sourced or quarried. Transportation of aggregate will also cause air pollution.
2.4	Aggregates?	Yes	The new road surface construction and excavated road repair would be the part of the project. This new construction and repairing of the pavement and concrete works in the project would require aggregates	
2.5	Forests and timber?	No	-	-
2.6	Energy including electricity and fuels?	Yes	None. The required energy, electricity, and fuel during construction activities, vehicle, equipment, and machinery operations are negligible compared to supply.	No. The site is located within urban area where electricity from grid is easily available.
2.7	Any other resources?	No		
3. Will the Project involve 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?				
3.1	Will the project involve use of substances or materials which are hazardous or toxic to human health or the environment (flora, fauna, water supplies)?	Yes	During the construction stage, likely leakage of discharge of Fuels like diesel, Petrol, and Oil & Grease will affect human health and environment.	Yes. Any Discharge of these substances will have adverse impacts to environmental quality and human health and may also affect the nearby flora and fauna.
3.2	Will the project result in changes in occurrence of disease or affect	Yes	The labour camps would generate solid waste as well as sewage. Thus, the camps	Yes. Airborne, water-borne or vector-borne diseases could spread or

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	disease vectors (e.g. insect or water borne diseases)?		have potential to spread diseases.	transmitted easily from the construction camps to the outside communities.
3.3	Will the project affect the welfare of people e.g. by changing living conditions?	Yes	Better traffic circulation, pedestrian movement and streetscapes will improve the living conditions of the residents	Yes, Throughout the operation stage of the project. This is a significant positive impact
3.4	Are there especially vulnerable groups of people who could be affected by the project e.g. hospital patients, the elderly?	No	No hospitals and old age homes are present in the road stretch	
3.5	Any other causes?	No		
4. Will the Project produce solid wastes during construction or operation or decommissioning?				
4.1	Spoil, overburden or mine wastes?	Yes	Excavation of drains and roads will produce spoil. The spoil if not readily disposed at safe site, it will occupy the land and may create discomfort to the passer-by.	Yes. The material generated due to excavation will affect the regular walkway and passerby, during the construction period, the material may end up in water body if not stored and disposed properly.
4.2	Municipal waste (household and or commercial wastes)?	Yes	There would be generation of municipal waste from construction camps and during operation phase due to influx of visitors.	Yes. Municipal solid waste generated during the project may cause contamination of land and water bodies if not managed appropriately.
4.3	Hazardous or toxic wastes (including radioactive wastes)?	Yes	Bitumen will be used for the construction of roads, the likely leakage and emissions will cause health and environmental impacts.	Yes, The accidental spills/ leakages of bitumen will cause water and land pollution. Also, the emission from the bitumen during heating will pose health impacts to the workers and passerby.
4.4	Other industrial process wastes?	No		
4.5	Surplus product?	No		
4.6	Sewage sludge or other sludge from effluent treatment?	Yes	The 2.7 KLD sewage generated from labour camp may pose environmental and health impacts due to untreated discharge.	Yes, The sewage generated if discharged without treatment will cause ground and surface water pollution.
4.7	Construction or demolition wastes?	Yes	Construction of Roads, pathways and utility trenches	Yes.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			will produce construction and demolition waste. The waste if not disposed at designated site, will pose environmental and safety issues by siltation of water bodies and causing uncomfort to passerby.	Construction and demolition wastes generated or produced during construction phase will change the aesthetics in the project area. Excavated Soil and demolition debris could clog drainages and could cause siltation of drains and pose difficulties to residents and passer-by for access.
4.8	Redundant machinery or equipment?	No		
4.9	Contaminated soils or other material?	No		
4.10	Agricultural wastes?	No		
4.11	Any other solid wastes?	No		
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?				
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources?	Yes	Use of generators, machinery, and heavy vehicles during excavation and construction will generate emissions.	Yes. The impact of these emissions is significant to the health of all human receptors along the road construction sites.
5.2	Emissions from production processes?	No	-	-
5.3	Emissions from materials handling including storage or transport?	Yes	Vehicles used for transport of construction, material and machinery will produce emissions. Dust generation during unloading of materials such as cement, aggregates, etc. There is also a likelihood of re-entrainment of dust particle at the construction site due to movement of vehicles	Yes. The impact of these emissions is significant to the health of all human receptors around the construction sites.
5.4	Emissions from construction activities including plant and equipment?	Yes	Concrete batching plants, hot-mix plants for bituminous material production during road surfacing will cause emissions.	Yes. The impact of these emissions is significant to the health of all human receptors around the road construction sites.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste?	Yes	Air pollution due to dust generation during construction of roads, excavation and backfilling, handling of excavated and fill material, cement, sand, gravel, aggregates, etc.	Yes. The impact of these emissions is significant to the health of all people residing nearby and passerby.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
5.6	Emissions from incineration of waste?	No	-	-
5.7	Emissions from burning of waste in open air (eg slash material, construction debris)?	Yes	The locality of the worker's camp may be affected by the open burning of waste generated from the worker's camp.	Yes. The impact of these emissions is significant to the health of all human receptors living in construction camps and those around the construction camp sites.
5.8	Emissions from any other sources?	No		
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?				
6.1	From operation of equipment eg: engines, ventilation plant, crushers?	Yes	Excavation of trenches by heavy machinery, cutters, etc. and subsequent compaction and road surfacing, use of generators, heavy vehicle movements will generate noise and vibration.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the road construction sites, including the workers.
6.2	From industrial or similar processes?	Yes	Production of concrete and bituminous products will generate noise. Crushers and borrow operations will generate high levels of noise.	Yes. The concrete mixers will cause noise in and around the area and bituminous hot mixes will result in heat radiation which will impact the surrounding population and passerby.
6.3	From construction or demolition?	Yes	The noise generated from the demolition of RoW for construction of roads and pathways may disturb the people residing at and passerby of core bazaar area.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the construction sites, including the workers.
6.4	From blasting or piling?	No		
6.5	From construction or operational traffic?	Yes	Movement of heavy machinery used for construction work and vehicles transporting construction materials may generate noise that would cause inconvenience to the surrounding communities of road.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the traffic congested sites, including the workers working at these sites.
6.6	From lighting or cooling systems?	No	Night time construction is not envisaged.	No. As per current practices the construction works are allowed only in day time and no lighting for night time working is required.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
6.7	From sources of electromagnetic radiation (consider effects on nearby sensitive equipment as well as people)?	No	-	-
6.8	From any other sources?	No	-	-
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into sewers, surface waters, groundwater, coastal waters or the sea?				
7.1	From handling, storage, use or spillage of hazardous or toxic materials?	Yes	Due to accidental spillage / leakage of fuel and bitumen will pollute the land and water bodies.	Yes. The leakage / spillage of fuel and bitumen will result in land contamination and water pollution.
7.2	From discharge of sewage or other effluents (whether treated or untreated) to water or the land?	Yes	The land and water bodies nearby the workers camp may be polluted by the discharge of sewage from camp.	Yes. The impact of discharge of sewage or effluents to land is significant as they could seep into the ground and pollute the groundwater. Likewise, the impact of discharge of sewage or effluent to receiving bodies of water in the area is significant as they could pollute the water and subsequently the aquatic species.
7.3	By deposition of pollutants emitted to air, onto the land or into water?	Yes	The land nearby the workers' camp may be polluted by the construction related activities and daily activities of the workers residing there temporarily.	Yes. The discharge of pollutants to air, water or soil will contaminate these natural resources.
7.4	From any other sources?	No		
7.5	Is there a risk of long-term build-up of pollutants in the environment from these sources?	No		
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?				
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous or toxic substances?	Yes	Road work involves use of bitumen hot mixes, the accidental fire or explosion of hot mixes and resulting spillages will result in severe impact on human health and as well as environment.	Yes. The explosion and spillage will result in human injury and may pose contamination of land and water and thus it is a significant impact.
8.2	From events beyond the limits of	No	-	-

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	normal environmental protection e.g. failures of pollution control systems?			
8.3	From any other causes?	Yes	Accidents can happen due to the carelessness of workers and lapses of safety procedures at the construction sites during the excavation, laying of bitumen etc., and these accidents will impact the human health in terms of injury.	Yes. The impact of accidents is very significant because it can lead to either disability or loss of lives of workers or community people.
8.4	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslip, etc)?	Yes	The project location is situated in High risk earth quake zone (Zone V) as per the Earthquake map released from National Disaster Management Authority (NDMA), Ministry of Home Affairs (MoH) Government of India. There may be impacts related to earthquake and flooding.	Yes. There would be damages to the structures in case of earthquake and flooding incidences
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?				
9.1	Changes in population size, age, structure, social groups etc.?	Yes	Increased service level of transportation and reliability will create a higher demand for property in the project beneficiary areas.	Yes. There is a chance of in-migration due to this project that will marginally affect the existing community structure and economic conditions etc. This will create a pressure on existing infrastructure.
9.2	By resettlement of people or demolition of homes or communities or community facilities e.g. schools, hospitals, social facilities?	No		
9.3	Through in-migration of new residents or creation of new communities?	Yes	Such in-migration is possible; however, the numbers would be not much, as the area is already developed commercially and residentially.	No. The number of people migrating will not be much.
9.4	By placing increased demands	Yes	Due to migration, there will be increased demand on local	No.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	on local facilities or services eg housing, education, health?		facilities which increases the load on natural resources consumption.	The impact on the local facilities will not be significant.
9.5	By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	Yes	Requirement of labour for the construction works prioritize the local people hence, providing employment opportunities to the local people.	Yes (Positive impact) The workers (both skilled and unskilled) will gain experience that they can use in the future in other similar kind of works. Improvement of roads will create new business opportunities.
9.6	Any other causes?			
Question - Are there any other 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?				
10.1	Will the project lead to pressure for consequential development which could have significant impact on the environment e.g. more housing, new roads, new supporting industries or utilities, etc?	Yes	The roads will act as catalyst for development of the surrounding areas and there may be new developments like commercial establishments, malls etc.,	Yes. The anticipated new developments followed by the road projects will result significant environmental impacts due to raw material requirement for the subsequent developments.
10.2	Will the project 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	Yes, the project may lead to other developmental projects.	Yes. The project will lead to overall development in the area. Positive Impact
10.3	Will the project lead to after-use of the site which could	No	-	-

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	have an impact on the environment?			
10.4	Will the project set a precedent for later developments?	Yes	Improved road infrastructure may create opportunities for other developmental infrastructures.	Yes Quality of life of the Agartala citizens will be improved with all the developmental works. Positive Impact.
10.5	Will the project have cumulative effects due to proximity to other existing or planned projects with similar effects?	Yes		

Part 2 - Characteristics of the Project Environment (Environmental Sensitivity)

Question 1 - Are there features of the local environment on or around the Project location which could be affected by the Project?	
• Areas which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No
• Other areas which are important or sensitive for reasons of their ecology e.g.	
• Wetlands,	
• Watercourses or other water bodies,	
• the coastal zone,	No
• mountains,	
• forests or woodlands	No
• Areas used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No
• Inland, coastal, marine or underground waters?	
• Areas or features of high landscape or scenic value?	Yes, the road proposed for the development passes from main city roads from Check post to proposed STP is susceptible to traffic congestion during the construction phase that may provide discomfort to the passer-by and may disrupt the access to the roadside houses.
• Routes or facilities used by the public for access to recreation or other facilities?	
• Transport routes which are susceptible to congestion or which cause environmental problems?	There are no temples and cultural important places along the road.
• Areas or features of historic or cultural importance?	
Question 2 - Is the Project in a location where it is likely to be highly visible to many people?	Yes, the road proposed for the development passes from Check post to proposed STP, hence it is visible to many people.

Question 3 - Is the Project located in a previously undeveloped area where there will be loss of greenfield land?	No
Question - Are there existing land uses on or around the Project location which could be affected by the Project? For example: • Homes, gardens, other private property, • Industry, • Commerce, • Recreation, • public open space, • community facilities, • agriculture, • forestry, • tourism, • mining or quarrying	Yes The houses and other properties will be affected during the construction period due to disturbance in access to the property, air and noise pollution due to the construction activities etc.
Question 4 - Are there any plans for future land uses on or around the location which could be affected by the Project?	No
Question 5 - Are there any areas on or around the location which are densely populated or built-up, which could be affected by the Project?	Yes Some part of the road there is scattered houses. Along the roadside proposed for development, these many people will be affected during the construction phase of the project. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 6 - Are there any areas on or around the location which are occupied by sensitive land uses which could be affected by the Project? • hospitals, • schools, • places of worship, • community facilities	Yes, there will be temporary disturbance to access existing facilities along the roads proposed for development. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 7 - Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the Project? For example: • groundwater resources, • surface waters, • forestry, • agriculture, • fisheries, • tourism, • minerals.	No
Question 8 - Are there any areas on or around the location of the Project which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No
Question 9 - Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse	Yes, the project area lies under Zone V. The structures in the proposed project are being built by following IS 1893 – Part 1 for Earthquake

climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	resistant designs for structures.
Question 10 - Is the Project likely to affect the physical condition of any environmental media? • The atmospheric environment including microclimate and local and larger scale climatic conditions? • Water – e.g. quantities, flows or levels of rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Soils – e.g. quantities, depths, humidity, stability or erodibility of soils? • Geological and ground conditions?	No, the project will not affect any physical condition of the environment; there will be improved road infrastructure after operation of road.
Question 11 - Are releases from the Project likely to have effects on the <u>quality</u> of any environmental media? • Local air quality? • Global air quality including climate change and ozone depletion • Water quality – rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Nutrient status and eutrophication of waters? • Acidification of soils or waters? • Soils • Noise? • Temperature, light or electromagnetic radiation including electrical interference? • Productivity of natural or agricultural systems?	Yes, the construction activities may affect local air quality through dust emissions especially during dry season. It also generates noise pollution by the movement of vehicles for transporting materials, and demolition works of RoW for road construction works.
Question 12 - Is the Project likely to affect the availability or scarcity of any resources either locally or globally? • Fossil fuels? • Water? • Minerals and aggregates? • Timber? • Other non-renewable resources? • Infrastructure capacity in the locality - water, sewerage, power generation and transmission, telecommunications, waste disposal roads, rail?	No
Question 13 - Is the Project likely to affect human or community health or welfare? • The quality or toxicity of air, water, foodstuffs and other products consumed by humans? • Morbidity or mortality of individuals, communities or populations by exposure to pollution? • Occurrence or distribution of disease vectors including insects? • Vulnerability of individuals, communities or populations to disease? • Individuals' sense of personal security? • Community cohesion and identity? • Cultural identity and associations?	Yes, • This project may offer employment to the local people to involve as a construction worker. This can be viewed as positive impact of the project. • This project may also result in the occurrence or distribution of disease vector due to the temporary settlement of workers as they may not have access to safe water supply and sanitation. • Similarly, this project if properly implemented will have positive effect on the welfare of the local people as they will have better road infrastructure

• Minority rights? • Housing conditions? • Employment and quality of employment? • Economic conditions? • Social institutions?	and pedestrian pathways, improved traffic flow which will improve their commuting experience. This will also help in improving the economic conditions of the Agartala.

Part 3: Significance of Impacts

Questions to be Considered
1. Will there be a large change in environmental conditions?
2. Will new features be out-of-scale with the existing environment?
3. Will the effect be unusual in the area or particularly complex?
4. Will the effect extend over a large area?
5. Will there be any potential for trans boundary impact?
6. Will many people be affected?
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?
8. Will valuable or scarce features or resources be affected?
9. Is there a risk that environmental standards will be breached?
10. Is there a risk that protected sites, areas, features will be affected?
11. Is there a high probability of the effect occurring?
12. Will the effect continue for a long time?
13. Will the effect be permanent rather than temporary?
14. Will the impact be continuous rather than intermittent?
15. If it is intermittent will it be frequent rather than rare?
16. Will the impact be irreversible?
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?

Ronaldsay Road
"No Mitigation Scenario Checklist" (Scoping Checklist)

Part 1 - Questions on Project Characteristics

No.	**Questions to be considered in Scoping**	**Yes/ No**	**Which Characteristics of the Project Environment could be affected and how?**	**Is the effect likely to be significant? Why?**
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies etc.)?				
1.1	Permanent or temporary change in land use, land cover or topography including increases in intensity of land use?	Yes	The proposed project involves upgradation of the Ronaldsay Road, which is within the existing RoW. Following works are proposed for the sub project 1. Dismantling above ground utilities like electric, telephone cables. 2. Clearing of drain silts 3. Dismantling Existing Brickwork drains 4. Construction of RCC Drain	No, there will not be any changes in land use and land cover, but, there will be changes in topography in terms of level of roads. The proposed project is to improve the footpath conditions in Ronaldsay Road, the land area will remain the same as there is no land acquisition involved and work will be carried out in existing RoW.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			5. Repositioning of existing water lines, wherever required. 6. Development of Carriageway/ Road Surface 7. Proposal for Pathways/ walkways 8. Proposal for Underground Utility Corridors Proposal for suitable streetscaping	
1.2	Clearance of existing land, vegetation and buildings?	Yes	No clearance of land as this is reconstruction of existing road of 1.1 km length within the existing RoW.	No. Clearing of land is not involved in the road project, as the work is being carried out in existing RoW.
			Total 8 trees are required to be cut for the proposed road work.	Yes. The proposed trees to cut are common species. No threatened or endangered species of plant are sited in the proposed Ronaldsay road development area as per the 'Checklist of Rare and Threatened Plants of Tripura' listed in www.indiabiodiversity.org/checklist/show/201.
1.3	Creation of new land uses?	No		
1.4	Pre-construction investigations e.g. boreholes, soil testing?	Yes	None. Soil investigation/ testing will be conducted for the road works, but this involves small area.	No, Geotechnical investigations will involve only obtaining a borehole sample for proposed infrastructures. Since undisturbed core would be extracted using a core cutter there would be no impacts on the topography or the geology.
1.5	Construction works?	Yes	Only immediate vicinity of the road will be affected. Road and allied works will potentially impact the immediate environment in terms of air quality due to generation of dusts and vehicle emissions, water pollution due to generation of wastewater from	Yes, because the construction works will take 21 months' time. The construction activities specially the wastes and emissions bring significant adverse impact to the receptors in the area (e.g. institutions and residential/ commercial establishments along the road).

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			washings and siltation of the water bodies due to solid wastes from demolition and other construction activities. The roads will include utilities Existing Brick walled Storm water drains are proposed to be reconstructed into RCC structures below road surface. Two vent RCC structure is proposed. one vent (Towards the carriageway) shall carry Storm Water and other one (Towards the property line) shall carry Electrical and OFC cables. The vent for Electrical & OFC system will be provided below the footpath and SWD vent shall be provided below the carriageway OFC & Electrical cable is proposed in RCC cable trench system as per IS-1255: 1983. Footpath is provided above the RCC cable trench system.	
1.6	Demolition works?	Yes	Demolition of existing roads drains will generate wastes and air emissions which will impact the air, water and noise quality of the road area. The demolition will generate approx. 2260 m3 muck from the road stretch.	Yes. The demolition wastes will pose challenge to the passerby and surrounding people also it may result in siltation of water bodies if not removed immediately from the site.
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	There is a possibility of disposal of the solid and liquid wastes to nearby land or water bodies by the construction workers, which could affect the water bodies and soil environment.	Yes. Depending on the size and number of laborers in the construction camps. Pollution of receiving bodies of water around the camps and degradation of aesthetics due to dumping of solid wastes are likely.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
				The construction camps will generate solid and liquid waste, these will change the water quality of the receiving water bodies and harm the aesthetics of the area if dumped openly without any processing.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations?	Yes	Excavated earth of quantity around 27,600 Cum for all the road works may temporarily affect the land use obstructing the access to by-roads, roadside premises, and houses. Cleaning of drains will generate around 530 cum spoil.	Yes. The storage of excavated material and other raw material stored will cause problems to people visiting park and passerby. Siltation of the water bodies at the downstream is also a problem during monsoon season.
1.9	Underground works including mining or tunneling?	Yes	No mining or Tunneling is involved in the project. Excavation for utility trenches and drainage system maximum to the depth of 2.5-3m is proposed.	Yes. Excavation for construction of roads and utility trenches lead to generation of muck, which if not disposed from site will contaminate the nearby water body and pose obstruction to the residents and passerby.
1.10	Reclamation works?	No		
1.11	Dredging?	No		
1.12	Coastal structures eg seawalls, piers?	No		
1.13	Offshore structures?	No		
1.14	Production and manufacturing processes?	No		
1.15	Facilities for storage of goods or materials?	Yes	Construction material excavated material etc. will be stored in heaps along the roads, these material heaps could affect aesthetics at the site, and mobility or free movement of pedestrians and vehicles.	Yes. The obstructions brought about by the material heaps could impede the flow of pedestrians and vehicles in the road stretch.
1.16	Facilities for treatment or disposal of solid wastes or liquid effluents?	Yes	Labour camp for about 25 inhabitants will generates both solid and liquid waste of around 10 Kg/ day and 2.7 KLD respectively. The solid and liquid wastes generated from the labour camps will pose water quality, soil quality and	Yes, The solid and liquid waste generated will cause soil contamination, water contamination if not treated and let into the nature.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			health issues if not processed/ handled properly.	
1.17	Facilities for long term housing of operational workers?	No		
1.18	New road, rail or sea traffic during construction or operation?	No		
1.19	New road, rail, air, waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No		
1.20	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	Yes	The construction will be in phased manner, closure of the road during construction works will be required. Some interior roads may also need temporary closure during construction.	Yes, Road closures during construction phase will cause temporary traffic jams and related issues.
1.21	New or diverted transmission lines or pipelines?	Yes	ICT Line, LT and HT Lines converted from above ground to underground networks and the excavation for underground trenches will generate excavated earth which if not stored and handled properly will pose environmental and safety issues.	Yes, The construction of utility duct and excavation involved will pose environmental, health and safety and aesthetic impacts due to contamination of water bodies, unsafe access to passerby.
1.22	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Slopes and design capacity of drains will be done as per existing rainfall data of the area.	.
1.23	Stream crossings?	Yes	Proposed Ronaldsay road will cross 2 drains. Cross drains across the roads are maintained as it is.	No, There is no change in the existing cross drain structures.
1.24	Abstraction or transfers of water	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	from ground or surface waters?			
1.25	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	The roadside storm water drains will be demolished and will be converted to underground RCC drains.	Yes. Short term impact only during the construction period. However, the project will improve the drainage system by reduction in operation and maintenance issues.
1.26	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Transportation vehicles for the movement of workers/ personnel, construction equipment, and construction materials will generate dust and noise.	Yes. The dust and noise generated due to transportation of manpower and material will cause discomfort to the occupants of establishments and institutions in the area.
1.27	Long term dismantling or decommissioning or restoration works?	No	-	-
1.28	Ongoing activity during decommissioning which could have an impact on the environment?	No	-	-
1.29	Influx of people to an area in either temporarily or permanently?	Yes	The construction phase will increase the personnel movement for a temporary period and operation phase will also result in influx of people due to change in better aesthetics and better traffic facilities.	Yes, The people will be housed in labour camps and this will cause the solid and liquid waste generation from the camps and subsequent contamination of soil and water contaminations and pose health issues
1.30	Introduction of alien species?	No	-	-
1.31	Loss of native species or genetic diversity?	Yes	For the construction of Ronaldsay road, 11 trees will be cut, the species exist in those lands are common to the area and therefore no loss of native or genetic diversity is expected.	Yes. Local shrubs and trees are required to remove from the existing area for the construction activities.
1.32	Any other actions?	No	-	-
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?				
2.1	Land especially undeveloped or agricultural land?	No	Construction of road and pathway is within the existing RoW, hence no	No The works are proposed in already developed urban areas and it will not impact any

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			land resource will be utilized.	underdeveloped or agriculture land.
2.2	Water?	Yes	During the construction phase, water would be used for construction purposes. During the operations phase, water would be used for watering the road side plantations and ornamental trees.	No, The quantity of water to be used during the construction phase is in small. In Agartala no new water source would be constructed as part of the project. The existing source (municipal water supply and ground water) would be sufficient to supply water for construction.
2.3	Minerals?	Yes	Sand, gravel and soil for subbase of road. This will be sourced from Government approved quarries.	Yes. The huge quantities of sand and aggregates will likely have a significant impact to the aesthetics, topography and ecosystem at the sites or locations where they are sourced or quarried. Transportation of aggregate will also cause air pollution.
2.4	Aggregates?	Yes	The new road surface construction and excavated road repair would be the part of the project. This new construction and repairing of the pavement and concrete works in the project would require aggregates	
2.5	Forests and timber?	No	-	-
2.6	Energy including electricity and fuels?	Yes	None. The required energy, electricity, and fuel during construction activities, vehicle, equipment, and machinery operations are negligible compared to supply.	No. The site is located within urban area where electricity from grid is easily available.
2.7	Any other resources?	No		
3. Will the Project involve 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?				
3.1	Will the project involve use of substances or materials which are hazardous or toxic to human health or the environment (flora, fauna, water supplies)?	Yes	During the construction stage, likely leakage of discharge of Fuels like diesel, Petrol, and Oil & Grease will affect human health and environment.	Yes. Any Discharge of these substances will have adverse impacts to environmental quality and human health and may also affect the nearby flora and fauna.
3.2	Will the project result in changes in	Yes	The labour camps would generate solid waste as	Yes.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)?		well as sewage. Thus, the camps have potential to spread diseases.	Airborne, water-borne or vector-borne diseases could spread or transmitted easily from the construction camps to the outside communities.
3.3	Will the project affect the welfare of people e.g. by changing living conditions?	Yes	Better traffic circulation, pedestrian movement and streetscapes will improve the living conditions of the residents	Yes, Throughout the operation stage of the project. This is a significant positive impact
3.4	Are there especially vulnerable groups of people who could be affected by the project e.g. hospital patients, the elderly?	No	No hospitals and old age homes are present in the road stretch	
3.5	Any other causes?	No		
4. Will the Project produce solid wastes during construction or operation or decommissioning?				
4.1	Spoil, overburden or mine wastes?	Yes	Excavation of drains and roads will produce spoil. The spoil if not readily disposed at safe site, it will occupy the land and may create discomfort to the passer-by.	Yes. The material generated due to excavation will affect the regular walkway and passerby, during the construction period, the material may end up in water body if not stored and disposed properly.
4.2	Municipal waste (household and or commercial wastes)?	Yes	There would be generation of municipal waste from construction camps and during operation phase due to influx of visitors.	Yes. Municipal solid waste generated during the project may cause contamination of land and water bodies if not managed appropriately.
4.3	Hazardous or toxic wastes (including radioactive wastes)?	Yes	Bitumen will be used for the construction of roads, the likely leakage and emissions will cause health and environmental impacts.	Yes, The accidental spills/ leakages of bitumen will cause water and land pollution. Also, the emission from the bitumen during heating will pose health impacts to the workers and passerby.
4.4	Other industrial process wastes?	No		
4.5	Surplus product?	No		
4.6	Sewage sludge or other sludge from effluent treatment?	Yes	The 2.7 KLD sewage generated from labour camp may pose environmental and health	Yes, The sewage generated if discharged without treatment will cause ground and surface water pollution.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			impacts due to untreated discharge.	
4.7	Construction or demolition wastes?	Yes	Construction of Roads, pathways and utility trenches will produce construction and demolition waste. The waste if not disposed at designated site, will pose environmental and safety issues by siltation of water bodies and causing uncomfort to passerby.	Yes. Construction and demolition wastes generated or produced during construction phase will change the aesthetics in the project area. Excavated Soil and demolition debris could clog drainages and could cause siltation of drains and pose difficulties to residents and passer-by for access.
4.8	Redundant machinery or equipment?	No		
4.9	Contaminated soils or other material?	No		
4.10	Agricultural wastes?	No		
4.11	Any other solid wastes?	No		
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?				
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources?	Yes	Use of generators, machinery, and heavy vehicles during excavation and construction will generate emissions.	Yes. The impact of these emissions is significant to the health of all human receptors along the road construction sites.
5.2	Emissions from production processes?	No	-	-
5.3	Emissions from materials handling including storage or transport?	Yes	Vehicles used for transport of construction, material and machinery will produce emissions. Dust generation during unloading of materials such as cement, aggregates, etc. There is also a likelihood of re-entrainment of dust particle at the construction site due to movement of vehicles	Yes. The impact of these emissions is significant to the health of all human receptors around the construction sites.
5.4	Emissions from construction activities including plant and equipment?	Yes	Concrete batching plants, hot-mix plants for bituminous material production during road surfacing will cause emissions.	Yes. The impact of these emissions is significant to the health of all human receptors around the road construction sites.
5.5	Dust or odours from handling of materials including construction	Yes	Air pollution due to dust generation during construction of roads,	Yes. The impact of these emissions is significant to the health of all

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	materials, sewage and waste?		excavation and backfilling, handling of excavated and fill material, cement, sand, gravel, aggregates, etc.	people residing nearby and passerby.
5.6	Emissions from incineration of waste?	No	-	-
5.7	Emissions from burning of waste in open air (eg slash material, construction debris)?	Yes	The locality of the worker's camp may be affected by the open burning of waste generated from the worker's camp.	Yes. The impact of these emissions is significant to the health of all human receptors living in construction camps and those around the construction camp sites.
5.8	Emissions from any other sources?	No		
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?				
6.1	From operation of equipment eg: engines, ventilation plant, crushers?	Yes	Excavation of trenches by heavy machinery, cutters, etc. and subsequent compaction and road surfacing, use of generators, heavy vehicle movements will generate noise and vibration.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the road construction sites, including the workers.
6.2	From industrial or similar processes?	Yes	Production of concrete and bituminous products will generate noise. Crushers and borrow operations will generate high levels of noise.	Yes. The concrete mixers will cause noise in and around the area and bituminous hot mixes will result in heat radiation which will impact the surrounding population and passerby.
6.3	From construction or demolition?	Yes	The noise generated from the demolition of RoW for construction of roads and pathways may disturb the people residing at and passerby of core bazaar area.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the construction sites, including the workers.
6.4	From blasting or piling?	No		
6.5	From construction or operational traffic?	Yes	Movement of heavy machinery used for construction work and vehicles transporting construction materials may generate noise that would cause inconvenience to the surrounding communities of road.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the traffic congested sites, including the workers working at these sites.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
6.6	From lighting or cooling systems?	No	Night time construction is not envisaged.	No. As per current practices the construction works are allowed only in day time and no lighting for night time working is required.
6.7	From sources of electromagnetic radiation (consider effects on nearby sensitive equipment as well as people)?	No	-	-
6.8	From any other sources?	No	-	-
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into sewers, surface waters, groundwater, coastal waters or the sea?				
7.1	From handling, storage, use or spillage of hazardous or toxic materials?	Yes	Due to accidental spillage / leakage of fuel and bitumen will pollute the land and water bodies.	Yes. The leakage / spillage of fuel and bitumen will result in land contamination and water pollution.
7.2	From discharge of sewage or other effluents (whether treated or untreated) to water or the land?	Yes	The land and water bodies nearby the workers camp may be polluted by the discharge of sewage from camp.	Yes. The impact of discharge of sewage or effluents to land is significant as they could seep into the ground and pollute the groundwater. Likewise, the impact of discharge of sewage or effluent to receiving bodies of water in the area is significant as they could pollute the water and subsequently the aquatic species.
7.3	By deposition of pollutants emitted to air, onto the land or into water?	Yes	The land nearby the workers' camp may be polluted by the construction related activities and daily activities of the workers residing there temporarily.	Yes. The discharge of pollutants to air, water or soil will contaminate these natural resources.
7.4	From any other sources?	No		
7.5	Is there a risk of long-term build-up of pollutants in the environment from these sources?	No		
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?				
8.1	From explosions, spillages, fires etc	Yes	Road work involves use of bitumen hot mixes, the	Yes.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	from storage, handling, use or production of hazardous or toxic substances?		accidental fire or explosion of hot mixes and resulting spillages will result in severe impact on human health and as well as environment.	The explosion and spillage will result in human injury and may pose contamination of land and water and thus it is a significant impact.
8.2	From events beyond the limits of normal environmental protection e.g. failures of pollution control systems?	No	-	-
8.3	From any other causes?	Yes	Accidents can happen due to the carelessness of workers and lapses of safety procedures at the construction sites during the excavation, laying of bitumen etc., and these accidents will impact the human health in terms of injury.	Yes. The impact of accidents is very significant because it can lead to either disability or loss of lives of workers or community people.
8.4	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslip, etc)?	Yes	The project location is situated in High risk earth quake zone (Zone V) as per the Earthquake map released from National Disaster Management Authority (NDMA), Ministry of Home Affairs (MoH) Government of India. There may be impacts related to earthquake and flooding.	Yes. There would be damages to the structures in case of earthquake and flooding incidences
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?				
9.1	Changes in population size, age, structure, social groups etc.?	Yes	Increased service level of transportation and reliability will create a higher demand for property in the project beneficiary areas.	Yes. There is a chance of in-migration due to this project that will marginally affect the existing community structure and economic conditions etc. This will create a pressure on existing infrastructure.
9.2	By resettlement of people or demolition of homes or communities or community facilities e.g. schools,	No		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	hospitals, social facilities?			
9.3	Through in-migration of new residents or creation of new communities?	Yes	Such in-migration is possible; however, the numbers would be not much, as the area is already developed commercially and residentially.	No. The number of people migrating will not be much.
9.4	By placing increased demands on local facilities or services eg housing, education, health?	Yes	Due to migration, there will be increased demand on local facilities which increases the load on natural resources consumption.	No. The impact on the local facilities will not be significant.
9.5	By creating jobs during construction or operation or causing the loss of jobs with effects on unemployment and the economy?	Yes	Requirement of labour for the construction works prioritize the local people hence, providing employment opportunities to the local people.	Yes (Positive impact) The workers (both skilled and unskilled) will gain experience that they can use in the future in other similar kind of works. Improvement of roads will create new business opportunities.
9.6	Any other causes?			
Question - Are there any other 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?				
10.1	Will the project lead to pressure for consequential development which could have significant impact on the environment e.g. more housing, new roads, new supporting industries or utilities, etc?	Yes	The roads will act as catalyst for development of the surrounding areas and there may be new developments like commercial establishments, malls etc.,	Yes. The anticipated new developments followed by the road projects will result significant environmental impacts due to raw material requirement for the subsequent developments.
10.2	Will the project 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	Yes	Yes, the project may lead to other developmental projects.	Yes. The project will lead to overall development in the area. Positive Impact

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	treatment, etc) housing development extractive industries supply industries other?			
10.3	Will the project lead to after-use of the site which could have an impact on the environment?	No	-	-
10.4	Will the project set a precedent for later developments?	Yes	Improved road infrastructure may create opportunities for other developmental infrastructures.	Yes Quality of life of the Agartala citizens will be improved with all the developmental works. Positive Impact.
10.5	Will the project have cumulative effects due to proximity to other existing or planned projects with similar effects?	Yes		

Part 2 - Characteristics of the Project Environment (Environmental Sensitivity)

Question 1 - Are there features of the local environment on or around the Project location which could be affected by the Project?	
• Areas which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No
• Other areas which are important or sensitive for reasons of their ecology e.g. • Wetlands, • Watercourses or other water bodies, • the coastal zone, • mountains, • forests or woodlands	No No
• Areas used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No
• Inland, coastal, marine or underground waters?	
• Areas or features of high landscape or scenic value?	Yes, the road proposed for the development passes from main city roads from Durga Chowmuhani to Fire Brigade Chowmuhani having commercial establishments and is susceptible to traffic congestion during the construction phase that may provide discomfort to the passer-by and may disrupt the access to the roadside shops and houses
• Routes or facilities used by the public for access to recreation or other facilities?	
• Transport routes which are susceptible to congestion or which cause environmental	

problems? • Areas or features of historic or cultural importance?	There are no temples and cultural important places along the road.
Question 2 - Is the Project in a location where it is likely to be highly visible to many people?	Yes, the road proposed for the development passes from Durga Chowmuhani to Fire Brigade Chowmuhani, hence it is visible to many people.
Question 3 - Is the Project located in a previously undeveloped area where there will be loss of greenfield land?	No
Question - Are there existing land uses on or around the Project location which could be affected by the Project? For example: • Homes, gardens, other private property, • Industry, • Commerce, • Recreation, • public open space, • community facilities, • agriculture, • forestry, • tourism, • mining or quarrying	Yes The houses, shops and other properties will be affected during the construction period due to disturbance in access to the property, air and noise pollution due to the construction activities etc.
Question 4 - Are there any plans for future land uses on or around the location which could be affected by the Project?	No
Question 5 - Are there any areas on or around the location which are densely populated or built-up, which could be affected by the Project?	Yes Some part of the road there is dense population residing and also the commercial establishments. Along the roadside proposed for development, these many people will be affected during the construction phase of the project. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 6 - Are there any areas on or around the location which are occupied by sensitive land uses which could be affected by the Project? • hospitals, • schools, • places of worship, • community facilities	Yes, there will be temporary disturbance to access existing facilities along the roads proposed for development. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 7 - Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the Project? For example: • groundwater resources, • surface waters, • forestry, • agriculture, • fisheries, • tourism, • minerals.	No
Question 8 - Are there any areas on or around	No

the location of the Project which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	
Question 9 - Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes, the project area lies under Zone V. The structures in the proposed project are being built by following IS 1893 – Part 1 for Earthquake resistant designs for structures.
Question 10 - Is the Project likely to affect the physical condition of any environmental media? • The atmospheric environment including microclimate and local and larger scale climatic conditions? • Water – e.g. quantities, flows or levels of rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Soils – e.g. quantities, depths, humidity, stability or erodibility of soils? • Geological and ground conditions?	No, the project will not affect any physical condition of the environment; there will be improved road infrastructure after operation of road.
Question 11 - Are releases from the Project likely to have effects on the <u>quality</u> of any environmental media? • Local air quality? • Global air quality including climate change and ozone depletion • Water quality – rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Nutrient status and eutrophication of waters? • Acidification of soils or waters? • Soils • Noise? • Temperature, light or electromagnetic radiation including electrical interference? • Productivity of natural or agricultural systems?	Yes, the construction activities may affect local air quality through dust emissions especially during dry season. It also generates noise pollution by the movement of vehicles for transporting materials, and demolition works of RoW for road construction works.
Question 12 - Is the Project likely to affect the availability or scarcity of any resources either locally or globally? • Fossil fuels? • Water? • Minerals and aggregates? • Timber? • Other non-renewable resources? • Infrastructure capacity in the locality - water, sewerage, power generation and transmission, telecommunications, waste disposal roads, rail?	No
Question 13 - Is the Project likely to affect human or community health or welfare? • The quality or toxicity of air, water, foodstuffs and other products consumed by humans? • Morbidity or mortality of individuals, communities	Yes, • This project may offer employment to the local people to involve as a construction worker. This can be viewed as positive impact of the project.

or populations by exposure to pollution? • Occurrence or distribution of disease vectors including insects? • Vulnerability of individuals, communities or populations to disease? • Individuals' sense of personal security? • Community cohesion and identity? • Cultural identity and associations? • Minority rights? • Housing conditions? • Employment and quality of employment? • Economic conditions? • Social institutions?	• This project may also result in the occurrence or distribution of disease vector due to the temporary settlement of workers as they may not have access to safe water supply and sanitation. • Similarly, this project if properly implemented will have positive effect on the welfare of the local people as they will have better road infrastructure and pedestrian pathways, improved traffic flow which will improve their commuting experience. This will also help in improving the economic conditions of the Agartala.

Part 3: Significance of Impacts

Questions to be Considered
1. Will there be a large change in environmental conditions?
2. Will new features be out-of-scale with the existing environment?
3. Will the effect be unusual in the area or particularly complex?
4. Will the effect extend over a large area?
5. Will there be any potential for trans boundary impact?
6. Will many people be affected?
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?
8. Will valuable or scarce features or resources be affected?
9. Is there a risk that environmental standards will be breached?
10. Is there a risk that protected sites, areas, features will be affected?
11. Is there a high probability of the effect occurring?
12. Will the effect continue for a long time?
13. Will the effect be permanent rather than temporary?
14. Will the impact be continuous rather than intermittent?
15. If it is intermittent will it be frequent rather than rare?
16. Will the impact be irreversible?
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?

Sakuntala Road
"No Mitigation Scenario Checklist" (Scoping Checklist)

Part 1 - Questions on Project Characteristics

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1. Will construction, operation or decommissioning of the Project involve actions which will cause physical changes in the locality (topography, land use, changes in water bodies etc.)?				
1.1	Permanent or temporary change in land use, land cover or topography including increases in intensity of land use?	Yes	The proposed project involves upgradation of the Sakuntala Road, which is within the existing RoW. Following works are proposed for the sub project 1. Dismantling above ground utilities like electric, telephone cables. 2. Clearing of drain silts 3. Dismantling Existing Brickwork drains 4. Construction of RCC Drain 5. Repositioning of existing water lines, wherever required. 6. Development of Carriageway/ Road Surface 7. Proposal for Pathways/ walkways 8. Proposal for Underground Utility Corridors Proposal for suitable streetscaping	No, there will not be any changes in land use and land cover, but, there will be changes in topography in terms of level of roads. The proposed project is to improve the footpath conditions in Sakuntala Road, the land area will remain the same as there is no land acquisition involved and work will be carried out in existing RoW.
1.2	Clearance of existing land, vegetation and buildings?	Yes	No clearance of land as this is reconstruction of existing road of 0.5 km length within the existing RoW.	No. Clearing of land is not involved in the road project, as the work is being carried out in existing RoW.
			No trees will be cut for the proposed project.	
1.3	Creation of new land uses?	No		
1.4	Pre-construction investigations e.g. boreholes, soil testing?	Yes	None. Soil investigation/ testing will be conducted for the road works, but this involves small area.	No, Geotechnical investigations will involve only obtaining a borehole sample for proposed infrastructures. Since undisturbed core would be extracted using a core cutter there would be no impacts on the topography or the geology.
1.5	Construction works?	Yes	Only immediate vicinity of the road will be affected. Road and allied works will potentially impact the immediate	Yes, because the construction works will take 21 months' time. The

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			environment in terms of air quality due to generation of dusts and vehicle emissions, water pollution due to generation of wastewater from washings and siltation of the water bodies due to solid wastes from demolition and other construction activities. The roads will include utilities Existing Brick walled Storm water drains are proposed to be reconstructed into RCC structures below road surface. Two vent RCC structure is proposed. one vent (Towards the carriageway) shall carry Storm Water and other one (Towards the property line) shall carry Electrical and OFC cables. The vent for Electrical & OFC system will be provided below the footpath and SWD vent shall be provided below the carriageway OFC & Electrical cable is proposed in RCC cable trench system as per IS-1255: 1983. Footpath is provided above the RCC cable trench system.	construction activities specially the wastes and emissions bring significant adverse impact to the receptors in the area (e.g. institutions and residential/ commercial establishments along the road).
1.6	Demolition works?	Yes	Demolition of existing roads drains will generate wastes and air emissions which will impact the air, water and noise quality of the road area. The demolition will generate approx. 640 m3 muck from the road stretch.	Yes. The demolition wastes will pose challenge to the passerby and surrounding people also it may result in siltation of water bodies if not removed immediately from the site.
1.7	Temporary sites used for construction works or housing of construction workers?	Yes	There is a possibility of disposal of the solid and liquid wastes to nearby land or water bodies by the construction workers, which could affect the water bodies and soil environment.	Yes. Depending on the size and number of laborers in the construction camps. Pollution of receiving bodies of water around the camps and degradation of aesthetics due to dumping of solid wastes are likely. The construction camps will generate solid and liquid waste, these will change the

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
				water quality of the receiving water bodies and harm the aesthetics of the area if dumped openly without any processing.
1.8	Above ground buildings, structures or earthworks including linear structures, cut and fill or excavations?	Yes	Excavated earth of quantity around 3670 Cum for all the road works may temporarily affect the land use obstructing the access to by-roads, roadside premises, and houses. Cleaning of drains will generate around 240 cum spoil.	Yes. The storage of excavated material and other raw material stored will cause problems to people visiting park and passerby. Siltation of the water bodies at the downstream is also a problem during monsoon season.
1.9	Underground works including mining or tunneling?	Yes	No mining or Tunneling is involved in the project. Excavation for utility trenches and drainage system maximum to the depth of 2.5-3m is proposed.	Yes. Excavation for construction of roads and utility trenches lead to generation of muck, which if not disposed from site will contaminate the nearby water body and pose obstruction to the residents and passerby.
1.10	Reclamation works?	No		
1.11	Dredging?	No		
1.12	Coastal structures eg seawalls, piers?	No		
1.13	Offshore structures?	No		
1.14	Production and manufacturing processes?	No		
1.15	Facilities for storage of goods or materials?	Yes	Construction material excavated material etc. will be stored in heaps along the roads, these material heaps could affect aesthetics at the site, and mobility or free movement of pedestrians and vehicles.	Yes. The obstructions brought about by the material heaps could impede the flow of pedestrians and vehicles in the road stretch.
1.16	Facilities for treatment or disposal of solid wastes or liquid effluents?	Yes	Labour camp for about 25 inhabitants will generates both solid and liquid waste of around 10 Kg/ day and 2.7 KLD respectively. The solid and liquid wastes generated from the labour camps will pose water quality, soil quality and health issues if not processed/ handled properly.	Yes, The solid and liquid waste generated will cause soil contamination, water contamination if not treated and let into the nature.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
1.17	Facilities for long term housing of operational workers?	No		
1.18	New road, rail or sea traffic during construction or operation?	No		
1.19	New road, rail, air, waterborne or other transport infrastructure including new or altered routes and stations, ports, airports etc?	No		
1.20	Closure or diversion of existing transport routes or infrastructure leading to changes in traffic movements?	Yes	The construction will be in phased manner, closure of the road during construction works will be required. Some interior roads may also need temporary closure during construction.	Yes, Road closures during construction phase will cause temporary traffic jams and related issues.
1.21	New or diverted transmission lines or pipelines?	Yes	ICT Line, LT and HT Lines converted from above ground to underground networks and the excavation for underground trenches will generate excavated earth which if not stored and handled properly will pose environmental and safety issues.	Yes, The construction of utility duct and excavation involved will pose environmental, health and safety and aesthetic impacts due to contamination of water bodies, unsafe access to passerby.
1.22	Impoundment, damming, culverting, realignment or other changes to the hydrology of watercourses or aquifers?	No	Slopes and design capacity of drains will be done as per existing rainfall data of the area.	.
1.23	Stream crossings?	Yes	Proposed Sakuntala road will cross 1 drain. Cross drain across the roads are maintained as it is.	No, There is no change in the existing cross drain structures.
1.24	Abstraction or transfers of water from ground or surface waters?	No		
1.25	Changes in water bodies or the land surface affecting drainage or run-off?	Yes	The roadside storm water drains will be demolished and will be converted to underground RCC drains.	Yes. Short term impact only during the construction period.

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
				However, the project will improve the drainage system by reduction in operation and maintenance issues.
1.26	Transport of personnel or materials for construction, operation or decommissioning?	Yes	Transportation vehicles for the movement of workers/ personnel, construction equipment, and construction materials will generate dust and noise.	Yes. The dust and noise generated due to transportation of manpower and material will cause discomfort to the occupants of establishments and institutions in the area.
1.27	Long term dismantling or decommissioning or restoration works?	No	-	-
1.28	Ongoing activity during decommissioning which could have an impact on the environment?	No	-	-
1.29	Influx of people to an area in either temporarily or permanently?	Yes	The construction phase will increase the personnel movement for a temporary period and operation phase will also result in influx of people due to change in better aesthetics and better traffic facilities.	Yes, The people will be housed in labour camps and this will cause the solid and liquid waste generation from the camps and subsequent contamination of soil and water contaminations and pose health issues
1.30	Introduction of alien species?	No	-	-
1.31	Loss of native species or genetic diversity?	No	No trees will be cut for the proposed road	
1.32	Any other actions?	No	-	-
2. Will construction or operation of the Project use natural resources such as land, water, materials or energy, especially any resources which are non-renewable or in short supply?				
2.1	Land especially undeveloped or agricultural land?	No	Construction of road and pathway is within the existing RoW, hence no land resource will be utilized.	No The works are proposed in already developed urban areas and it will not impact any underdeveloped or agriculture land.
2.2	Water?	Yes	During the construction phase, water would be used for construction purposes.	No, The quantity of water to be used during the construction

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			During the operations phase, water would be used for watering the road side plantations and ornamental trees.	phase is in small. In Agartala no new water source would be constructed as part of the project. The existing source (municipal water supply and ground water) would be sufficient to supply water for construction.
2.3	Minerals?	Yes	Sand, gravel and soil for subbase of road. This will be sourced from Government approved quarries.	Yes. The huge quantities of sand and aggregates will likely have a significant impact to the aesthetics, topography and ecosystem at the sites or locations where they are sourced or quarried. Transportation of aggregate will also cause air pollution.
2.4	Aggregates?	Yes	The new road surface construction and excavated road repair would be the part of the project. This new construction and repairing of the pavement and concrete works in the project would require aggregates	
2.5	Forests and timber?	No	-	-
2.6	Energy including electricity and fuels?	Yes	None. The required energy, electricity, and fuel during construction activities, vehicle, equipment, and machinery operations are negligible compared to supply.	No. The site is located within urban area where electricity from grid is easily available.
2.7	Any other resources?	No		
3. Will the Project involve 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?				
3.1	Will the project involve use of substances or materials which are hazardous or toxic to human health or the environment (flora, fauna, water supplies)?	Yes	During the construction stage, likely leakage of discharge of Fuels like diesel, Petrol, and Oil & Grease will affect human health and environment.	Yes. Any Discharge of these substances will have adverse impacts to environmental quality and human health and may also affect the nearby flora and fauna.
3.2	Will the project result in changes in occurrence of disease or affect disease vectors (e.g. insect or water borne diseases)?	Yes	The labour camps would generate solid waste as well as sewage. Thus, the camps have potential to spread diseases.	Yes. Airborne, water-borne or vector-borne diseases could spread or transmitted easily from the construction camps to the outside communities.
3.3	Will the project affect the welfare of people	Yes	Better traffic circulation, pedestrian movement and	Yes,

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	e.g. by changing living conditions?		streetscapes will improve the living conditions of the residents	Throughout the operation stage of the project. This is a significant positive impact
3.4	Are there especially vulnerable groups of people who could be affected by the project e.g. hospital patients, the elderly?	No	No hospitals and old age homes are present in the road stretch	
3.5	Any other causes?	No		
4. Will the Project produce solid wastes during construction or operation or decommissioning?				
4.1	Spoil, overburden or mine wastes?	Yes	Excavation of drains and roads will produce spoil. The spoil if not readily disposed at safe site, it will occupy the land and may create discomfort to the passer-by.	Yes. The material generated due to excavation will affect the regular walkway and passerby, during the construction period, the material may end up in water body if not stored and disposed properly.
4.2	Municipal waste (household and or commercial wastes)?	Yes	There would be generation of municipal waste from construction camps and during operation phase due to influx of visitors.	Yes. Municipal solid waste generated during the project may cause contamination of land and water bodies if not managed appropriately.
4.3	Hazardous or toxic wastes (including radioactive wastes)?	Yes	Bitumen will be used for the construction of roads, the likely leakage and emissions will cause health and environmental impacts.	Yes, The accidental spills/ leakages of bitumen will cause water and land pollution. Also, the emission from the bitumen during heating will pose health impacts to the workers and passerby.
4.4	Other industrial process wastes?	No		
4.5	Surplus product?	No		
4.6	Sewage sludge or other sludge from effluent treatment?	Yes	The 2.7 KLD sewage generated from labour camp may pose environmental and health impacts due to untreated discharge.	Yes, The sewage generated if discharged without treatment will cause ground and surface water pollution.
4.7	Construction or demolition wastes?	Yes	Construction of Roads, pathways and utility trenches will produce construction and demolition waste. The waste if not disposed at designated site,	Yes. Construction and demolition wastes generated or produced during construction phase will change the

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
			will pose environmental and safety issues by siltation of water bodies and causing uncomfort to passerby.	aesthetics in the project area. Excavated Soil and demolition debris could clog drainages and could cause siltation of drains and pose difficulties to residents and passer-by for access.
4.8	Redundant machinery or equipment?	No		
4.9	Contaminated soils or other material?	No		
4.10	Agricultural wastes?	No		
4.11	Any other solid wastes?	No		
5. Will the Project release pollutants or any hazardous, toxic or noxious substances to air?				
5.1	Emissions from combustion of fossil fuels from stationary or mobile sources?	Yes	Use of generators, machinery, and heavy vehicles during excavation and construction will generate emissions.	Yes. The impact of these emissions is significant to the health of all human receptors along the road construction sites.
5.2	Emissions from production processes?	No	-	-
5.3	Emissions from materials handling including storage or transport?	Yes	Vehicles used for transport of construction, material and machinery will produce emissions. Dust generation during unloading of materials such as cement, aggregates, etc. There is also a likelihood of re-entrainment of dust particle at the construction site due to movement of vehicles	Yes. The impact of these emissions is significant to the health of all human receptors around the construction sites.
5.4	Emissions from construction activities including plant and equipment?	Yes	Concrete batching plants, hot-mix plants for bituminous material production during road surfacing will cause emissions.	Yes. The impact of these emissions is significant to the health of all human receptors around the road construction sites.
5.5	Dust or odours from handling of materials including construction materials, sewage and waste?	Yes	Air pollution due to dust generation during construction of roads, excavation and backfilling, handling of excavated and fill material, cement, sand, gravel, aggregates, etc.	Yes. The impact of these emissions is significant to the health of all people residing nearby and passerby.
5.6	Emissions from incineration of waste?	No	-	-

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
5.7	Emissions from burning of waste in open air (eg slash material, construction debris)?	Yes	The locality of the worker's camp may be affected by the open burning of waste generated from the worker's camp.	Yes. The impact of these emissions is significant to the health of all human receptors living in construction camps and those around the construction camp sites.
5.8	Emissions from any other sources?	No		
6. Will the Project cause noise and vibration or release of light, heat energy or electromagnetic radiation?				
6.1	From operation of equipment eg: engines, ventilation plant, crushers?	Yes	Excavation of trenches by heavy machinery, cutters, etc. and subsequent compaction and road surfacing, use of generators, heavy vehicle movements will generate noise and vibration.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the road construction sites, including the workers.
6.2	From industrial or similar processes?	Yes	Production of concrete and bituminous products will generate noise. Crushers and borrow operations will generate high levels of noise.	Yes. The concrete mixers will cause noise in and around the area and bituminous hot mixes will result in heat radiation which will impact the surrounding population and passerby.
6.3	From construction or demolition?	Yes	The noise generated from the demolition of RoW for construction of roads and pathways may disturb the people residing at and passerby of core bazaar area.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the construction sites, including the workers.
6.4	From blasting or piling?	No		
6.5	From construction or operational traffic?	Yes	Movement of heavy machinery used for construction work and vehicles transporting construction materials may generate noise that would cause inconvenience to the surrounding communities of road.	Yes. The impact of noise and vibration is significant to the health of all human receptors around the traffic congested sites, including the workers working at these sites.
6.6	From lighting or cooling systems?	No	Night time construction is not envisaged.	No. As per current practices the construction works are allowed only in day time and no lighting for night time working is required.
6.7	From sources of electromagnetic radiation (consider	No	-	-

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	effects on nearby sensitive equipment as well as people)?			
6.8	From any other sources?	No	-	-
7. Will the Project lead to risks of contamination of land or water from releases of pollutants onto the ground or into sewers, surface waters, groundwater, coastal waters or the sea?				
7.1	From handling, storage, use or spillage of hazardous or toxic materials?	Yes	Due to accidental spillage / leakage of fuel and bitumen will pollute the land and water bodies.	Yes. The leakage / spillage of fuel and bitumen will result in land contamination and water pollution.
7.2	From discharge of sewage or other effluents (whether treated or untreated) to water or the land?	Yes	The land and water bodies nearby the workers camp may be polluted by the discharge of sewage from camp.	Yes. The impact of discharge of sewage or effluents to land is significant as they could seep into the ground and pollute the groundwater. Likewise, the impact of discharge of sewage or effluent to receiving bodies of water in the area is significant as they could pollute the water and subsequently the aquatic species.
7.3	By deposition of pollutants emitted to air, onto the land or into water?	Yes	The land nearby the workers' camp may be polluted by the construction related activities and daily activities of the workers residing there temporarily.	Yes. The discharge of pollutants to air, water or soil will contaminate these natural resources.
7.4	From any other sources?	No		
7.5	Is there a risk of long-term build-up of pollutants in the environment from these sources?	No		
8. Will there be any risk of accidents during construction or operation of the Project which could affect human health or the environment?				
8.1	From explosions, spillages, fires etc from storage, handling, use or production of hazardous or toxic substances?	Yes	Road work involves use of bitumen hot mixes, the accidental fire or explosion of hot mixes and resulting spillages will result in severe impact on human health and as well as environment.	Yes. The explosion and spillage will result in human injury and may pose contamination of land and water and thus it is a significant impact.
8.2	From events beyond the limits of normal environmental	No	-	-

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	protection e.g. failures of pollution control systems?			
8.3	From any other causes?	Yes	Accidents can happen due to the carelessness of workers and lapses of safety procedures at the construction sites during the excavation, laying of bitumen etc., and these accidents will impact the human health in terms of injury.	Yes. The impact of accidents is very significant because it can lead to either disability or loss of lives of workers or community people.
8.4	Could the project be affected by natural disasters causing environmental damage (e.g. floods, earthquakes, landslip, etc)?	Yes	The project location is situated in High risk earth quake zone (Zone V) as per the Earthquake map released from National Disaster Management Authority (NDMA), Ministry of Home Affairs (MoH) Government of India. There may be impacts related to earthquake and flooding.	Yes. There would be damages to the structures in case of earthquake and flooding incidences
9. Will the Project result in social changes, for example, in demography, traditional lifestyles, employment?				
9.1	Changes in population size, age, structure, social groups etc.?	Yes	Increased service level of transportation and reliability will create a higher demand for property in the project beneficiary areas.	Yes. There is a chance of in-migration due to this project that will marginally affect the existing community structure and economic conditions etc. This will create a pressure on existing infrastructure.
9.2	By resettlement of people or demolition of homes or communities or community facilities e.g. schools, hospitals, social facilities?	No		
9.3	Through in-migration of new residents or creation of new communities?	Yes	Such in-migration is possible; however, the numbers would be not much, as the area is already developed commercially and residentially.	No. The number of people migrating will not be much.
9.4	By placing increased demands on local facilities or services eg housing, education, health?	Yes	Due to migration, there will be increased demand on local facilities which increases the load on natural resources consumption.	No. The impact on the local facilities will not be significant.
9.5	By creating jobs during construction or operation or	Yes	Requirement of labour for the construction works prioritize the local people hence, providing	Yes (Positive impact) The workers (both skilled and unskilled) will gain

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	causing the loss of jobs with effects on unemployment and the economy?		employment opportunities to the local people.	experience that they can use in the future in other similar kind of works. Improvement of roads will create new business opportunities.
9.6	Any other causes?			
Question - Are there any other 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?				
10.1	Will the project lead to pressure for consequential development which could have significant impact on the environment e.g. more housing, new roads, new supporting industries or utilities, etc?	Yes	The roads will act as catalyst for development of the surrounding areas and there may be new developments like commercial establishments, malls etc.,	Yes. The anticipated new developments followed by the road projects will result significant environmental impacts due to raw material requirement for the subsequent developments.
10.2	Will the project 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	Yes, the project may lead to other developmental projects.	Yes. The project will lead to overall development in the area. Positive Impact
10.3	Will the project lead to after-use of the site which could have an impact on the environment?	No	-	-
10.4	Will the project set a precedent for later developments?	Yes	Improved road infrastructure may create opportunities for other developmental infrastructures.	Yes Quality of life of the Agartala citizens will be improved with all the developmental works. Positive Impact.
10.5	Will the project have cumulative effects due to proximity to	Yes		

No.	Questions to be considered in Scoping	Yes/ No	Which Characteristics of the Project Environment could be affected and how?	Is the effect likely to be significant? Why?
	other existing or planned projects with similar effects?			

Part 2 - Characteristics of the Project Environment (Environmental Sensitivity)

Question 1 - Are there features of the local environment on or around the Project location which could be affected by the Project?	
• Areas which are protected under international or national or local legislation for their ecological, landscape, cultural or other value, which could be affected by the project?	No
• Other areas which are important or sensitive for reasons of their ecology e.g.	
• Wetlands,	
• Watercourses or other water bodies,	
• the coastal zone,	No
• mountains,	
• forests or woodlands	No
• Areas used by protected, important or sensitive species of fauna or flora e.g. for breeding, nesting, foraging, resting, overwintering, migration, which could be affected by the project?	No
• Inland, coastal, marine or underground waters?	
• Areas or features of high landscape or scenic value?	Yes, the road proposed for the development passes from main city roads from Surya Chowmuhani to Rabindra Bhavan having commercial establishments and is susceptible to traffic congestion during the construction phase that may provide discomfort to the passer-by and may disrupt the access to the roadside shops and houses
• Routes or facilities used by the public for access to recreation or other facilities?	
• Transport routes which are susceptible to congestion or which cause environmental problems?	There are no temples and cultural important places along the Sakuntala road.
• Areas or features of historic or cultural importance?	
Question 2 - Is the Project in a location where it is likely to be highly visible to many people?	Yes, the road proposed for the development passes from Surya Chowmuhani to Rabindra Bhavan, hence it is visible to many people.
Question 3 - Is the Project located in a previously undeveloped area where there will be loss of greenfield land?	No
Question - Are there existing land uses on or around the Project location which could be affected by the Project? For example:	Yes
• Homes, gardens, other private property,	The shops and other properties will be affected during the construction period due to disturbance in access to the property, air and noise pollution due to the construction activities etc.
• Industry,	
• Commerce,	
• Recreation,	

• public open space, • community facilities, • agriculture, • forestry, • tourism, • mining or quarrying	
Question 4 - Are there any plans for future land uses on or around the location which could be affected by the Project?	No
Question 5 - Are there any areas on or around the location which are densely populated or built-up, which could be affected by the Project?	Yes Some part of the road there is densely commercialized. Along the roadside proposed for development, these many people will be affected during the construction phase of the project. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 6 - Are there any areas on or around the location which are occupied by sensitive land uses which could be affected by the Project? • hospitals, • schools, • places of worship, • community facilities	Yes, there will be temporary disturbance to access existing facilities along the roads proposed for development. A well-managed traffic Plan will ensure smooth access and operation to these people during construction stage.
Question 7 - Are there any areas on or around the location which contain important, high quality or scarce resources which could be affected by the Project? For example: • groundwater resources, • surface waters, • forestry, • agriculture, • fisheries, • tourism, • minerals.	No
Question 8 - Are there any areas on or around the location of the Project which are already subject to pollution or environmental damage e.g. where existing legal environmental standards are exceeded, which could be affected by the project?	No
Question 9 - Is the Project location susceptible to earthquakes, subsidence, landslides, erosion, flooding or extreme or adverse climatic conditions e.g. temperature inversions, fogs, severe winds, which could cause the project to present environmental problems?	Yes, the project area lies under Zone V. The structures in the proposed project are being built by following IS 1893 – Part 1 for Earthquake resistant designs for structures.
Question 10 - Is the Project likely to affect the physical condition of any environmental media? • The atmospheric environment including microclimate and local and larger scale climatic conditions?	No, the project will not affect any physical condition of the environment; there will be improved road infrastructure after operation of road.

• Water – e.g. quantities, flows or levels of rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Soils – e.g. quantities, depths, humidity, stability or erodibility of soils? • Geological and ground conditions?	
Question 11 - Are releases from the Project likely to have effects on the <u>quality</u> of any environmental media? • Local air quality? • Global air quality including climate change and ozone depletion • Water quality – rivers, lakes, groundwater. Estuaries, coastal waters or the sea? • Nutrient status and eutrophication of waters? • Acidification of soils or waters? • Soils • Noise? • Temperature, light or electromagnetic radiation including electrical interference? • Productivity of natural or agricultural systems?	Yes, the construction activities may affect local air quality through dust emissions especially during dry season. It also generates noise pollution by the movement of vehicles for transporting materials, and demolition works of RoW for road construction works.
Question 12 - Is the Project likely to affect the availability or scarcity of any resources either locally or globally? • Fossil fuels? • Water? • Minerals and aggregates? • Timber? • Other non-renewable resources? • Infrastructure capacity in the locality - water, sewerage, power generation and transmission, telecommunications, waste disposal roads, rail?	No
Question 13 - Is the Project likely to affect human or community health or welfare? • The quality or toxicity of air, water, foodstuffs and other products consumed by humans? • Morbidity or mortality of individuals, communities or populations by exposure to pollution? • Occurrence or distribution of disease vectors including insects? • Vulnerability of individuals, communities or populations to disease? • Individuals' sense of personal security? • Community cohesion and identity? • Cultural identity and associations? • Minority rights? • Housing conditions? • Employment and quality of employment? • Economic conditions? • Social institutions?	Yes, • This project may offer employment to the local people to involve as a construction worker. This can be viewed as positive impact of the project. • This project may also result in the occurrence or distribution of disease vector due to the temporary settlement of workers as they may not have access to safe water supply and sanitation. • Similarly, this project if properly implemented will have positive effect on the welfare of the local people as they will have better road infrastructure and pedestrian pathways, improved traffic flow which will improve their commuting experience. This will also help in improving the economic conditions of the Agartala.

Part 3: Significance of Impacts

Questions to be Considered
1. Will there be a large change in environmental conditions?

2. Will new features be out-of-scale with the existing environment?
3. Will the effect be unusual in the area or particularly complex?
4. Will the effect extend over a large area?
5. Will there be any potential for trans boundary impact?
6. Will many people be affected?
7. Will many receptors of other types (fauna and flora, businesses, facilities) be affected?
8. Will valuable or scarce features or resources be affected?
9. Is there a risk that environmental standards will be breached?
10. Is there a risk that protected sites, areas, features will be affected?
11. Is there a high probability of the effect occurring?
12. Will the effect continue for a long time?
13. Will the effect be permanent rather than temporary?
14. Will the impact be continuous rather than intermittent?
15. If it is intermittent will it be frequent rather than rare?
16. Will the impact be irreversible?
17. Will it be difficult to avoid, or reduce or repair or compensate for the effect?

Appendix 3: Applicable Ambient Air Quality and Noise Standards National Ambient Air Quality Standards

Parameter	Location [a]	India Ambient Air Quality Standard (µg/m3) [b]	WHO Air Quality Guidelines (µg/m^3)		Applicable Per ADB SPS[e] (µg/m^3)
			Global Update [c] 2005	Second Edition 2000	
PM10	Industrial Residential, Rural and Other Areas	60 (Annual) 100 (24-hr)	20 (Annual) 50 (24-hr)	-	20 (Annual) 50 (24-hr)
	Sensitive Area	60 (Annual) 100 (24-hr)	20 (Annual) 50 (24-hr)	-	20 (Annual) 50 (24-hr)
PM25	Industrial Residential, Rural and Other Areas	40 (Annual) 60 (24-hr)	10 (Annual) 25 (24-hr)	-	10 (Annual) 25 (24-hr)
	Sensitive Area	40 (Annual) 60 (24-hr)	10 (Annual) 25 (24-hr)		10 (Annual) 25 (24-hr)
SO2	Industrial Residential, Rural and Other Areas	50 (Annual) 80 (24-hr)	20 (24-hr) 500 (10-min)	-	50 (Annual) 20 (24-hr) 500 (10-min)
	Sensitive Area	20 (Annual) 80 (24-hr)	20 (24-hr) 500 (10-min)	-	20 (Annual) 20 (24-hr) 500 (10-min)
NO2	Industrial Residential, Rural and Other Areas	40 (Annual) 80 (24-hr)	40 (Annual) 200 (1-hr)	-	40 (Annual) 80 (24-hr) 200 (1-hr)
	Sensitive Area	30 (Annual) 80 (24-hr)	40 (Annual) 200 (1-hr)	-	30 (Annual) 80 (24-hr) 200 (1-hr)
CO	Industrial Residential, Rural and Other Areas	2,000 (8-hr) 4,000 (1-hr)	-	10,000 (8-hr) 100,000 (15-min)	2,000 (8-hr) 4,000 (1-hr) 100,000 (15-min)
	Sensitive Area	2,000 (8-hr) 4,000 (1-hr)	-	10,000 (8-hr) 100,000 (15-min)	2,000 (8-hr) 4,000 (1-hr) 100,000 (15-min)
Ozone (O3)	Industrial Residential, Rural and Other Areas	100 (8-hr) 180 (1-hr)	100 (8-hr)		100 (8-hr) 180 (1-hr)
	Sensitive Area	100 (8-hr) 180 (1-hr)	100 (8-hr)		100 (8-hr) 180 (1-hr)
Lead (Pb)	Industrial, Residential, Rural and Other Areas	0.5 (Annual) 1.0 (24-hr)		0.5 (Annual)	0.5 (Annual) 1.0 (24-hr)
	Sensitive Area	0.5 (Annual) 1.0 (24-hr)		0.5 (Annual)	0.5 (Annual) 1.0 (24-hr)
Ammonia (NH3)	Industrial Residential, Rural and Other Areas	100 (Annual) 400 (24-hr)			100 (Annual) 400 (24-hr)
	Sensitive Area	100 (Annual) 400 (24-hr)			100 (Annual) 400 (24-hr)

Parameter	Location [a]	India Ambient Air Quality Standard (µg/m3) [b]	WHO Air Quality Guidelines (µg/m^3)		Applicable Per ADB SPS[e] (µg/m^3)
			Global Update [c] 2005	Second Edition 2000	
Benzene (C6H6)	Industrial Residential, Rural and Other Areas	5 (Annual)			5 (Annual)
	Sensitive Area	5 (Annual)			5 (Annual)
Benzo(o)pyrene (BaP) particulate phase only	Industrial Residential, Rural and Other Areas	0.001 (Annual)			0.001 (Annual)
	Sensitive Area	0.001 (Annual)			0.001 (Annual)
Arsenic (As)	Industrial Residential, Rural and Other Areas	0.006 (Annual)			0.006 (Annual)
	Sensitive Area	0.006 (Annual)			0.006 (Annual)
Nickel (Ni)	Industrial Residential, Rural and Other Areas	0.02 (Annual)			0.02 (Annual)
	Sensitive Area	0.02 (Annual)			0.02 (Annual)

[a] Sensitive area refers to such areas notified by the India Central Government.
[b] Notification by Ministry of Environment and Forests, Government of India Environment (Protection) Seventh Amendment Rules, 2009
c WHO Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide. *Global update 2005*. WHO. 2006
[d] Air Quality Guidelines for Europe Second Edition. WHO 2000.
[e] Per ADB SPS, the government shall achieve whichever of the ambient air quality standards is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, the executing agency of the government will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in ADB SPS.

Table 2: Applicable Ambient Noise Standards

Receptor/ Source	India National Noise Level Standards[a] (dBA)		WHO Guidelines Value For Noise Levels Measured Out of Doors[b] (One Hour LA_q in dBA)		Applicable Per ADB SPS[c] (dBA)	
	Day	Night	07:00 – 22:00	22:00 – 07:00	Day time	Night time
Industrial area	75	70	70	70	70	70
Commercial area	65	55	70	70	65	55
Residential Area	55	45	55	45	55	45
Silent Zone	50	40	55	45	50	40

[a] Noise Pollution (Regulation and Control) Rules, 2002 as amended up to 2010.
[b] Guidelines for Community Noise. WHO. 1999
[c] Per ADB SPS, the government shall achieve whichever of the noise level standards is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, the executing agency of the government will provide full and detailed justification for any proposed alternatives that are consistent with the requirements presented in ADB SPS.

Appendix 4: NOC from TSECL for storage and reuse of Electric poles and Transformers

TRIPURA STATE ELECTRICITY CORPORATION LIMITED
(A Govt. of Tripura Enterprise)

Office of the Addl. General Manager
Electrical Circle No-I
Banamalipur, Agartala
RECEIVED
No. 888
Date 29/06/19

No. F.4(28) /TSECL/ Corp. Office /2018-19/ /9637- 40 dated 29-6-2019

To
The Chief Executive Officer ,
Agartala Smart City Limited,
(Municipal Commissioner , AMC)
5th Floor , City Centre
Paradise Choumuhani .
West Tripura

Sub :-Request for providing No objection Certificate (NOC) for storage & Re-use of dismantled Electric poles and Transformers recovered during overhead lines to underground conversion works on selected roads considered under up-gradation of major roads (Phase – I) project by Agartala Smarty City Mission .

Ref :- Letter no. F .4(14) /(ASCL)/ 2018 / 594-96 dated 4th May 2019

Sir ,

This is to inform you that TSECL has no objection for storage & Re-use of dismantled Electric poles and Transformers recovered during overhead lines to underground conversion works on selected roads considered under up-gradation of major roads (Phase – I) project by Agartala Smarty City Mission.

Yours faithfully

29/6/19
(N C DAS)
General Manager (Technical)
TSECL. Tripura

Copy to :-

1. P S to Chairman Cum Managing Director ,TSECL , for favour of kind information please.
2. The Director (Technical) , TSECL , for favour of kind information please.
3. The Addl . General Manager , Electrical Circle – I , Agartala

29/6/19
General Manager (Technical)
TSECL. Tripura

Appendix 5: Spoils Management Plan

A. Spoil Management Plan

1. **Purpose and Application:** Spoils Management plan **(**SMP) is to describe how ASCL/ PIU will manage the spoil generated and reuse related to design and construction works. This is an integral part of EMP. The objective of SMP is to reuse of spoil from works in accordance with the spoil management hierarchy outlined in this document.

2. **Objectives of SMP:** The objectives of SMP are:

- To minimize spoil generation where possible
- Maximize beneficial reuse of spoil from construction works in accordance with spoil management hierarchy
- Mange onsite spoil handling to minimize environmental impacts on resident and other receivers
- Minimize any further site contamination of land, water, soil
- Manage the transportation of spoil with consideration of traffic impacts and transport related emissions

3. Structure of SMP:

Section 1: Introduction of SMP
Section 2: Legal and other requirements
Section 3: Roles and responsibilities
Section 4: Identification and assessment of spoil aspects and impacts
Section 5: Spoil volumes, characteristics and minimization
Section 6: Spoil reuses opportunities, identification and assessment
Section 7: On site spoil management approach
Section 8: Spoil transportation methodology
Section 9: Monitoring, Reporting, Review, and Improvements

4. **Aspects and Potential Impacts**: The key aspects of potential impacts in relation to SMP are listed in Table below:

Table: Key Aspect of Potential Impacts

Aspect	**Potential Impact**
Air Quality	Potential for high winds generating airborne dust from the stock piles
Sedimentation	Potential for sediment laden site runoff from spoil stockpiles and potential for spillage of spoil from truck on roads
Surface and Groundwater	Contamination of water (surface and ground water)
Noise	Associated with spoil handling and haulage and storage
Traffic	Impacts associated with spoil haulage
Land Use	Potential for spoil to be transported to a receivable site that doesn't have permission for storage/disposal
Design specifications	Limitations on opportunities to minimize spoil generation
Sustainability	Limited sites for storage, reuse opportunities

B. Spoil volumes, Characteristics and Minimization

5. **Spoil Volume Calculations.** Estimate the volumes of spoils produced from each of the construction site

6. **Characterization of Spoil**. Based on the type of spoil; characterization is done (sand stone, mix materials, reusable materials.
7. **Adopt Spoil Reduce, Reuse Opportunities.** An overview of the assessment methodology to be used is mentioned below.

- Consideration of likely spoil characteristics
- Identification of possible reuse sites
- Screening of possible reuse opportunities

8. **Identification of Possible Safe Disposal Sites for Spoil.** Those spoils which can't be reuse shall be properly disposed in designated areas (DC Nagar Lunga in Agartala). Such disposal areas should be safe from environmental aspects and there should be any legal and resettlement related issues. Such areas need to be identified and prior cliental approval should be obtained to use it as spoil disposal area. The local administration must be consulted and if required permission should be obtained from them.

C. Storage and Stock Piling

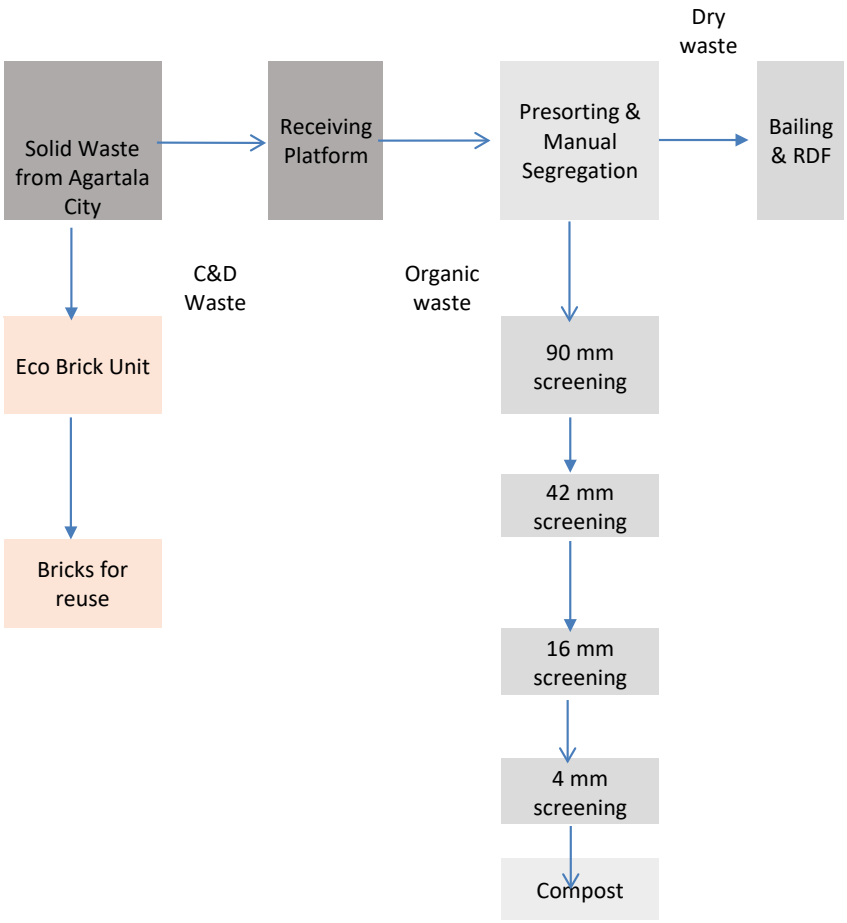
9. **Stockpiling**. Spoils shall be stockpiled at locations at least 300 m away from water courses and covered.
10. **Transportation and Haulage Route.** Based on the above, the contractor will prepare a transport and route plan, and submit it to the PIU for their review and approval.

D. Summary of Key Issues and Remedial Actions

11. Summary of follow up time-bound actions to be taken within a set timeframe.

Appendix 6: Environmental Audit Report of Existing C&D Waste Management Site in Agartala

Introduction

Location	DC Nagar Lunga, Agartala. Area Available – 14.568 hectares
Start of operation (year)	2012
Owned by	Agartala Municipal Corporation Operator of the Plant – Joint Venture of Proton Enviro Solutions Pvt. Ltd. And Hydro air Tectonics Ltd.
Contact person and designation	 Chinmay Chakraborty, Asst. Engineer, Mechanical Division
Capacity	250 TPD Daily Waste Processed – 126 TPD Waste Landfilled per day – 6.2 TPD
Treatment process	Windrow Based Composting **Facilities Present:** Compost Plant (1 no.), Sanitary Landfill (1 no.), Eco Brick Unit (1 no.), Plastic Granulating Unit (1 no.) Weighbridge and Internal Roads
Process flow diagram	
Reuse	Reuse of Eco bricks

Google map of Site

III. Compliance with Applicable National and State Laws, Rules, and Regulations

Law, Rules, and Regulations	Description and Requirement	*Y = compliant (if applicable, specify expiration date of permit/clearance)* *N = non-compliant*[27] *N/A = not applicable (state justification)*
EIA Notification	The EIA Notification of 2006 states that environmental clearance is required for certain defined activities/projects.	N, Environment clearance for the solid waste management site shall be obtained.
Manufacture, Storage, and Import of Hazardous Chemical Rules, 1989	Storage of chlorine (threshold quantity greater than 10 tons but less than 25 tons) in WTPs will require clearance from Tripura Pollution Control Board .and Directorate of Industrial Health and Safety	NA No hazardous waste is stored or processed in DC Nagar Lunga SWM Site
Water (Prevention and Control of Pollution) Act	Consent to operate from TSPCB	Y

[27] Compliant = There is sufficient and appropriate evidence to demonstrate that the particular regulatory requirement has been complied with; non-compliant = clear evidence has been collected to demonstrate the particular regulatory requirement has not been complied with.

Law, Rules, and Regulations	Description and Requirement	*Y = compliant (if applicable, specify expiration date of permit/clearance)* *N = non-compliant*[27] *N/A = not applicable (state justification)*
of 1974, Rules of 1975, and amendments		CTE/ CTO copy is attached in Appendix 6. Consent is valid till 25-01-2025.
Air (Prevention and Control of Pollution) Act of 1981, Rules of 1982 and amendments.	Consent to operate from TSPCB	Y CTE/ CTO copy is attached in Appendix 6. Consent is valid till 25-01-2025.
Environment (Protection) Act, 1986 and CPCB Environmental Standards	Emissions and discharges from the facilities to be created, refurbished, or augmented shall comply with the notified standards. a. Wastewater disposal standards	Y
Noise Pollution (Regulation and Control) Rules, 2002 amended up to 2010	Applicable ambient noise standards with respect to noise for different areas/zones	NA The operations of SWM site doesn't come under Noise Pollution Rules 2002.
National Institute of Occupational Safety and Health (NIOSH) Publication No. 2002-149	Compliance with NIOSH Guidance for Controlling Potential Risks to Workers Exposed to Class B Biosolids	Y All workers are provided with required PPEs like hand gloves, safety shoes and face masks.
Forest (Conservation) Act, 1980 and Forest Conservation Rules, 2003 as amended	As per Rule 6, every user agency, who wants to use any forest land for non-forest purposes shall seek approval of the central government.	NA. No forest land is acquired for the SWM site, land is already in possession of AMC.
Ancient Monuments and Archaeological Sites and Remains Rules of 1959	No development activity is permitted in the "protected area," and all development activities likely to damage the protected property are not permitted in the "controlled area" without prior permission of the Archaeological Survey of India (ASI). Protected property includes the site, remains, and monuments protected by ASI or the State Department of Archaeology.	NA Site is not situated near any 'protected area' identified by the ASI.
The Child Labor (Prohibition and Regulation) Act, 1986	No child below 14 years of age will be employed or permitted to work in any of the occupations set forth in the Act's Part A of the Schedule or in any workshop wherein any of the processes set forth in Part B of the Schedule are present.	Y. No child labor is engaged in the facility

IV. Institutional Arrangement

Parameter	
Operations	8 hours
Manager per shift	1

Parameter	
Nos. of engineer on-site	
Estimated number of technical employees on-site per shift	2
Estimated number of laborers on-site per shift	21
Estimated number of employees in charge of environmental management and monitoring	NA
Frequency of air quality monitoring	N, No Regular Monitoring is done
Frequency of water quality monitoring	N, No Regular Monitoring is done
In-house laboratory for water quality analyses (Yes/None). If none, provide name of third-party laboratory.	No in-house laboratory. Need based monitoring is done by Tripura State Pollution Control Board.

V. **Corrective Action Plan**

i. Environmental Clearance for the Solid Waste Management Site to be obtained from State Environmental Impact Assessment Authority (SEIAA).

ii. Regular Environmental Monitoring to be carried out by Agartala Municipal Corporation (AMC).

Consent to Operate for Solid Waste Management Site at DC Nagar Lunga site

Certificate Sl. No. 11568

TRIPURA STATE POLLUTION CONTROL BOARD

PARIVESH BHAWAN, Pandit Nehru Complex, Gorkhabasti,
Kunjaban, Agartala - 799 006, West Tripura.

No.F.17(10)/TSPCB/W/Solid Waste(M-Red)/5363/ 2961-65 Date : 18/02/2020

CERTIFICATE FOR CONSENT TO ESTABLISH & OPERATE

Under Section 25/26 of Water (Prevention and Control of Pollution) Act, 1974 and
Under Section 21 of the Air (Prevention and Control of Pollution) Act, 1981

Reference : i) Your Application No.406 Dated :05-12-2019
ii) Our NOC Register Sl. No.11678 For: Fresh Consent

Capital Investment : Rs. 16.50 Cr. Production Capacity : Compost : 7500 MT
Type : Common Solid waste processing plant Category: Red

With reference to the above Application, a provisional Consent to Establish & Operate Certificate is hereby issued in favour **Mechanical Division, The Executive Engineer (Mech.), Agartala Municipal Corporation, Agartala, Tripura (West)** discharge its industrial and other effluents arising out of their premises into a stream/ well/ land as per section 25/26 of Water (Prevention and Control of Pollution) Act,1974 and to make emission from the plant /unit as per Section 21 of the Air (Prevention and Control of Pollution) Act,1981situated at **Agartala, Tripura (West)** to observance of other codal formalities of the Govt. of India/Govt. of Tripura/District Administration/ Agartala Municipal Corporation or concerned Municipal Council or concerned Nagar Panchayat (whichever is applicable)/ Health Department/Industries & Commerce Department and subject to observance of the terms & conditions stated at **Annexure-I**

The Tripura State Pollution Control Board may, at any time, revoke any of the conditions applicable under the Consent to Operate and shall communicate the same in writing.

AMC shall have to obtain EC from SEIAA/EIAA for Operation of Solid Waste processing facility under EIA Notification, 2006 as amended to date.

This Certificate is valid 17.01.2025. Application for extension of validity of Consent Certificate shall have to be made one month before the date of expiry of validity of this Certificate.

18/02/2020

(Aparajita Das)
Asst. Environmental Engineer
Tripura State Pollution Control Board

To
The Executive Engineer(Mech.)
Mechanical Division
Agartala Municipal Corporation
Agartala, Tripura West

Copy to the:-

1. Municipal Commissioner, Agartala Municipal Corporation for kind information.
2. District Magistrate & Collector, West Tripura District for kind information.
3. Director, Industries & Commerce, Department, Tripura for kind information.
4. Sub-Divisional Magistrate, Mohanpur for kind information.

Asst. Environmental Engineer
Tripura State Pollution Control Board

Compliance to CTO Conditions

Sr. No.	Consent Conditions	Compliance
General Conditions		
1.	Agartala Municipal Corporation (AMC) shall prepare a solid waste management plan as per the State Policy and Strategy on Solid Waste Management.	Will be complied and prepared
2.	AMC shall arrange for door to door collection of segregated solid waste from all households including slums and informal settlement, commercial, institutional and other non-residential premises. From multi-storage buildings, large commercial complexes, malls, housing complexes, etc., this may be collected from the entry gate or any other designated location.	Door to door collection of segregated waste is being done.
3.	AMC shall establish a system to recognize organizations of waste pickers and promote and establish a system for integration of these authorized waste-pickers and waste collectors to facilitate their participation in solid waste management including door to door collection of waste.	Will be complied
4.	AMC shall facilitate formation of Self Help Groups, provide identify cards and thereafter encourage integration in solid waste management including door to door collection of waste.	Will be complied
5.	AMC shall frame bye-laws incorporating the provisions of these rules within one year from the date of notification of these rules and ensure timely implementation.	Will be complied
6.	AMC shall prescribe from time to time user fee as deemed appropriate and collect the fee from the waste generators on its own or through authorized agency.	Complied, user fee are being levied to waste generators.
7.	AMC shall direct waste generators not to litter i.e. throw or dispose of any waste such as paper, water bottles, liquor bottles, soft drinks cans, tetra packs etc., or burn or burry waste on streets, open public spaces, drains, waste bodies and to segregate the waste at source as prescribed under these rules and hand over the segregated waste to authorized the waste pickers or waste collectors authorized by the local body.	Will be complied
8.	AMC shall setup material recovery facilities or secondary storage facilities with sufficient space for sorting of recyclable materials to enable informal or authorized waste pickers and waste collections to separate recyclables from the waste and provide easy access to waste pickers and recyclers for collection of segregated recyclable waste such as paper, plastic, metal, glass, textile from the source of generation or from material recovery facilities; Bins for storage of bio-degradable wastes shall be painted green, those for storage of recyclable wastes shall be printed white and those for storage of other wastes shall be printed black.	Will be complied
9.	AMC shall establish waste depositions centers for domestic hazardous waste and give direction for waste generators to deposit domestic hazardous wastes at this center for its safe disposal. Such facility shall be established in a city or town in a matter that one center	Will be complied

Sr. No.	Consent Conditions	Compliance
General Conditions		
	is set up for the area of 20 Sq. Km or part thereof and notify the timings of receiving domestic hazardous waste at such centers.	
10.	AMC shall ensure safe storage and transportation of the domestic hazardous waste to the hazardous waste disposal facility or as may be directed by the Tripura State Pollution Control Board.	Will be complied
11.	AMC shall direct street sweepers not to burn tree leaves collected from street sweeping and store them separately and handover to the waste collectors or agency authorized by local body.	Will be complied
12.	AMC shall provide training on solid waste management to waste-pickers and waste collectors	Will be provided
13.	AMC shall collect waste from vegetable, fruit, flower, meat, poultry and fish market on day to day basis and promote setting up of decentralized compost plant or bio-methanation plant at suitable locations in the markets or in the vicinity of markets ensuring hygienic conditions.	Will be complied
14.	AMC shall collect separately waste from sweeping of the streets, lanes and by-lanes daily, or on alternate days or twice a week depending on the density of population, commercial activity and local situation.	Will be complied
15.	AMC shall set up covered secondary storage facility for temporary storage of street sweepings and silt removed from surface drains in case where direct collection of such waste into transport vehicles is not convenient. Waste so collected shall be collected and disposed of at regular intervals as decided by the local body.	Will be complied
16.	AMC shall collect horticulture, parks and garden waste separately and process in the parks and gardens, as far as possible.	Will be complied
17.	AMC shall transport segregated bio-degradable waste to the processing facilities like compost plant, bio-methanation plant or any such facility. Preference shall be given for onsite processing of such waste.	Will be complied
18.	AMC shall transport non bio-degradable waste to the respective processing facility or material recovery facilities or secondary storage facility.	Will be complied
19.	AMC shall transport construction and demolition waste as per the provisions of the Construction and Demolition Waste management Rules, 2016.	Will be complied
20.	AMC shall involve communities in waste management and promotion of home composting, bio-gas generation, decentralized processing of waste at community level subject to control of odour and maintenance of hygienic conditions around the facility.	Will be complied
21.	AMC shall phase out the use of chemical fertilizer in two years and use compost in all parks, gardens maintained by the local body and whenever possible in other places under its jurisdiction. Incentives may be provided to recycling initiatives by informal waste recycling sector.	Will be complied

Sr. No.	Consent Conditions	Compliance
General Conditions		
22.	AMC shall facilitate construction, operation and maintenance of solid waste processing facilities and associated infrastructure on their own or with private sector participation or through any agency for optimum utilization of various components of solid waste adopting suitable technology including the following technologies and adhering to the guidelines issues by the MoUD from time to time and standards prescribed by the CPCB. Preference shall be given to decentralized processing to minimize transportation cost and environmental impacts such as a. Bio-methanation, microbial composting, vermin-composting, anaerobic digestion or any other appropriate processing for bio-stabilization of biodegradable wastes. b. Waste to energy processes including refused derived fuel for combustible fraction of waste or supply as feedstock to solid waste based plants or cement kilns.	Will be complied
23.	AMC shall undertake on their own or through any other agency construction, operation and maintenance of sanitary landfill and associated infrastructure as per Schedule 1 for disposal of residual wastes in a manner prescribed under these rules.	Will be complied
24.	AMC shall make adequate provision of funds for capital investments as well as operation and maintenance of solid waste management services in the annual budget ensuring that fund for discretionary functions of the local body have been allocated only after meeting the requirement of necessary fund for solid waste management and other obligatory functions of the local body as per these rules.	Will be complied
25.	AMC shall submit application for renewal of authorization at least sixty day before expiry of the validity of authorization.	Will be complied
26.	AMC shall prepare and submit annual report in Form IV on or before the 30th April of the succeeding year to the Commissioner or Director, Municipal Administration or designated Officer	Will be complied
27.	AMC shall send the annual report to Secretary-in-Charge of the State Urban Development Department and to the Tripura State Pollution Control Board or Pollution Control Committee by the 31st May of every year.	Will be complied
28.	AMC shall educate workers including contract workers and supervisors for door to door collection of segregated waste and transporting the unmixed waste during primary and secondary transportation to processing or disposal facility.	Will be complied
29.	AMC shall ensure that the operator of a facility provides PPE including uniform, fluorescent jacket, hand gloves, raincoats, appropriate foot wear and masks to all	Will be complied

Sr. No.	Consent Conditions	Compliance
General Conditions		
	workers handling solid waste and the same are used by the workforce.	
30.	AMC shall ensure that provisions for setting up of centers for collection, segregation and storage of segregated wastes are incorporated in building plan while granting approval of building plan of a group housing society or market complex.	Will be complied
31.	AMC shall frame bye-laws and prescribe criteria for levying of spot fine for persons who litters or fails to comply with the provisions of these rules and delegate powers to officers or local bodies to levy spot fines as per the bye laws framed	Will be complied
32.	AMC shall create public awareness through information, education and communication campaign and educate the waste generators on the following namely a. Not to litter. b. Minimize generation of waste. c. Reuse the waste to the extent possible. d. Practice segregation of waste into bio-degradable, non-biodegradable (recyclable and combustible), sanitary waste and domestic hazardous wastes at source. e. Practice home composting, vermi-composting, bio-gas generation or community level composting. f. Wrap securely used sanitary waste as and when generated in the pouches provided by the brand owners or a suitable wrapping as prescribed by the local body and place the same in the bin meant for non-biodegradable waste. g. Storage of segregated waste at source in different bins. h. Handover segregated waste to waste pickers, waste collectors, recyclers or waste collection agencies. i. Pay monthly user fee or charges to waste collectors or local bodies or any other person authorized by the local body for sustainability of solid waste management.	Will be complied
33.	AMC shall stop landfilling or dumping of mixed waste soon after the timeline as specified in the rule 23 for setting up and operationalization of sanitary landfill is over.	Will be complied
34.	AMC shall allow only the non-usable, non-recyclable, non-biodegradable, non-combustible and non-reactive inert waste and pre-processing rejects and residues from waste processing facilities to go to sanitary landfill and the sanitary landfill sites shall meet the specifications as given in Schedule-I, however, every effort shall be made recycle or reused the rejects to achieve the desired objectives of zero waste going to landfill.	Will be complied

Sr. No.	Consent Conditions	Compliance
General Conditions		
35.	AMC shall investigate and analyze all old open dumpsites and existing operational dumpsites for their potential of bio-mining and bio-remediation and wherever feasible take necessary action to bio-mine or bio-remediate the sites. In absence of potential bio-mining and bio-remediation, it shall be scientifically capped as per landfill capping norms to prevent further damage to environment.	Will be complied
Specific Conditions		
1.	The ground water quality within 50 m of the periphery of landfill site shall be periodically monitored covering different seasons in a year that is, summer, monsoon and post-monsoon period to ensure that the ground water is not contaminated.	Will be complied
2.	Ambient air quality at the landfill site and at the vicinity shall be regularly monitored. Ambient air quality shall meet the standards prescribed by the Central Pollution Control Board for Industrial area.	Will be complied
3.	The notifications of Government of Tripura regarding banning of Plastic Carry Bags issued vide Notification No. F.8(30)/DSTE/ENV/ Pt-22/1679-97 dated 10-03-2015 and No. F.8(30)/DSTE/ENV/ Pt-11/1984-2003 dated 19-03-2015 should be strictly adhered to	Will be complied
4.	Public liability insurance coverage shall have to be provided to the workers of the unit	Will be complied
5.	A copy of the consent Certificated should be displayed in the office of the unit	Will be complied
6.	The unit will have to follow other norms and standards issued by TSPCB from time to time	Will be complied

Appendix 7: NOC from AMC for disposal of construction and Demolition waste, excavated earth and drain silt

-TL PMC
-EE (RP/SD) 04/7/19

AGARTALA MUNICIPAL CORPORATION
AGARTALA

No.F.02/SE/AMC/2013/ 146 – 147 Dated, Agartala the 4th July, 2019

To
The Chief Executive Officer,
Agartala Smart City Ltd.,
Agartala.

Subject : NOC for Dumping / Storing Construction and Demolition waste and Drain Silt in DC Nagar Lunga SWM Site and Hapania Site for future reuse - Smart Roads Project under the Agartala Smart City Limited Phase-2.

Ref. No. F. No. 4(25)/ (ASCL)/2018/1562-63 Dated 28-06-2019

Sir,

With reference to above, this is to inform you that Agartala Municipal Corporation does not have any objection in utilizing the available land of DC Nagar SWM site and the old dumping site of Hapania for storing and dumping of demolition waste, drain silt and excavated earth.

This NOC is hereby issued on condition that the daily activities of SWM works will not be disturbed by such storing and dumping.

Yours faithfully,

04/7/19

(Dr. Shailesh K. Yadav, IAS)
Municipal Commissioner
Agartala Municipal Corporation

Copy to :
1) The Team Leader, PMC for information & necessary action.

04/7/19

Municipal Commissioner
Agartala Municipal Corporation

AGARTALA SMART CITY LIMITED
0 4 JUL 2019
RECEIVED

Appendix 8: Sample Traffic Management Plan (TMP)

A. Principles

1. One of the prime objectives of this TMP is to ensure the safety of all the road users along the work zone, and to address the following issues:

(i) the safety of pedestrians, bicyclists, and motorists travelling through the construction zone;
(ii) protection of work crews from hazards associated with moving traffic;
(iii) mitigation of the adverse impact on road capacity and delays to the road users;
(iv) maintenance of access to adjoining properties
(v) Avoid hazards in addressing issues that may delay the project.

B. Operating Policies for TMP

2. The following principles will help promote safe and efficient movement for all road users (motorists, bicyclists, and pedestrians, including persons with disabilities) through and around work zones while reasonably protecting workers and equipment.

(i) Make traffic safety and temporary traffic control an integral and high-priority element of every project from planning through design, construction, and maintenance.
(ii) Inhibit traffic movement as little as possible.
(iii) Provide clear and positive guidance to drivers, bicyclists, and pedestrians as they approach and travel through the temporary traffic control zone.
(iv) Inspect traffic control elements routinely, both day and night, and make modifications when necessary.
(v) Pay increased attention to roadside safety in the vicinity of temporary traffic control zones.
(vi) Train all persons that select, place, and maintain temporary traffic control devices.
(vii) Keep the public well informed.
(viii) Make appropriate accommodation for abutting property owners, residents, businesses, emergency services, railroads, commercial vehicles, and transit operations.

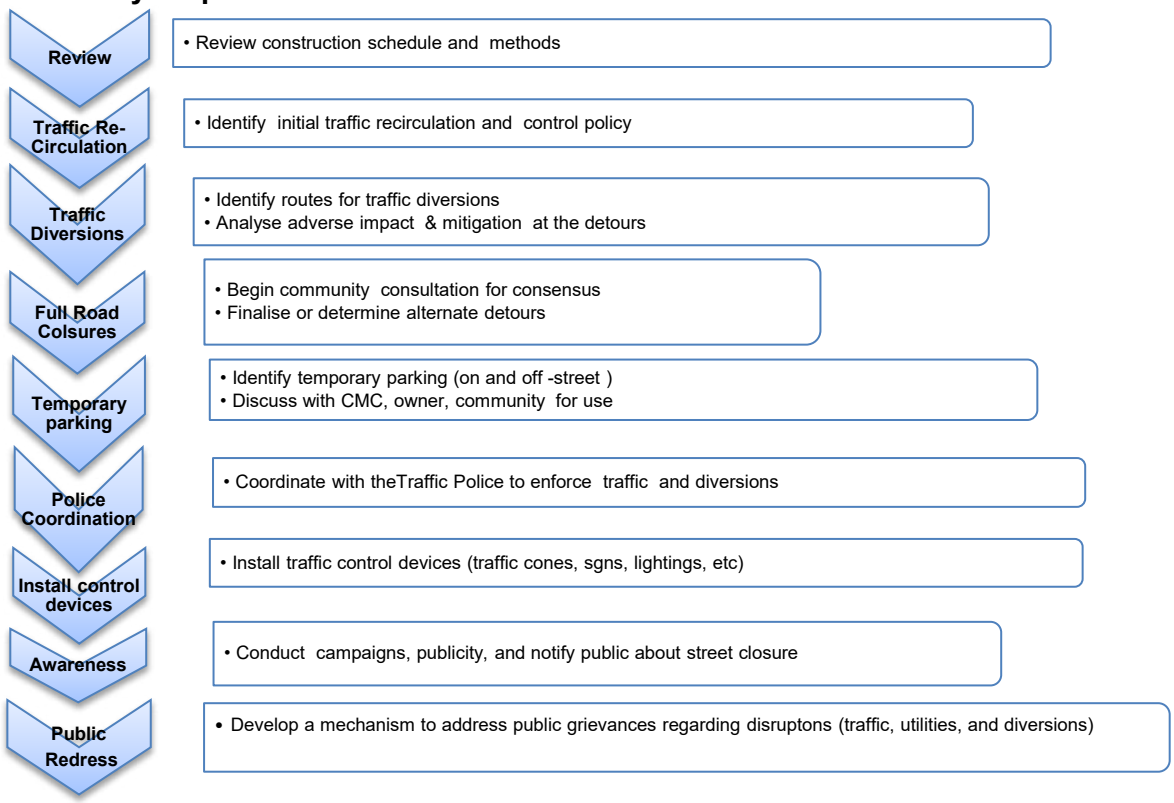
C. Analyze the impact due to street closure, if required

3. Apart from the capacity analysis, a final decision to close a particular street and divert the traffic should involve the following steps:

(i) approval from the PIU, local administration to use the local streets as detours;
(ii) consultation with businesses, community members, traffic police, PWD, etc, regarding the mitigation measures necessary at the detours where the road is diverted during the construction;
(iii) determining of the maximum number of days allowed for road closure, and incorporation of such provisions into the contract documents;
(iv) determining if additional traffic control or temporary improvements are needed along the detour route;
(v) considering how access will be provided to the worksite;
(vi) contacting emergency service, school officials, and transit authorities to determine if there are impacts to their operations; and
(vii) developing a notification program to the public so that the closure is not a surprise. As part of this program, the public should be advised of alternate routes that commuters can take or will have to take as result of the traffic diversion.

4. If full road-closure of certain streets within the area is not feasible due to inadequate capacity of the Detour Street or public opposition, the full closure can be restricted to weekends with the construction commencing on Saturday night and ending on Monday morning prior to the morning peak period.

Figure: Policy Steps for the TMP



D. Public awareness and notifications

5. As per discussions in the previous sections, there will be travel delays during the constructions, as is the case with most construction projects, albeit on a reduced scale if utilities and traffic management are properly coordinated. There are additional grounds for travel delays in the area, as most of the streets lack sufficient capacity to accommodate additional traffic from diverted traffic as a result of street closures to accommodate the works.

6. The awareness campaign and the prior notification for the public will be a continuous activity which the project will carry out to compensate for the above delays and minimize public claims as result of these problems. These activities will take place sufficiently in advance of the time when the roadblocks or traffic diversions take place at the particular streets. The reason for this is to allow sufficient time for the public and residents to understand the changes to their travel plans. The project will notify the public about the roadblocks and traffic diversion through public notices, ward level meetings and city level meeting with the elected representatives.

7. The ASCL/ PIU will also conduct an awareness campaign to educate the public about the following issues:

(i) Traffic control devices in place at the work zones (signs, traffic cones, barriers, etc.);
(ii) Defensive driving behaviour along the work zones; and
(iii) Reduced speeds enforced at the work zones and traffic diversions.

8. It may be necessary to conduct the awareness programs/campaigns on road safety during construction.

9. The campaign will cater to all types of target groups i.e. children, adults, and drivers. Therefore, these campaigns will be conducted in schools and community centers. In addition, the project will publish a brochure for public information. These brochures will be widely circulated around the area and will also be available at the PIU, and the contractor's site office. The text of the brochure should be concise to be effective, with a lot of graphics. It will serve the following purpose:

(i) explain why the brochure was prepared, along with a brief description of the project;
(ii) advise the public to expect the unexpected;
(iii) educate the public about the various traffic control devices and safety measures adopted at the work zones;
(iv) educate the public about the safe road user behaviour to emulate at the work zones;
(v) tell the public how to stay informed or where to inquire about road safety issues at the work zones (name, telephone, mobile number of the contact person; and
(vi) indicate the office hours of relevant offices.

E. Vehicle Maintenance and Safety

10. A vehicle maintenance and safety program shall be implemented by the construction contractor. The contractor should ensure that all the vehicles are in proper running condition and it comply with roadworthy and meet certification standards of Tripura Govt./ GoI. All vehicles to be used shall be in perfect condition meeting pollution standards of Tripura Govt./ GoI. The vehicle operator requires a pre-state of shift checklist. Additional safety precautions will include the requirement for:

- Driver will follow the special code of conduct and road safety rules of Government of India
- Drivers to ensure that all loads are covered and secured drivers to ensure operation equipment can't leak materials hauled
- Vehicles will be cleaned and maintained in designed places.

F. Install traffic control devices at the work zones and traffic diversion routes

10. The purpose of installing traffic control devices at the work zones is to delineate these areas to warn, inform, and direct the road users about a hazard ahead, and to protect them as well as the workers. As proper delineation is a key to achieve the above objective, it is important to install good traffic signs at the work zones. The following traffic control devices are used in work zones:

- Signs
- Pavement Markings
- Channelizing Devices
- Arrow Panels
- Warning Lights

11. Procedures for installing traffic control devices at any work zone vary, depending on road configuration, location of the work, construction activity, duration, traffic speed and volume, and pedestrian traffic. Work will take place along major roads, and the minor internal roads. As such, the traffic volume and road geometry vary. The main roads carry considerable traffic; internal roads in the new city areas are wide but in old city roads very narrow and carry considerable traffic. However, regardless of where the construction takes place, all the work zones should be cordoned off, and traffic shifted away at least with traffic cones, barricades, and temporary signs (temporary "STOP" and "GO").

12. The work zone should take into consideration the space required for a buffer zone between the workers and the traffic (lateral and longitudinal) and the transition space required for delineation, as applicable. For the works, a 30 cm clearance between the traffic and the temporary STOP and GO signs should be provided. In addition, at least 60 cm is necessary to install the temporary traffic signs and cones.
13. Traffic police should regulate traffic away from the work zone and enforce the traffic diversion result from full street closure in certain areas during construction. Flaggers/ personnel should be equipped with reflective jackets at all times and have traffic control batons (preferably the LED type) for regulating the traffic during night time.
14 In addition to the delineation devices, all the construction workers should wear fluorescent safety vests and helmets to be visible to the motorists at all times. There should be provision for lighting beacons and illumination for night constructions.
15. The ASCL/ PIU and contractor will coordinate with the local administration and traffic police regarding the traffic signs, detour, and any other matters related to traffic. The contractor will prepare the traffic management plan in detail and submit it along with the EMP for the final approval.

Appendix 9: Record of Public Consultation

Issues discussed

i. Awareness and extent of the project and development components;
ii. Benefits of the subproject for the economic and social upliftment of community;
iii. Labour availability in the subproject locations or requirement of outside labour involvement;
iv. Local disturbances due to construction works;
v. Water logging and drainage problem if any;
vi. Traffic Congestion problem;
vii. Sensitive area nearby the subproject locations and

Areas: Auto Stand and shop areas Akhura Road, Hari Ganga Basak Road, VIP Road, Mantribari road

Date and Time- 15th November 2018

Table- Issues of Public Consultation- Design Stage

Sr. No.	Key Issue/ Demands	Perception of Community	Action to be taken
1	Awareness of the project – including coverage area	Local people are not much aware on components of the project. In 40% cases they have some idea	Awareness program at different project locations related to project components is essential
2	In what way they may associate with the project	At the construction phase some people can work as laborer's, after completion traffic and pedestrian movement of these areas shall be improved	
3	Presence of any forest, wild life or any sensitive / unique environmental components nearby the project area	There is no forest area nearby the project location	
4	Presence of historical/ cultural/ religious sites nearby	Temples are present nearby the proposed subproject roads. Local people requested not to impact on those sites	Access to the cultural and religious sites is included in EMP and Traffic Management Plan
5	Unfavorable climatic condition	The peak summer is hot and humid and not suitable for continuous work at open area	
6	Traffic issues during construction period	The roads will be blocked during the construction period leading to difficulty in commuting to the nearby residents and shop owners.	Traffic Management plan approved by Traffic department will be implemented
7	Occurrence of flood	No such case is reported During monsoon water stagnation is reported in case of continuous rain	Drainage project already under implementation

Sr. No.	Key Issue/ Demands	Perception of Community	Action to be taken
8	Present solid waste collection and disposal problem	As per local people – done properly by AMC	
9	Availability of labour during construction time	Yes, labours are easily available in the nearby villages	
10	Access road to project Site	Yes, existing bitumen road in most of the cases	
11	Dust and noise pollution and disturbances during construction work	Request for arresting of dust and protection of habitation from noise pollution	Mitigation measures will be applied as per EMP
12	Setting up worker camp site within the village/ project locality	Project area is having sufficient space for workers camp. Local people will allow to set up labour camp	
13	Safety of residents during construction phase and plying of vehicle for construction activities	Local requested for safety arrangement particularly where excavation is being planned near main city road.	

Group meeting 1

One Public Consultation was held at Akhaura Road with the Shop Owners, Tenants and shop keepers. This is a core market area with large number of hawkers on the street. People were explained about the project and its benefit. Questions were asked about the concerns of the people, and the points were as follows:

- People informed that the existing Akhaura nalla is uncovered at some places and emanates smells.
- They expressed happiness on closing the entire nalla as per the subproject design proposal.
- They wanted work to be completed in time.

	
Shop Owners and Keepers –Akhaura Road	Shop Owners and Keepers –Akhaura Road

Group meeting 2

A meeting was held with Autorickshaw drivers in Auto stand at Akhaura Road. The meeting has conducted at the Auto stand. The respondents were asked about the traffic and road conditions and were informed about the proposed project in Agartala City. The points shared by the autorickshaw drivers were as follows:

- They will have disturbance during the time of construction, but they support the project as it will give a facelift to the area.
- They showed their approval towards the project as it will improve the traffic congestion and will regulate the pedestrian movements on the streets.
- The respondents accepted that the covered drains and improved utility services will improve their quality of life.

Auto Stand –Akhaura Road

Group meeting 3

A discussion was held with a tea vendor Mrs Rita Dey. She was Selling tea at the junction of the Radhamohan Thakur, Sarani Jagannath Bari Road which connects to Akhaura road. The points shared by the respondent are:

- She informed that she understands that she will be removed temporarily from the current location during the construction period of the roads.
- She further informed that she has been removed earlier also from the spot by AMC in the past as well during road construction activity.
- There will be problem of dust and noise during construction to all the food hawkers at the roads affecting business.

Tea Vendor at Radhamohan Thakur, Sarani Jagannath Bari Road

Group Meeting 4

A meeting was held will a group of hawkers at the Hariganga Basak Road. There are about 200 odd vendors and hawkers on the road. A union or association represents the hawkers/vendors. The hawkers were informed about the proposed project and the points raised were as follows:

- They are positive about the development as it will improve the pedestrian movement improving their business prospects.
- They have also agreed to shift their businesses during construction period.
- They had earlier closed their businesses for road construction for a period of 7 days.
- Upgradation of roads with covered drain and improved pathways will uplift the settings of the area.

Hariganaga Basak Road

Hawkers/Vendors - Hariganaga Basak Road

Community Consultation

Date : 15/11/2018

Place : Akhura Rd, Auto stand Drivers/others RMS

Sl No	Name of Person	M - F	Address/Contact No	Signature
1	S.K. Lodh	M	9862191037	S Lodh 15/11/18
2	Ratan Vichal	M	9774083643	Ratan Rajiree
3	Sankar Dadanth	M	9612067326	Sankar
4	Santap Debnath	M	9862025437	Santap Debnath
5	Ranjeet Shah	M	9774228427	Ranjit Saha
6	Vishnupada Das	M	9774314733	Bishnupada das
7	Rajan	M	8794225501	RAJAN
8	Dileep Debnath	M	9863427507	Dilip Debnath
9	Prabir Sen	M	9862864322	Prabir Sen.
10	K.S. [illegible]	M		[illegible]
11.	Govind Singh Rathore	M		Govind

12 S. Dabiana EE, DSCL

13 Rajan Iyer

14 Cardhman M

Community Consultation

Date : 15/11/2018

Place : Hawkers/Vendors near Ganga Beach Rd

Sl No	Name of Person	M - F	Address/Contact No	Signature
1	Nitai Paul	M	7005376338	Nitai Paul
2	Gopal Sarkar	M	9862374084	GOPALSARKAR
3	Subhash Roy	M	~~[illegible]~~ 8794424070	[signature]
4.	K.S. [illegible]	M		[signature]
5	S. [illegible] RE ASCL	M		[signature]
6	Govind Singh Rathore	M		[signature]
7	Rajani Iyer	F		[signature]
8	Lakshman H	M	7634031034	[signature]

Community Consultation

Date : 15-11-2018.

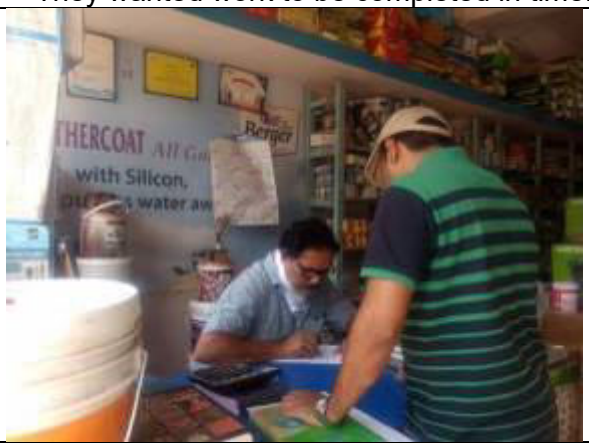
Place : Abhaya Rd. Shop owner.

Sl No	Name of Person	M - F	Address/Contact No	Signature
1.	Debabrato	M	9436184226	Debabrato
2.	Sattaranjan Majumdar	M	9862434827	Satya Ran. Majumdar
3	Lumpur. Rita Dey	F	Tea stall owner Resides Lumpur Bazaar. Auto stand.	[illegible]
6.	K.S. Gattorry	M		[illegible]
7.	S. Debbarma EE ASCL	M		[illegible]
8	Govind Singh Rathore	M	9560967524	[illegible]
9	Rajni Iyer	F	—	[illegible]
10	Lakshman H	M	7674071034	[illegible]

Public Consultation - ITI Road

One Public Consultation was held at ITI Road with the Shop Owners, Tenants and shop keepers on 05-05-2019. This is a core market area with large number of hawkers on the street. People were explained about the project and its benefit. Questions were asked about the concerns of the people, and the points were as follows:

- People informed that the existing nalla is uncovered at some places and emanates smells.
- They expressed happiness on closing the entire nalla and availability of space on roadside due to shifting of utilities underground as per the subproject design proposal.
- They wanted work to be completed in time.

	
Shop Owners and Keepers – ITI Road	Household People – ITI Road

Name of Project: Agartala Smart City Project (ASCP)- Upgradation of Major Roads Along with Pathways and Junctions in Agartala City – Phase 2

Area: ITI Road **Date:** 05 May 2019

S. No.	Name	Mobile Number
1.	Bijan chakraborty	9485151600
2.	Krishna Ram Das	9862494386
3.	Puntha Das	9774688947
4.	Amrita Chakraborty	9774542104
5.	Monoj Deb.	9862802803
6.	ANJAN DEBNATH	9436121512
7.	Anesri Debnath	9436462612
8.	Biswojit Ghosh	9612211128
9.	Manik Lodh.	9436122620
10.	Babul Deb.	9862467598
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Public Consultation - GB Hospital to Ramthakur Club road and Jail Ashram Road

One Public Consultation was held at GB Hospital to Ramthankur road Road and Jail Ashram Road with the Shop Owners, Tenants and shop keepers on 05-05-2019. The respondents were asked about the traffic and road conditions and were informed about the proposed project in Agartala City. The points shared by the people were as follows:

- Special concern was raised by people owning medical shops regarding the traffic congestion during construction period. Since, GB Hospital is at the junction, people were concerned about hindrance to entry and exit to the hospital. However, they showed their approval towards the project as it will improve the traffic congestion and will regulate the pedestrian movements on the streets.
- They will have disturbance during the time of construction, but they support the project as it will give a facelift to the area.
- The respondents accepted that the covered drains and improved utility services will improve their quality of life.
- Residents were concerned about safety aspect during the construction phase.

- On time completion of project was also the concern raised by the public.

<table>
<tr><td>  </td><td>  </td></tr>
<tr><td>Shop Owners and Keepers</td><td>Medical Shop owners</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Local Public</td><td>Grain Merchant – Issue of safety during construction raised by the individual</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Shop Keepers – Jail Ashram Road</td><td>Shop Keepers – Jail Ashram Road</td></tr>
</table>

Name of Project: Agartala Smart City Project (ASCP)- Upgradation of Major Roads Along with Pathways and Junctions in Agartala City – Phase 2

Area: Jail Ashram Road **Date:** 05 May 2019

S. No.	Name	Mobile Number
1.	(Mathi lal Saha) Mathi lal Saha	9862869774
2.	Jayanti Bhowmik (Global Travels)	9774110240
3.	Sawmal She	9863332337
4.	Rupak Saha (Glorious Touch)	9774113520
5.	Chandan Datta	9862123836
6.	Sanjeb Sir.	8256997123
7.	Partha kumar Debnath	9774228998
8.	Gita Bhowmik (Datta)	7640885920
9.	Chandan Datta	8794682430
10.	Sunny Debnath (Janani Medical Hall)	8794868784
11.	[illegible]	9862024767
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Name of Project: Agartala Smart City Project (ASCP)- Upgradation of Major Roads Along with Pathways and Junctions in Agartala City – Phase 2

Area: GB Hospital to Gandhighat **Date:** 05 May 2019

S. No.	Name	Mobile Number
1.	Suvo Bhowmik (Mandala Medical)	8974755108
2.	Panna lal Dutta	8974412752
3.	Tapan Das. (Gurubhai Shop)	Tapan
4.	Amitava Saha (Mukhruchi Shop)	9436456164.
5.	Surajit Dey.	8787501718
6.	RajuBhowmik	9862443158
7.	Sudip paul	9862985322
8.	Sukumar Debbarma	9856560185
9.	Badal chakraborty	8787391131
10.	Tapan Debnath	9862475520
11.	Rabindra Sarkar	7005659706
12.	Sagar Rakshit	7005578472
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Name of Project: Agartala Smart City Project (ASCP)- Upgradation of Major Roads Along with Pathways and Junctions in Agartala City – Phase 2

Area: GB Hospital to Gandhighat **Date:** 05 May 2019

S. No.	Name	Mobile Number
1.	Sudhindra M. Chakrabarty	9366586564
2.	Prabal Roy (Roy Varieties) House	8837384928
3.	Gourab Debbarma (S.K enterprise)	8258073174
4.	Sidarantha Bhowmik	9436138178
5.	(Shivam Stationary & House)	
6.	Gouri Pd. Deb (Tect medicals)	9612656249
7.	Joydeb ch Saha	9612732542
8.	Amit Ranjan Pal	9862858294
9.	Pankaj Saha (Star Restaurant)	9862079561
10.	Arghya Ghosh	9436448973 5
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Public Consultation - Ronaldsay Road and Sakuntala Road

Public Consultation was held at Mantribari Extension Road, Ronaldsay Road and Sakuntala Road with the Shop Owners, Tenants and shop keepers on 06-05-2019. The respondents were asked about the traffic and road conditions and were informed about the proposed project in Agartala City. The points shared by the people were as follows:

- Few street hawkers informed that they understand that there will be problem of dust and noise during construction to all the food hawkers affecting their business. However, they accepted that the covered drains and improved utility services will improve their quality of life.

Shop Owners – Sakuntala Road

Shop Owners – Ronaldsay Road

Name of Project: Agartala Smart City Project (ASCP)- Upgradation of Major Roads Along with Pathways and Junctions in Agartala City – Phase 2

Area: Ronaldsay Road (TG Road) **Date:** 06 May 2019

S. No.	Name	Mobile Number
1.	Sujoy Ghosh (Sushikha Xerox)	9774794471
2.	Pinku Paul	9436453388
3.	Pranabesh Das (Ganapati Travels)	9436486520
4.	Subir Deb (Om Varities)	9436575014
5.	Manoranjan Datta Biswas.	9436768316
6.	Nala crossing near Girijraj Hotel	
7.	Jogenta Roy (Alpanza)	9436125518
8.	Sarkar Medicals	9774113057
9.	Naradan Chakraborty (Laxmi Varities)	7005056218
10.	Utpal Sarkar (Kalimata Enterprises)	9436520616
11.	Roopam Deb (Bengal Sarees)	9774147077
12.	Sandib Sutradhar.	8787482292
13.	Bhaskar Singh Sarkar (Sajkaj medicals)	9436128826
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Public Consultation - Barjala Road

One Public Consultation was held at Barjala Road with the Shop Owners, Tenants and shop keepers on 07-05-2019. The respondents were asked about the traffic and road conditions and were informed about the proposed project in Agartala City. The points shared by the people were as follows:

- They will have disturbance during the time of construction, but they support the project as it will give a facelift to the area.
- The respondents accepted that the covered drains and improved utility services will improve their quality of life. They are positive about the development as it will improve the pedestrian movement improving their business prospects.
- Residents were concerned about safety aspect during the construction phase.
- On time completion of project was also the concern raised by the public.
- People had a suggestion that prior notice and information to be given before the start of work so that prior adjustments can be made by public if necessary.

	
Shop Owners – Barjala Road	Shop Owners – Barjala Road

Name of Project: Agartala Smart City Project (ASCP)- Upgradation of Major Roads Along with Pathways and Junctions in Agartala City – Phase 2

Area: BARJALA ROAD **Date:** 07-05-2019

S. No.	Name	Mobile Number
1.	Bobjim Bhowmik.	8837074576
2.	Rakesh Sutradhar.	8794916594
3.	Kebdip [illegible]	9774138211
4.	Sadhan pal	
5.	Bivas Sarkar.	9774854257.
6.	[illegible] (Laxman Debnath)	9863340350
7.	Swapan Paul (Arpita Medicals)	9862444593
8.	Sheesham Chakraborty	7005 182930
9.	Sanjib Deb.	8787 737224
10.	Shiba Prasad Das.	9436919330
11.	Satyapriya Chakraborty.	9863045394
12.	Uttam Deb	8794299252
13.	Ranjan Shil	9862433343
14.	Jayanta Pal	7005789021
15.	[illegible]	7005249 228

Name of Project: Agartala Smart City Project (ASCP)- Upgradation of Major Roads Along with Pathways and Junctions in Agartala City – Phase 2

Area: BARJALA ROAD **Date:** 07-05-2019

S. No.	Name	Mobile Number
1.	Bapi Chandra (Bapi Kundu)	8259830990
2.	Jayanta Sarkar	8258997878
3.	Milan Chakraborty (Chakraborty Medicals)	9612247858.
4.	ASIS Chakraborty (Thapna Medicals)	9863051923
5.	Ram Prasad Bawle	8974613011
6.	Bhaskar Dutta	8974802237
7.	Subrata Dey (Debbrata Deb)	9485016948
8.	Jayanta Kr. Dutta (Medicare)	8258943655
9.	Abdul Aziz (Athin Electricals)	8794912770
10.	Syed Ibrahim Ali (Rakibur Trade Centre)	9436723778.
11.	Rajib Sarkar (Maa Durga Automobile)	9774159517
12.	(Abhijit Debnath)	7005227209.
13.	Bishnu Bhowmik	7005348978
14.	Papan Saha	9774874178
15.		

Name of Project: Agartala Smart City Project (ASCP) – Up gradation of Major Roads along with Pathways in Agartala City – Phase 1

Area: Thakurpalli road **Date:** 10/07/19

S. No.	Name	M/ F	Contact Number
1.	Reba Das. a	F	9436553915
2.	Trisha Das	F	936665/500
3.	Mukta Majumdere	F	7007371175
4.	Banasree Roy	F	9862936977
5.	Puty Sankar	F	9366741632
6.	Khushi mog	F	8729896155
7.	Dipali Debnath	m	9862323533
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Name of Project: Agartala Smart City Project (ASCP) – Up gradation of Major Roads along with Pathways in Agartala City – Phase 1

Area: HGB Road **Date:** 10.07.2019

S. No.	Name	M/F	Contact Number
1.	Subhas Bhowmik	M	8794 031839
2.	Sanchita Acharjee	F	
3.	Swati Ray.	F	9862111197
4.	Sampa Bhattacharya	F	9862362944
5.	Tanusree Das	F	9862207715
6.	Neli Gon. Chowdhury	F	9436587171
7.	Uma Barman	F	9366649205
8.	Hosneara Bibi.	F	7005605274
9.	Pratishruti Singha	M	9774165884
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Name of Project: Agartala Smart City Project (ASCP) – Up gradation of Major Roads along with Pathways in Agartala City – Phase 1

Area: VIP Road **Date:** 10 July 2019

S. No.	Name	M/ F	Contact Number
1.	Panchali Pal.	F	8974904721
2.	Madhabi DebBarma	F	
3.	Anuradha Debbarma	F	
4.	Rakhal Sheil	M	
5.	Sudip De	M	8794912195
6.	Nikhil Debnath	M	9615811551
7.	Sikha Debnath	F	9089645694
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Minutes of Meeting of Stakeholder Consultation

AGARTALA SMART CITY LIMITED
(CIN: U74999TR2016SGC013499)
AGARTALA MUNICIPAL CORPORATION, 5TH FLOOR, CITY CENTRE, PARADISE CHOUMUHANI, AGARTALA, WEST TRIPURA- 799001

Minutes of the meeting

A Stakeholders Meeting related to "Upgradation of Major Roads" , "Utility Corridor" and "Construction / beautification of Major Junctions" held on 26.11.2018 from 11:00 Hrs at Conference Hall of the Agartata Municipal corporation.

This meeting has been called upon the observations received during the site visits and meetings held with the representatives of Asian Development Bank (ADB) from 12th to 16th of November, 2018.

The following points have been discussed:

Sl. No.	Points discussed	Action taken
1	Ownership of Existing Roads w.r.t. department limits	Roads are maintained by PWD (R&B) and Land ownership is with AMC.
2.	Details of existing utilities below the pavement	Existing underground utilities: WPL for Old lines – DWS will provide data by 28th Nov, 2018 from Div-I. WPL – New Lines: Urban Development Department will provide data by 28th Nov, 2018 from UD -office. As Built Drawings for newly laid water pipelines along the roads discussed to be provided by UDD. 11kv underground Electrical line layouts from Electrical department will be provided by 28th of Nov, 2018 from Div-II.
3.	Permissions given by the respective department laying / shifting those existing underground utilities.	OFC & Other Underground lines: PWD (R&B) and AMC will to provide all data on or before 30th Nov, 2018. Otherwise PMC's client / contractor shall go ahead with the execution process without any prior information to the stake holders.
4.	Permission required by PMC / Contractor during future execution	PWD (R&B) and AMC assured to provide all required permissions during execution.

Sl. No.	Points discussed	Action taken
5	Existing Width/ ROW of roads proposed for development and ground marking for roads	Right of Way of Road section from Lichubagan to Airport needs on site demarcation and confirmation w.r.to site conditions for finalising the ROW for design and costing. This demarcation and confirmation is needed for finalisation of construction methodology during execution. Road section from Lichubagan road to Agartala Airport is under Executive Engineer – PWD (R&B) of Mohanpur Division and SDM of Mohanpur Division. For this Chief Engineer – PWD (R&B) and SDM – Mohanpur to provide all concerned data on or before 30th Nov, 2018.
6	Road history, pavement crust and widening proposals	PWD (R&B) does not maintain the records of road widening and overlay proposals schemes as of now. For details of existing pavement crust, PMC has planned for Trial Pits/ Soil Investigations and other Engineering Surveys on the proposed roads under discussion. PWD (R&B) and AMC will provide required NOC for Trial Pits/ Soil Investigations and Surveys planned by PMC hereafter and representative from PWD (R&B) will supervise the surveys and investigations to authorise the pavement crust thickness found during surveys. Test trial pits to be backfilled by Cement Concrete.
7.	Road list from Development plan (Length, ROW with cross sectional details), if any.	No development plan for Agartala City is available as on date.
8	Traffic survey data/Report, diversion plans implemented and planned for future	SP – Traffic confirmed that they don't have this type of plan, their diversion plans are prepared as per situation on site and deploy extra man power during these situations. However, SP – Traffic has agreed to provide data / plan within whichever available by 28th Nov, 2018.
9	Major junctions: implementation scheme for smooth traffic movements at these junctions, proposals for improvements, relocation of existing historical monuments and finalisation of beautification concepts	Approval for Major Junctions will be taken up separately.

Sl. No.	Points discussed	Action taken
10	Details of Flyover at Battala (basic traffic study and proposed traffic movements after commission of the flyover)	PWD – R&B does not have any basic traffic study for proposal of Flyover at Battala location. SP – traffic informed that there is no planned traffic diversion after the commissioning of Traffic over Battala Flyover.
11	Parking: two wheelers, 3 wheelers and 4 wheelers, auto stands if designated as so, designated Pick up and drop areas.	Parking zones: AMC will provide list of dedicated parking zone by 28th Nov, 2018.
12	Condition of existing cross drainage works, widening/reconstruction proposals and requirement of additional CD works.	SWD – SE-UD (office at AMC building) will provide one old DPR by 28th Nov, 2018. Network drawing, calculations and other related information will be provided by CE-UD Department by 28th Nov, 2018.
13	Discharge from Nallahs carrying sewage into river	UD Dept will share all the required information/data to consultant.
14	Network of existing Storm Water Drains, details on each road	Mr. Satyabrata Karmarkar, U D Dept will share the data by 28th Nov, 2018.
15	Sensitive areas of accidents, dark spots within city limits and remedial measures	SP, traffic informed that two places are there as sensitive areas (Lichubagan) No dark spots in city area.
16	Locations of bus stops, relocation and improvements in facilities. Provision of designated Auto stands and Cycle Rickshaws	TUTCL and AMC will provide locations of existing bus stops and future proposals for relocation and additional bus stops on 28th November.
17	Water pipeline locations, status of execution on the proposed roads for upgradation. As Built Drawings of pipelines laid under ADB/Other projects	Water pipeline locations a) DWS has old pipelines data and UD department has data for new pipelines. b) DWS div 1 will provide data by 28th November, 2018. c) UD department will provide data by 28th November, 2018.
18	Conversion of Overhead to Underground of HT & LT lines, installation of associated equipment, methodology planned and phase of execution	HT and LT Lines- TSECL doesn't have any plan to shift overhead line to underground due to constraint of fund availability. However, TSECL has completed its design and detail engineering for conversion of overhead line to underground works. Further, it has been informed by MD, ASCL that, the decision regarding carrying out above works shall be taken on higher level later on. PMC to prepare DPR excluding the utility shifting work. It has been also discussed that, there are no 33kV lines present along the proposed smart roads. Thus, it is been decided

Sl. No.	Points discussed	Action taken
Cont'd		and concluded that, there is no requirement of conduits (DWC pipes) for 33kV cable laying in future.
19	Provision of street lighting on selected road for upgradation, methodology planned and phase of execution	Provision of Street lighting including design and detail engineering on proposed Smart Roads has been completed by TSECL. However, TSECL doesn't have enough fund to execute the project. Further, it has been informed by MD, ASCL that, the decision regarding carrying out above works shall be taken on higher level later on. PMC to prepare DPR excluding the Street lighting work.
20	Management of Solid waste collection bins	Discussed and will be taken up separately.
21	Environmental concerns relating to flooding, safety/security	PMC to study all related aspects and incorporate in the DPRs to be submitted to ADB.
22	Social concerns: Safety/security of women, children, lighting, walkway, solid waste disposal, any other items related.	The point of encroachment on footpaths near Radhanagar Bus stop was discussed. The encroachers are provided with facility at about 200 m from the bus stand. The construction activity is looked after by UD department. But, the construction of building is yet to be completed. It will be finished in next one month and the encroachment on shall be cleared before the construction activity begins.

(Md. Zubair Ali Hashmi, IAS)
Managing Director
Agartala Smart City Limited

ATTENDANCE OF THE MEETING RELATED TO MAJOR ROADS AND PATHWAYS WITH ALL STAKEHOLDERS HELD ON 26.11.2018 IN THE AMC CONFERENCE HALL,3RD FLOOR

SL NO.	NAME	DESIGNATION	E- MAIL	LANDPHONE/MOBILE NUMBER	SIGNATURE
1	Dhruba Chakraborty	CE, UDD		8837326330	[signature] 26/11/2018
2	Nirod Sarma	SE PWD WR		9436542372	[signature] 26/11/2018
3	Miss Sharmistha Chakraborty	Addl SP, Traffic	sptraffic@tripurapolice.nic.in	9436126967	[signature] 26/11/18
4	Binay Bh. Ghosh	SE, DWS Circle Agt -		9436477080	[signature] 26/11/18
5	Sanjiban Datta	Sr. Architect PWD	Sr.Arch_PWD@rediffmail.com	9436120902	[signature] 26.11.18
6	Kamal Sarkar	S.E. PWD (R&B)	se2pwd@gmail.com	9436960310	[signature] 26/11/18
7	Ratan Chowdhury	EE, P.W.D, Divn - 1	ratanchowdhury2017@gmail.com	9436123833	[signature] 26/11/18
8	Sebukesh Debbarma	DGM, TSECL, ED-II	[illegible]	9436136020	[signature] 26/11/2018
9	Mina Debbarma	DGM, TSECL, ED-I, Agartala	minatsecl@gmail.com	9436134074	[signature] 26.11.18
10	Bishu Karmakar	Scientist 'B' Tripura State Pollution Control Board	bishuks@gmail.com	9436169279	[signature] 26.11.18
11	Bijay Sinha	Addl. SDM Sadar	sdmsadar2016@gmail.com	9436450590	[signature] 26/11/18
12	Siddhartha Das	Asst. Manager (Finance) TUTCL	mdtutcl@gmail.com	7085068607	[signature] 26/11/18

13	Arupan Sen	S.E. DTL			
14	Mahesh Ninje	Senior Engineer, TCE	nimjemahesh1@gmail.com	7083222465	
15	Ramprakash Yadav	Engg. Manager	rbyadav@tce.co.in	9405465123	
16	Sumit Goel	Engineer - Civil	sgoel@tce.co.in	9663780876	
17	ANKUSH BHANDARI	Engineer- Environment	aabhandari@tce.co.in	9881982305	
18	Vinay Phasate	Electrical Engineer - TCE (PMC)	vsphasate@tce.co.in	9406006327	
19	Tuhin Ghosh	DGM (E) - PMC	Tsghosh@tce.co.in	9822122538	
20	Vinay Garje	Sr. Manager Civil - PMC	Vinaykumarg@tce.co.in	9372732546	
21	MANAS KANTI MAJI	Urban Designer - TCE	mkmaji@tce.co.in	9999083285	
22	Abir Ghosh	Team Leader - TCE	abirg@tce.co.in.	+919830884957	
23	Lakshman Hanmante	Transportation Engineer-TCE	hlakshmore@tce.co.in	7674071074	
24					
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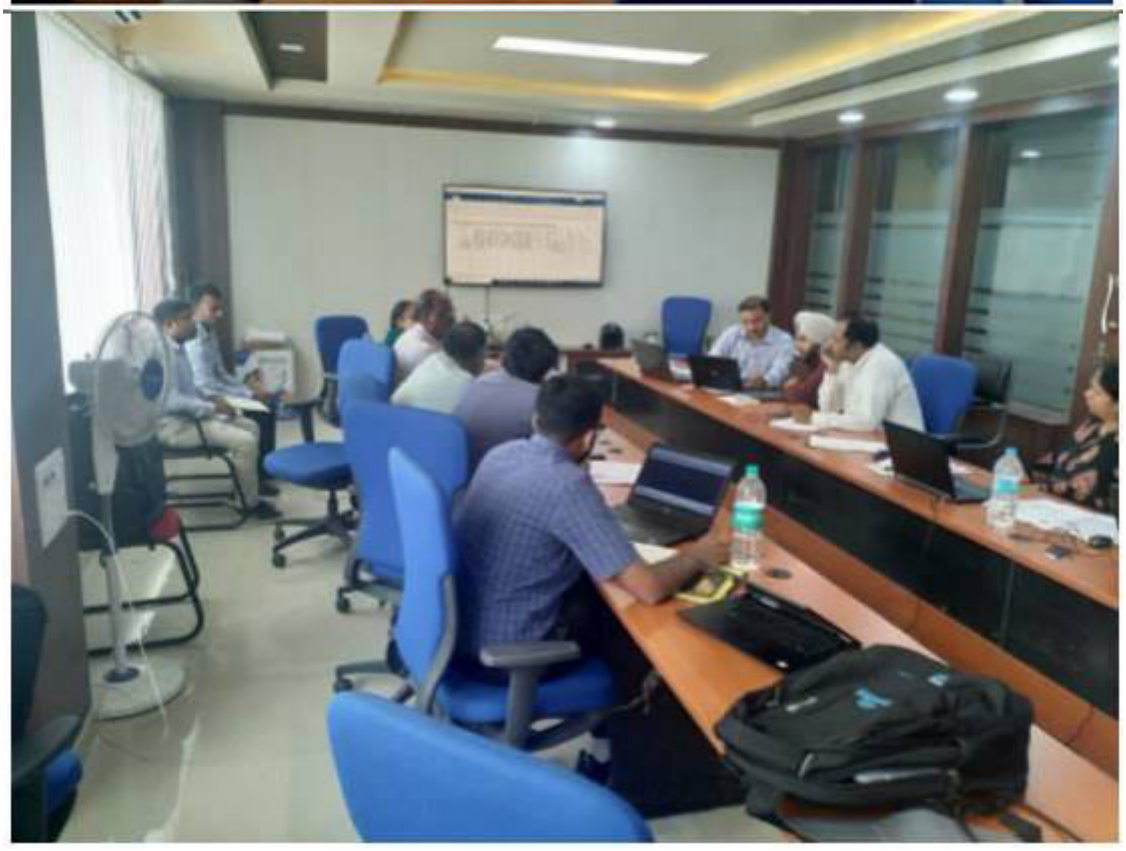
Minutes of Meeting of the Orientation Programme Held for PMC Officials in the Conference Hall of ASCL, Agartala held on the 10/07/2019

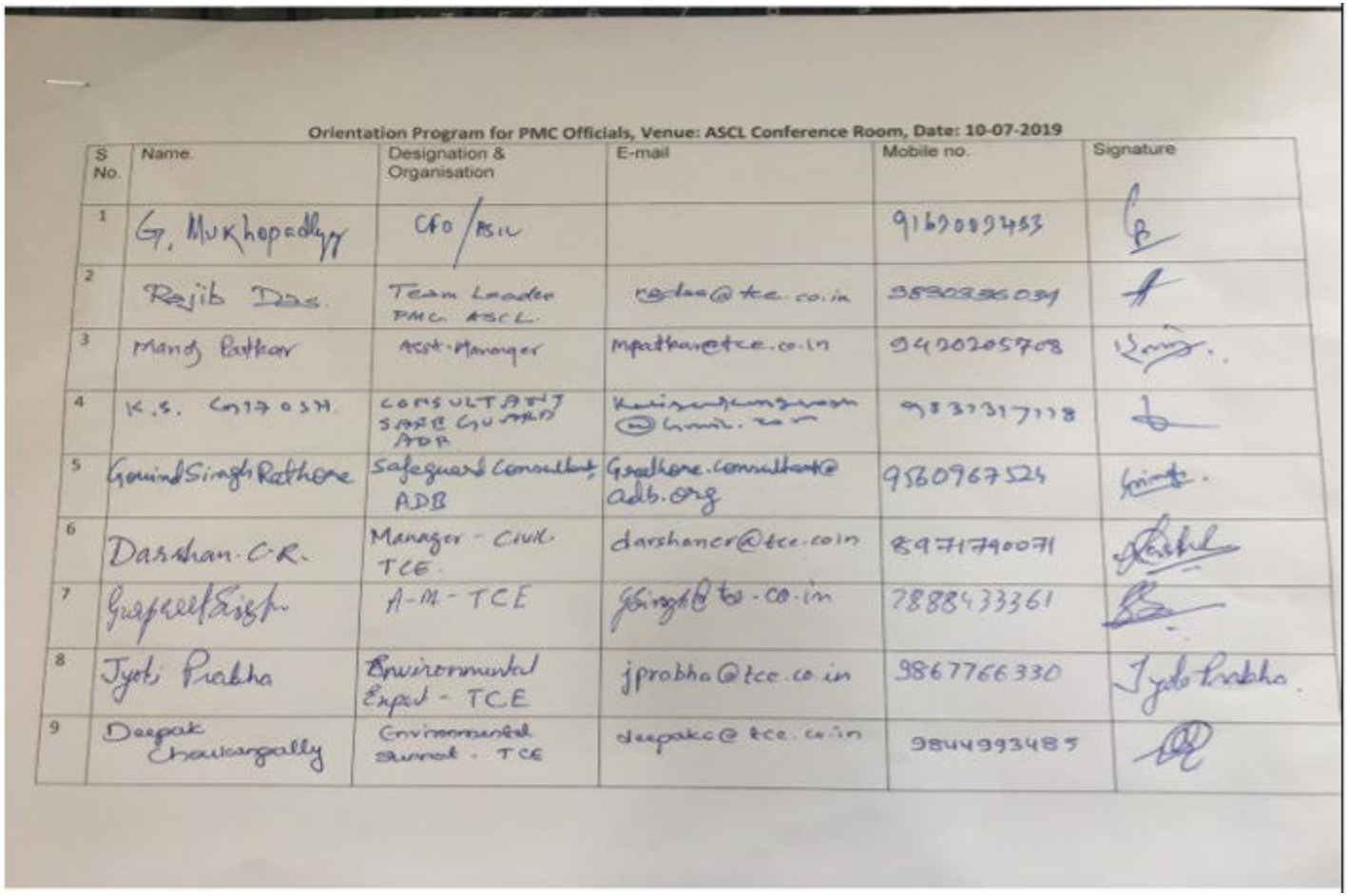
Minutes of Meeting

An Orientation programme was held at the 5th floor, Conference Hall of the Agartala Smart City Limited on 10th July 2019 at 10.30am.

The following points were presented and discussed with ADB, CFO and PMC officials.

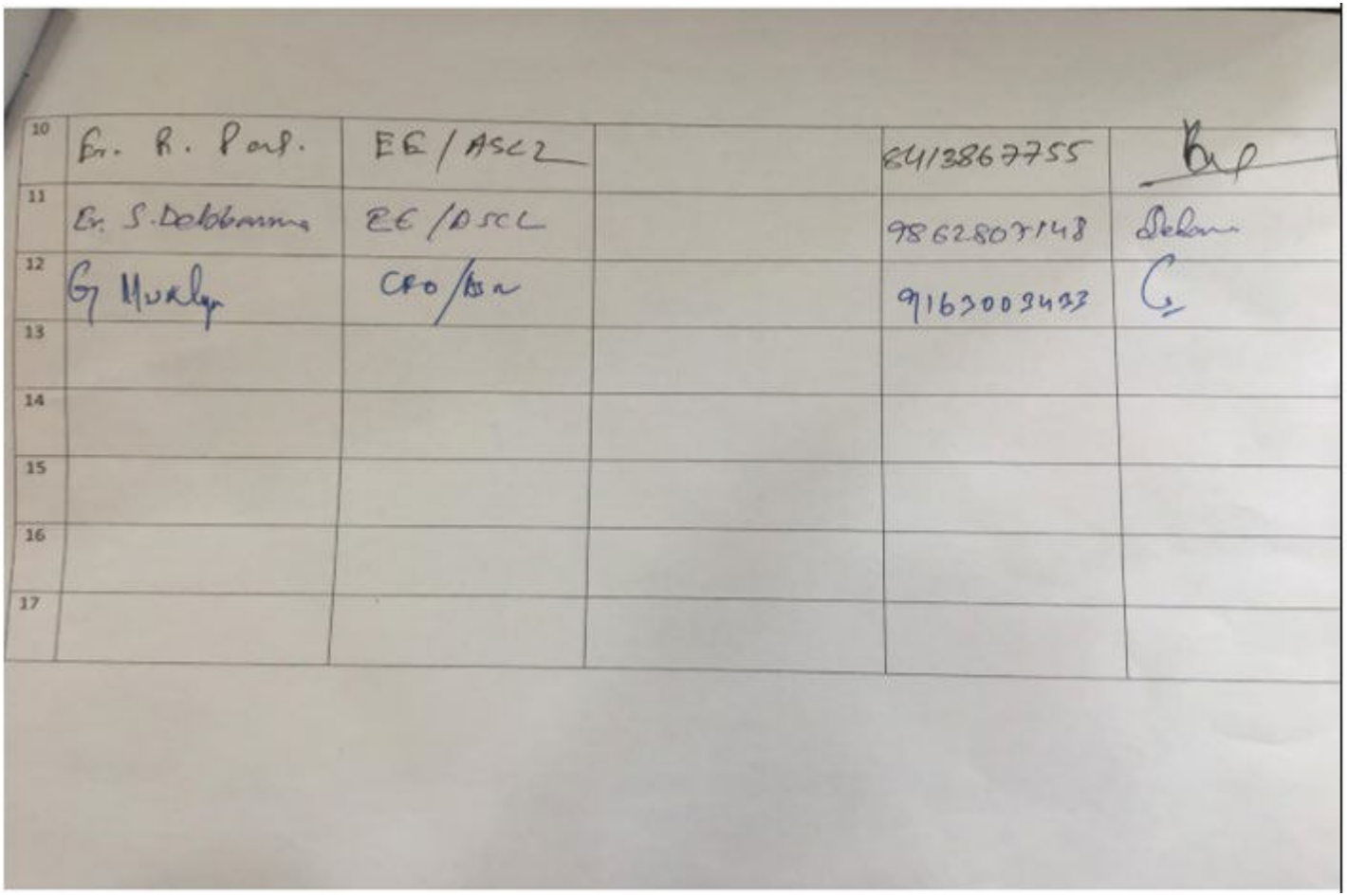
1. Mr Rathore (Safeguard expert) explained the CFO that the PIU (ASCL) must appoint an Environmental and Social Safeguard expert, who will be the nodal contact for all Safeguard related requirements for the project, this is also as per the ADB Implementation Arrangement requirement. CFO informed that the appointment process has been initiated and the expert will be on board from July 2019.
2. Mr Kali Cgosh (Social Safeguard Expert) informed that for Ujjayanta Palace related revenue and other documents regarding additional components for Ujjayanta Palace complex have to be provided for Astabal area, Food Court, Parking area, rear garden and eastern side of lake proposed for redevelopment and renovation. ASCL to provide support to get the same from concerned revenue offcials.
3. The required NOC and land transfer for Ujjayanta Palace should be obtained before initiation of the project.
4. Based on the site visit for the Phase 2 Roads, the ADB team apprised the CFO that the scope of the Phase 2 roads is required to be re-looked based on the existing status of settlements and encroachments in the roads.
5. The CFO was requested to arrange a meeting on 11th July to apprise about the project to the ASCL and AMC (Agartala Municipal Corporation).





Orientation Program for PMC Officials, Venue: ASCL Conference Room, Date: 10-07-2019

S No.	Name	Designation & Organisation	E-mail	Mobile no.	Signature
1	G. Mukhopadhyay	CFO / ASCL		9163093453	
2	Rajib Das	Team Leader PMC ASCL	rdas@tce.co.in	9830335039	
3	Manoj Patkar	Asst. Manager	mpatkar@tce.co.in	9430205708	
4	K.S. Chitoshi	CONSULTANT SAFE GUARD ADB	[illegible]	9873317118	
5	Govind Singh Rathore	Safeguard Consultant ADB	Grathore.consultant@adb.org	9560967524	
6	Darshan C.R.	Manager - Civil TCE	darshancr@tce.co.in	8971740071	
7	Gagandeep Singh	A-M - TCE	gsingh@tce.co.in	7888433361	
8	Jyoti Prabha	Environmental Expert - TCE	jprabha@tce.co.in	9867766330	Jyoti Prabha
9	Deepak Chavakargally	Environmental Surveyor - TCE	deepakc@tce.co.in	9844993485	



10	Er. R. Prof.	EE / ASC2		8413867755	
11	Er. S. Dobbanna	EE / DSCL		9862807148	
12	G Murthy	CAO / BCA		9163003433	
13					
14					
15					
16					
17					

Minutes of Meeting of the Projects' Overview and Orientation Programme with ADB Officials in presence of the ASCL Officials held on 11/07/2019 in the Conference Hall of ASCL.

Minutes of Meeting

A Projects' overview and Orientation programme was held at the 5th floor, Conference Hall of the Agartala Smart City Limited on 11th July 2019 at 12.00pm.

The following points were presented and discussed with ADB, CFO and PMC officials.

Projects' Overview

1. Mr. Gurpreet of TCE team explained the Smart Roads, MBB Lake Rejuvenation and Ujjayanta Palace projects. Total cost of the projects is coming out to be around Rs. 524.27 Crores including O&M and Contingency.
2. ASCL team asked to give contingency cost separately.
3. Whereas, ADB fund is expected to be around USD 64 million, TCE has developed 7 options to curtail the cost and match the ADB funding.
4. ASCL Officials asked how many options have been arrived at and how many are feasible Mr. Gurpreet informed that 7 options are developed and out of which 4 are feasible considering the social aspects and cost considerations.
5. It was informed that, a road length of around 6.55 Km has been reduced out of total road length
6. Mr. Kalighosh of ADB Social Safeguard Consultant informed that, in some road stretched permanent houses and shops must be shifted, hence, the road length reduction is suggested.
7. He also informed that based on the preliminary estimation, approximate Rs. 50 lacs compensation for 274 temporary affected persons to be given, which is very high.
8. ASCL asked details of road stretches which have issues of encroachment and shifting of shops temporarily.

   Mr. Gurpreet informed that,

   GB Hospital to Abhoynagar Bridge stretch

   Lal Bahaddur Shastri Club to Water Pond

   Sports Complex area road in Gangail Road

   It is also informed that,

   Mantribari Extension Road

   Lankamura Road and

   Part of GB Hospita to Gandhighat roads have to be deducted.

Orientation to ASCL Officials

1. Mr. Kalighosh has explained about the Social Impact Assessment Details

   Category A: 10-15% Significant Involuntary Resettlement (IR) impacts are envisages, Resettlement Plan (RP) is required.

   Category B: Where IR or Indigenous People (IP) impacts are not deemed significant and RP is required.

   Significant IR impacts area

   a. If more than 200 persons are affected from major impacts
   b. Being physically displaced from housing
   c. Losing 10% or more of their income

   Following persons can complain to ADB against the project

   a. 2 or more adversely affected persons
   b. Authorised representatives of affected persons
   c. NGOs

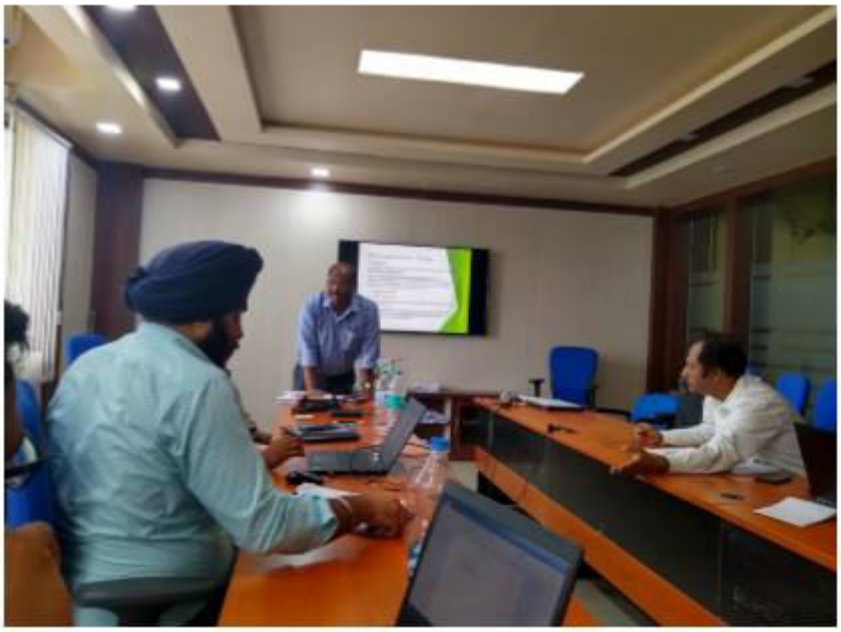
   Mr. Kalighosh asked AMC officials to help TCE in providing land ownership records

2. Mr. Govind Singh Rathore of ADB presented the risk assessment for Environmental Impacts.

   Following are some of the environmental and safety aspects highlighted to be covered in the tender documents.

   a. Related to Shoring, hard barricade which if not provided result in human injury and be the cause for unseen cost burden as monetary compensation to the affected persons.
   b. He gave case studies of projects in other state, where shoring and barricading were not provided as per the standards their implications, highlighting same should be given due consideration in the tender documents.
   c. Secondary containment for fuel and lubricants storages to avoid land and water contamination
   d. Safe Storage/ Disposal of excavated earth to avoid water body contamination due to run off in monsoon.

   He also asked to include all safety and environmental clauses in contract/ tender document.



Orientation Program with ADB Officials in presence of ASCL Officials held on 11/07/2019 in the conference hall of Agartala Smart City Limited.

SL NO.	NAME	DESIGNATION	E- MAIL	LANDPHONE/MOBILE NUMBER	SIGNATURE
1					
2					
3					
4	K.S. [illegible]	CONSULTANT. S.S. ADB	[illegible]	983131711 8	[signature]
5	Govind Singh Rathore	Safeguard consultant, ADB	grathore.consultant@adb.org	9560967524	[signature]
6	Rajib Das.	Team Leader P.M.C. ASCL.	rcdas@tce.co.in	9830336034	[signature]
7	Dr. JYOTI PRABHA	Environmental Expert – TCE	jprabha@tce.co.in	9867766330	Jyoti Prabha
8	G Mukherjee	CFO /ASCL	[illegible]	9163003433	[signature]
9	S. Debbarma	EE/ASCL		9862803148	[signature]
10	R. Paul.	EE/ASCL		8413847755	[signature]
11	Dr. Rajani Iyer	AGM/TCE	rajani@tce.co.in	829 1244 318	[signature]
12					
13					

	NAME	DESIGNATION	E-MAIL	LANDPHONE/MOBILE NUMBER	SIGNATURE
14	Deepak Chowdary	Environmental Support - TCE	deepakc@tce.co.in	9544993485	
15	Darshan C.R.	Road Engineer - TCE	darshancr@tce.co.in	8971790071	
16		Road Engg - TCE		7888433361	
17					
18					
19					

Appendix 10: Sample Grievance Redressal Form

(To be available in Hindi, English or local language, if any)

The ASCL welcomes complaints, suggestions, queries and comments regarding project implementation. We encourage persons with grievance to provide their name and contact information to enable us to get in touch with you for clarification and feedback.

Should you choose to include your personal details but want that information to remain confidential, please inform us by writing/typing *(CONFIDENTIAL)* above your name. Thank you.

Date	Place of registration				
Contact Information/Personal Details					
Name		Gender	Male Female	Age	
Home Address					
Village / Town					
District					
Phone no.					
E-mail					
Complaint/Suggestion/Comment/Question Please provide the details (who, what, where and how) of your grievance below: If included as attachment/note/letter, please tick here:					
How do you want us to reach you for feedback or update on your comment/grievance?					

FOR OFFICIAL USE ONLY

Registered by: (Name of official registering grievance)
If – then mode: ▪ **Note/Letter** ▪ **E-mail** ▪ **Verbal/Telephonic**
Reviewed by: (Names/Positions of Official(s) reviewing grievance)
Action Taken:

Whether Action Taken Disclosed:	▪ **Yes** ▪ **No**
Means of Disclosure:	

GRIVENCES RECORD AND ACTION TAKEN

Sr. No.	Date	Name and Contact No. of Complainer	Type of Complain	Place	Status of Redress	Remarks

Appendix 11: Sample Chance find Protocol

Introduction

Project town being a heritage town, there are possibility of any chance finds (artefacts) recovery during excavations. Contractors working at heritage towns must take additional care not to destroy or damage historic features during excavations. There may be many buried historic features in heritage towns such as – idols, toys, wells, ancient drains, remains of buildings, other walls, grain pits, etc. Every care must be made not to destroy these during excavations.

Excavator drivers need to be instructed to be aware of hitting buried features and that they must be investigated before continuing work. When features are encountered during mechanical excavation, work should stop and the PIU/Consultants engineers must be informed immediately so that they can be inspected at the first opportunity.

When historic features such as walls, brick constructions and other features are encountered during excavation the excavation must be stopped immediately and the PIU/Consultants must be informed immediately.

1.1 ***Contractors' instruction****:* As soon as contractor recovers any chance find during any excavation works for pipe laying, they should immediately inform PIU/Consultant present in town about the chance find recovery. Immediately stop the excavation activity near point of recovery. After PIU/consultants engineers come at site, contractor should follow cleaning and photography in supervision of PIU/Consultant engineers.

1.2 ***Cleaning*** - When a feature/chance find is discovered it must be defined by careful cleaning. Roots must be removed and dirt must be carefully cleaned away. The section or trench base should also be cleaned back for a little distance around the feature.

1.3 ***Record photography*** – When the feature is clean good photography should be taken – vertical and face-on shots and a few general shots of the feature, also showing its position in relation to surrounding features, buildings, etc. The photographed should be catalogued (date, location, direction of shot)

1.4 ***Drawn record -***When features/chance finds are revealed a drawn record should also be made.

a. General location record – measuring its position and orientation within the protected site / in relation to surrounding structures

b. Record drawings – detail drawings made in plan and section/profile. The extent (edges) of the feature should be drawn and the level of the existing ground surface and the top and base of the feature should be recorded. These levels should be marked on the drawings. The drawings should include detail of the construction of the feature. Perspective sketches could also be made if necessary. Explanatory notes can also be put on the drawings.

1.5 ***Reporting finds -*** When finds are made these should be reported to PIU/Consultants. Photographs and record drawings should be sent.

1.6 ***Discovery of historic objects -*** When clearance and excavation takes place artifacts and historic objects are sometimes found. These should be recovered and kept in a safe place. The place of discovery should be recorded and each find given a number and tag tied to the find with the same number on it. A list of the finds should be kept (with the find No. And place of discovery and date of discovery recorded).

1.7 ***PIU/Consultants responsibility-*** PIU/Consultants should inform in written to the State Archaeological Department at the earliest with photographs and request to Archaeology Department to visit the site and hand over the chance finds to them.

Appendix 11: Sample Environmental Site Inspection Checklist

Project Name
Contract Number

NAME: _____ DATE: _____
TITLE: _____ DMA: _____
LOCATION: _____ GROUP: _____

WEATHER:

Project Activity Stage	Survey	
	Design	
	Implementation	
	Pre-Commissioning	
	Guarantee Period	

Monitoring Items	Compliance
Compliance marked as Yes / No / Not applicable (NA) / Partially Implemented (PI)	
EHS supervisor appointed by contractor and available on site	
Construction site management plan (spoils, safety, schedule, equipment etc.,) prepared	
Traffic management plan prepared	
Dust is under control	
Excavated soil properly placed within minimum space	
Construction area is confined; no traffic/pedestrian entry observed	
Surplus soil/debris/waste is disposed without delay	
Construction material (sand/gravel/aggregate) brought to site as & when required only	
Tarpaulins used to cover sand & other loose material when transported by vehicles	
After unloading , wheels & undercarriage of vehicles cleaned prior to leaving the site	
No chance finds encountered during excavation	
Work is planned in consultation with traffic police	
Work is not being conducted during heavy traffic	
Work at a stretch is completed within a day (excavation, pipe laying & backfilling)	
Pipe trenches are not kept open unduly	
Road is not completely closed; work is conducted on edge; at least one line is kept open	
Road is closed; alternative route provided & public informed, information board provided	
Pedestrian access to houses is not blocked due to pipe laying	
Spaces left in between trenches for access	
Wooden planks/metal sheets provided across trench for pedestrian	
No public/unauthorized entry observed in work site	

Children safety measures (barricades, security) in place at works in residential areas	
Prior public information provided about the work, schedule and disturbances	
Caution/warning board provided on site	
Guards with red flag provided during work at busy roads	
Workers using appropriate PPE (boots, gloves, helmets, ear muffs etc)	
Workers conducting or near heavy noise work is provided with ear muffs	
Contractor is following standard & safe construction practices	
Deep excavation is conducted with land slip/protection measures	
First aid facilities are available on site and workers informed	
Drinking water provided at the site	
Monitoring Items	**Compliance**
Toilet facility provided at the site	
Separate toilet facility is provided for women workers	
Workers camps are maintained cleanly	
Adequate toilet & bath facilities provided	
Contractor employed local workers as far as possible	
Workers camp set up with the permission of PIU	
Adequate housing provided	
Sufficient water provided for drinking/washing/bath	
No noisy work is conducted in the nights	
Local people informed of noisy work	
No blasting activity conducted	
Pneumatic drills or other equipment creating vibration is not used near old/risky buildings	

Signature

_____

Sign off

_____	_____
Name	**Name**
Position	**Position**

Appendix 12: SEMI-ANNUAL ENVIRONMENTAL MONITORING REPORT TEMPLATE

I. INTRODUCTION

- Overall project description and objectives
- Environmental category as per ADB Safeguard Policy Statement, 2009
- Environmental category of each subproject as per national laws and regulations
- Project Safeguards Team

Name	Designation/Office	Email Address	Contact Number
1. PMU			
2. PIUs			
3. Consultants			

- Overall project and sub-project progress and status
- Description of subprojects (package-wise) and status of implementation (preliminary, detailed design, on-going construction, completed, and/or O&M stage)

Package Number	Components/List of Works	Status of Implementation (Preliminary Design/Detailed Design/On-going Construction/Completed/O&M)[a]	Contract Status (specify if under bidding or contract awarded)	If On-going Construction	
				%Physical Progress	Expected Completion Date

[a] If on-going construction, include %physical progress and expected date of completion.

II. COMPLIANCE STATUS WITH NATIONAL/STATE/LOCAL STATUTORY ENVIRONMENTAL REQUIREMENTS[a]

Package No.	Subproject Name	Statutory Environmental Requirementsb	Status of Compliancec	Validity if obtained	Action Required	Specific Conditions that will require environmental monitoring as per Environment Clearance, Consent/Permit to Establishd

[a] All statutory clearance/s, no-objection certificates, permit/s, etc. should be obtained prior to award of contract/s. Attach as appendix all clearance obtained during the reporting period. If already reported, specify in the "remarks" column.
[b] Specify (environmental clearance? Permit/consent to establish? Forest clearance? Etc.)
[c] Specify if obtained, submitted and awaiting approval, application not yet submitted.
[d] *Example: Environmental Clearance requires ambient air quality monitoring, Forest Clearance/Tree-cutting Permit requires 2 trees for every tree, etc.*

III. COMPLIANCE STATUS WITH ENVIRONMENTAL LOAN COVENANTS

No. (List schedule and paragraph number of Loan Agreement)	Covenant	Status of Compliance	Action Required

IV. COMPLIANCE STATUS WITH THE ENVIRONMENTAL MANAGEMENT PLAN (REFER TO EMP TABLES IN APPROVED IEE/S)

- Confirm if IEE/s require contractors to submit site-specific EMP/construction EMPs. If not, describe the methodology of monitoring each package under implementation.

Package-wise Implementation Status

Package Number	Components	Design Status (Preliminary Design Stage/Detailed Design Completed)	Final IEE based on Detailed Design				Site-specific EMP (or Construction EMP) approved by Project Director? (Yes/No)	Remarks
			Not yet due (detailed design not yet completed)	Submitted to ADB (Provide Date of Submission)	Disclosed on project website (Provide Link)	Final IEE provided to Contractor/s (Yes/No)		

- Identify the role/s of Safeguards Team including schedule of on-site verification of reports submitted by consultants and contractors.
- For each package, provide name/s and contact details of contractor/s' nodal person/s for environmental safeguards.
- Include as appendix all supporting documents including **signed** monthly environmental site inspection reports prepared by consultants and/or contractors.
- With reference to approved EMP/site-specific EMP/construction EMP, complete the table below
- Provide the monitoring results as per the parameters outlined in the approved EMP (or site-specific EMP/construction EMP when applicable).
- In addition to the table on EMP implementation, the main text of the report should discuss in details the following items:

(i) **Grievance Redress Mechanism.** Provide information on establishment of grievance redress mechanism and capacity of grievance redress committee to address project-related issues/complaints. Include as appendix Notification of the GRM (town-wise if applicable).

(ii) **Complaints Received during the Reporting Period.** Provide information on number, nature, and resolution of complaints received during reporting period. Attach records as per GRM in the approved IEE. Identify safeguards team member/s involved in the GRM process. Attach minutes of meetings (ensure English translation is provided).

- Confirm if any dust was noted to escape the site boundaries and identify dust suppression techniques followed for site/s.
- Identify muddy water was escaping site boundaries or muddy tracks were seen on adjacent roads.
- Identify type of erosion and sediment control measures installed on site/s, condition of erosion and sediment control measures including if these were intact following heavy rain;
- Identify designated areas for concrete works, chemical storage, construction materials, and refueling. Attach photographs of each area.
- Confirm spill kits on site and site procedure for handling emergencies.
- Identify any chemical stored on site and provide information on storage condition. Attach photograph.
- Describe management of stockpiles (construction materials, excavated soils, spoils, etc.). Provide photographs.
- Describe management of solid and liquid wastes on-site (quantity generated, transport, storage and disposal). Provide photographs.
- Provide information on barricades, signages, and on-site boards. Provide photographs.
- Provide information on
- Checking if there are any activities being under taken out of working hours and how that is being managed.

Summary of Environmental Monitoring Activities (for the Reporting Period)[a]

Impacts (List from IEE)	Mitigation Measures (List from IEE)	Parameters Monitored (As a minimum those identified in the IEE should be monitored)	Method of Monitoring	Location of Monitoring	Date of Monitoring Conducted	Name of Person Who Conducted the Monitoring
Design Phase						
Pre-Construction Phase						
Construction Phase						
Operational Phase						

[a] attach Laboratory Results and Sampling Map/Locations.

Overall Compliance with CEMP/EMP

No.	Sub-Project Name	EMP/ CEMP Part of Contract Documents (Y/N)	CEMP/ EMP Being Implemented (Y/N)	Status of Implementation (Excellent/ Satisfactory/ Partially Satisfactory/ Below Satisfactory)	Action Proposed and Additional Measures Required

V. APPROACH AND METHODOLOGY FOR ENVIRONMENTAL MONITORING OF THE PROJECT

- Brief description on the approach and methodology used for environmental monitoring of each sub-project

VI. MONITORING OF ENVIRONMENTAL IMPACTS ON PROJECT SURROUNDINGS (ambient air, water quality and noise levels)

- Brief discussion on the basis for monitoring
- Indicate type and location of environmental parameters to be monitored
- Indicate the method of monitoring and equipment to be used
- Provide monitoring results and an analysis of results in relation to baseline data and statutory requirements

As a minimum the results should be presented as per the tables below.

Air Quality Results

Site No.	Date of Testing	Site Location	Parameters (Monitoring Results)			
			PM10 $\mu g/m^3$	PM2.5 $\mu g/m^3$	SO2 $\mu g/m^3$	NO2 $\mu g/m^3$

Surface Water Quality Results

S.No.	Parameters	Results		
		Location-1 (Name)	Location-2 (Name)	Location-3 (Name)
1.	pH			
2.	Turbidity			
3.	Total Hardness			
4.	DO			
5.	BOD			
6.	COD			
7.	Chloride			
8.	Iron			
9.	TSS			
10.	Arsenic			
11.	Cadmium			
12.	Fluoride			
13.	Potassium			
14.	Sodium			

15.	Calcium			
16.	Zn			
17.	Cr^{+6}			
18.	Magnesium			
19.	Copper			
20.	Manganese			
21.	Sulphate			
22.	Cyanide			
23.	Nitrate			
24.	Lead			
25.	Boron			
26.	Selenium			
27.	Aluminium			
28.	Total residual Chlorine			

Ground water Quality Results

S.No.	Parameters	Results		
		Location-1 (Name)	Location-2 (Name)	Location-3 (Name)
1.	pH			
2.	Total Alkalinity			
3.	Total Hardness			
4.	Chloride			
5.	Iron			
6.	TDS			
7.	Arsenic			
8.	Fluoride			
9.	Zn			
10.	Cr+6			
11.	Copper			
12.	Manganese			
13.	Sulphate			
14.	Phosphate			
15.	Nitrate			
16.	Lead			
17.	Phenolic Compound			

Noise Quality Results

Site No.	Date of Testing	Site Location	LA_{eq} (dBA) (Monitoring Results)	
			Day Time	Night Time

VII. SUMMARY OF KEY ISSUES AND REMEDIAL ACTIONS

- Summary of follow up time-bound actions to be taken within a set timeframe.

APPENDIXES

- Photos
- Summary of consultations
- Copies of environmental clearances and permits

- Sample of environmental site inspection report
- Other

Appendix 13: Summary of IBAT Proximity Analysis Reports

Area	Coordinates		Proximity Analysis (1km | 5km |10km)			PS6 & ESS6 Analysis (50km)			
	Latitude	Longitude	Protected Areas	Key Biodiversity Areas	IUCN Red List	Protected Areas	Key Biodiversity Areas	IUCN Red List	Critical Habitat
					CR, EN and VU			*CR and EN only*	
HGB Road- start	23.829246°	91.269662°	0	0	51				
VIP Road- start	23.845179°	91.283058°	0	0	52				
Akhura Road- start	23.832979°	91.269576°	0	0	52				
Thakur Palli Road - start	23.835031°	91.270144°	0	0	52				
Mantribari Road - start	23.829532°	91.278587°	0	0	52				
Sakuntala Road- start	23.829854°	91.280761°	0	0	53				
ITI ROAD- start	23.859126°	91.293974°	0	0	53				
GB Road- start- start	23.859123°	91.293974°	0	0	53				
Barjala Road- start	23.873429°	91.271943°	0	0	52				
Ronaldsay Road- start	23.842836°	91.270586°	0	0	52				
Jail Ashram Road- start	23.835758°	91.302252°	0	0	53				

Area	Coordinates		Proximity Analysis (1km | 5km |10km)			PS6 & ESS6 Analysis (50km)			
Jail Road- start	23.831228°	91.290915°	0	0	53				
Bhagwan Thakur Road- start	23.835827°	91.290650°	0	0	53				
Road Surrounding the proposed IT Hub Site (3 sides)- start	23.835534°	91.292917°	0	0	53				
Lankamura Road - start	23.839379°	91.255301°	0	0	76				
HGB Road- end	23.835432°	91.301636°	0	0	53				
VIP Road- end	23.871180°	91.285194°	0	0	52				
Akhura Road- end	23.831886°	91.282557°	0	0	53				
Thakur Palli Road - end	23.833769°	91.291385°	0	0	53				
Mantribari Road - end	23.831931°	91.278781°	0	0	52				
Sakuntala Road- end	23.834033°	91.280862°	0	0	52				
ITI ROAD- end	23.857260°	91.296872°	0	0	53				
GB Road- end- end	23.824826°	91.285166°	0	0	53				
Barjala Road- end	23.842841°	91.270585°	0	0	52				
Ronaldsay Road- end	23.832982°	91.269582°							
Jail Ashram Road- end	23.836480°	91.287361°	0	0	53				
Jail Road- end	23.835686°	91.291699°							

Area	Coordinates		Proximity Analysis (1km | 5km |10km)			PS6 & ESS6 Analysis (50km)			
Bhagwan Thakur Road-end	23.838479°	91.290786°	0	0	53				
Road Surrounding the proposed IT Hub Site (3 sides)- end	23.838480°	91.290786°	0	0	53				
Lankamura Road - end	23.841151°	91.255288°	0	0	77				

Appendix 14: ASCL Letter to Forest Department on Tree Cutting and Compensatory Plantation

AGARTALA SMART CITY LIMITED
(CIN: U74999TR2016SGC013499)
1st floor, UD BHAWAN, SHAKUNTALA ROAD, AGARTALA, WEST TRIPURA- 799001

F. 4 (34) / ASCL / 2018/ 917 **Date: 19 .02.2020**

The District Forest Officer (DFO),

West Tripura District,

Sub: Request for providing details on compensatory plantation and provisional costs for felling of trees along designated Urban Roads, MBB College Lake area and Ujjayanta Palace Pricinct.

Dear Sir,

Agartala Smart City Limited is engaged in the retrofitting of some selected Roads, the MBB College Lake, and the Ujjayanta Place Precinct under Smart City Mission. Some trees are within the ROW of the proposed roads and are required to be cut, similarly few trees in the MBB College Lake Area, and along the Ujjayanta Palace precinct are to be removed, to free the designated area for the required development.

The list of trees and their numbers are tabulated below for your reference. Although ASCL shall try to conserve the maximum number of trees possible, we still require the cost of tree cutting for the listed number of trees to integrate in the project cost. ASCL is interested to undertake compensatory plantation against the tree cutting as per the Government of Tripura SOR. Kindly provide us the detail of payment to be done for the compensatory plantation along with the details of procedure for the official process.

Sl No	Road Stretch proposed to be included for Retrofitting				Length (K.M.)	Tree Nos.	Tree Total Nos.
	Description	Starting From		Ending at			
1.	HGB Road:	Battala Chowmuhani	to	Ashram Chowmuhani	3.460	29	
2.	VIP Road:	Radhanagar Motorstand	to	Lichu Bagan	3.180	180	
3.	Akhura Road:	IGM Chowmuhani	to	Jackson Gate Chowmuhani	1.300	8	
4.	Thakur Palli Road	Ker Chowmuhani	to	Purbasa	2.117	31	
5.	Manikbari Road	Post office Chowmuhani	to	RMS Chowmuhani	0.258	2	
6.	Sakuntala Road:	Surya Chowmuhani	to	Rabindra Bhawan	0.920	5	
7.	ITI ROAD:	G B Chowmuhani	to	Proposed ICCC location	0.390	0	
8.	GB Road	GB Chakkar	to	Ramthakur Club Tri Junction	4.050	49	
9.	Banjala Road	Banjala Junction	to	Durga Chowmuhani	4.050	117	
10.	Ronaldsay Road	Durga Chowmuhani	to	Ker Chowmuhani	1.100	11	
11.	Jail Ashram Road	Ashram Chowmuhani	to	Lal Bahadur Chowmuhani	1.547	50	
12.	Jail Road	Math chowmuhani	to	Old central jail	0.500	3	
13.	Bhagwan Thakur Road	Jail Ashram	to	IT Hub Tri Junction	0.280	24	
14.	Road Surrounding proposed IT Hub (2 sides):	Jail Ashram Road	to	B.T. Road	0.570	16	
15.	Lankamura Road	Check post	to	Water treatment plant	0.210	0	
						Total Nos.	530
16.	MBB College Lake					7	7
17.	Ujjayanta Palace					1	1
						Total	538

The requisite details shall help us framing the cost and policy for that matter, and your early actions on the same is hereby solicited.

Yours faithfully,

19/02/2020

(Dr. Shailesh H. Yadav, I.A.S.)
Chief Executive Officer,
Agartala Smart City Ltd.

Appendix 15: Forest Department Letter on Tree Species and Girth Size

No. 65 /SR-2019-20/2059-60 dt. 24/02/20.

GOVERNMENT OF TRIPURA
OFFICE OF THE FOREST RANGE OFFICER
SADAR RANGE, AGARTALA.

- TL PMC
- EE (RP)
for IEE of ADB Roads
24/2/2020

To
The Chief Executive Officer,
Agartala Smart City Ltd.
(Director, UD Department)
&
Municipal Commissioner, AMC.

Sub:- Submission of species & girth width of trees falling within road project area of Agartala Smart City – regarding.

Ref:- F.No.1(6)/ASCL/2017-18/892-893, dt. 18-02-2020.

Sir,

With due respect and reference to the subject cited above I am submitting herewith the details information of species & girth width of trees falling within road project area of Agartala Smart City. The details of the 464 (four hundred sixty four) nos. trees are enclosed for your ready reference.

This is for favour of your kind information and doing the needful please.

Enclo :- As stated .

Yours faithfully

(Prasenjit Debbarma, FR)
Forest Range Officer,
Sadar Range, Agartala.

Copy to :-
The Sub-Divisional Forest Officer, Sadar Forest Sub-Division, Agartala, West Tripura, for favour of kind information please.

Forest Range Officer,
Sadar Range, Agartala.

AGARTALA SMART CITY LIMITED
24 FEB 2020
RECEIVED

VIP Road Radhanagar Motorstand to St. Francis Church

Sl No.	Species	Scientific name	Girth & height (in cm)
1	Raintree	Samania Saman	279 x 1200 Br-2
2	Raintree	Samania Saman	180 x 1200
3	Raintree	Samania Saman	138 x 800
4	Raintree	Samania Saman	315 x 1400 Br-4
5	Teak	Tectona Grandis	90 x 250
6	Mehagony	Swietenia Mahogoni	170 x 1000
7	Raintree	Samania Saman	240 x 1400 Br-3
8	Raintree	Samania Saman	172 x 1600
9	Raintree	Samania Saman	215 x 100 Br-2
10	Raintree	Samania Saman	176 x 100 Br-2
11	Debdaru	Polyalthia Longifolia	98 x 1600
12	Raintree	Samania Saman	240 x 1000 Br-3
13	Bat	Ficus Religiosa	368 x 300 Br-2
14	Krishnachurra	Delonix Regia	184 x 800 Br-5
15	Acacia	Acacia Auriculiformies	86 x 400
16	Pongamia	Pongamia Pinnata	121 x 500
17	Bakul	Mimusops Elengi	129 x 800
18	Bakul	Mimusops Elengi	41 x 350
19	Acacia	Acacia Auriculiformies	167 x 800
20	Bakul	Mimusops Elengi	65 x 300
21	Rangi	Chukrasia Tabularis	175 x 400 Br-2
22	Bakul	Mimusops Elengi	35 x 200
23	Krishnachurra	Delonix Regia	215 x 1000 Br-2
24	Rangi	Chukrasia Tabularis	300 x 1200 Br-3
25	Rangi	Chukrasia Tabularis	330 x 600 Br-8
26	Acacia	Acacia Auriculiformies	164 x 1200 Br-2
27	Krishnachurra	Delonix Regia	262 x 800 Br-4
28	Bat	Ficus Religiosa	140 x 400
29	Krishnachurra	Delonix Regia	170 x 1100 Br-2
30	Acacia	Acacia Auriculiformies	95 x 500
31	Acacia	Acacia Auriculiformies	97 x 600
32	Rangi	Chukrasia Tabularis	78 x 250
33	Rangi	Chukrasia Tabularis	305 x 800 Br-4
34	Rangi	Chukrasia Tabularis	150 x 250
35	Rangi	Chukrasia Tabularis	45 x 150
36	Debdaru	Polyalthia Longifolia	152 x 600
37	Debdaru	Polyalthia Longifolia	85 x 250
38	Radhachurra	Peltophorum Pterocarpum	100 x 600
19	Krishnachurra	Delonix Regia	300 x 1200
40	Debdaru	Polyalthia Longifolia	100 x 350 Br-5
41	Debdaru	Polyalthia Longifolia	255 x 800 Br-3
42	Mehagony	Swietenia Mahogoni	193 x 600 Br-3
43	Bakul	Mimusops Elengi	455 x 100 Br-2
44	Debdaru	Polyalthia Longifolia	253 x 600 Br-2
45	Debdaru	Polyalthia Longifolia	225 x 1400
46	Debdaru	Polyalthia Longifolia	185 x 250 Br-2
47	Raintree	Samania Saman	300 x 100 Br-4
48	Krishnachurra	Delonix Regia	308 x 1200 Br-8
48	Radhachurra	Peltophorum Pterocarpum	256 x 100 Br-4
50	Krishnachurra	Delonix Regia	320 x 1400 Br-9
51	Krishnachurra	Delonix Regia	213 x 1200 Br-2
52	Krishnachurra	Delonix Regia	110 x 350
53	Debdaru	Polyalthia Longifolia	68 x 250
54	Debdaru	Polyalthia Longifolia	75 x 240
55	Debdaru	Polyalthia Longifolia	69 x 240

56	Debdaru	Polyalthia Longifolia	84 x 225
57	Debdaru	Polyalthia Longifolia	72 x 230
58	Debdaru	Polyalthia Longifolia	69 x 240
59	Radhachurra	Peltophorum Pterocarpum	69 x 275
60	Radhachurra	Peltophorum Pterocarpum	68 x 200
61	Radhachurra	Peltophorum Pterocarpum	30 x 250
62	Radhachurra	Peltophorum Pterocarpum	73 x 250
63	Radhachurra	Peltophorum Pterocarpum	65 x 250
64	Radhachurra	Peltophorum Pterocarpum	98 x 250
65	Radhachurra	Peltophorum Pterocarpum	77 x 200
66	Radhachurra	Peltophorum Pterocarpum	80 x 175
67	Radhachurra	Peltophorum Pterocarpum	95 x 350
68	Raintree	Samania Saman	0 x 100 Br-3
69	Raintree	Samania Saman	100 x 190
70	Chalta	Dillenia Indica	345 x 600 Br-2
71	Eucalyptus	Eucalyptus Globulus	208 x 1500
72	Eucalyptus	Eucalyptus Globulus	222 x 1700
73	Radhachurra	Peltophorum Pterocarpum	117 x 100
74	Radhachurra	Peltophorum Pterocarpum	65 x 150
75	Radhachurra	Peltophorum Pterocarpum	68 x 1500
76	Radhachurra	Peltophorum Pterocarpum	100 x 125
77	Radhachurra	Peltophorum Pterocarpum	69 x 150
78	Radhachurra	Peltophorum Pterocarpum	75 x 200
79	Radhachurra	Peltophorum Pterocarpum	92 x 200
80	Radhachurra	Peltophorum Pterocarpum	00 x 120 Br-2
81	Radhachurra	Peltophorum Pterocarpum	65 x 125
82	Radhachurra	Peltophorum Pterocarpum	110 x 200
83	Radhachurra	Peltophorum Pterocarpum	95 x 175
84	Radhachurra	Peltophorum Pterocarpum	0 x 65
85	Radhachurra	Peltophorum Pterocarpum	0 x 70
86	Radhachurra	Peltophorum Pterocarpum	78 x 150
87	Radhachurra	Peltophorum Pterocarpum	80 x 100
88	Radhachurra	Peltophorum Pterocarpum	45 x 90
89	Radhachurra	Peltophorum Pterocarpum	50 x 90
90	Radhachurra	Peltophorum Pterocarpum	40 x 60
91	Radhachurra	Peltophorum Pterocarpum	60 x 200
92	Radhachurra	Peltophorum Pterocarpum	50 x 200
93	Radhachurra	Peltophorum Pterocarpum	55 x 200
94	Radhachurra	Peltophorum Pterocarpum	70 x 250
95	Radhachurra	Peltophorum Pterocarpum	60 x 150
96	Radhachurra	Peltophorum Pterocarpum	100 x 145
97	Radhachurra	Peltophorum Pterocarpum	80 x 200
98	Radhachurra	Peltophorum Pterocarpum	70 x 100
99	Radhachurra	Peltophorum Pterocarpum	40 x 125
100	Radhachurra	Peltophorum Pterocarpum	80 x 125
101	Radhachurra	Peltophorum Pterocarpum	70 x 200
102	Radhachurra	Peltophorum Pterocarpum	100 x 200
103	Radhachurra	Peltophorum Pterocarpum	90 x 150
104	Radhachurra	Peltophorum Pterocarpum	150 x 300
105	Radhachurra	Peltophorum Pterocarpum	160 x 325
106	Radhachurra	Peltophorum Pterocarpum	80 x 125
107	Radhachurra	Peltophorum Pterocarpum	60 x 150
108	Radhachurra	Peltophorum Pterocarpum	40 x 110
109	Radhachurra	Peltophorum Pterocarpum	160 x 400
110	Radhachurra	Peltophorum Pterocarpum	120 x 300
111	Radhachurra	Peltophorum Pterocarpum	100 x 300
112	Radhachurra	Peltophorum Pterocarpum	95 x 350
113	Radhachurra	Peltophorum Pterocarpum	105 x 350