Environmental Assessment Report (Sub-projects: Roads, Drainage, and Street Lights)

Under

Municipal Governance and Services Project (MGSP)

Ramgonj Paurashava

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ABBREVIATIONS AND ACRONYMS

AP	–	Affected People
PAP	–	Project Affected People
BDT	–	Bangladesh Taka
BMDF	–	Bangladesh Municipal Development Fund
BNBC	–	Bangladesh National Building Code
BoQ	–	Bill of Quantities
DoE	–	Department of Environment
ECA	–	Environmental Conservation Act
ECC	–	Environmental Clearance Certificate
ECR	–	Environment Conservation Rules
EIA	–	Environmental Impact Assessment
EMF	–	Environmental Management Framework
EMP	–	Environmental Management Plan
FGD	–	focus group discussions
GRC	–	Grievance Redress Committee
GoB	–	Government of Bangladesh
GRM	–	Grievance Redress Mechanism
HFL	-	High Flood Level
IEE	–	Initial Environment Examination
MGSP	–	Municipal Government and Service Project
NGO	–	Nongovernment Organization
O&M	–	Operation and Maintenance
PPP	–	Purchasing Power Parity
PRA	–	Participatory Rapid Appraisal
RCC	–	Reinforced Cement Concrete
RoW	–	Right-of-Way
RP	–	Resettlement Plan
RPM	–	Respiratory Particulate Matter
SMF	–	Social Management Framework
SPM	–	Suspended Particulate Matter
SPS	–	Safeguard Policy Statement
TDS	–	Total Dissolved Solids
ToC	–	Table of Contents
ToR	–	Terms of Reference
TSS	–	Total Suspended Solids

CHAPTER-1
INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Ramgonj Municipality is located in the northern part of Lakshmipur district. The Pourashava was established in 30 November, 1991. It is an "A" class Pourashava with 9 wards within the Pourashava boundary. It has moderate level of economic activities and economic potentials to flourish as an important urban center in Lakshmipur district. It has an area of approximately 4633.70 (18.75 sq. km.) acres in existing Pourashava area. The population as per population census 2011 is 49,324 persons with 12,538 households. But this Urban Local Body (ULB) is lacking a modern and well-facilitated service. Development of municipal infrastructure will develop the quality of urban life of municipal residents. It will also reduce operation and maintenance cost of sub-physical component like roads, drainage, and street lights etc.

1.2 SCOPE OF THE ENVIRONMENTAL ASSESSMENT

The following tasks are to be undertaken under all the sub-projects (Roads, Drainage, and Street Lights):

- Conducting field visit, reconnaissance survey and consultation with local stakeholders.
- Collect of primary data related to water resources, land resources, agriculture, livestock, fisheries, ecosystem, and socio-economic conditions through focus group discussion (FGD) etc.
- Identify important environmental and social components likely to be impacted by the proposed Project.
- Assess environmental and social impacts of the proposed interventions of sub-projects.

1.3 OBJECTIVES OF THE ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

The overall objective is to ensure development of sub-projects (Roads, Drainage, and Street Lights) in an environmentally sound and sustainable manner and to mitigate all types of negative impacts. Environmental Impact Assessment (EIA) will also provide adequate information to decision makers related to project negative impacts, which will help them to take decisions on several stages of sub-projects.

1.4 List of Sub-project components Submitted by the ULB for consideration

Table 1.1: Name of Proposed Roads

ID No.	Name of Road	Length (m)	Average Right of Way (m)	Crest Width (m)	Type of Intervention Required	Estimated Cost in Million Tk.
R-1	Reconstruction of Sonapur Chorasta to Sonapur North Bazar Bridge (Diverson Road) at Ward No-01 of Ramgonj ourashava.CIP NO-04 Ch. 00m - 660m	660	6.00	8.00	Sub Base, WBM, primecoat, bituminous carpeting, seal coat,	5.5
R-2	Repairing work Sonapur North Bazar to North Way Old Hajigonj Road, end of Ahmmodia Primary School at Ward No-01 of Ramgonj ourashava.CIP NO-02 Ch. 00m - 1530m	1530	2.45	3.5	End edging, Sub Base, WBM, prime coat, bituminous carpeting, seal coat, Pala-siting Earth filling etc.	9.8
R-3	Development of Kalchama Shamer Dokan to Haziganj Road Via Kalchama Primary School at Ward No-04, of Ramgonj Pourashava. CIP NO-23 Ch. 00m - 2510m	2510	2.45	4.0	End edging, Sub Base, WBM, prime coat, bituminous carpeting, seal coat, Pala-siting Earth filling etc.	8.5
R-4	Repairing work of BSR road to Kashem Master Sorak at Ward No-06, Under Ramgonj Pourashava. CIP NO-36, Ch. 00-1025m	1025	2.45	4.0	End edging, Sub Base, WBM, prime coat, bituminous carpeting, seal coat, Pala-siting Earth filling etc.	5.0
R-5	Repairing work of Norimpur Bridge (Baki Mawlana Bari) road to Ovirampur School Road, at Ward No-07 of Ramgonj Pourashava. CIP NO-34,Ch. 00-1550m	1550	2.45	4.0	End edging, Sub Base, WBM, prime coat, bituminous carpeting, seal coat, Pala-siting Earth filling etc.	8.50
R-6	Repairing work of (a) Horischar road to Narayanpur road via Augankhil Patwary bari mosjid at Ward No-03, of Ramgonj Pourashava. CIP No-71,Ch. 00-1200m	1200	2.45	4.0	End edging, WBM, prime coat, bituminous carpeting, seal coat, Earth filling etc.	3.7

ID No.	Name of Road	Length (m)	Average Right of Way (m)	Crest Width (m)	Type of Intervention Required	Estimated Cost in Million Tk.
R-7	Development of Rotonpur Kindergarten road at Ward No-03, of Ramgonj Pourashava. CIP No-51 Ch. 00-860 m	860	2.5	4.0	Box cutting, Sand filling, End edging, Brick Flat soling, RCC Work, M.S Rod, Earth filling etc.	4.0
R-8	Repairing work of Jamtoli Road to Kium Uddin khal road via Rorvshan Ali Patwari bari, by at Ward No-08, of Ramgoni Pourashava. CIP NO-19 ch00-600	600	2.15	3.5	End edging, Sub Base, WBM, prime coat, bituminous carpeting, seal coat, Pala-siting, Earth filling etc.	2.8
R-9	Repairing work of west Kazirkhil BSR road to east Kazirkhil BSR road via Ramgonj Mohila madrasha, at Ward No-06, under Ramgonj Pourashava.L=1450.00m (CIP No-10), Ch 00-1480	1480	2.15	3.5	End edging, Sub Base, WBM, prime coat, bituminous carpeting, seal coat, Pala-siting, Earth filling etc.	6.2
	Total	**11415.00** (11.415 km)				**54.0**

Table 1.2: Name of Proposed Drains

ID No	Name of Drain	Length (m)	Size (m x m)	Type of Intervention Required	Estimated Cost in Million Tk.
D1	Construction of a RCC Drain from Ramgonj Girls School more to North Way Existing Drain at Ward No-09 under Ramgonj Pourashava (CIP NO-18) Ch. 00-230 m	230	1.22	Earth Cutting, Sand Filling, Brick Flat Soling, RCC, M.S Rod, Back Filling etc.	4.5
D2	Construction of a RCC Drain from Sonapur Bazar Teen Rasta more to East Way Ramgonj College More & Sonapur Diverson Road at Ward No-01 & 05 under Ramgonj Pourashava (CIP NO-48) Ch. 00-705 m	705	1.22	Earth Cutting, Sand Filling, Brick Flat Soling, RCC, M.S Rod, Earth Filling etc.	7.0
D3	Construction of a RCC Drain from Ramgonj-Mowlobi Bazar Road to East Way Sun Mun Kinter Garden School at Ward No-05 under Ramgonj Pourashava (CIP NO-30), Ch. 00-250 m	250	1.22	Earth Cutting, Sand Filling, Brick Flat Soling, RCC, M.S Rod, Back Filling etc.	3.5
	Total	**1185** (1.185 km)			**15.00**

Map 1.1: Project Location

Table 1.3: Street Lighting

ID No.	Description	Nos of Street Light	Type of Work	Estimated Cost (Million Tk.)
SL-01	Installation of Street Light of different Road of 20Km at Ramgonj Paurashava. CIP NO-21	500	Solar, energy saving and sodium, full street lighting system	13.50
	Total:			**13.50**

CHAPTER-2
ENVIRONMENTAL POLICY AND REGULATIONS

2.1 JUSTIFICATION OF SELECTION OF THIS SUBPROJECT

Subprojects will be identified on the basis of needs of the local communities, financial, economic, technical, environmental, and social feasibility and sustainability, and relevant government policy and strategy. The selection of subprojects will be made in terms of general criteria; the authority will screen the subprojects and prepare a checklist to ensure the conformity with the criteria at the level of both feasibility studies and detailed designs, which will be confirmed and endorsed by the stakeholders. Only those subprojects that meet all the criteria set out below as a result of the detailed design will proceed to implementation. The same criteria will apply to road construction subprojects.

2.2 POLICY AND LEGAL FRAME WORK

For the protection, conservation, and management of the biophysical and social environment from damaging development pressures, the Government of Bangladesh has developed a complete legal framework, including laws, regulations, decrees, and standards addressing environmental and social safeguards. These are currently under review and draft materials are being circulated, but cannot be applied until they are promulgated. Of the existing documents, those most relevant to this Project have been summarized in this chapter.

2.3 WORLD BANK'S ENVIRONMENTAL SAFEGUARDS POLICY

Several World Bank policies related to the project has been mentioned below:

World Bank's Environmental and Social/ Resettlement guidelines:

The World Bank requires Environmental Assessment (EA) and Social Assessment of projects proposed for Bank financing to help ensure that they are both socially and environmentally sound and sustainable, and thus to improve decision making. The World Bank's environmental assessment policy and recommended processing are described in **Operational Policy (OP)/Bank Procedure (BP) 4.01: Environmental Assessment**. This policy is considered to be the umbrella policy for the Bank's environmental "safeguard policies". **Operational Policies (OP)** is the statement of policy objectives and operational principles including the roles and obligations of the Borrower and the Bank, where as **Bank Procedures (BP)** is the mandatory procedures to be followed by the Borrower and the Bank. OP/BP 4.01 was issued in January 1999 and it is the central documents that defines the Bank's environmental assessment requirements. Following are the WB's environmental and social/resettlement guidelines:

The most relevant policies of WB in SDF activities is OP 4.01 Environmental Assessment

Environmental Assessment (OP 4.01):

Environmental Assessment is one of the 10 environmental, social, and legal Safeguard Policies of the World Bank. Environmental Assessment is used in the World Bank to identify, avoid, and mitigate the potential negative environmental impacts associated with Bank lending operations. In World Bank operations, the purpose of Environmental Assessment is to improve decision making, to

ensure that project options under consideration are sound and sustainable, and that potentially affected people have been properly consulted.

The Bank requires environmental assessment (EA) of projects proposed for Bank support to ensure that they are environmentally sound and sustainable, and thus to improve decision making. EA is a process whose breadth, depth, and type of analysis depend on the nature, scale, and potential environmental impact of the proposed project. EA evaluates a project's potential environmental risks and impacts in its area of influence; examines project alternatives; identifies ways of improving project selection, siting, planning, design, and implementation by preventing, minimizing, mitigating, or compensating for adverse environmental impacts and enhancing positive impacts; and includes the process of mitigating and managing adverse environmental impacts throughout project implementation. EA takes into account the natural environment (air, water and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples and physical cultural resources); and transboundary and global environmental aspects. The borrower is responsible for carrying out the EA and the Bank advises the borrower on the Bank's EA requirements.

World Bank Environmental Screening under OP 4.01

A screening process for all World Bank projects classified them into three environmental assessment categories as shown in the following **Table 2.1**.

Table 2.1: World Bank Environmental Screening

Category	Category A	Category B	Category C
Description	The project is likely to have significant adverse environmental impacts that are sensitive, diverse, or unprecedented. These impacts may affect an area broader than the sites or facilities subject to physical works	The project has potential adverse environmental impacts on human populations or environmentally important areas—including wetlands, forests, grasslands, and other natural habitats—are less adverse than those of Category A projects. These impacts are site-specific; few if any of them are irreversible; and in most cases mitigatory measures can be designed more readily than for Category A projects.	The project is likely to have minimal or no adverse environmental impacts

Category	Category A	Category B	Category C
EA Requirements	For a Category A project, the project sponsor is responsible for preparing a report, normally an EIA	EA is narrower than that of Category A EA. Like Category A EA, it examines the project's potential negative and positive environmental impacts and recommends any measures needed to prevent, minimize, mitigate, or compensate for adverse impacts and improve environmental performance.	Beyond screening, no further EA action is required for a Category C project

2.4 GOVERNMENT POLICIES, LAWS, REGULATIONS, AND ENVIRONMENTAL STANDARDS

A wide range of laws and regulations related to social and environmental issues are effective in Bangladesh. Many of these are cross-sectoral. The implementation of the Project will be governed by the Government's environmental acts, rules, policies, and regulations. **Table 2.2** summarizes the applicable national and local laws, regulations, and standards for environmental assessment and management.

Table 2.2: Government Policies, Laws, Regulations, and Environmental Standards

Laws, Regulations, and Standards	Details	Relevance
Environmental Conservation Act, 1995	Provides for the conservation of environment, improvement of environmental standards and control and mitigation of environmental pollution. In line with these provisions of the Act, the Environmental Conservation Rules, 1997 have been framed. This Act provides for (i) remedial measures for injury to ecosystem; (ii) provides for any affected person due to environmental pollution to apply to DOE for remediation of the damage; (iii) discharge of excessive environmental pollutants; (iv) inspection of any activity for testing any equipment or plant for compliance to the environment act, including power to take samples for compliance; (v) power to make rules and standards with reference to environment; and (vi) penalty for non-conformance to environment act under the various sections.	The provisions of the act apply to the entire Project interventions in the construction and operation stages.

Laws, Regulations, and Standards	Details	Relevance
Environmental Conservation Rules (ECR), 1997	The Rules outline the processes and requirements of environmental clearances for specific type of projects indicated therein, and stipulates that "no industrial unit or project shall be established or undertaken without obtaining, in the manner prescribed by rules, an Environmental Clearance Certificate (ECC) from the Director General" of the Department of the Environment. Schedule 1 of the Rules classifies industrial units and projects into four categories according to their site and impact on the environment, namely (i) green, (ii) orange-A, (iii) orange–B, and (iv) red. The Rules specify the procedures for issuing ECC for the various categories of projects. For Red Category: (i) completed application for ECC, and the appropriate fee; (ii) report on the feasibility of the project; (iii) report on the IEE for the project, and Terms of Reference for the EIA; or EIA report prepared on the basis of TOR previously approved by DOE, plus (in the case of an industrial project): layout plan showing location of ETP, process flow diagram, design and time schedule of the ETP; (iv) report on the EMP; (v) no objection certificate from the local authority; (vi) emergency plan relating to adverse environmental impact and plan for mitigation of the effect of pollution; and (vii) outline of the relocation and rehabilitation plan (where applicable).	The project activities are categorized under this rule and as per categorization required environmental assessments were done

EIA = Environmental Impact Assessment, EMP =Environmental Management Plan, ETP = effluent treatment plant, IEE = Initial Environmental Examination, km = kilometer, LGI = Local Government Institution, TOR = terms of reference

The most important of these are the Environmental Conservation Act, 1995 (ECA, 1995) and the Environment Conservation Rules (of this Act), 1997 (ECR, 1997). The ECA 1995 is primarily an instrument for establishing the Department of Environment (DOE) for implementing Environmental pollution legislation. As per Environmental Conservation Act (ECA, 1995) and ECR 1997, the industrial units and projects shall, in consideration of their site and impact on the environment, be classified into the following four categories:

- Green
- Orange – A
- Orange – B
- Red

Industries and projects included in the various categories as specified in sub-rule (1) have been described in Schedule – 1 of ECR 1997.

- Environmental Clearance Certificate shall be issued to all existing industrial units and projects and to all proposed industrial units and projects falling in the Green Category.

- For industrial units and projects falling in the Orange – A, Orange – B and Red categories, firstly a Location Clearance Certificate and thereafter an Environmental Clearance Certificate shall be issued:
- Provided that the Director General may, without issuing a Location Clearance Certificate at the first instance, directly issue Environmental Clearance Certificate if he, on the application of an industrial unit or project, considers it appropriate to issue such certificate to the industrial unit or project.
- The entrepreneur of the concerned industrial unit or project shall apply to the concerned Divisional Officer of the Department in Form-3 along with appropriate fees as specified in Schedule – 13 of ECR 1997.

The following documents shall be attached with an application made under sub-rules above:

- Green category industries are to be granted environmental clearance within 15 days. The Green Category Schedule does not list specific projects.
- For industries and projects in Category Orange A & B an application for environmental clearance is accomplished by a Feasibility Report, Initial Environmental Examination (IEE), and for industries also a Process Flow Diagram and Layout Plan.
- For Red Category Industries and projects requires an Environmental Impact Assessment (EIA) for final approval and clearance. The ECR, 1997 list the Contents required for both IEE and EIA.

2.5 RELEVANT OCCUPATIONAL HEALTH AND SAFETY LAWS AND RULES

During construction, the Project will conform to the occupational and health related rules as outlined in the **Table 2.3** below:

Table 2.3: Relevant Occupational Health and Safety Laws and Rules

Title of Laws and Rules	Descriptions
Social Security under the Act, 1923 and an amendment in 1980	According to the Act social impact assessment includes the processes of analyzing, monitoring and managing the intended and unintended social consequences, both positive and negative of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions.
The Employer's Liability Act, 1938	The Act declares that the doctrine of common employment and of assumed risk shall not be raised as a defense in suits for damages in respect of employment injuries. Under the Maternity Benefit Act, 1939, the Maternity Benefit Act, 1950, the Mines Maternity Benefit Act, 1941, and finally the rules framed thereunder, female employees are entitled to various benefits for maternity, but in practice they enjoy leave of 6 weeks before and 6 weeks after delivery.
Public Health (Emergency Provisions) Ordinance, 1994	The ordinance calls for special provisions with regard to public health. Whereas an emergency has arisen, it is necessary to make special provision for preventing the spread of human disease, safeguarding public health and providing them adequate medical service and other services essential to the health of respective community and workers in particular during the construction related work.
The Employees State Insurance Act, 1948	It has to be noted that health, injury and sickness benefit should be paid to people, particularly respective workers at work place under

Title of Laws and Rules	Descriptions
	the Act.
Bangladesh Factory Act, 1979	The Act requires every workplace including small or large scale construction where women are employed to have an arrangement of childcare services. Based on this Act and Labor Laws - medical facilities, first aid and accident and emergency arrangements are to be provided by the authority to the workers at workplaces.
Water Supply and Sewerage Authority Act, 1996	The Act specify WASA's responsibility to develop and manage water supply and sewerage systems for the public health and environmental conservation.

CHAPTER-3
DESCRIPTION OF THE PROJECT

3.1 BIOPHYSICAL ENVIRONMENT

The ecological environment is characterized by a human managed urban environment. There are no endangered species or critical habitats in the project areas. General: Ramgonj Municipality is a part of Ramgonj Upazila located in Lakshmipur District in the Division of Chittagong, Bangladesh. Terrestrial flora in Ramgonj Upazila is classified according to their habitats. In the study areas, terrestrial floras are present mainly in the homestead regions, roadsides, village groves, recreational spots, and cultivated lands. Homesteads and orchards have: betel nut, kadam, coconut, sofeda, mango, jackfruit, pomegranate, guava, grapefruit, lemon, blackberries, plum, toddy palm, koroi, shisoo, shirish, rain tree, evcaiytta, bamboo, babla, jeol, neem, tamarind, banana, ipil-ipil, papaya, mehgani, debdaru, shimul, akashmoni, khai babla, jamrul, chalta, bel, amra, amloki, dholkolmi, assamlata, etc. Roadside plantations have: datepalm, road chambol, koroi, krishnachura, rain tree, banyan, shisoo, babla, akashmoni, eucalyptus, mango, blackberries, raj koroi, etc.

According to the criteria of IUCN Red List Categories (2004), none of these species are listed as threatened categories (i.e., Critically Endangered, Endangered and Vulnerable). In the area near the municipality, among reptiles and arthropods Frog, Anjila, Matia Shap, Tiktiki, Daraish Shap, Gui Shap are fairly common. Among mammals Badur, Idur, Shial, Chika, Beji, are common. Among birds Choroi, Doyel, Kak, Ghugho, Shalik, and Tuntuni are common. Among fish species include Bele, Tengra, Puti, Kachki, Mola, Kakila, Chingri, Shol, Taki, Koi, rui, katal, thai puti, minar carp, silver carp, shrimp, Kalibaush, Boal, Ayre, Bain, Fasha, Bata, are common; Golsha, Fali, Chapila, Kholisha, Pabda, Shing, Gozar, Chela, Chital, Magur, and Dari are fairly common. No protected areas as National Park, Game reserves, Wildlife Sanctuary, Ecologically Critical Area exist in and around the project area.

3.1.1 CLIMATE

Weather in Ramgonj Pourashava can be classified as typical tropical monsoon climate with high humidity throughout the year. Average temperature in Ramgonj Pourashava is between 13.5°C to 25.6°C. Hottest temperature is generally found within April and May of every year and average temperature in that period is between 25.5oC to 32.3°C.

Humidity in Ramgonj Pourashava is quite high, taking whole district into consideration, the annual percentage of humidity is 83.4. Generally the lowest humidity, that is 75 percent, is recorded in the months of February and April, and the highest, that is 89 per cent, is recorded in July and August. The monthly average rainfall always lies between 200 mm to 300 mm. Mainly, Ramganj and its surrounding region is rain prone because of its proximity to the costal belt.

There are three well marked season in Ramgonj Pourashava. Due to climate change and other meteorological reasons, this timeline vary in many cases:

- Winter from November to February
- Summer from March to May
- Rainy season from June to October

Winter Season

The winter is the most pleasant time of the year and weather is neither too cold nor to hot with cool light breezes and clear sky prevails. The temperature sharply falls in November and persists till the minimum is reached in January. The mean minimum temperature in January is 12.88°C while the mean maximum is 25.72°C giving a monthly range of -4.94°C. The mean maximum and mean minimum temperature of the season are 29.78°C and 21.38°C respectively.

Summer season

In March, the summer begins and continues until May. May is the hottest month with its 29.06°C mean monthly temperature. The mean maximum and the mean minimum seasonal temperature of the Ramgonj Pourashava between 31.06°C and 24.28°C respectively.

Rainy season or monsoon

With the break of monsoon, which generally occurs in June, the rainy season commences and continues till the end of September or beginning of October. The north-east trade winds disappear and the south-west Monsoon winds start blowing. The south-west Monsoon winds, when crossing the Bay of Bengal pick up moisture from the sea and give heavy rainfall during this period.

3.1.2 AIR QUALITY AND NOISE

Ramgonj is a sub-urban area of Bangladesh. In the sub-urban areas ambient air quality is dependent on many factors like air movement, traffic volume, congestion, emissions from motor vehicles, and suspended dust particles. There are 6 brickfields, located some distance away from the *Ramgonj Municipality.* Particular areas adjacent to the main road have some noise pollution created by movement of heavy vehicles. Traffic congestion is not a vital issue in *Ramgonj Municipality.* In the sub-urban areas ambient air quality is dependent on many factors like air movement, traffic volume, congestion, emissions from motor vehicles, and suspended dust particles.

3.1.3 HYDROLOGY, DRAINAGE AND SURFACE WATER QUALITY

There are several khals in Ramgonj Pourashava, like Verendra Khal, WAPDA khal and other small local khals. Most of these khals are linked to the Bay of Bengal through Meghna River and works as a natural drainage system for local communities. Illegal dumping, sedimentation, and unauthorized encroachment are some of the threats these khals are facing and losing their natural flow of water. It's mandatory to reclaim these khals using mauza maps and other sources because surface water is the main source of drinking and washing in surrounding communities.

Various surface water sources of the town are regularly polluted by deliberate drainage of waste water with respect to pH, turbidity and coliform bacteria when compared with national standard. But present pollution level is low due to low density of population and no industrial agglomeration. The main sources of surface water pollution are urban waste water, sanitary sewage and solid waste dumping.

3.1.4 GROUNDWATER

Main rivers located in close distance to Ramgonj Municipality are Meghna, Dakatia, Katakhali, Rahmatkhali and Bhulua. Ground water level in Ramganj Pourashava is found between 40 ft to 50 ft during dry season and between 30 ft to 35 ft during wet season. Ground water contains Iron and Arsenic (Source: DPHE, Ramganj, 2009).Salinity is a crucial problem in Ramgonj Paurashava and most people use surface water from ponds for drinking purposes. Arsenic pollution in ground water is also a major concern in Ramgonj Paurashava. According to the experts, arsenic arises due to excessive extraction of ground water and in future this situation might get worse. One of Pourashava sources reported that, nearly 60% of the tube wells are arsenic contaminated and the provision of deep tube well is not possible because of the presence of salinity in the ground water.

3.2 SOCIAL ENVIRONMENT

Ramganj Paurashava was established in 1991. It has an area of 26.16 sq.km. The total population of the Paurashava as enumerated in 2011 census is 44775 of which 21505 are males and 23270 are females. The literacy rate of the Paurashava is 63.1%. It consists of 9 Wards and 18 mahallahs.

3.2.1 HUMAN SETTLEMENT IN THE RIGHT OF WAY (ROW)

Based on the reconnaissance survey project will have minimum impact on surrounding areas because there will be no demolition works under the project and people will not be relocated under this project. The proposal will not require removal and relocation residential structures and demolition of buildings. The livelihoods of individuals and communities will not be significantly impacted by the Project, through the loss of productive agricultural land and loss of income.

3.2.2 HERITAGE AND CULTURE

There are a significant number of religious and cultural buildings, like Dorbesh Dorbar Sharif, East Kajirkhil Kanka Sharif etc. Zia Shopping Complex is an important community gathering place in Ramgonj Pourashava. Significant number of people also come here to visit Zia Children Park and Zia Auditorium.

3.3 IMPORTANT ENVIRONMENTAL AND INFRASTRUCTURAL FEATURES

Based on the field survey project will have no significant impact on infrastructure on surrounding areas because there will be no demolition works. New roads will be also proposed during the construction periods top decrease traffic congestion. There will be minimum impact on water supply in both sides of the construction period under this project. These water lines will be fixed under this project so that people can get efficient water supply and road transportation system after the construction period.

CHAPTER-4
DESCRIPTION OF ALTERNATIVE OPTIONS

During Project preparation, various alternatives for the components were proposed, screened, and studied against technical, economic, social, energy efficiency and environmental criteria. The primary objective with respect to environmental criteria was to identify and adopt options with the least adverse environmental impacts and maximum environmental benefits.

The range of alternatives considered depended on the infrastructure sector and its characteristics. 'Zero' or No Sub-project Alternative: All analyses considered the 'do-nothing' alternative, the consequences of which are a continuation of the current situation. This alternative is rejected as it has huge negative impact on the country's economy from Tourism Sector.

Other Alternatives: In general, for any sub-project, the analysis of alternative was focused on:

- Alternative location or route
- Alternative design and technology
- Costs of alternatives
- No sub-project scenario

The analysis of alternative for first funding is shown in Form 3 at Appendix C.

CHAPTER-5
IMPACTS AND MITIGATION MEASURES

Impact assessment and mitigation measures provide the basis for sound policy making. It helps us to understand whether or not the project is going to have positive and negative impacts, how large the impact is, and who are the affected people. In addition to providing hard evidence which can be used to weigh and justify policy priorities, impact evaluation can also be used as a managing-by results tool.

5.1 PRE-CONSTRUCTION PERIOD: PROJECT LOCATION AND DESIGN

Under road, drainage, and street light construction sub-projects impacts during pre-construction period will be minimum. These construction subprojects will not require demolition of surrounding structures, so people will not require emergency resettlement initiatives in other parts the district. Sub-projects will also have minimum impact on surrounding natural environment. Construction projects will not require any type of tree removal and water body filling activities.

5.2 CONSTRUCTION PERIOD IMPACT ASSESSMENT

Impacts during construction include generic construction related impacts associated with construction of facilities. These are not expected to be significant, and can be addressed through adoption of good engineering practices and undertaking specific mitigation measures towards minimization of construction impacts on sensitive receptors and communities in the vicinity of locations where the facilities are proposed Impacts are identified in Form 2 as shown in Appendix B.

5.3 OPERATION AND MAINTENANCE IMPACTS

The construction of road will increase traffic flow; increase traffic congestion due to movement of increased number of vehicles; damage to internal road by movement of heavy vehicles; spillage of water; increased air and noise pollution that may affect surrounding areas. Proper management practice should be followed to maintain standard effluent quality following Environmental Quality Standards (EQS) of the Department of Environment (DOE).

Table 5.1: Construction period impact assessment

Sl No.	Environmental Issues	Duration /Extent	Magnitude	Mitigation Measures	Responsibility	Budget
1.	Material Handling at Site	Temporary	minor	All workers employed on mixing material, cement, lime mortars, concrete etc., shall be provided with protective footwear and protective goggles. Workers, who are engaged in welding works, shall be provided with welder's protective eye-shields. Workers engaged in stone breaking activities shall be provided with protective goggles and clothing and shall be seated at sufficiently safe intervals.	Contractor	Should be included under construction budget

Sl No.	Environmental Issues	Duration /Extent	Magnitude	Mitigation Measures	Responsibility	Budget
2.	Disposal of Construction Waste /Debris / Cut Material	Temporary	moderate	The dismantling waste generated shall be reused. Safe disposal of the extraneous material shall be ensured in the pre-identified disposal locations. In no case, any construction waste shall be disposed around the project. Remaining material if any shall be disposed of safely at the disposal sites.	Contractor	Should be included under construction budget
3.	Participation of local communities as labour during construction shall positively impact the livelihood opportunities.	Temporary	minor	The contract clauses stipulate that the contractor is required to employ local population, both as skilled and unskilled labour in the project.	Contractor	Should be included under construction budget
4.	Safety Measures During Construction	Temporary	minor	Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site shall be taken up.	Contractor	Should be included under construction budget

Sl No.	Environmental Issues	Duration /Extent	Magnitude	Mitigation Measures	Responsibility	Budget
5.	Impacts due to construction of roads: Traffic and pedestrian safety	Temporary	minor	Employ traffic control measures and limit possible disruption to non-construction traffic	Contractor & ULB	Should be included under construction budget

Operation Period impact Assessment

Sl No.	Environmental Issues and impact	Duration /Extent	Magnitude	Mitigation Measures	Responsibility	Budget
1	Operation of road: • Increase in traffic speed and accidents •Increased traffic congestion due to movement of increased number of vehicles •Damage to road by movement of heavy vehicles; spillage of water •Increased air and noise pollution affecting surrounding areas	Long term	Moderate	ULB will do the following • Better traffic management • Avoiding spillage of water on road from vehicles carrying fish/ fresh produce (through monitoring, creation of awareness) • Traffic management, increased vehicle inspection		Should be included in the regular maintenance cost of ULB

Sl No.	Environmental Issues and impact	Duration /Extent	Magnitude	Mitigation Measures	Responsibility	Budget
2	Environmental Conditions: deterioration of quality of water, air, noise and soil.	Long term	Moderate	The ULB shall undertake seasonal monitoring of air, water, noise and soil quality through an approved monitoring agency. The parameters to be monitored, frequency and duration of monitoring as well as the locations to be monitored shall be as per the Monitoring Plan prepared	ULB	Included in the monitoring budget
3.	Drainage: Over flow of storm drainage	Long term	Moderate	To ensure efficient flow of surface water and to prevent water logging, storm water drainage should be installed properly. These shall be adequately maintained by cleaning and avoiding clogging of openings	ULB	Should be included in the regular maintenance cost of ULB
4.	Traffic Congestion	Short term	Moderate	New road will be proposed during construction phase to decrease traffic congestion	ULB	Should be included in the regular maintenance cost of ULB

Sl No.	Environmental Issues and impact	Duration /Extent	Magnitude	Mitigation Measures	Responsibility	Budget
5.	Impacts on Social Environment	Short term	Moderate	Will create local employment and other sources of impact	ULB	Should be included in the regular maintenance cost of ULB
6.	Labor Influx and Anticipated Impacts	Short term	Moderate	Local people will be hired during construction. So, there will be no immigration influx.	ULB	Should be included in the regular maintenance cost of ULB

CHAPTER-6

INFORMATION DISCLOSURE, CONSULTATION, AND PUBLIC PARTICIPATIO

6.1 PUBLIC CONSULTATION DURING PREPARATION OF EA

FGD was conducted and questionnaire survey was done following the screening format. List of consulted people are shown in Appendix D.

6.2 ENVIRONMENTAL CODE OF PRACTICE (ECOP)

The main objective of an ECoP is to manage construction operations in harmony with the environment. The ECoP is a guideline for reduce or eliminate environment risk due to various activities associated with different types of sub-projects considered in the MGSP. The ECoP for the mentioned sub-projects are identified and integrated with EMP and tabulated in **Table 6.2**.

6.3 INSTITUTIONAL ARRANGEMENTS

Under MGSP, BMDF will implement 13 types of sub-projects in 119 ULBs. The institutional arrangement for implementation of MGSP of BMDF is shown in Figure 1: the institutional set up, including major activities and assignment of responsibility for their execution.

6.4 GRIEVANCE REDRESS MECHANISM

Grievance Redress Mechanism (GRM) is a valuable tool which will allows affected people to voice concerns regarding environmental and social impacts for MGSP's sub-project activities. As a part of EMF, a grievance redress mechanism has been developed, including structure of a grievance redress committee as shown in Table 4. The sub-project-affected persons can register their grievances at the complaint cell. All cases will be registered, categorized and prioritized by the Municipal Paurashava level authority and by the Environmental Specialist at central level.

Note: If the aggrieved person/complainant is a woman, the GRC Chairman will ask a female Union Parishad/Pourashava Member to participate in the hearing. If the complainant is an indigenous person, a member of his/her community will be asked to be present at the hearing Additional details regarding the functioning of GRC is presented in the SMF. The GRCs will meet periodically to discuss the merit of each case and fix a date for hearing and notify the PAP to submit necessary documents in proof of her/his claim/case; resolve grievances within one month of receipt of complaint.

6.5 ENVIRONMENTAL MONITORING

The environmental monitoring plan for the Project is presented in Table 6.2. The table shows proposed monitoring of all relevant environmental parameters, with a description of the sampling stations, frequency of monitoring, applicable standards and responsible agencies. The monitoring of the environmental attributes in the first season (first year of implementation) will be carried out prior to the start of implementation works at the site, and shall form a baseline for the environmental parameters. Monitoring will be the responsibility of civil works contractors who would likely outsource this responsibility.

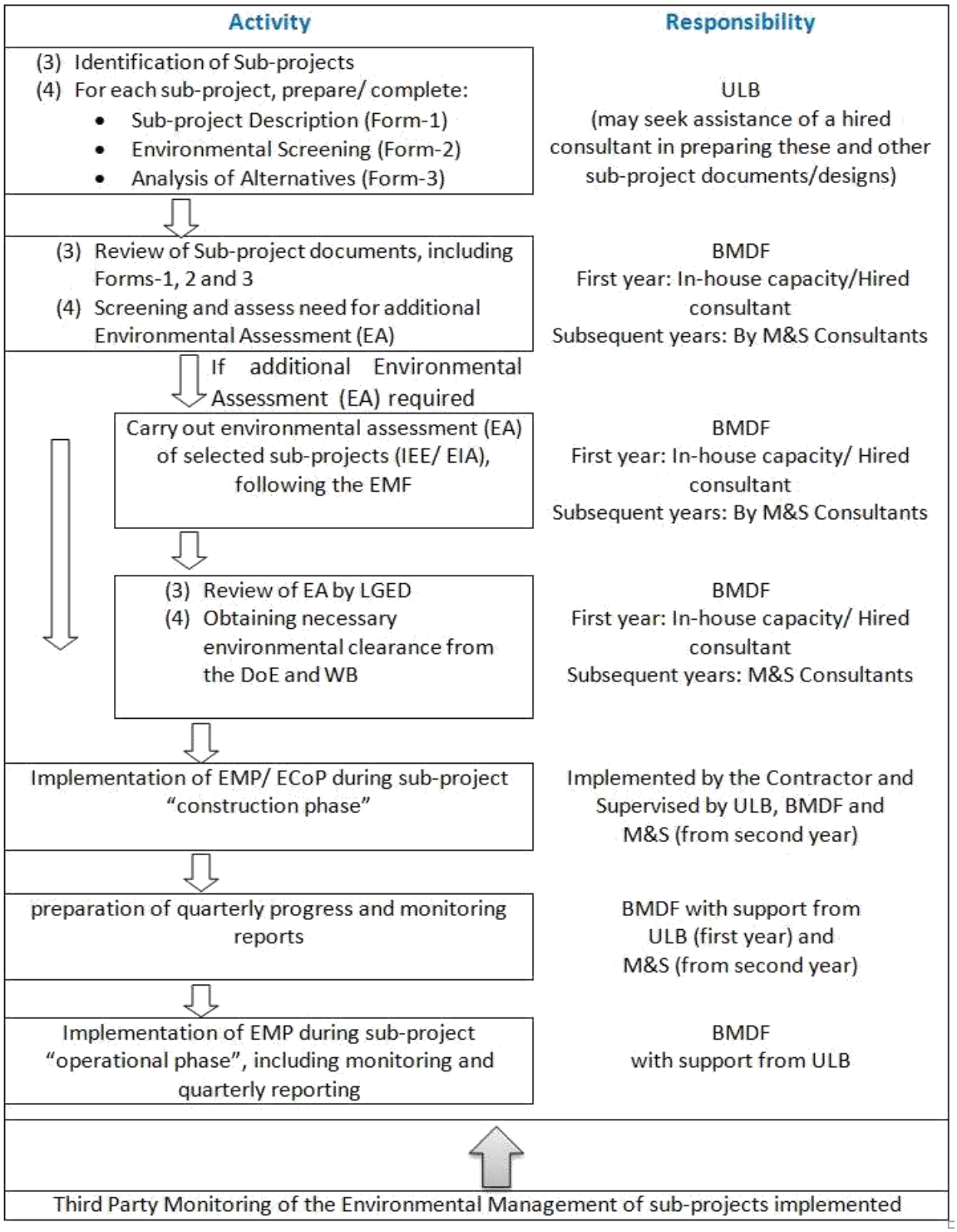


Figure 6.1: Institutional Arrangement for EMP Implementation

Table 6.1: Monitoring Plan for proposed developments

Sl. No	Attributes	Stage	Parameters to be Monitored	Location	Frequency	Responsibility
1	Air Quality at each location of items (especially at road side)	Construction Stage	PM, SPM, SO_2, NOx, CO	at the construction areas (1 location)	Once in a winter for the entire construction period	Contractor, to be monitored through approved Monitoring Agency and ULB and BMDF
2	Noise Levels in silence zone	Construction Stage	Equivalent Day & Night Time Noise Levels	at the construction areas (1 location)	Once in a season during construction stage	Contractor, to be monitored through approved Monitoring Agency and ULB and BMDF
3	Water quality	Construction stage	TDS, TSS, pH, Hardness, BOD and Faecal Coliform	at the construction areas (1 location)	Once in a season during construction stage	Contractor, to be monitored through approved Monitoring Agency and ULB and BMDF
4	Air Quality at project site	Post Construction Stage	PM, SPM, SO_2, NOx, CO	1 location at sub-project	Once in a year (except monsoons) for 3 years	ULB through approved Monitoring Agency
5	Noise Levels in silence zone	Post Construction Stage	Equivalent Day & Night Time Noise Levels	1 location at sub-project	Once in a year for the first 3 years of operation	ULB through approved Monitoring Agency
6	Adequacy of drainage systems proposed within the structure	Post Construction Stage	Identification of drainage related issues, including water logging	1 location at sub-project	Before, during and after the monsoons, annually for 3 years	ULB through approved Monitoring Agency

Sl. No	Attributes	Stage	Parameters to be Monitored	Location	Frequency	Responsibility
7	Water Quality	Operation Stage	TDS, TSS, pH, Hardness, BOD and Faecal Coliform	1 location	Once in a year for 3 years	ULB through approved Monitoring Agency
8	Survival Rate of Plantation and landscaping	Operation Stage	Survival Rate of Proposed plantations	At sub-project location	Once in a year	ULB through approved Monitoring Agency
9	Socioeconomic monitoring	Operation Stage	Improved participation of the communities in ULB activities	At ULB	Once every year	ULB through approved Monitoring Agency

6.6 CAPACITY BUILDING

At present, the capacity on safeguards planning and implementation at ULB is not adequate to handle EMP implementation. To ensure effective implementation of environmental aspects as outlined in this EMP, a ULB responsible person will be recruited to oversee Environment Management Plan (EMP) implementation as per WB and he should be trained properly.

6.7 ENVIRONMENTAL BUDGET

The EMP costs include monitoring costs during construction and capacity building costs on environmental management of which are absorbed into contractors work packages. The cost estimates mentioned in Table 6 is an indicative price. The bidder can provide their own reasonable quoted rate. The bidder will include the detail cost of EMP in the Summary Cost Table 6.3.

Table 6.3: Cost Estimates to Implement the EMP

Sl. No.	Particulars	Stages	Unit	Total number	Rate (BDT)	Cost (BDT)	Costs covered by
A. Mitigation Measures							
A 1	Environmental mitigation/enhancement measures integrated into the designs and costs included as part of civil works	Construction					Civil Works Contract as per table 3
	Sub-Total (A)					-	
B. Monitoring Measures							
B 1	Air Quality monitoring	Construction	Per location	1	20000	20000.0	Civil works contract
B 2	Air Quality monitoring	Operation	Per location	1	20000	20000.0	ULB
B 3	Water Quality monitoring	Construction	Per location	1	8000	8000.0	Civil works contract
B 4	Water Quality monitoring	Operation	Per location	1	8000	8000.0	ULB
B 5	Noise Level	Construction	Per location	1	5000	5000.0	Civil works contract
B 6	Noise Level	Operation	Per location	1	5000	5000.0	ULB
B 7	Adequacy of drainage systems proposed within the monument and the boundary	Operation	Per location	1	10000	10000.0	ULB
B 8	Survival Rate of Plantation and land scaping	Operation	Per location	1	10000	10000.0	ULB
B 9	Socio economic monitoring	Operation	Per location	1	25000	25000.0	ULB
	Sub-Total (B)					**111000.0**	
C	**Capacity Building**						
C 1	EMP implementation training	Post construction	LS	-	-	100000.0	ULB

Sl. No.	Particulars	Stages	Unit	Total number	Rate (BDT)	Cost (BDT)	Costs covered by
	Sub-Total (C)					**100000.0**	
	Total (A+B+C)					**211000.0**	

CHAPTER-7

THE ENVIRONMENTAL MANAGEMENT PLAN

- **Environmental Management Plan**

The primary objective of the EMP is to record environmental impacts resulting from sub-project activities and to ensure implementation of the identified "mitigation measures". Besides, it would address any unexpected or unforeseen environmental impacts that may arise during implementation of the sub-projects. The major components of the EMP include:

- Mitigation and enhancement measures
- Monitoring plan
- Grievance redress mechanism
- Estimation of cost of EMP
- Institutional arrangement for implementation of EMP

7.2 EMP Implementation Arrangements

Several activities conducted under the EMP Implementation Arrangements have been mentioned below:

Grievance Redress Mechanism

Grievance Redress Mechanism (GRM) is a valuable tool which will allows affected people to voice concerns regarding environmental and social impacts for MGSP's sub-project activities. As a part of EMF, a grievance redress mechanism has been developed, including structure of a grievance redress committee as shown in Table 4. The sub-project-affected persons can register their grievances at the complaint cell. All cases will be registered, categorized and prioritized by the Municipal/Paurashava level authority and by the Environmental Specialist at central level. The GRCs will meet periodically to discuss the merit of each case and fix a date for hearing and notify the PAP to submit necessary documents in proof of her/his claim/case; resolve grievances within one month of receipt of complaint. Additional details regarding the functioning of GRC is presented in the SMF.

Table 7.1: Tentative Structure of Grievance Redress Committee

Committee	Designation
ULB Mayor	Chairman
Representative of Local Administration	Member
Teacher from a Local Educational Institution	Member
Representative of a Local NGO	Member
Representative of Civil Society	Member
Female Ward Councilor	Member
Head of Engineering Section of ULB	Member Secretary

The environmental monitoring plan for the Project is presented in Table 6.2. The table shows proposed monitoring of all relevant environmental parameters, with a description of the sampling stations, frequency of monitoring, applicable standards and responsible agencies. The monitoring of the environmental attributes in the first season (first year of implementation) will be carried out prior to the start of implementation works at the site, and shall form a baseline for the environmental parameters. Monitoring will be the responsibility of civil works contractors who would likely outsource this responsibility.

Note: If the aggrieved person/complainant is a woman, the GRC Chairman will ask a female Union Parishad/Pourashava Member to participate in the hearing. If the complainant is an indigenous person, a member of his/her community will be asked to be present at the hearing.

7.3 Mitigation Measures

To address risks during the construction and operation phase, ULB will implement EMP according to the guideline of **Table 7.1**.

7.4 Public Consultation during preparation of EA

FGD was conducted and questionnaire survey was done following the screening format. List of consulted people are shown in Appendix AA and BB.

Table 7.2: Description of Planned Environmental Mitigation Measures and Responsible Agency Construction Impacts

Sub-project: Construction of Road-Drain

Sl No.	Environmental Issues	Duration /Extent	Magnitude	Mitigation Measures	Responsibility	Budget
1.	Improper stockpiling of construction materials cause impacts starting from obstruction of drainage, disturbance/	Temporary	minor	Due consideration shall be given for material storage and construction sites such that it doesn't cause any hindrance to the site. Stockpiles shall be covered to protect from dust and erosion.	Contractor	Should be included under construction budget in tender
2.	Generation of Dust	Temporary	minor	The contractor shall take every precaution to reduce the levels of dust at construction sites. All earthworks to be protected/covered to minimize dust generation. Clearance shall be done immediately by manual sweeping and removal of debris.	Contractor	Should be included under construction budget
3.	Emission from Construction Vehicles, Equipment and Machinery	Temporary	minor	All vehicles, equipments and machinery used for construction shall be regularly maintained to ensure that pollution emission levels comply with the relevant requirements.	Contractor	Should be included under construction budget
4.	Noise from construction Equipments	Temporary	minor	Maintenance of vehicles, equipment and machinery shall be regular to keep noise from these at a minimum.	Contractor	Should be included under construction budget
5.	Material Handling at Site	Temporary	minor	All workers employed on mixing material, cement, lime mortars, concrete etc., shall	Contractor	Should be included

Sl No.	Environmental Issues	Duration /Extent	Magnitude	Mitigation Measures	Responsibility	Budget
				be provided with protective footwear and protective goggles. Workers, who are engaged in welding works, shall be provided with welder's protective eye-shields. Workers engaged in stone breaking activities shall be provided with protective goggles and clothing and shall be seated at sufficiently safe intervals.		under construction budget
6.	Disposal of Construction Waste /Debris / Cut Material	Temporary	moderate	The dismantling waste generated shall be reused. Safe disposal of the extraneous material shall be ensured in the pre-identified disposal locations. In no case, any construction waste shall be disposed around the project. Remaining material if any shall be disposed off safely at the disposal sites.	Contractor	Should be included under construction budget
7.	Participation of local communities as labour during construction shall positively impact the livelihood opportunities.	Temporary	minor	The contract clauses stipulate that the contractor is required to employ local population, both as skilled and unskilled labour in the project.	Contractor	Should be included under construction budget
8.	Safety Measures During Construction	Temporary	minor	Personal Protective Equipment for workers on the project and adequate safety measures for workers during handling of materials at site shall be taken up.	Contractor	Should be included under construction budget
9.	Human excreta management	Temporary	minor	Construction of sanitary latrine by the contractor	Contractor	Should be included under construction

Sl No.	Environmental Issues	Duration /Extent	Magnitude	Mitigation Measures	Responsibility	Budget
						budget
10.	Solid waste management of construction camps, shall impact the environment if unplanned	Temporary	minor	The solid wastes generated from the camp site will be managed by establishing bins at places in the construction area with regular collection.	Contractor	Should be included under construction budget
11.	First aid and hygiene at construction camps	Temporary	minor	The contract shall provide for first aid and hygiene at construction camps	Contractor	Should be included under construction budget
12.	Malaria Risk	Temporary	minor	The Contractor shall, at his own expense, conform to all anti-malaria instructions	Contractor	Should be included under construction budget
13.	Clearing of Construction of Camps & Restoration	Temporary	minor	On completion of the works, all temporary structures shall be cleared away, all rubbish burnt, excreta or other disposal pits or trenches filled in and effectively sealed off and the site left clean and tidy, at the Contractor's expense.	Contractor	Should be included under construction budget
14.	Impacts due to construction of roads: Traffic and pedestrian safety	Temporary	minor	Employ traffic control measures and limit possible disruption to non-construction traffic	Contractor & ULB	Should be included under construction budget

Sl No.	Environmental Issues	Duration /Extent	Magnitude	Mitigation Measures	Responsibility	Budget
15.	Impacts due to construction of roads: Water pollution from bituminous products/ solvents	Temporary	minor	Strict control to avoid spills; provision for adequate clean up	Contractor	Should be included under construction budget
16	Cutting of trees for any construction	Temporary	minor	Trying to avoid cutting of trees as much as possible; if cutting needed, planting is necessary 5 times the number of cutting trees	Contractor & ULB	Should be included under construction budget

Impacts of Operational phase

Sub-projects: Construction of Road –Drain

Sl No.	Environmental Issues and impact	Duration /Extent	Magnitude	Mitigation Measures	Responsibility	Budget
1	Operation of road: • Increase in traffic speed and accidents •Increased traffic congestion due to movement of increased number of vehicles •Damage to road by movement of heavy vehicles; spillage of water	Long term	Moderate	ULB will do the following • Better traffic management • Avoiding spillage of water on road from vehicles carrying fish/ fresh produce (through monitoring, creation of awareness) • Traffic management, increased vehicle inspection		Should be included in the regular maintenance cost of ULB

Sl No.	Environmental Issues and impact	Duration /Extent	Magnitude	Mitigation Measures	Responsibility	Budget
	• Increased air and noise pollution affecting surrounding areas					
2	Environmental Conditions: deterioration of quality of water, air, noise and soil.	Long term	Moderate	The ULB shall undertake seasonal monitoring of air, water, noise and soil quality through an approved monitoring agency. The parameters to be monitored, frequency and duration of monitoring as well as the locations to be monitored shall be as per the Monitoring Plan prepared	ULB	Included in the monitoring budget
4.	Drainage: Over flow of storm drainage	Long term	Moderate	To ensure efficient flow of surface water and to prevent water logging, storm water drainage should be installed properly. These shall be adequately maintained by cleaning and avoiding clogging of openings	ULB	Should be included in the regular maintenance cost of ULB

CHAPTER-8
CONCLUSIONS AND RECOMMENDATIONS

The proposed interventions under the Project will not provide significant environmental impact in the project area. There are no environmentally sensitive areas. The project area will not be impacted adversely due to the proposed interventions. The proposed Project will conform to all rules and regulations of Government of Bangladesh, WB regulations policies, and standards including obtaining all necessary government permits and clearances.

The significance of environmental impacts will be more due to the construction-related impacts. It is noted that the resultant potential impacts from these proposals can be offset through provision of proven mitigation measures during design and adoption of good engineering practices during construction and implementation. The specific management measures laid down in the EMP will effectively address any adverse environmental impacts due to the Project. The effective implementation of the measures proposed will be ensured through building capacity towards environmental management within the ULB supplemented with the technical expertise of an Environmental Specialist. Further, environmental monitoring plans provide adequate opportunities towards course correction to address any residual impacts during construction or operation stages.

APPENDIX A

Form 1: Sub-project Description

(to be completed by ULBs)

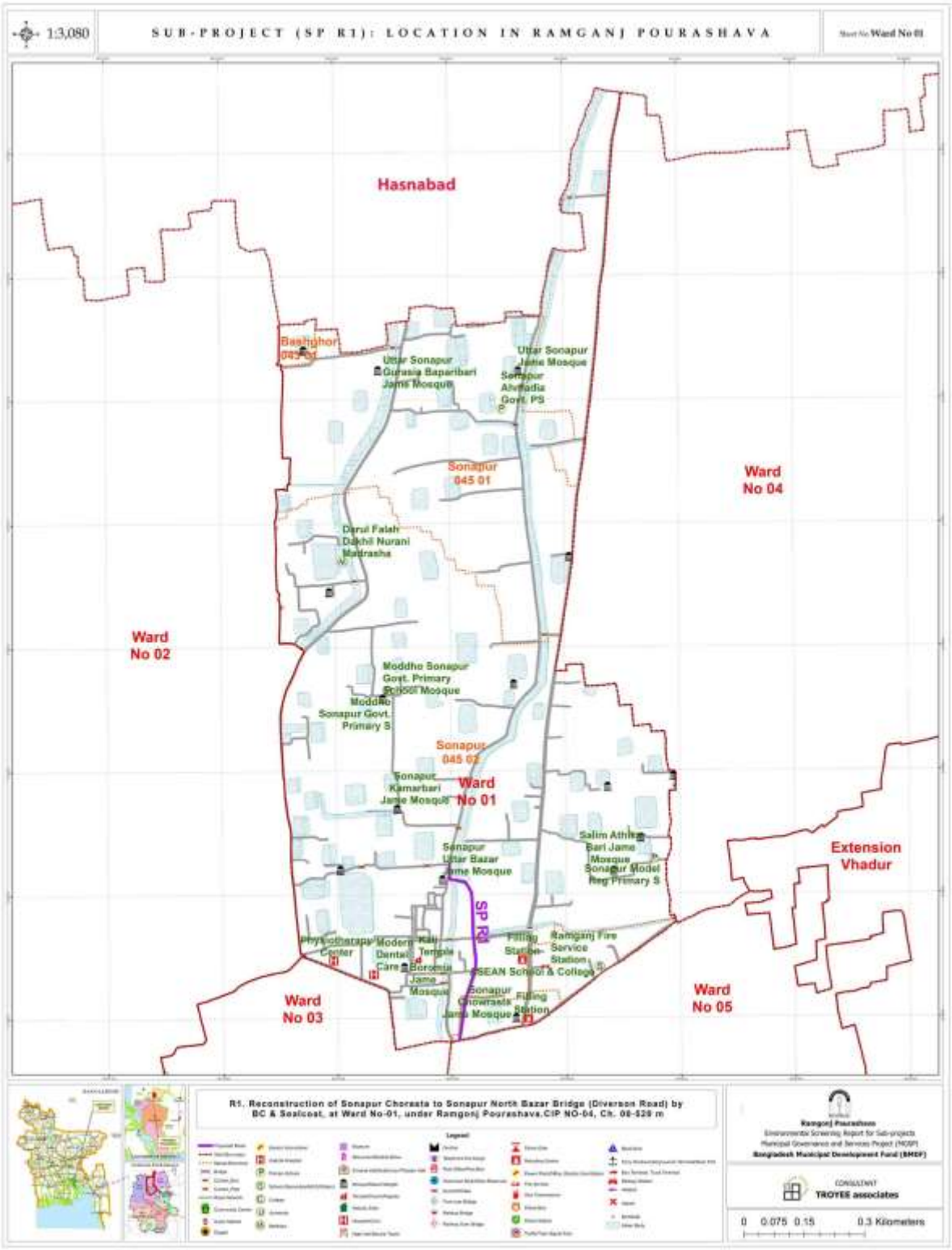
Name of ULB	**: Ramgonj Pourashava**
(1) Name of sub-project	**:** R1. Reconstruction of Sonapur Chorasta to Sonapur North Bazar Bridge (Diverson Road) by BC & Sealcoat, at Ward No-01, under Ramgonj Pourashava.CIP NO-04 Ch. 00-520 m
(2) Brief description of sub-project	: Improvement of BC Road with 3.0 m width.
(3) Location of sub-project	: (Sonapur Bazae in Ward No: 01) Map attached here with (attach location map)
(4) Layout of the sub-project	**:** Attached here with. (attach a layout map)
(5) Ownership of sub-project land	**:** ULB owned
(a) Government/ ULB owned	
(b) Private land (need acquisition)	

(6) Brief description of sub-project site: This sub project will be located in commercial area. Total length is 660 meter. On east side a canal is situated and other side is commercial followed by residential area This sub-project is free from tidal force. Average width will be 6.0 meter.

(7) Brief information of environment within sub-project influence area[4]: Within the influence area of this sub-project there is no major water bodies,

(8) Key activities of sub-project	**:** Sub Base, WBM, primecoat, bituminous carpeting, seal coat etc.
(9) Estimated cost of sub-project	**: 5.50** (Million BDT)
(10) Schedule of implementation	
(a) Sub-project duration (months)	: 6 months
(b) Tentative start date	**:** 01/07/2018
(c) Tentative completion date	: 31/12/2018

(11) Potential benefit from sub-project : This sub-project will facilitate about 20,000 people in communication. Accessibility to those commercial and residential areas will be increased, living environment will be improved and land value adjacent to the sub-project will rise.


1:3,080
SUB-PROJECT (SP R1): LOCATION IN RAMGANJ POURASHAVA
Ward No 01
Hasnabad
Bashghor 045 01
Uttar Sonapur Gurasia Baparibari Jame Mosque
Uttar Sonapur Jame Mosque
Sonapur Ahmadia Govt. PS
Sonapur 045 01
Ward No 04
Darul Falah Dakhil Nurani Madrasha
Ward No 02
Moddho Sonapur Govt. Primary School Mosque
Moddho Sonapur Govt. Primary S
Sonapur 045 02
Sonapur Kamarbari Jame Mosque
Ward No 01
Salim Athlete Bari Jame Mosque
Sonapur Model Reg Primary S
Extension Vhadur
Sonapur Uttar Bazar Jame Mosque
SP R1
Physiotherapy Center
Modern Dental Care
Kali Temple
Filling Station
Ramganj Fire Service Station
Borogola Jame Mosque
ASEAN School & College
Sonapur Chowrasta Jame Mosque
Filling Station
Ward No 03
Ward No 05
R1. Reconstruction of Sonapur Chowrasta to Sonapur North Bazar Bridge (Diversion Road) by BC & Sealcoat, at Ward No-01, under Ramgonj Pourashava.CIP NO-04, Ch. 00-520 m
Legend
Ramgonj Pourashava
Environmental Screening Report for Sub-projects
Municipal Governance and Services Project (MGSP)
Bangladesh Municipal Development Fund (BMDF)
CONSULTANT
TROYEE associates
0 0.075 0.15 0.3 Kilometers

APPENDIX B

Form 2: Environmental Screening
(to be completed by ULBs following Guideline presented in Section 3.3 of EMF)

Name of ULB : Ramgonj Pourashava

Name of sub-project : R1. Reconstruction of Sonapur Chorasta to Sonapur North Bazar Bridge (Diverson Road) by BC & Sealcoat, at Ward No-01, under Ramgonj Pourashava.CIP NO-04 Ch. 00-520 m

1) Potential Environmental Impact **during Construction Phase:**

(a) Ecological impacts: (important sub-projects include storm drain, bridge, box culvert, and boat landing jetty)

• Felling of trees	Significant	Moderate	Minor	Number of tress- **Nil**
• Clearing of vegetation	Significant	Moderate	Minor √	
• Potential impact on species of aquatic (i.e., water) environment	Significant	Moderate	Minor √	

(b) Physicochemical impacts: (all sub-projects)

• Noise pollution	Significant	Moderate	Insignificant √
• Air pollution	Significant	Moderate	Insignificant √
• Drainage congestion	Very likely	Likely	Unlikely √
• Water pollution	Significant	Moderate	Insignificant √
• Pollution from solid construction waste	Significant	Moderate	Insignificant √
• Water logging	Significant	Moderate	Insignificant √

(c) Socio-economic impacts: (all sub-projects)

• Traffic congestion	Very likely	Likely	Unlikely √
• Health and safety	Significant	Moderate	Insignificant √
• Impact on archaeological & historical	Significant	Moderate	Insignificant √
• Employment generation	Significant √	Moderate	Insignificant

2) Potential Environmental Impact **during Operational Phase:**

(d) Ecological impacts: (important sub-projects include storm drain and boat landing jetty)

- Potential impact on species of aquatic (i.e. water) environment — Significant / Moderate / Minor√

(e) Physicochemical impacts: (all sub-projects)

Potential air quality and noise level(especially for road)	Improvement √	No-improvement	Deterioration
Drainage congestion (especially for drain)	Improvement √	Minor Improve	No Impact
Risk of Water pollution (especially for storm drain and jetty)	Significant	Moderate	Minor √
Pollution from solid waste (especially for SWM, and market)	Improvement √	No-improvement	Deterioration

(f) Socio-economic impacts: (all sub-projects)

Traffic (especially for road, bridge, box culvert, bus/truck terminal)	Improvement √	No-improvement	Adverse
Safety	Improvement √	No-improvement	Adverse
Employment generation	Significant √	Moderate	Minor

(3) Summary of Possible Environmental Impacts of the subproject:

During the implementation there will be insignificant air, water, noise pollution but create some employment opportunities. It will not require to cut any trees. It will not create any traffic congestion, water logging. But after completion of the project it will improve the traffic mobility, safety, air quality and noise level and eradicate drainage congestion.

4) Category of sub-project : (follow Table 1 of EMF)

(a) According to ECR 1997 : Green / Orange A / Orange B √ / Red / Not Listed

(b) According to WB classification : Category B√ / Category C

5) Proposed mitigation measure (follow Appendix I or Table 9 of EMF as appropriate) :

- Construction of Sanitary latrine for construction labor
- Proper disposal system for removal of solid waste.
- Raising awareness about hygine practices among workers.
- Spray water on dry surface, construction materials.
- Initiatives to reduce noise level,
- Prevent direct waste water flow to near by water bodies

Operation Phase:

- Better traffic management, increased vehicle inspection
- Avoiding spillage of water on road from vehicles carrying fish/ fresh produce (through monitoring, creation of awareness)
- maintenance and clearance of road and drain regularly and properly

6) Overall Comments: This sub-project has been selected considering public demand and for the benefit of local people. It will not provide significant environmental impacts.

7) Prepared by : Engineering Division

Reviewed by: Anjuman Ara Rahman, Environmental Specialist (Consultant)

APPENDIX C

Form 1: Sub-project Description
(to be completed by ULBs)

Name of ULB	**: Ramgonj Pourashava**
(1) Name of Sub-Project	**:** R2. Development of Kalchama Shamer Dokan to Haziganj Road Via Kalchama Primary School by BC, at Ward No-04, under Ramgonj Pourashava. CIP NO-23
(2) Brief description of sub-project	: Improvement of BC Road with 2.5 m width.
(3) Location of sub-project (attach location map)	: (Sonapur in Ward No: 06) Map attached here with
(4) Layout of the sub-project (attach a layout map)	**:** Attached here with.
(5) Ownership of sub-project land (a) Government/ ULB owned (b) Private land (need acquisition)	**:** ULB owned

(6) Brief Description of Sub-Project Site: This sub project will be located in residential area. On east side a lake is situated and going towards north in the paurashava peripheral boundary and other side is residential area. This sub-project is free from tidal force. Total length is 1530 meter. Average width will be 2.45 meter.

(7) Brief Information of Environment within Sub-Project Influence Area: Within the influence area of this sub-project there is no major water bodies, but an educational institute at the end of the proposed road, heavy vegetation are situated.

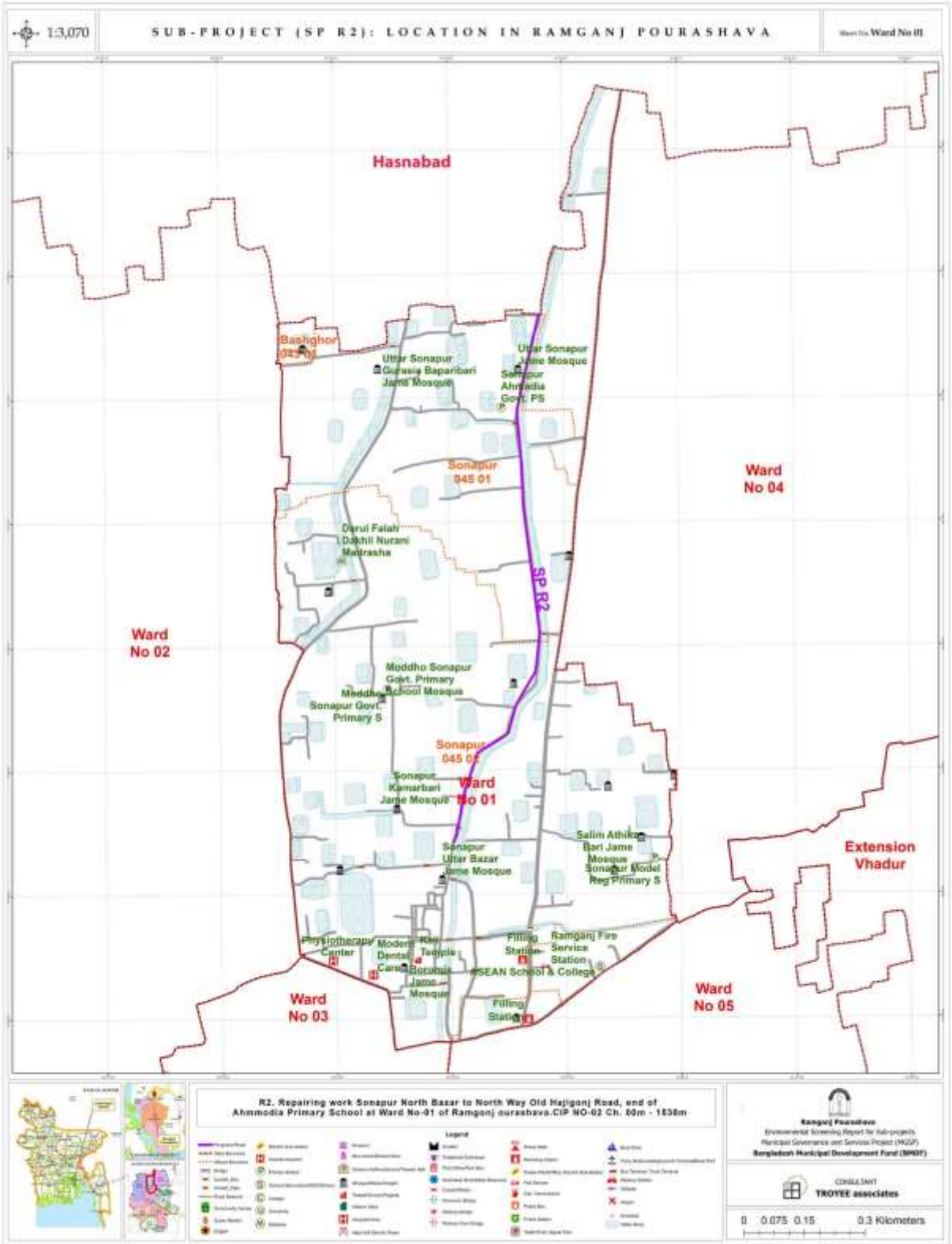
(8) Key Activities of Sub-Project : End edging, Sub Base, WBM, prime coat, bituminous carpeting, seal coat, Plasiding Earth filling etc.

(9) Estimated Cost of Sub-Project **: 9.80** (Mil BDT)

(10) Schedule of implementation

(a) Sub-project duration (months)	: 4 months
(b) Tentative start date	**:** 01/07/2018
(c) Tentative completion date	: 30/10/2018

(11) Potential benefit from sub-project : This sub-project will facilitate about 12,000 people in communication. Accessibility to those residential areas will be increased, living environment will be improved and land value adjacent to the sub-project will rise.


1:3,070
SUB-PROJECT (SP R2): LOCATION IN RAMGANJ POURASHAVA
Ward No 01
Hasnabad
Bashghor
045 01
Uttar Sonapur Gurasia Baparibari Jame Mosque
Uttar Sonapur Jame Mosque
Sonapur Ahmadia Govt. PS
Sonapur 045 01
Ward No 04
Darul Falah Dakhil Nurani Madrasha
SP R2
Ward No 02
Moddho Sonapur Govt. Primary School Mosque
Moddho Sonapur Govt. Primary S
Sonapur 045 02
Sonapur Kamarbari Jame Mosque
Ward No 01
Salim Athika Bari Jame Mosque
Sonapur Model Reg Primary S
Sonapur Uttar Bazar Jame Mosque
Extension Vhadur
Physiotherapy Center
Modern Dental Care
Kali Temple
Filling Station
Ramganj Fire Service Station
Borunia Jame Mosque
ASEAN School & College
Filling Station
Ward No 03
Ward No 05
R2. Repairing work Sonapur North Bazar to North Way Old Hajigonj Road, end of Ahmmodia Primary School at Ward No-01 of Ramgonj ourashava.CIP NO-02 Ch. 00m - 1538m
Legend
Ramganj Paurashava
Environmental Screening Report for Sub-projects
Municipal Governance and Services Project (MGSP)
Bangladesh Municipal Development Fund (BMDF)
CONSULTANT
TROYEE associates
0 0.075 0.15 0.3 Kilometers

APPENDIX D

Form 2: Environmental Screening
(to be completed by ULBs following Guideline presented in Section 3.3 of EMF)

Name of ULB : Ramgonj Pourashava

Name of Sub-Project **:** R2. Development of Kalchama Shamer Dokan to Haziganj Road Via Kalchama Primary School by BC, at Ward No-04, under Ramgonj Pourashava. CIP NO-23

1) Potential Environmental Impact **during Construction Phase:**

(a) Ecological impacts: (important sub-projects include storm drain, bridge, box culvert, and boat landing jetty)

• Felling of trees	Significant	Moderate	Minor	Number of tress- **Nil**
• Clearing of vegetation	Significant	Moderate	Minor √	
• Potential impact on species of aquatic (i.e., water) environment	Significant	Moderate	Minor √	

(b) Physicochemical impacts: (all sub-projects)

• Noise pollution	Significant	Moderate	Insignificant √
• Air pollution	Significant	Moderate	Insignificant √
• Drainage congestion	Very likely	Likely	Unlikely √
• Water pollution	Significant	Moderate	Insignificant √
• Pollution from solid construction waste	Significant	Moderate	Insignificant √
• Water logging	Significant	Moderate	Insignificant √

(c) Socio-economic impacts: (all sub-projects)

• Traffic congestion	Very likely	Likely	Unlikely √
• Health and safety	Significant	Moderate	Insignificant √
• Impact on archaeological & historical	Significant	Moderate	Insignificant √
• Employment generation	Significant √	Moderate	Insignificant

2) Potential Environmental Impact **during Operational Phase:**

(d) Ecological impacts: (important sub-projects include storm drain and boat landing jetty)

• Potential impact on species of aquatic (i.e. water) environment	Significant	Moderate	Minor√

(e) Physicochemical impacts: (all sub-projects)

Potential air quality and noise level(especially for road)	Improvement √	No-improvement	Deterioration
Drainage congestion (especially for drain)	Improvement √	Minor Improve	No Impact
Risk of Water pollution (especially for storm drain and jetty)	Significant	Moderate	Minor √
Pollution from solid waste (especially for SWM, and market)	Improvement √	No-improvement	Deterioration

(f) Socio-economic impacts: (all sub-projects)

Traffic (especially for road, bridge, box culvert, bus/truck terminal)	Improvement √	No-improvement	Adverse
Safety	Improvement √	No-improvement	Adverse
Employment generation	Significant √	Moderate	Minor

3) Summary of Possible Environmental Impacts of the subproject:

During the implementation there will be insignificant air, water, noise pollution but create some employment opportunities. It will not require to cut any trees. It will not create any traffic congestion, water logging. But after completion of the project it will improve the traffic mobility, safety, air quality and noise level and eradicate drainage congestion.

4) Category of sub-project : (follow Table 1 of EMF)

(a) According to ECR 1997 : Green / Orange A / Orange B √ / Red / Not Listed
(b) According to WB classification : Category B√ / Category C

5) Proposed mitigation measure (follow Appendix I or Table 9 of EMF as appropriate) :

- Construction of Sanitary latrine for construction labor
- Proper disposal system for removal of solid waste.
- Raising awareness about hygine practices among workers.
- Spray water on dry surface, construction materials.
- Initiatives to reduce noise level,
- Prevent direct waste water flow to near by water bodies

Operation Phase:

- Better traffic management, increased vehicle inspection
- Avoiding spillage of water on road from vehicles carrying fish/ fresh produce (through monitoring, creation of awareness)
- maintenance and clearance of road and drain regularly and properly

6) Overall Comments: This sub-project has been selected considering public demand and for the benefit of local people. It will not provide significant environmental impacts.

7) Prepared by : Engineering Division

Reviewed by: Anjuman Ara Rahman, Environmental Specialist (Consultant)

APPENDIX E

Form 1: Sub-project Description

(to be completed by ULBs)

Name of ULB **: Ramgonj Pourashava**

(1) Name of sub-project **:** R3. Development of Kalchama Shamer Dokan to Haziganj Road Via Kalchama Primary School by BC, at Ward No-04, under Ramgonj Pourashava. CIP NO-23

(2) Brief description of sub-project : Improvement of BC Road with 2.45 m width.

: (Kalchama in Ward No: 04) Map attached here with
(attach location map)

(4) Layout of the sub-project **:** Attached here with.

(attach a layout map)

(5) Ownership of sub-project land **:** ULB owned

(a) Government/ ULB owned

(b) Private land (need acquisition)

(6) Brief Description of Sub-Project Site: This sub project will be located in residential area. On east side of this road a little portion of canal is situated Total length is 2510 meter. Average width will be 2.45 meter.

(7) Brief Information of Environment within Sub-Project Influence Area: Within the influence area of this sub-project there is no major water bodies, but an educational institute at the middle of the proposed road, heavy vegetation are situated.

(8) Key activities of sub-project **:** End edging, Sub Base, WBM, prime coat, bituminous carpeting, seal coat, Plasiding Earth filling etc.

(9) Estimated cost of sub-project **: 8.50** (Million BDT)

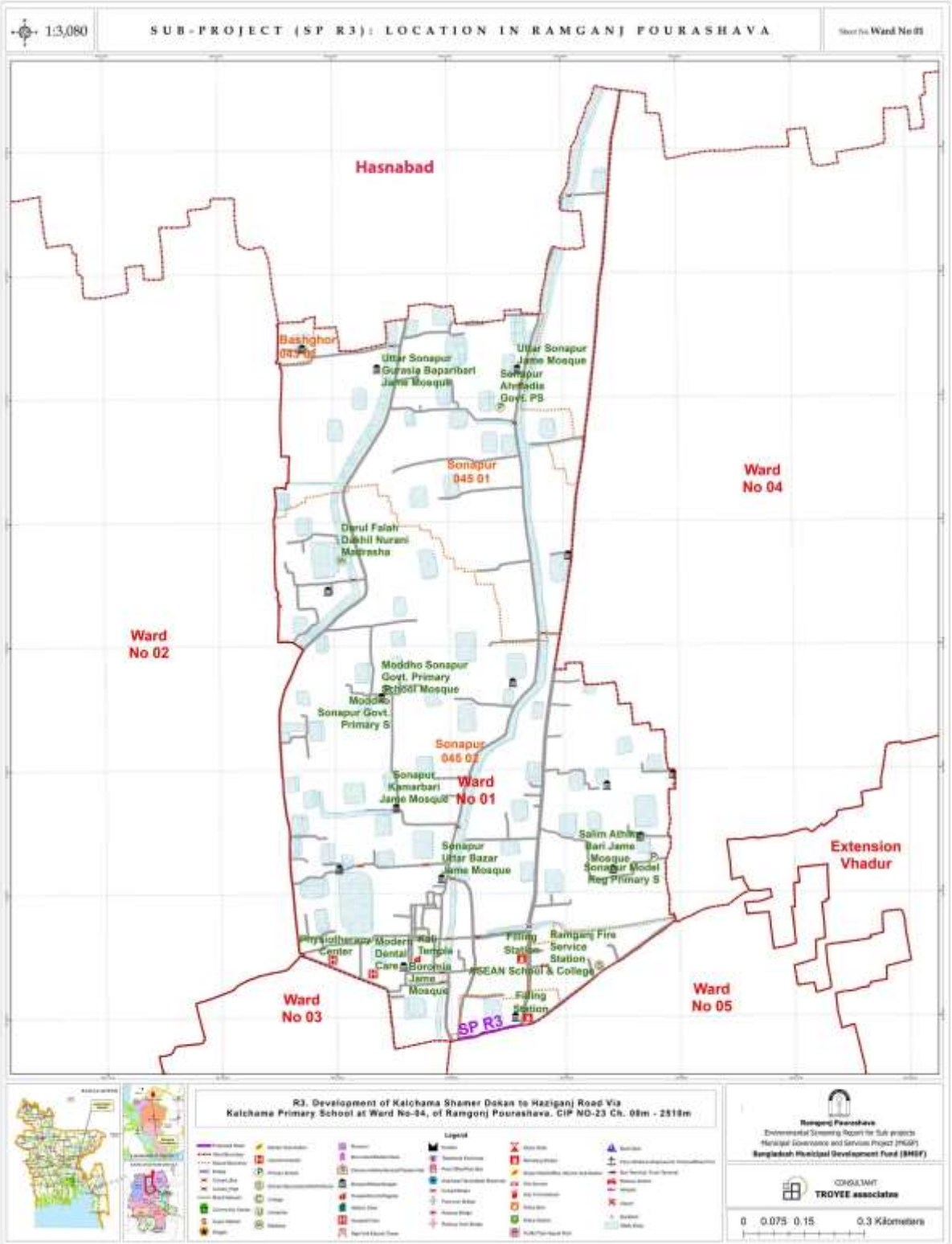
(10) Schedule of implementation

(a) Sub-project duration (months) : 6 months

(b) Tentative start date **:** 01/07/2018

(c) Tentative completion date : 31/12/2018

(11) Potential benefit from sub-project **:** This sub-project will facilitate about 10,000 people in communication. Accessibility to those residential areas will be increased, living environment will be improved and land value adjacent to the sub-project will rise.


1:3,080
SUB-PROJECT (SP R3): LOCATION IN RAMGANJ POURASHAVA
Ward No 01
Hasnabad
Bashghor
045 05
Uttar Sonapur Gurasia Baparibari Jame Mosque
Uttar Sonapur Jame Mosque
Sonapur Ahmadia Govt. PS
Sonapur 045 01
Ward No 04
Darul Falah Dakhil Nurani Madrasha
Ward No 02
Moddho Sonapur Govt. Primary School Mosque
Moddho Sonapur Govt. Primary S
Sonapur 045 02
Sonapur Kamarbari Jame Mosque
Ward No 01
Salim Ahmed Bari Jame Mosque
Sonapur Model Reg Primary S
Sonapur Uttar Bazar Jame Mosque
Extension Vhadur
Physiotherapy Center
Modern Dental Care
Kali Temple
Filling Station
Ramganj Fire Service Station
Boromia Jame Mosque
ASEAN School & College
Ward No 03
Filling Station
Ward No 05
SP R3
R3. Development of Kalchama Shamer Dokan to Haziganj Road Via Kalchama Primary School at Ward No-04, of Ramganj Pourashava. CIP NO-23 Ch. 00m - 2510m
Legend
Ramganj Pourashava
Environmental Screening Report for Sub projects
Municipal Governance and Services Project (MGSP)
Bangladesh Municipal Development Fund (BMDF)
CONSULTANT
TROYEE associates
0 0.075 0.15 0.3 Kilometers

APPENDIX F

Form 2: Environmental Screening
(to be completed by ULBs following Guideline presented in Section 3.3 of EMF)

Name of ULB : Ramgonj Pourashava

Name of sub-project **:** R3. Development of Kalchama Shamer Dokan to Haziganj Road Via Kalchama Primary School by BC, at Ward No-04, under Ramgonj Pourashava. CIP NO-23

1) Potential Environmental Impact **during Construction Phase:**

(a) Ecological impacts: (important sub-projects include storm drain, bridge, box culvert, and boat landing jetty)

• Felling of trees	Significant	Moderate	Minor	Number of tress- **Nil**
• Clearing of vegetation	Significant	Moderate	Minor √	
• Potential impact on species of aquatic (i.e., water) environment	Significant	Moderate	Minor √	

(b) Physicochemical impacts: (all sub-projects)

• Noise pollution	Significant	Moderate	Insignificant √
• Air pollution	Significant	Moderate	Insignificant √
• Drainage congestion	Very likely	Likely	Unlikely √
• Water pollution	Significant	Moderate	Insignificant √
• Pollution from solid construction waste	Significant	Moderate	Insignificant √
• Water logging	Significant	Moderate	Insignificant √

(c) Socio-economic impacts: (all sub-projects)

• Traffic congestion	Very likely	Likely	Unlikely √
• Health and safety	Significant	Moderate	Insignificant √
• Impact on archaeological & historical	Significant	Moderate	Insignificant √
• Employment generation	Significant √	Moderate	Insignificant

2) Potential Environmental Impact **during Operational Phase:**

(d) Ecological impacts: (important sub-projects include storm drain and boat landing jetty)

• Potential impact on species of aquatic (i.e. water) environment	Significant	Moderate	Minor√

(e) Physicochemical impacts: (all sub-projects)

Potential air quality and noise level(especially for road)	Improvement √	No-improvement	Deterioration
Drainage congestion (especially for drain)	Improvement √	Minor Improve	No Impact
Risk of Water pollution (especially for storm drain and jetty)	Significant	Moderate	Minor √
Pollution from solid waste (especially for SWM, and market)	Improvement √	No-improvement	Deterioration

(f) Socio-economic impacts: (all sub-projects)

Traffic (especially for road, bridge, box culvert, bus/truck terminal)	Improvement √	No-improvement	Adverse
Safety	Improvement √	No-improvement	Adverse
Employment generation	Significant √	Moderate	Minor

3) Summary of Possible Environmental Impacts of the subproject:

During the implementation there will be insignificant air, water, noise pollution but create some employment opportunities. It will not require to cut any trees. It will not create any traffic congestion, water logging. But after completion of the project it will improve the traffic mobility, safety, air quality and noise level and eradicate drainage congestion.

4) Category of sub-project : (follow Table 1 of EMF)

(a) According to ECR 1997 : Green / Orange A / Orange B √ / Red / Not Listed
(b) According to WB classification : Category B√ / Category C

5) Proposed mitigation measure (follow Appendix I or Table 9 of EMF as appropriate) :

- Construction of Sanitary latrine for construction labor
- Proper disposal system for removal of solid waste.
- Raising awareness about hygine practices among workers.
- Spray water on dry surface, construction materials.
- Initiatives to reduce noise level,
- Prevent direct waste water flow to near by water bodies

Operation Phase:

- Better traffic management, increased vehicle inspection
- Avoiding spillage of water on road from vehicles carrying fish/ fresh produce (through monitoring, creation of awareness)
- maintenance and clearance of road and drain regularly and properly

6) Overall Comments: This sub-project has been selected considering public demand and for the benefit of local people. It will not provide significant environmental impacts.

7) Prepared by : Engineering Division

Reviewed by: Anjuman Ara Rahman, Environmental Specialist (Consultant)

APPENDIX G

Form 1: Sub-project Description

(to be completed by ULBs)

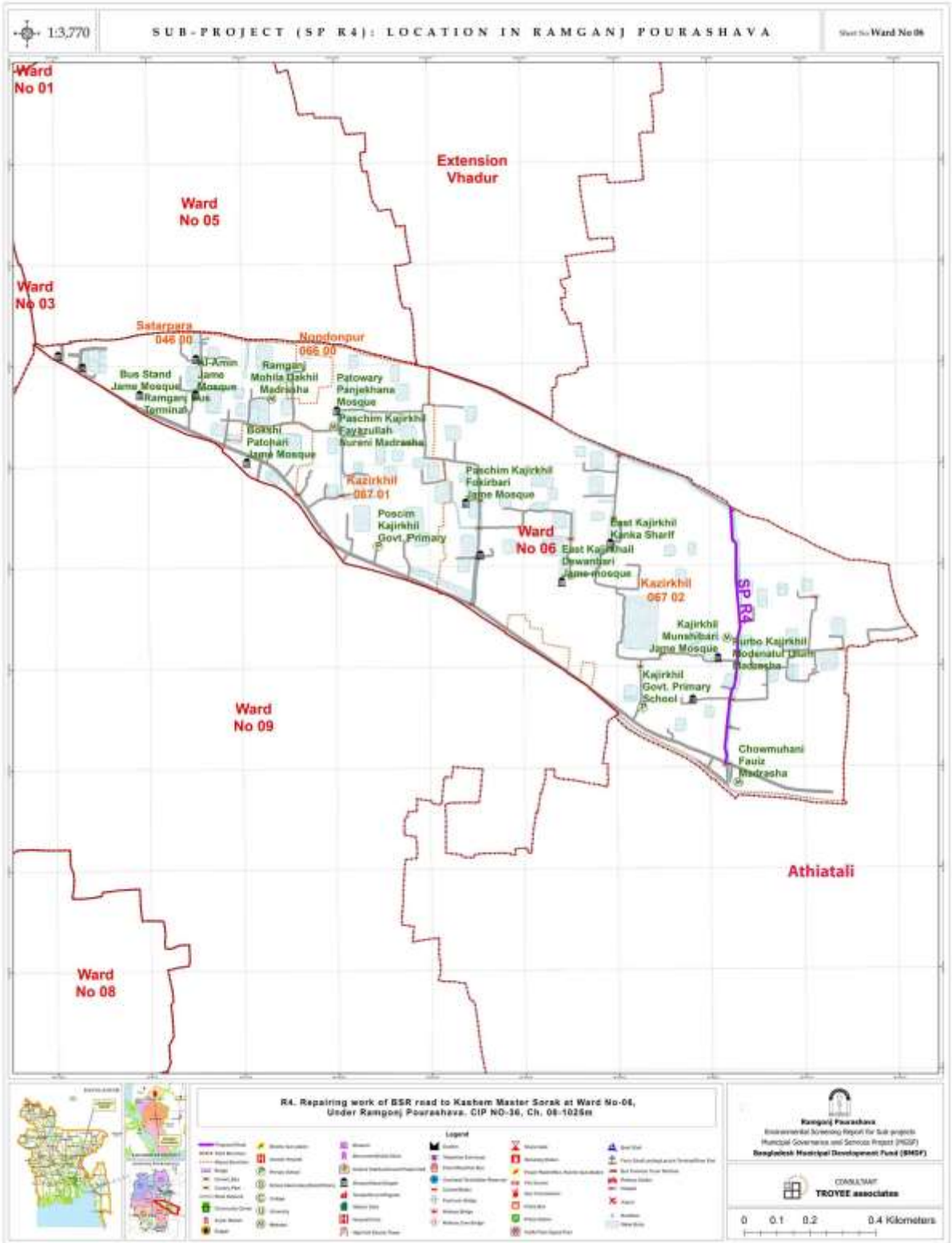
Name of ULB	**: Ramgonj Pourashava**
(1) Name of sub-project	**:** R4. Repairing work of BSR road to Kashem Master Sorak at Ward No-06, Under Ramgonj Pourashava. CIP NO-36, Ch. 00-1025m
(2) Brief description of sub-project	: Improvement of BC Road with 2.45 m width.
(3) Location of sub-project	: (Kazirkhil in Ward No: 06) Map attached here with (attach location map)
(4) Layout of the sub-project	**:** Attached here with. (attach a layout map)
(5) Ownership of sub-project land	**:** ULB owned
(a) Government/ ULB owned	
(b) Private land (need acquisition)	

(6) Brief description of sub-project site: This sub project will be located in residential area. On east side a lake is situated and other side is residential area. Total length is 1025 meter. Average width will be 2.45 meter.

(7) Brief information of environment within sub-project influence area[4]: Within the influence area of this sub-project there is no major water bodies, heavy vegetation are situated.

(8) Key activities of sub-project	**:** End edging, Sub Base, WBM, prime coat, bituminous carpeting, seal coat, Plasiding Earth filling etc.
(9) Estimated cost of sub-project	**: 5.0** (Million BDT)
(10) Schedule of implementation	
(a) Sub-project duration (months)	: 6 months
(b) Tentative start date	**:** 01/07/2018
(c) Tentative completion date	: 31/12/2018

(11) Potential benefit from sub-project : This sub-project will facilitate about 15,000 people in communication. Accessibility to those residential areas will be increased, living environment will be improved and land value adjacent to the sub-project will rise.


1:3,770
SUB-PROJECT (SP R4): LOCATION IN RAMGANJ POURASHAVA
Ward No 06
Ward No 01
Extension Vhadur
Ward No 05
Ward No 03
Satarpara 046 00
Noapotapur 066 00
Bus Stand Jame Mosque
Al-Amin Jame Mosque
Ramganj Bus Terminal
Ramganj Mohila Dakhil Madrasha
Patowary Panjekhana Mosque
Paschim Kajirkhil Fayazullah Nureni Madrasha
Bakshi Patohari Jame Mosque
Kazirkhil 067 01
Paschim Kajirkhil Fakirbari Jame Mosque
Poscim Kajirkhil Govt. Primary
Ward No 06
East Kajirkhil Kanka Sharif
East Kajirkhil Dewanbari Jame mosque
Kazirkhil 067 02
SP R4
Kajirkhil Munshibari Jame Mosque
Purbo Kajirkhil Modenatul Uloom Madrasha
Kajirkhil Govt. Primary School
Ward No 09
Chowmuhani Fauiz Madrasha
Athiatali
Ward No 08
R4. Repairing work of BSR road to Kashem Master Sorak at Ward No-06, Under Ramgonj Pourashava. CIP NO-36, Ch. 00-1025m
Legend
Ramgonj Pourashava
Environmental Screening Report for Sub projects
Municipal Governance and Services Project (MGSP)
Bangladesh Municipal Development Fund (BMDF)
CONSULTANT
TROYEE associates
0 0.1 0.2 0.4 Kilometers

APPENDIX H

Form 2: Environmental Screening
(to be completed by ULBs following Guideline presented in Section 3.3 of EMF)

Name of ULB : Ramgonj Pourashava

Name of sub-project **:** R4. Repairing work of BSR road to Kashem Master Sorak at Ward No-06, Under Ramgonj Pourashava. CIP NO-36, Ch. 00-1025m

1) Potential Environmental Impact **during Construction Phase:**

(a) Ecological impacts: (important sub-projects include storm drain, bridge, box culvert, and boat landing jetty)

• Felling of trees	Significant	Moderate	Minor	Number of tress- **Nil**
• Clearing of vegetation	Significant	Moderate	Minor √	
• Potential impact on species of aquatic (i.e., water) environment	Significant	Moderate	Minor √	

(b) Physicochemical impacts: (all sub-projects)

• Noise pollution	Significant	Moderate	Insignificant √
• Air pollution	Significant	Moderate	Insignificant √
• Drainage congestion	Very likely	Likely	Unlikely √
• Water pollution	Significant	Moderate	Insignificant √
• Pollution from solid construction waste	Significant	Moderate	Insignificant √
• Water logging	Significant	Moderate	Insignificant √

(c) Socio-economic impacts: (all sub-projects)

• Traffic congestion	Very likely	Likely	Unlikely √
• Health and safety	Significant	Moderate	Insignificant √
• Impact on archaeological & historical	Significant	Moderate	Insignificant √
• Employment generation	Significant √	Moderate	Insignificant

2) Potential Environmental Impact **during Operational Phase:**

(d) Ecological impacts: (important sub-projects include storm drain and boat landing jetty)

• Potential impact on species of aquatic (i.e. water) environment	Significant	Moderate	Minor√

(e) Physicochemical impacts: (all sub-projects)

Potential air quality and noise level(especially for road)	Improvement √	No-improvement	Deterioration
Drainage congestion (especially for drain)	Improvement √	Minor Improve	No Impact
Risk of Water pollution (especially for storm drain and jetty)	Significant	Moderate	Minor √
Pollution from solid waste (especially for SWM, and market)	Improvement √	No-improvement	Deterioration

(f) Socio-economic impacts: (all sub-projects)

Traffic (especially for road, bridge, box culvert, bus/truck terminal)	Improvement √	No-improvement	Adverse
Safety	Improvement √	No-improvement	Adverse
Employment generation	Significant √	Moderate	Minor

3) Summary of Possible Environmental Impacts of the subproject:

During the implementation there will be insignificant air, water, noise pollution but create some employment opportunities. It will not require to cut any trees. It will not create any traffic congestion, water logging. But after completion of the project it will improve the traffic mobility, safety, air quality and noise level and eradicate drainage congestion.

4) Category of sub-project : (follow Table 1 of EMF)

(a) According to ECR 1997 : Green / Orange A / Orange B √ / Red / Not Listed
(b) According to WB classification : Category B√ / Category C

5) Proposed mitigation measure (follow Appendix I or Table 9 of EMF as appropriate) :

- Construction of Sanitary latrine for construction labor
- Proper disposal system for removal of solid waste.
- Raising awareness about hygine practices among workers.
- Spray water on dry surface, construction materials.
- Initiatives to reduce noise level,
- Prevent direct waste water flow to near by water bodies

Operation Phase:

- Better traffic management, increased vehicle inspection
- Avoiding spillage of water on road from vehicles carrying fish/ fresh produce (through monitoring, creation of awareness)
- maintenance and clearance of road and drain regularly and properly

6) Overall Comments: This sub-project has been selected considering public demand and for the benefit of local people. It will not provide significant environmental impacts.

7) Prepared by : Engineering Division

Reviewed by: Anjuman Ara Rahman, Environmental Specialist (Consultant)

APPENDIX I

Form 1: Sub-project Description

(to be completed by ULBs)

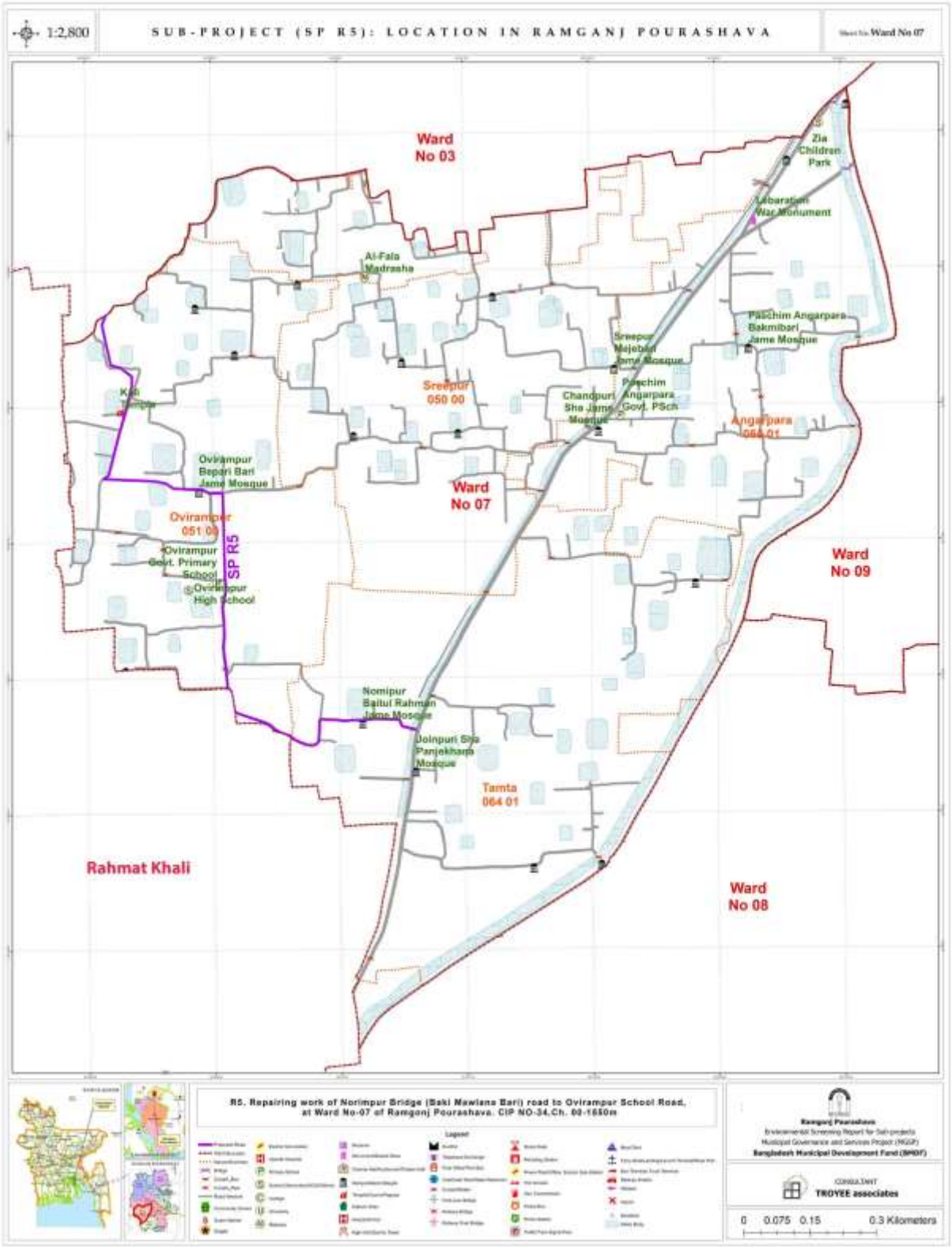
Name of ULB	**: Ramgonj Pourashava**
(1) Name of sub-project	**:** R5. Repairing work of Norimpur Bridge (Baki Mawlana Bari) road to Ovirampur School Road, at Ward No-07 of Ramgonj Pourashava. CIP NO-34,Ch. 00-1550m
(2) Brief description of sub-project	: Improvement of BC Road with 2.45 m width.
(3) Location of sub-project	: (Ovirampurin Ward No: 04) Map attached here with (attach location map)
(4) Layout of the sub-project	**:** Attached here with. (attach a layout map)
(5) Ownership of sub-project land	**:** ULB owned
(a) Government/ ULB owned	
(b) Private land (need acquisition)	

(6) Brief description of sub-project site: This sub project will be located in residential area. On south side a lake is situated and other side is residential area. Total length is 1550 meter. This sub-project is free from tidal force. Average width will be 2.45 meter.

(7) Brief information of environment within sub-project influence area[4]: Within the influence area of this sub-project there is no major water bodies, heavy vegetation are situated.

(8) Key activities of sub-project	**:** End edging, Sub Base, WBM, prime coat, bituminous carpeting, seal coat, Plasiting Earth filling etc.
(9) Estimated cost of sub-project	**: 8.50** (Million BDT)
(10) Schedule of implementation	
(a) Sub-project duration (months)	: 6 months
(b) Tentative start date	**:** 01/07/2018
(c) Tentative completion date	: 31/12/2018

(11) Potential benefit from sub-project : This sub-project will facilitate about 15,000 people in communication. Accessibility to those residential areas will be increased, living environment will be improved and land value adjacent to the sub-project will rise.


1:2,800
SUB-PROJECT (SP R5): LOCATION IN RAMGANJ POURASHAVA
Ward No 07
Ward No 03
Zia Children Park
Liberation War Monument
Al-Fala Madrasha
Paschim Angarpara Bakmibari Jame Mosque
Sreepur Mejebari Jame Mosque
Sreepur 050 00
Paschim Angarpara Govt. PSch
Angarpara 064 01
Kali Temple
Ovirampur Bepari Bari Jame Mosque
Ovirampur 051 00
Ovirampur Govt. Primary School
Ovirampur High School
SP R5
Ward No 07
Ward No 09
Nomipur Baitul Rahman Jame Mosque
Joinpuri Shia Panjekhana Mosque
Tamta 064 01
Rahmat Khali
Ward No 08
R5. Repairing work of Norimpur Bridge (Saki Mawlana Bari) road to Ovirampur School Road, at Ward No-07 of Ramgonj Pourashava. CIP NO-34,Ch. 00-1650m
Legend
Ramgonj Pourashava
Environmental Screening Report for Sub-projects
Municipal Governance and Services Project (MGSP)
Bangladesh Municipal Development Fund (BMDF)
CONSULTANT
TROYEE associates
0 0.075 0.15 0.3 Kilometers

APPENDIX J

Form 2: Environmental Screening
(to be completed by ULBs following Guideline presented in Section 3.3 of EMF)

Name of ULB : Ramgonj Pourashava

Name of sub project: R5. Repairing work of Norimpur Bridge(Baki Mawlana Bari) road to Ovirampur School Road, by BC & Sealcoat, at Ward No-07. under Ramgonj Pourashava.CIP NO-34Ch. 00-520 m

1) Potential Environmental Impact **during Construction Phase:**

(a) Ecological impacts: (important sub-projects include storm drain, bridge, box culvert, and boat landing jetty)

• Felling of trees	Significant	Moderate	Minor	Number of tress- **Nil**
• Clearing of vegetation	Significant	Moderate	Minor √	
• Potential impact on species of aquatic (i.e., water) environment	Significant	Moderate	Minor √	

(b) Physicochemical impacts: (all sub-projects)

• Noise pollution	Significant	Moderate	Insignificant √
• Air pollution	Significant	Moderate	Insignificant √
• Drainage congestion	Very likely	Likely	Unlikely √
• Water pollution	Significant	Moderate	Insignificant √
• Pollution from solid construction waste	Significant	Moderate	Insignificant √
• Water logging	Significant	Moderate	Insignificant √

(c) Socio-economic impacts: (all sub-projects)

• Traffic congestion	Very likely	Likely	Unlikely √
• Health and safety	Significant	Moderate	Insignificant √
• Impact on archaeological & historical	Significant	Moderate	Insignificant √
• Employment generation	Significant √	Moderate	Insignificant

2) Potential Environmental Impact **during Operational Phase:**

(d) Ecological impacts: (important sub-projects include storm drain and boat landing jetty)

• Potential impact on species of aquatic (i.e. water) environment	Significant	Moderate	Minor√

(e) Physicochemical impacts: (all sub-projects)

Potential air quality and noise level(especially for road)	Improvement √	No-improvement	Deterioration
Drainage congestion (especially for drain)	Improvement √	Minor Improve	No Impact
Risk of Water pollution (especially for storm drain and jetty)	Significant	Moderate	Minor √
Pollution from solid waste (especially for SWM, and market)	Improvement √	No-improvement	Deterioration

(f) Socio-economic impacts: (all sub-projects)

Traffic (especially for road, bridge, box culvert, bus/truck terminal)	Improvement √	No-improvement	Adverse
Safety	Improvement √	No-improvement	Adverse
Employment generation	Significant √	Moderate	Minor

3) Summary of Possible Environmental Impacts of the subproject:

During the implementation there will be insignificant air, water, noise pollution but create some employment opportunities. It will not require to cut any trees. It will not create any traffic congestion, water logging. But after completion of the project it will improve the traffic mobility, safety, air quality and noise level and eradicate drainage congestion.

4) Category of sub-project : (follow Table 1 of EMF)

(a) According to ECR 1997 : Green / Orange A / Orange B √ / Red / Not Listed
(b) According to WB classification : Category B√ / Category C

5) Proposed mitigation measure (follow Appendix I or Table 9 of EMF as appropriate) :

- Construction of Sanitary latrine for construction labor
- Proper disposal system for removal of solid waste.
- Raising awareness about hygine practices among workers.
- Spray water on dry surface, construction materials.
- Initiatives to reduce noise level,
- Prevent direct waste water flow to near by water bodies

Operation Phase:

- Better traffic management, increased vehicle inspection
- Avoiding spillage of water on road from vehicles carrying fish/ fresh produce (through monitoring, creation of awareness)
- maintenance and clearance of road and drain regularly and properly

6) Overall Comments: This sub-project has been selected considering public demand and for the benefit of local people. It will not provide significant environmental impacts.

7) Prepared by : Engineering Division

Reviewed by: Anjuman Ara Rahman, Environmental Specialist (Consultant)

APPENDIX K

Form 1: Sub-project Description

(to be completed by ULBs)

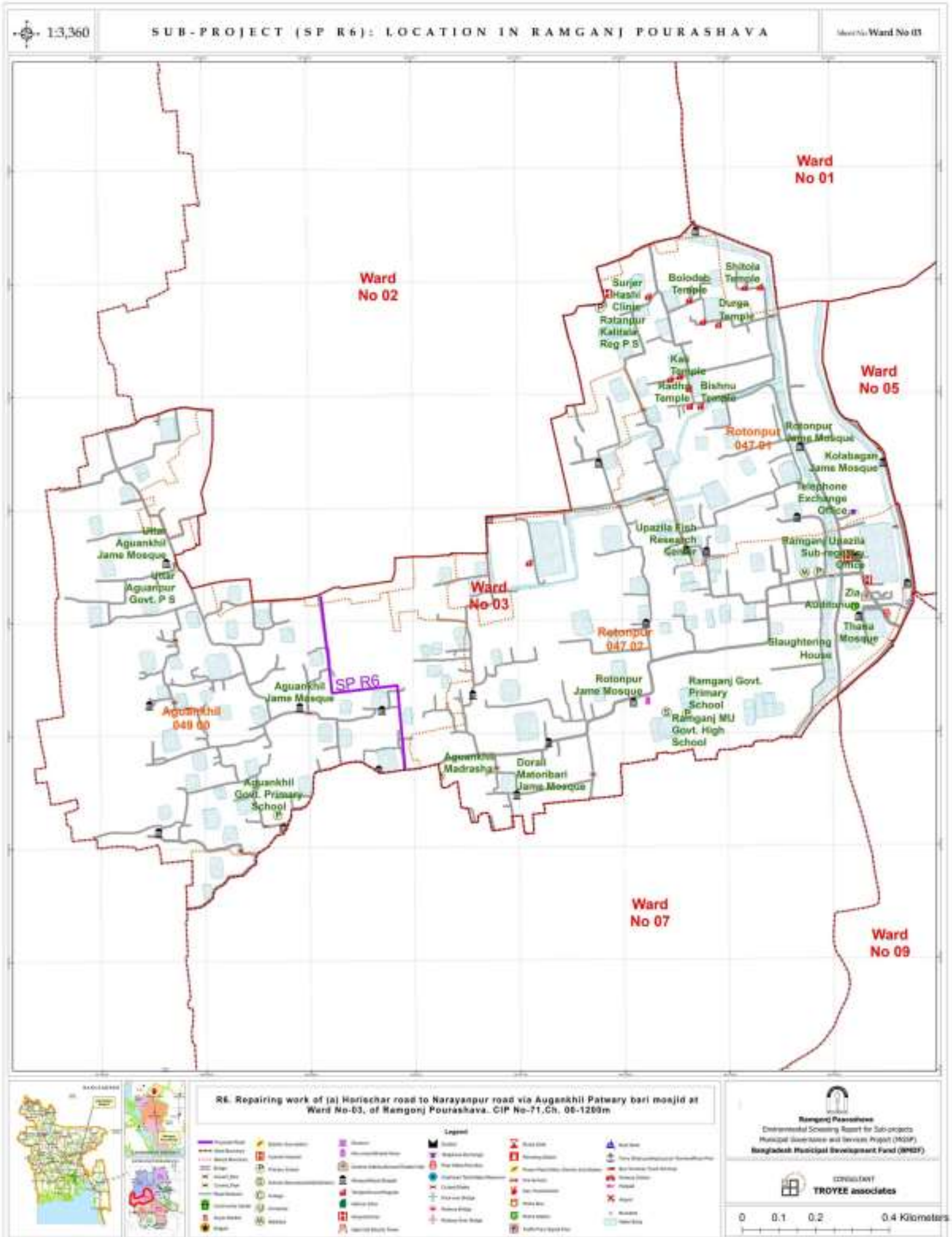
Name of ULB	**: Ramgonj Pourashava**
(1) Name of sub-project	**:** R6. Repairing work of (a) Horischar road to Narayanpur road via Augankhil Patwary bari mosjid at Ward No-03, of Ramgonj Pourashava. CIP No-71,Ch. 00-1200m
(2) Brief description of sub-project	: Improvement of BC Road with 2.45 m width.
(3) Location of sub-project	: (Augankhil and Ratapur in Ward No: 03) Map attached here with (attach location map)
(4) Layout of the sub-project	**:** Attached here with. (attach a layout map)
(5) Ownership of sub-project land	**:** ULB owned
(a) Government/ ULB owned	
(b) Private land (need acquisition)	

(6) Brief description of sub-project site: This sub project will be located in residential area. Total length is 1200 meter. This sub-project is free from tidal force. Average width will be 2.45 meter.

(7) Brief information of environment within sub-project influence area[4]: Within the influence area of this sub-project there is no major water bodies, heavy vegetation are situated.

(8) Key activities of sub-project	**:** End edging, WBM, prime coat, bituminous carpeting, seal coat, Earth filling etc.
(9) Estimated cost of sub-project	**: 3.70** (Million BDT)
(10) Schedule of implementation	
(a) Sub-project duration (months)	: 6 months
(b) Tentative start date	**:** 01/07/2018
(c) Tentative completion date	: 31/12/2018

(11) Potential benefit from sub-project : This sub-project will facilitate about 12,000 people in communication. Accessibility to those residential areas will be increased, living environment will be improved and land value adjacent to the sub-project will rise.


1:3,360
SUB-PROJECT (SP R6): LOCATION IN RAMGANJ POURASHAVA
Ward No 03
Ward No 01
Ward No 02
Ward No 05
Ward No 03
Ward No 07
Ward No 09
SP R6
Rotonpur 047 01
Rotonpur 047 02
Aguankhil 049 00
Uttar Aguankhil Jame Mosque
Uttar Aguanpur Govt. P S
Aguankhil Jame Mosque
Aguankhil Govt. Primary School
Aguankhil Madrasha
Dorail Matoribari Jame Mosque
Rotonpur Jame Mosque
Ramganj Govt. Primary School
Ramganj MU Govt. High School
Slaughtering House
Thana Mosque
Zia Auditorium
Upazila Fish Research Center
Telephone Exchange Office
Kolabagan Jame Mosque
Rotonpur Jame Mosque
Kali Temple
Radha Temple
Bishnu Temple
Bolodeb Temple
Shitola Temple
Durga Temple
Surjer Hashi Clinic
Ratanpur Kalitala Reg P S
R6. Repairing work of (a) Horischar road to Narayanpur road via Augankhil Patwary bari mosjid at Ward No-03, of Ramgonj Pourashava. CIP No-71,Ch. 00-1200m
Legend
TROYEE associates
0 0.1 0.2 0.4 Kilometers

APPENDIX L

Form 2: Environmental Screening
(to be completed by ULBs following Guideline presented in Section 3.3 of EMF)

Name of ULB : Ramgonj Pourashava

Name of sub-project **:** R6. Repairing work of (a) Horischar road to Narayanpur road via Augankhil Patwary bari mosjid at Ward No-03, of Ramgonj Pourashava. CIP No-71,Ch. 00-1200m

1) Potential Environmental Impact **during Construction Phase:**

(a) Ecological impacts: (important sub-projects include storm drain, bridge, box culvert, and boat landing jetty)

• Felling of trees	Significant	Moderate	Minor	Number of tress- **Nil**
• Clearing of vegetation	Significant	Moderate	Minor √	
• Potential impact on species of aquatic (i.e., water) environment	Significant	Moderate	Minor √	

(b) Physicochemical impacts: (all sub-projects)

• Noise pollution	Significant	Moderate	Insignificant √
• Air pollution	Significant	Moderate	Insignificant √
• Drainage congestion	Very likely	Likely	Unlikely √
• Water pollution	Significant	Moderate	Insignificant √
• Pollution from solid construction waste	Significant	Moderate	Insignificant √
• Water logging	Significant	Moderate	Insignificant √

(c) Socio-economic impacts: (all sub-projects)

• Traffic congestion	Very likely	Likely	Unlikely √
• Health and safety	Significant	Moderate	Insignificant √
• Impact on archaeological & historical	Significant	Moderate	Insignificant √
• Employment generation	Significant √	Moderate	Insignificant

2) Potential Environmental Impact **during Operational Phase:**

(d) Ecological impacts: (important sub-projects include storm drain and boat landing jetty)

• Potential impact on species of aquatic (i.e. water) environment	Significant	Moderate	Minor√

(e) Physicochemical impacts: (all sub-projects)

Potential air quality and noise level(especially for road)	Improvement √	No-improvement	Deterioration
Drainage congestion (especially for drain)	Improvement √	Minor Improve	No Impact
Risk of Water pollution (especially for storm drain and jetty)	Significant	Moderate	Minor √
Pollution from solid waste (especially for SWM, and market)	Improvement √	No-improvement	Deterioration

(f) Socio-economic impacts: (all sub-projects)

Traffic (especially for road, bridge, box culvert, bus/truck terminal)	Improvement √	No-improvement	Adverse
Safety	Improvement √	No-improvement	Adverse
Employment generation	Significant √	Moderate	Minor

3) Summary of Possible Environmental Impacts of the subproject:

During the implementation there will be insignificant air, water, noise pollution but create some employment opportunities. It will not require to cut any trees. It will not create any traffic congestion, water logging. But after completion of the project it will improve the traffic mobility, safety, air quality and noise level and eradicate drainage congestion.

4) Category of sub-project : (follow Table 1 of EMF)

(a) According to ECR 1997 : Green / Orange A / Orange B √ / Red / Not Listed
(b) According to WB classification : Category B√ / Category C

5) Proposed mitigation measure (follow Appendix I or Table 9 of EMF as appropriate) :

- Construction of Sanitary latrine for construction labor
- Proper disposal system for removal of solid waste.
- Raising awareness about hygine practices among workers.
- Spray water on dry surface, construction materials.
- Initiatives to reduce noise level,
- Prevent direct waste water flow to near by water bodies

Operation Phase:

- Better traffic management, increased vehicle inspection
- Avoiding spillage of water on road from vehicles carrying fish/ fresh produce (through monitoring, creation of awareness)
- maintenance and clearance of road and drain regularly and properly

6) Overall Comments: This sub-project has been selected considering public demand and for the benefit of local people. It will not provide significant environmental impacts.

7) Prepared by : Engineering Division

Reviewed by: Anjuman Ara Rahman, Environmental Specialist (Consultant)

APPENDIX M

Form 1: Sub-project Description

(to be completed by ULBs)

Name of ULB **: Ramgonj Pourashava**

(1) Name of sub-project **:** R7. Development of Rotonpur Kindergarten road at Ward No-03, of Ramgonj Pourashava. CIP No-51 Ch. 00-860 m

(2) Brief description of sub-project : Improvement of BC Road with 2.45 m width.

(3) Location of sub-project : (Rotonpur in Ward No: 03) Map attached here with (attach location map)

(4) Layout of the sub-project **:** Attached here with. (attach a layout map)

(5) Ownership of sub-project land **:** ULB owned

(a) Government/ ULB owned

(b) Private land (need acquisition)

(6) Brief description of sub-project site: This sub project will be located in residential area. On south side a lake is situated and other side is residential area. Total length is 735 meter. This sub-project is free from tidal force. Average width will be 3.0 meter.

(7) Brief information of environment within sub-project influence area[4]: Within the influence area of this sub-project there is no major water bodies, much vegetation are situated.

(8) Key activities of sub-project **:** Box cutting, Sand filling, End edging, Brick Flat soling, RCC Work, M.S Rod, Earth filling etc..

(9) Estimated cost of sub-project **: 4.0** (Million BDT)

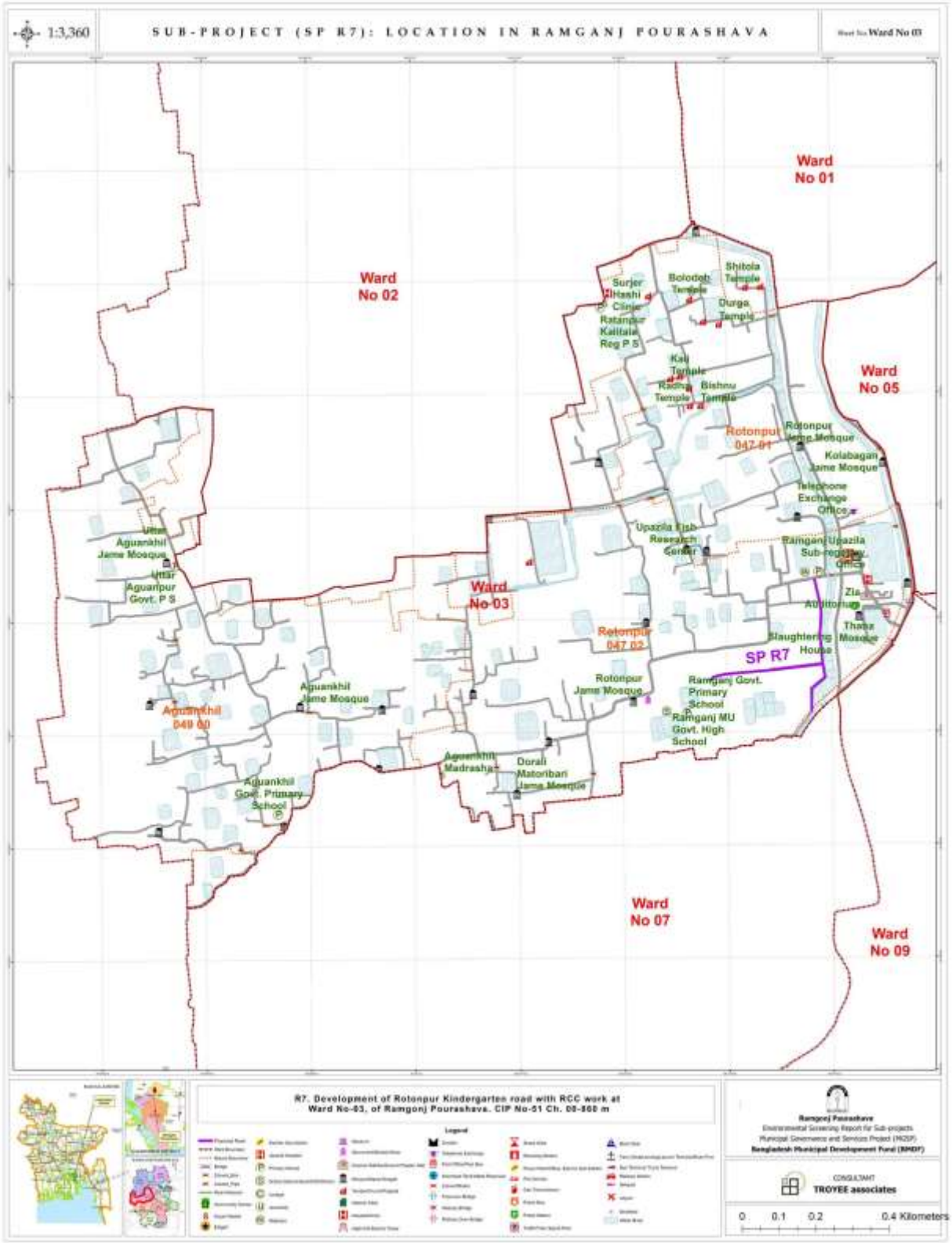
(10) Schedule of implementation

(a) Sub-project duration (months) : 6 months

(b) Tentative start date **:** 01/07/2018

(c) Tentative completion date : 31/12/2018

(11) Potential benefit from sub-project : This sub-project will facilitate about 6,000 people in communication. Accessibility to those residential areas will be increased, living environment will be improved and land value adjacent to the sub-project will rise.


1:3,360
SUB-PROJECT (SP R7): LOCATION IN RAMGANJ POURASHAVA
Ward No 03
Ward No 01
Ward No 02
Ward No 05
Ward No 03
Ward No 07
Ward No 09
Surjer Elhashi Clinic
Ratanpur Kalitala Reg P S
Bolodeb Temple
Shitola Temple
Durga Temple
Kali Temple
Radha Temple
Bishnu Temple
Rotonpur 047 01
Rotonpur Jame Mosque
Kolabagan Jame Mosque
Telephone Exchange Office
Upazila Fish Research Center
Ramganj Upazila Sub-registry Office
Uttar Aguankhil Jame Mosque
Uttar Aguanpur Govt. P S
Rotonpur 047 02
Thana Mosque
Slaughtering House
SP R7
Rotonpur Jame Mosque
Ramganj Govt. Primary School
Ramganj MU Govt. High School
Aguankhil 049 00
Aguankhil Jame Mosque
Aguankhil Madrasha
Dorali Matoribari Jame Mosque
Aguankhil Govt. Primary School
R7. Development of Rotonpur Kindergarten road with RCC work at Ward No-03, of Ramgonj Pourashava. CIP No-01 Ch. 00-800 m
Legend
Ramgonj Pourashava
Environmental Screening Report for Sub-projects
Municipal Governance and Services Project (MGSP)
Bangladesh Municipal Development Fund (BMDF)
CONSULTANT
TROYEE associates
0 0.1 0.2 0.4 Kilometers

APPENDIX N

Form 2: Environmental Screening
(to be completed by ULBs following Guideline presented in Section 3.3 of EMF)

Name of ULB : Ramgonj Pourashava

Name of sub-project **:** R7. Development of Rotonpur Kindergarten road at Ward No-03, of Ramgonj Pourashava. CIP No-51 Ch. 00-860 m

1) Potential Environmental Impact **during Construction Phase:**

(a) Ecological impacts: (important sub-projects include storm drain, bridge, box culvert, and boat landing jetty)

• Felling of trees	Significant	Moderate	Minor	Number of tress- **Nil**
• Clearing of vegetation	Significant	Moderate	Minor √	
• Potential impact on species of aquatic (i.e., water) environment	Significant	Moderate	Minor √	

(b) Physicochemical impacts: (all sub-projects)

• Noise pollution	Significant	Moderate	Insignificant √
• Air pollution	Significant	Moderate	Insignificant √
• Drainage congestion	Very likely	Likely	Unlikely √
• Water pollution	Significant	Moderate	Insignificant √
• Pollution from solid construction waste	Significant	Moderate	Insignificant √
• Water logging	Significant	Moderate	Insignificant √

(c) Socio-economic impacts: (all sub-projects)

• Traffic congestion	Very likely	Likely	Unlikely √
• Health and safety	Significant	Moderate	Insignificant √
• Impact on archaeological & historical	Significant	Moderate	Insignificant √
• Employment generation	Significant √	Moderate	Insignificant

2) Potential Environmental Impact **during Operational Phase:**

(d) Ecological impacts: (important sub-projects include storm drain and boat landing jetty)

• Potential impact on species of aquatic (i.e. water) environment	Significant	Moderate	Minor√

(e) Physicochemical impacts: (all sub-projects)

Potential air quality and noise level(especially for road)	Improvement √	No-improvement	Deterioration
Drainage congestion (especially for drain)	Improvement √	Minor Improve	No Impact
Risk of Water pollution (especially for storm drain and jetty)	Significant	Moderate	Minor √
Pollution from solid waste (especially for SWM, and market)	Improvement √	No-improvement	Deterioration

(f) Socio-economic impacts: (all sub-projects)

Traffic (especially for road, bridge, box culvert, bus/truck terminal)	Improvement √	No-improvement	Adverse
Safety	Improvement √	No-improvement	Adverse
Employment generation	Significant √	Moderate	Minor

3) Summary of Possible Environmental Impacts of the subproject:

During the implementation there will be insignificant air, water, noise pollution but create some employment opportunities. It will not require to cut any trees. It will not create any traffic congestion, water logging. But after completion of the project it will improve the traffic mobility, safety, air quality and noise level and eradicate drainage congestion.

4) Category of sub-project : (follow Table 1 of EMF)

(a) According to ECR 1997 : Green / Orange A / Orange B √ / Red / Not Listed
(b) According to WB classification : Category B√ / Category C

5) Proposed mitigation measure (follow Appendix I or Table 9 of EMF as appropriate) :

- Construction of Sanitary latrine for construction labor
- Proper disposal system for removal of solid waste.
- Raising awareness about hygine practices among workers.
- Spray water on dry surface, construction materials.
- Initiatives to reduce noise level,
- Prevent direct waste water flow to near by water bodies

Operation Phase:

- Better traffic management, increased vehicle inspection
- Avoiding spillage of water on road from vehicles carrying fish/ fresh produce (through monitoring, creation of awareness)
- maintenance and clearance of road and drain regularly and properly

6) Overall Comments: This sub-project has been selected considering public demand and for the benefit of local people. It will not provide significant environmental impacts.

7) Prepared by : Engineering Division

Reviewed by: Anjuman Ara Rahman, Environmental Specialist (Consultant)

APPENDIX O

Form 1: Sub-project Description

(to be completed by ULBs)

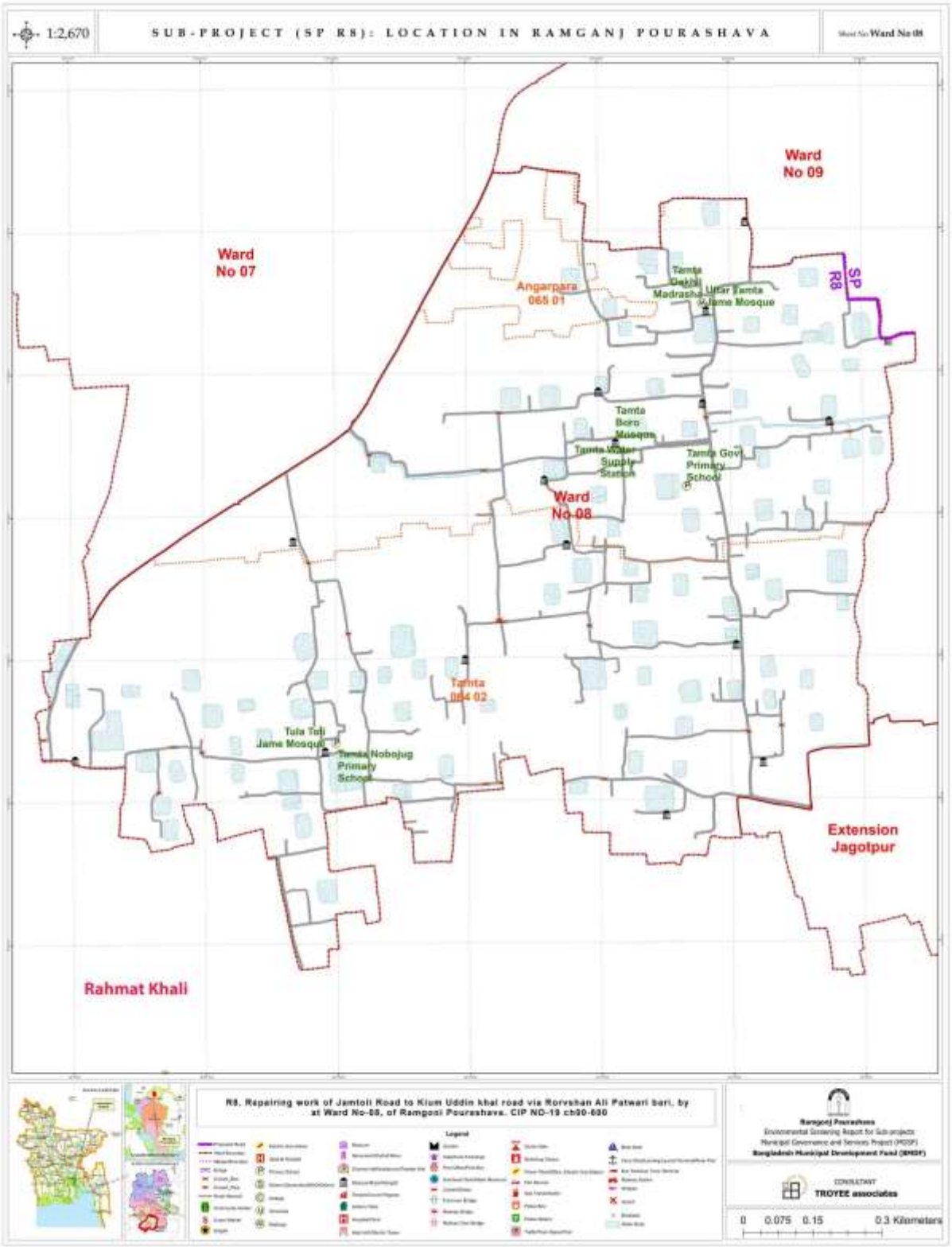
Name of ULB	**: Ramgonj Pourashava**
(1) Name of sub-project	**:** R8. Repairing work of Jamtoli Road to Kium Uddin khal road via Rorvshan Ali Patwari bari, by at Ward No-08, of Ramgoni Pourashava. CIP NO-19 ch00-600
(2) Brief description of sub-project	: Improvement of BC Road with 2.15 m width.
(3) Location of sub-project	: (Tamta in Ward No: 08) Map attached here with (attach location map)
(4) Layout of the sub-project	**:** Attached here with. (attach a layout map)
(5) Ownership of sub-project land	**:** ULB owned
(a) Government/ ULB owned	
(b) Private land (need acquisition)	

(6) Brief description of sub-project site: This sub project will be located in residential area. On south side a lake is situated and other side is residential area. Total length is 735 meter. This sub-project is free from tidal force. Average width will be 3.0 meter.

(7) Brief information of environment within sub-project influence area[4]: Within the influence area of this sub-project there is no major water bodies, much vegetation are situated.

(8) Key activities of sub-project	**:** End edging, Sub Base, WBM, prime coat, bituminous carpeting, seal coat, Plasiding Earth filling etc.
(9) Estimated cost of sub-project	**: 2.8** (Million BDT)
(10) Schedule of implementation	
(a) Sub-project duration (months)	: 6 months
(b) Tentative start date	**:** 01/07/2018
(c) Tentative completion date	: 31/12/2018

(11) Potential benefit from sub-project : This sub-project will facilitate about 6,000 people in communication. Accessibility to those residential areas will be increased, living environment will be improved and land value adjacent to the sub-project will rise.


1:2,670
SUB-PROJECT (SP R8): LOCATION IN RAMGANJ POURASHAVA
Ward No 09
Ward No 07
Angarpara 065 01
Tamta Dakhil Madrasha
Uttar Tamta Jame Mosque
SP R8
Tamta Boro Mosque
Tamta Water Supply Station
Tamta Govt Primary School
Ward No 08
Tamta 064 02
Tula Tuli Jame Mosque
Tamta Nobojug Primary School
Extension Jagotpur
Rahmat Khali
R8. Repairing work of Jamtoli Road to Kium Uddin khal road via Rorvshan Ali Patwari bari, by at Ward No-08, of Ramgonj Pourashava. CIP ND-19 ch00-600
Legend
Ramgonj Pourashava
Environmental Screening Report for Sub-projects
Municipal Governance and Services Project (MGSP)
Bangladesh Municipal Development Fund (BMDF)
CONSULTANT
TROYEE associates
0 0.075 0.15 0.3 Kilometers

APPENDIX P

Form 2: Environmental Screening
(to be completed by ULBs following Guideline presented in Section 3.3 of EMF)

Name of ULB : Ramgonj Pourashava

Name of sub-project **:** R8. Repairing work of Jamtoli Road to Kium Uddin khal road via Rorvshan Ali Patwari bari, by at Ward No-08, of Ramgoni Pourashava. CIP NO-19 ch00-600

1) Potential Environmental Impact **during Construction Phase:**

(a) Ecological impacts: (important sub-projects include storm drain, bridge, box culvert, and boat landing jetty)

• Felling of trees	Significant	Moderate	Minor	Number of tress- **Nil**
• Clearing of vegetation	Significant	Moderate	Minor √	
• Potential impact on species of aquatic (i.e., water) environment	Significant	Moderate	Minor √	

(b) Physicochemical impacts: (all sub-projects)

• Noise pollution	Significant	Moderate	Insignificant √
• Air pollution	Significant	Moderate	Insignificant √
• Drainage congestion	Very likely	Likely	Unlikely √
• Water pollution	Significant	Moderate	Insignificant √
• Pollution from solid construction waste	Significant	Moderate	Insignificant √
• Water logging	Significant	Moderate	Insignificant √

(c) Socio-economic impacts: (all sub-projects)

• Traffic congestion	Very likely	Likely	Unlikely √
• Health and safety	Significant	Moderate	Insignificant √
• Impact on archaeological & historical	Significant	Moderate	Insignificant √
• Employment generation	Significant √	Moderate	Insignificant

2) Potential Environmental Impact **during Operational Phase:**

(d) Ecological impacts: (important sub-projects include storm drain and boat landing jetty)

• Potential impact on species of aquatic (i.e. water) environment	Significant	Moderate	Minor√

(e) Physicochemical impacts: (all sub-projects)

Potential air quality and noise level(especially for road)	Improvement √	No-improvement	Deterioration
Drainage congestion (especially for drain)	Improvement √	Minor Improve	No Impact
Risk of Water pollution (especially for storm drain and jetty)	Significant	Moderate	Minor √
Pollution from solid waste (especially for SWM, and market)	Improvement √	No-improvement	Deterioration

(f) Socio-economic impacts: (all sub-projects)

Traffic (especially for road, bridge, box culvert, bus/truck terminal)	Improvement √	No-improvement	Adverse
Safety	Improvement √	No-improvement	Adverse
Employment generation	Significant √	Moderate	Minor

3) Summary of Possible Environmental Impacts of the subproject:

During the implementation there will be insignificant air, water, noise pollution but create some employment opportunities. It will not require to cut any trees. It will not create any traffic congestion, water logging. But after completion of the project it will improve the traffic mobility, safety, air quality and noise level and eradicate drainage congestion.

4) Category of sub-project : (follow Table 1 of EMF)

(a) According to ECR 1997 : Green / Orange A / Orange B √ / Red / Not Listed
(b) According to WB classification : Category B√ / Category C

5) Proposed mitigation measure (follow Appendix I or Table 9 of EMF as appropriate) :

- Construction of Sanitary latrine for construction labor
- Proper disposal system for removal of solid waste.
- Raising awareness about hygine practices among workers.
- Spray water on dry surface, construction materials.
- Initiatives to reduce noise level,
- Prevent direct waste water flow to near by water bodies

Operation Phase:

- Better traffic management, increased vehicle inspection
- Avoiding spillage of water on road from vehicles carrying fish/ fresh produce (through monitoring, creation of awareness)
- maintenance and clearance of road and drain regularly and properly

6) Overall Comments: This sub-project has been selected considering public demand and for the benefit of local people. It will not provide significant environmental impacts.

7) Prepared by : Engineering Division

Reviewed by: Anjuman Ara Rahman, Environmental Specialist (Consultant)

APPENDIX Q

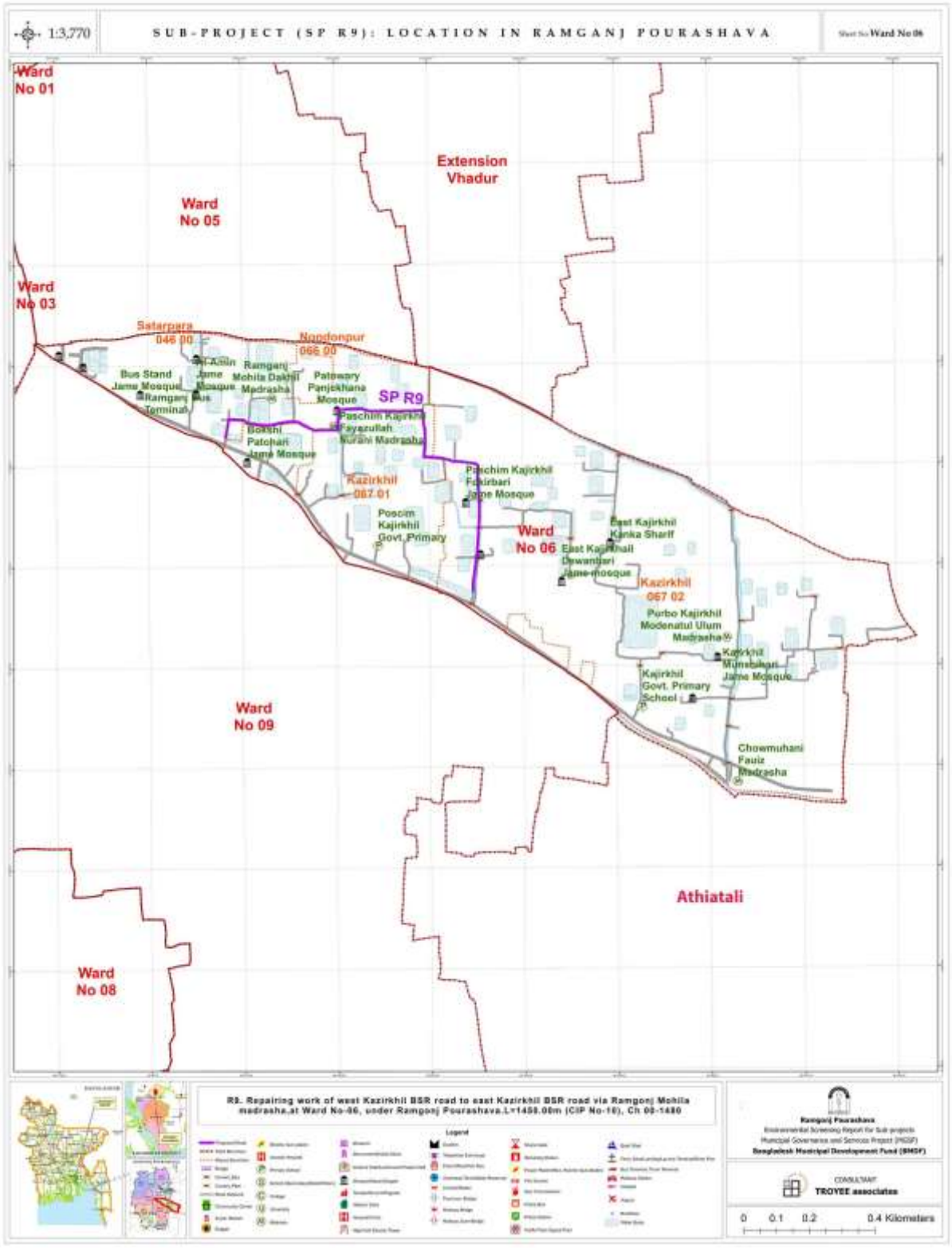
Form 1: Sub-project Description

(to be completed by ULBs)

Name of ULB	**: Ramgonj Pourashava**
(1) Name of sub-project	**:** R9. Repairing work of west Kazirkhil BSR road to east Kazirkhil BSR road via Ramgonj Mohila madrasha, at Ward No-06, under Ramgonj Pourashava.L=1450.00m (CIP No-10), Ch 00-1480
(2) Brief description of sub-project	: Improvement of BC Road with 2.15 m width.
(3) Location of sub-project	: (West Kazirkhil in Ward No: 06) Map attached here with (attach location map)
(4) Layout of the sub-project	**:** Attached here with. (attach a layout map)
(5) Ownership of sub-project land	**:** ULB owned
(a) Government/ ULB owned	
(b) Private land (need acquisition)	
(6) Brief description of sub-project site	**:** This sub project will be located in residential area. On east side of this proposed road, a canal is situated and other side is residential area. Total length is 1480 meter. This sub-project is free from tidal force. Average width will be 2.15 meter.

(7) Brief information of environment within sub-project influence area[4]: Within the influence area of this sub-project there is no major water bodies, much vegetation are situated.

(8) Key activities of sub-project	**:** End edging, Sub Base, WBM, prime coat, bituminous carpeting, seal coat, Plasiding Earth filling etc.
(9) Estimated cost of sub-project	**: 6.2** (Million BDT)
(10) Schedule of implementation	
(a) Sub-project duration (months)	: 6 months
(b) Tentative start date	**:** 01/07/2018
(c) Tentative completion date	: 31/12/2018
(11) Potential benefit from sub-project	**:** This sub-project will facilitate about 10,000 people in communication. Accessibility to those residential areas will be increased, living environment will be improved and land value adjacent to the sub-project will rise.


1:3,770
SUB-PROJECT (SP R9): LOCATION IN RAMGANJ POURASHAVA
Ward No 06
Ward No 01
Extension Vhadur
Ward No 05
Ward No 03
Satarpara 046 00
Noapfonpur 066 00
Bus Stand Jame Mosque
Ramganj Terminal
Ramganj Mohila Dakhil Madrasha
Patowary Panjekhana Mosque
SP R9
Paschim Kajirkhil Fayazullah Nurani Madrasha
Boikhi Patohari Jame Mosque
Kazirkhil 067 01
Paschim Kajirkhil Fakirbari Jame Mosque
Poscim Kajirkhil Govt. Primary
Ward No 06
East Kajirkhil Kanka Sharif
East Kajirkhil Dewanbari Jame mosque
Kazirkhil 067 02
Purbo Kajirkhil Modenatul Ulum Madrasha
Kajirkhil Mumbaigari Jame Mosque
Kajirkhil Govt. Primary School
Chowmuhani Fauiz Madrasha
Ward No 09
Athiatali
Ward No 08
R8. Repairing work of west Kazirkhil BSR road to east Kazirkhil BSR road via Ramgonj Mohila madrasha,at Ward No-06, under Ramgonj Pourashava.L=1458.00m (CIP No-10), Ch 00-1480
Legend
Ramgonj Pourashava
Environmental Screening Report for Sub projects
Municipal Governance and Services Project (MGSP)
Bangladesh Municipal Development Fund (BMDF)
CONSULTANT
TROYEE associates
0 0.1 0.2 0.4 Kilometers

APPENDIX R

Form 2: Environmental Screening
(to be completed by ULBs following Guideline presented in Section 3.3 of EMF)

Name of ULB : Ramgonj Pourashava

Name of sub-project **:** R9. Repairing work of west Kazirkhil BSR road to east Kazirkhil BSR road via Ramgonj Mohila madrasha, at Ward No-06, under Ramgonj Pourashava.L=1450.00m (CIP No-10), Ch 00-1480

1) Potential Environmental Impact **during Construction Phase:**

(a) Ecological impacts: (important sub-projects include storm drain, bridge, box culvert, and boat landing jetty)

• Felling of trees	Significant	Moderate	Minor	Number of tress- **Nil**
• Clearing of vegetation	Significant	Moderate	Minor √	
• Potential impact on species of aquatic (i.e., water) environment	Significant	Moderate	Minor √	

(b) Physicochemical impacts: (all sub-projects)

• Noise pollution	Significant	Moderate	Insignificant √
• Air pollution	Significant	Moderate	Insignificant √
• Drainage congestion	Very likely	Likely	Unlikely √
• Water pollution	Significant	Moderate	Insignificant √
• Pollution from solid construction waste	Significant	Moderate	Insignificant √
• Water logging	Significant	Moderate	Insignificant √

(c) Socio-economic impacts: (all sub-projects)

• Traffic congestion	Very likely	Likely	Unlikely √
• Health and safety	Significant	Moderate	Insignificant √
• Impact on archaeological & historical	Significant	Moderate	Insignificant √
• Employment generation	Significant √	Moderate	Insignificant

2) Potential Environmental Impact **during Operational Phase:**

(d) Ecological impacts: (important sub-projects include storm drain and boat landing jetty)

• Potential impact on species of aquatic (i.e. water) environment	Significant	Moderate	Minor√

(e) Physicochemical impacts: (all sub-projects)

Potential air quality and noise level(especially for road)	Improvement √	No-improvement	Deterioration
Drainage congestion (especially for drain)	Improvement √	Minor Improve	No Impact
Risk of Water pollution (especially for storm drain and jetty)	Significant	Moderate	Minor √
Pollution from solid waste (especially for SWM, and market)	Improvement √	No-improvement	Deterioration

(f) Socio-economic impacts: (all sub-projects)

Traffic (especially for road, bridge, box culvert, bus/truck terminal)	Improvement √	No-improvement	Adverse
Safety	Improvement √	No-improvement	Adverse
Employment generation	Significant √	Moderate	Minor

3) Summary of Possible Environmental Impacts of the subproject:

During the implementation there will be insignificant air, water, noise pollution but create some employment opportunities. It will not require to cut any trees. It will not create any traffic congestion, water logging. But after completion of the project it will improve the traffic mobility, safety, air quality and noise level and eradicate drainage congestion.

4) Category of sub-project : (follow Table 1 of EMF)

(a) According to ECR 1997 : Green / Orange A / Orange B √ / Red / Not Listed
(b) According to WB classification : Category B√ / Category C

5) Proposed mitigation measure (follow Appendix I or Table 9 of EMF as appropriate) :

- Construction of Sanitary latrine for construction labor
- Proper disposal system for removal of solid waste.
- Raising awareness about hygine practices among workers.
- Spray water on dry surface, construction materials.
- Initiatives to reduce noise level,
- Prevent direct waste water flow to near by water bodies

Operation Phase:

- Better traffic management, increased vehicle inspection
- Avoiding spillage of water on road from vehicles carrying fish/ fresh produce (through monitoring, creation of awareness)
- maintenance and clearance of road and drain regularly and properly

6) Overall Comments: This sub-project has been selected considering public demand and for the benefit of local people. It will not provide significant environmental impacts.

7) Prepared by : Engineering Division

Reviewed by: Anjuman Ara Rahman, Environmental Specialist (Consultant)

Appendix S

Form 3: Analysis of Alternatives

Name of ULB : Ramgonj Municipality

Name of Sub-project : Construction of Road

Brief description of Sub-project: RCC Road

(a) Analysis of alternative locations:

Location	Considerations
Alternative 1: Location 1	• The road will reduce the existing serious traffic congestion in the Bazar area • The road will ease communication with the adjacent national highway • No private land acquisition will be required
Alternative 2: Location 2	• The road will facilitate movement of large number of people living in the residential area • Alternative road is available, but it is relatively narrow • Private land acquisition will be required for road construction

Selected Location: Location 1

(b) Analysis of alternative designs:

Design	Advantages	Disadvantages
Alternative 1: Bituminous road	• Relatively less costly • Relatively easier repair and maintenance • Comfortable for passengers	• Relative expensive than masonry • Susceptible to damage from exposure to water
Alternative 2: R.C.C. Road	• Less prone to damage from drainage water from market • No asphalt heating induced • Less vulnerable to damage from exposure to water	• More costly • Critical design

Selected Design: Alternative 2: RCC road

(c) Analysis of alternative technologies/ methods of construction: Not relevant

(d) No Sub-project Scenario: If the sub-project is not implemented, the existing traffic congestion in the municipality area will further aggravate with time. The proposed road will reduce this problem. Construction of the road will increase the value of lands, commodities and also will increase industrial development. The proposed road will also serve as a link road, connecting with the adjacent highway

(e) Conclusion: Construction of RCC road at location 1 is selected.

APPENDIX T

Form 1: Sub-project Description
(to be completed by ULBs)

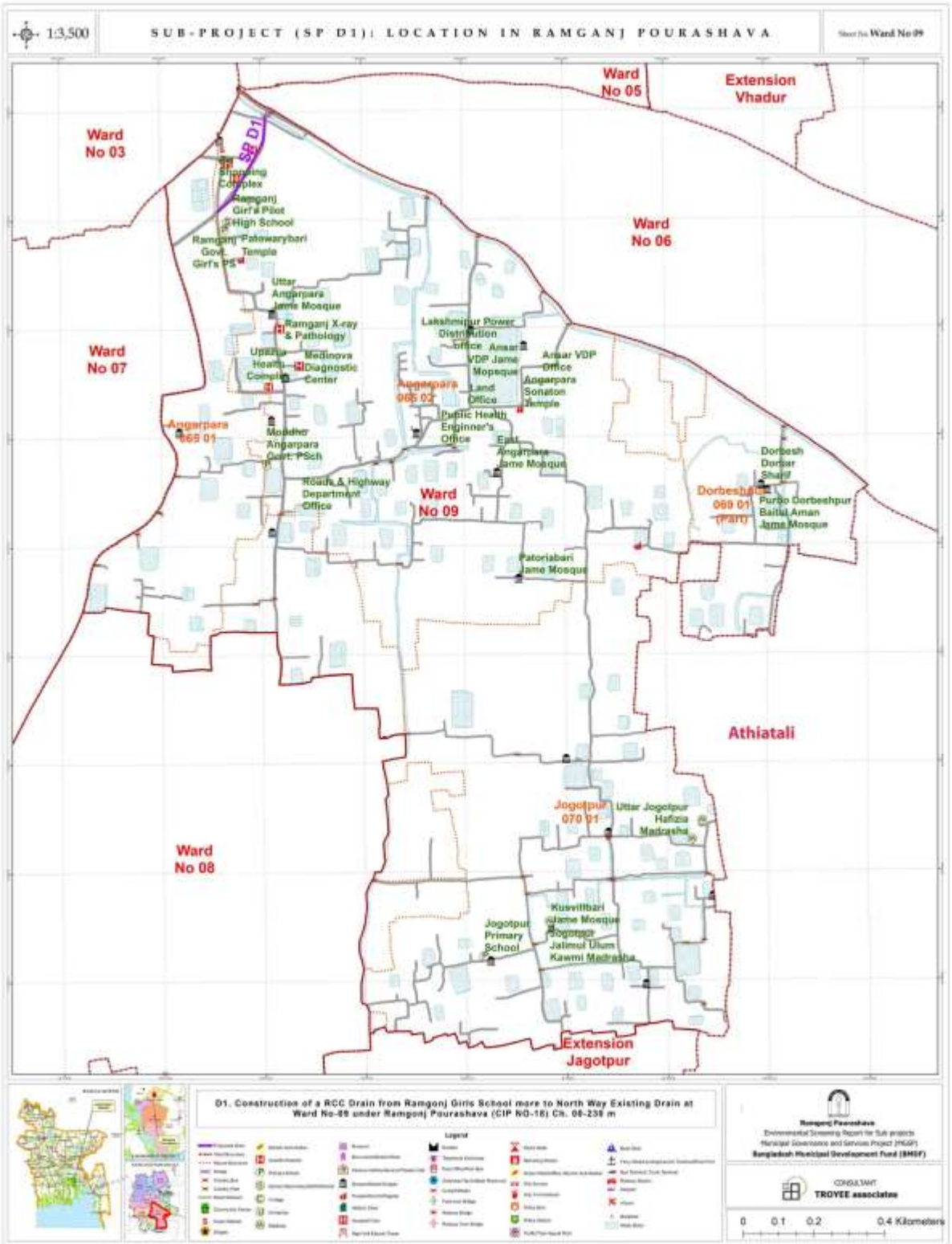
Name of ULB	**: Ramgonj Pourashava**
(1) Name of sub-project	**: D**1. Construction of a RCC Drain from Ramgonj Girls School more to North Way Existing Drain at Ward No-09 under Ramgonj Pourashava . (CIP NO-18) Ch. 00-230 m
(2) Brief description of sub-project	: Improvement of RCC drain with 1.2 X 1.5 m width..
(3) Location of sub-project	: (Aangarpara, Ramganj Diversion Road, Ramgonj Girls School in Ward No: 09) Map attached here with (attach location map)
(4) Layout of the sub-project	**:** Attached here with. (attach a layout map)
(5) Ownership of sub-project land	**:** ULB owned
(a) Government/ ULB owned	
(b) Private land (need acquisition)	

(6) Brief description of sub-project site: This sub project will be located in residential area. Total length is 192 meter. This sub-project is free from tidal force. Average width will be 1.5 meter.

(7) Brief information of environment within sub-project influence area[4]: Within the influence area of this sub-project there is no major water bodies, heavy vegetation are situated.

(8) Key activities of sub-project	**:** Earth Cutting, Sand Filling, Brick Flat Soling, RCC, M.S Rod, Earth Filling etc.
(9) Estimated cost of sub-project	**: 4.5** (Million BDT)
(10) Schedule of implementation	
(a) Sub-project duration (months)	: 06 months
(b) Tentative start date	**:** 01/10/2018
(c) Tentative completion date	: 31/03/2019

(11) Potential benefit from sub-project : This sub-project will facilitate about 5,000 people in communication. Accessibility to those residential areas will be increased, living environment will be improved and land value adjacent to the sub-project will rise.


1:3,500
SUB-PROJECT (SP D1): LOCATION IN RAMGANJ POURASHAVA
Ward No 09
Ward No 05
Extension Vhadur
Ward No 03
SP D1
Ward No 06
Ward No 07
Ward No 09
Ward No 08
Athiatali
Extension Jagotpur
Ramganj Girl's Pilot High School
Ramganj Patowarybari Govt. Girl's PS
Uttar Angarpara Jame Mosque
Ramganj X-ray & Pathology
Upazila Health Complex
Medinova Diagnostic Center
Angarpara 065 01
Angarpara 065 02
Lakshmipur Power Distribution Office
Ansar VDP Jame Mosque
Ansar VDP Office
Angarpara Land Office
Angarpara Sonaton Temple
Public Health Engineer's Office
East Angarpara Jame Mosque
Moddho Angarpara Govt. PSch
Roads & Highway Department Office
Dorbesh Dorbar Sharif
Dorbeshpur 069 01 (Part)
Purbo Dorbeshpur Baitul Aman Jame Mosque
Patoriabari Jame Mosque
Jogotpur 070 01
Uttar Jogotpur Hafizia Madrasha
Kusvitbari Jame Mosque
Jogotpur Primary School
Jogotpur Jalimul Ulum Kawmi Madrasha
D1. Construction of a RCC Drain from Ramgonj Girls School more to North Way Existing Drain at Ward No-09 under Ramgonj Pourashava (CIP NO-16) Ch. 00-230 m
Legend
Ramgonj Pouroshava
Environmental Screening Report for Sub projects
Municipal Governance and Services Project (MGSP)
Bangladesh Municipal Development Fund (BMDF)
CONSULTANT
TROYEE associates
0 0.1 0.2 0.4 Kilometers

APPENDIX U

Form 2: Environmental Screening
(to be completed by ULBs following Guideline presented in Section 3.3 of EMF)

Name of ULB **: Ramgonj Pourashava**

Name of sub-project **: D**1. Construction of a RCC Drain from Ramgonj Girls School more to North Way Existing Drain at Ward No-09 under Ramgonj Pourashava . (CIP NO-18) Ch. 00-230 m

1) Potential Environmental Impact **during Construction Phase:**

(a) Ecological impacts: (important sub-projects include storm drain, bridge, box culvert, and boat landing jetty)

• Felling of trees	Significant	Moderate	Minor	Number of tress- **Nil**
• Clearing of vegetation	Significant	Moderate	Minor √	
• Potential impact on species of aquatic (i.e., water) environment	Significant	Moderate	Minor √	

(b) Physicochemical impacts: (all sub-projects)

• Noise pollution	Significant	Moderate	Insignificant √
• Air pollution	Significant	Moderate	Insignificant √
• Drainage congestion	Very likely	Likely	Unlikely √
• Water pollution	Significant	Moderate	Insignificant √
• Pollution from solid construction waste	Significant	Moderate	Insignificant √
• Water logging	Significant	Moderate	Insignificant √

(c) Socio-economic impacts: (all sub-projects)

• Traffic congestion	Very likely	Likely	Unlikely √
• Health and safety	Significant	Moderate	Insignificant √
• Impact on archaeological & historical	Significant	Moderate	Insignificant √
• Employment generation	Significant √	Moderate	Insignificant

2) Potential Environmental Impact **during Operational Phase:**

(d) Ecological impacts: (important sub-projects include storm drain and boat landing jetty)

• Potential impact on species of aquatic (i.e. water) environment	Significant	Moderate	Minor√

(e) Physicochemical impacts: (all sub-projects)

Potential air quality and noise level(especially for road)	Improvement √	No-improvement	Deterioration
Drainage congestion (especially for drain)	Improvement √	Minor Improve	No Impact
Risk of Water pollution (especially for storm drain and jetty)	Significant	Moderate	Minor √
Pollution from solid waste (especially for SWM, and market)	Improvement √	No-improvement	Deterioration

(f) Socio-economic impacts: (all sub-projects)

Traffic (especially for road, bridge, box culvert, bus/truck terminal)	Improvement √	No-improvement	Adverse
Safety	Improvement √	No-improvement	Adverse
Employment generation	Significant √	Moderate	Minor

3) Summary of Possible Environmental Impacts of the subproject:

During the implementation there will be insignificant air, water, noise pollution but create some employment opportunities. It will not require to cut any trees. It will not create any traffic congestion, water logging. But after completion of the project it will improve the traffic mobility, safety, air quality and noise level and eradicate drainage congestion.

4) Category of sub-project : (follow Table 1 of EMF)

(a) According to ECR 1997 : Green / Orange A / Orange B √ / Red / Not Listed
(b) According to WB classification : Category B√ / Category C

5) Proposed mitigation measure (follow Appendix I or Table 9 of EMF as appropriate) :

- Construction of Sanitary latrine for construction labor
- Proper disposal system for removal of solid waste.
- Raising awareness about hygine practices among workers.
- Spray water on dry surface, construction materials.
- Initiatives to reduce noise level,
- Prevent direct waste water flow to near by water bodies

Operation Phase:

- Better traffic management, increased vehicle inspection
- Avoiding spillage of water on road from vehicles carrying fish/ fresh produce (through monitoring, creation of awareness)
- maintenance and clearance of road and drain regularly and properly

6) Overall Comments: This sub-project has been selected considering public demand and for the benefit of local people. It will not provide significant environmental impacts.

7) Prepared by : Engineering Division

Reviewed by: Anjuman Ara Rahman, Environmental Specialist (Consultant)

APPENDIX V

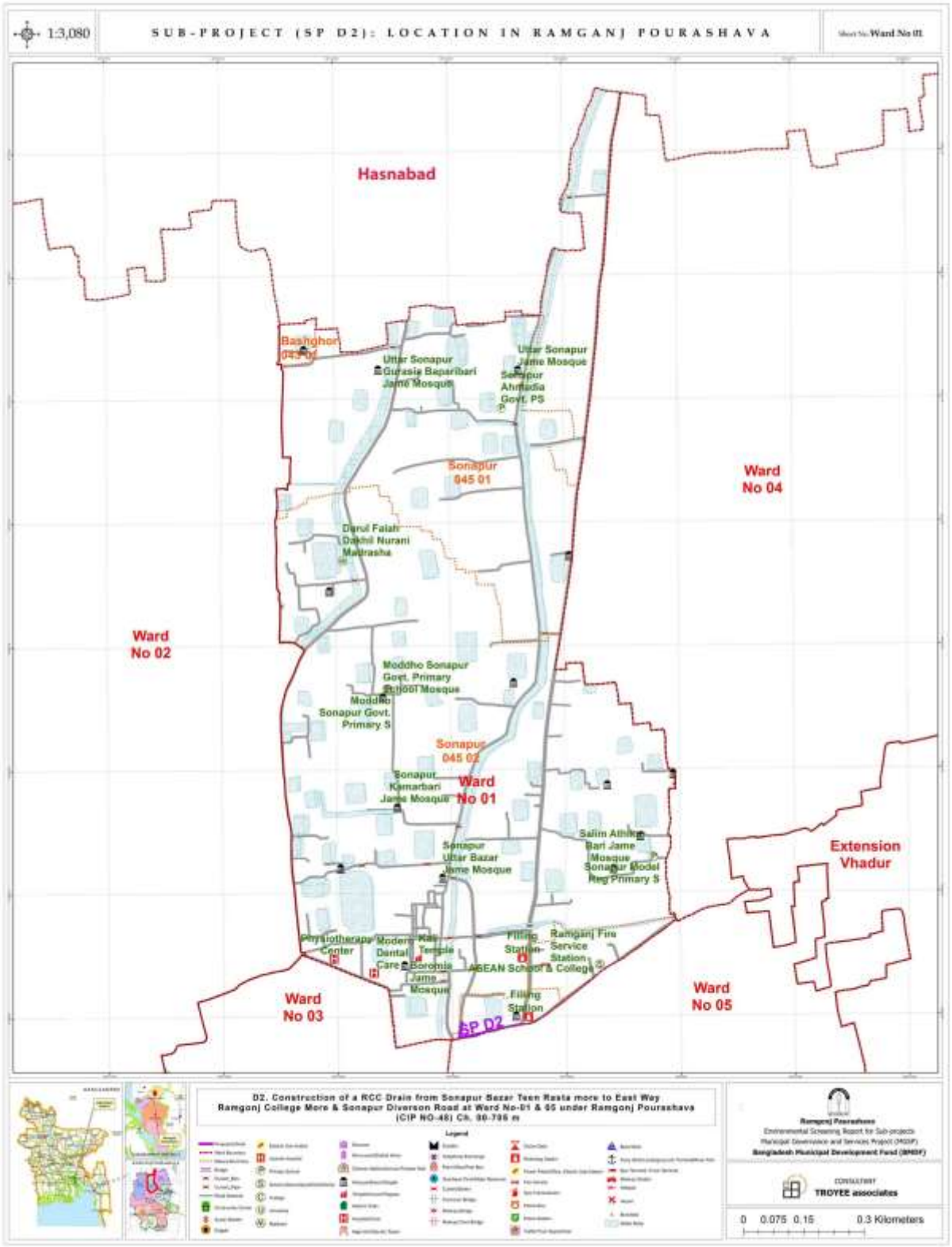
Form 1: Sub-project Description

(to be completed by ULBs)

Name of ULB	**: Ramgonj Pourashava**
(1) Name of sub-project	**: D**2. Construction of a RCC Drain from Sonapur Bazar Teen Rasta more to East Way Ramgonj College More & Sonapur Diverson Road at Ward No-01 & 05 under Ramgonj Pourashava (CIP NO-48) Ch. 00-705 m
(2) Brief description of sub-project	: Improvement of RCC drain with 1.2 X 1.5 m width..
(3) Location of sub-project	: (Sonapur Bazar Teen Rastar More in Ward No: 01 & 05) Map attached here with (attach location map)
(4) Layout of the sub-project	**:** Attached here with. (attach a layout map)
(5) Ownership of sub-project land	**:** ULB owned
(a) Government/ ULB owned	
(b) Private land (need acquisition)	
(6) Brief description of sub-project site	**:** This sub project will be located in residential area. Total length is 192 meter. This sub-project is free from tidal force. Average width will be 1.5 meter.

(7) Brief information of environment within sub-project influence area[4]: Within the influence area of this sub-project there is no major water bodies, heavy vegetation are situated.

(8) Key activities of sub-project	**:** Earth Cutting, Sand Filling, Brick Flat Soling, RCC, M.S Rod, Earth Filling etc.
(9) Estimated cost of sub-project	**: 4.5** (Million BDT)
(10) Schedule of implementation	
(a) Sub-project duration (months)	: 06 months
(b) Tentative start date	**:** 01/10/2018
(c) Tentative completion date	: 31/03/2019
(11) Potential benefit from sub-project	**:** This sub-project will facilitate about 8,000 people in communication. Accessibility to those residential areas will be increased, living environment will be improved and land value adjacent to the sub-project will rise.


1:3,080
SUB-PROJECT (SP D2): LOCATION IN RAMGANJ POURASHAVA
Ward No 01
Hasnabad
Bashghor 045 01
Uttar Sonapur Gurasia Baparibari Jame Mosque
Uttar Sonapur Jame Mosque
Sonapur Ahmadia Govt. PS
Sonapur 045 01
Ward No 04
Darul Falah Dakhil Nurani Madrasha
Ward No 02
Moddho Sonapur Govt. Primary
Moddho Sonapur Govt. Primary S
Sonapur 045 02
Sonapur Kumarbari Jame Mosque
Ward No 01
Salim Athiki Bari Jame Mosque
Sonapur Model Reg Primary S
Sonapur Uttar Bazar Jame Mosque
Extension Vhadur
Physiotherapy Center
Modern Dental Care
Kali Temple
Boromia Jame Mosque
Filling Station
Ramganj Fire Service Station
ASEAN School & College
Filling Station
Ward No 03
Ward No 05
SP D2
D2. Construction of a RCC Drain from Sonapur Bazar Teen Rasta more to East Way Ramganj College More & Sonapur Diverson Road at Ward No-01 & 05 under Ramganj Pourashava (CIP NO-46) Ch. 00-795 m
Legend
Ramganj Pourashava
Environmental Screening Report for Sub-projects
Municipal Governance and Services Project (MGSP)
Bangladesh Municipal Development Fund (BMDF)
CONSULTANT
TROYEE associates
0 0.075 0.15 0.3 Kilometers

APPENDIX W

Form 2: Environmental Screening
(to be completed by ULBs following Guideline presented in Section 3.3 of EMF)

Name of ULB : Ramgonj Pourashava

Name of sub-project : **D**2. Construction of a RCC Drain from Sonapur Bazar Teen Rasta more to East Way Ramgonj College More & Sonapur Diverson Road at Ward No-01 & 05 under Ramgonj Pourashava (CIP NO-48) Ch. 00-705 m

1) Potential Environmental Impact **during Construction Phase:**

(a) Ecological impacts: (important sub-projects include storm drain, bridge, box culvert, and boat landing jetty)

• Felling of trees	Significant	Moderate	Minor	Number of tress- **Nil**
• Clearing of vegetation	Significant	Moderate	Minor √	
• Potential impact on species of aquatic (i.e., water) environment	Significant	Moderate	Minor √	

(b) Physicochemical impacts: (all sub-projects)

• Noise pollution	Significant	Moderate	Insignificant √
• Air pollution	Significant	Moderate	Insignificant √
• Drainage congestion	Very likely	Likely	Unlikely √
• Water pollution	Significant	Moderate	Insignificant √
• Pollution from solid construction waste	Significant	Moderate	Insignificant √
• Water logging	Significant	Moderate	Insignificant √

(c) Socio-economic impacts: (all sub-projects)

• Traffic congestion	Very likely	Likely	Unlikely √
• Health and safety	Significant	Moderate	Insignificant √
• Impact on archaeological & historical	Significant	Moderate	Insignificant √
• Employment generation	Significant √	Moderate	Insignificant

2) Potential Environmental Impact **during Operational Phase:**

(d) Ecological impacts: (important sub-projects include storm drain and boat landing jetty)

• Potential impact on species of aquatic (i.e. water) environment	Significant	Moderate	Minor√

(e) Physicochemical impacts: (all sub-projects)

Potential air quality and noise level(especially for road)	Improvement √	No-improvement	Deterioration
Drainage congestion (especially for drain)	Improvement √	Minor Improve	No Impact
Risk of Water pollution (especially for storm drain and jetty)	Significant	Moderate	Minor √
Pollution from solid waste (especially for SWM, and market)	Improvement √	No-improvement	Deterioration

(f) Socio-economic impacts: (all sub-projects)

Traffic (especially for road, bridge, box culvert, bus/truck terminal)	Improvement √	No-improvement	Adverse
Safety	Improvement √	No-improvement	Adverse
Employment generation	Significant √	Moderate	Minor

3) Summary of Possible Environmental Impacts of the subproject:

During the implementation there will be insignificant air, water, noise pollution but create some employment opportunities. It will not require to cut any trees. It will not create any traffic congestion, water logging. But after completion of the project it will improve the traffic mobility, safety, air quality and noise level and eradicate drainage congestion.

4) Category of sub-project : (follow Table 1 of EMF)

(a) According to ECR 1997 : Green / Orange A / Orange B √ / Red / Not Listed
(b) According to WB classification : Category B√ / Category C

5) Proposed mitigation measure (follow Appendix I or Table 9 of EMF as appropriate) :

- Construction of Sanitary latrine for construction labor
- Proper disposal system for removal of solid waste.
- Raising awareness about hygine practices among workers.
- Spray water on dry surface, construction materials.
- Initiatives to reduce noise level,
- Prevent direct waste water flow to near by water bodies

Operation Phase:

- Better traffic management, increased vehicle inspection
- Avoiding spillage of water on road from vehicles carrying fish/ fresh produce (through monitoring, creation of awareness)
- maintenance and clearance of road and drain regularly and properly

6) Overall Comments: This sub-project has been selected considering public demand and for the benefit of local people. It will not provide significant environmental impacts.

7) Prepared by : Engineering Division

Reviewed by: Anjuman Ara Rahman, Environmental Specialist (Consultant)

APPENDIX X

Form 1: Sub-project Description

(to be completed by ULBs)

Name of ULB : Ramgonj Pourashava

(1) Name of sub-project : **D**3. Construction of a RCC Drain from Ramgonj-Mowlobi Bazar Road to East Way Sun Mun Kinter Garden School at Ward No-05 under Ramgonj Pourashava (CIP NO-30), Ch. 00-250 m

(2) Brief description of sub-project : Improvement of RCC drain with 1.2 X 1.5 m width..

(3) Location of sub-project : (Moulavibazar to Sunmoon Kindergarten and extension to Hajiganj CNG Station in Ward No: 09) Map attached here with (attach location map)

(4) Layout of the sub-project : Attached here with. (attach a layout map)

(5) Ownership of sub-project land : ULB owned

(a) Government/ ULB owned

(b) Private land (need acquisition)

(6) Brief description of sub-project site: This sub project will be located in residential area. Total length is 192 meter. This sub-project is free from tidal force. Average width will be 1.5 meter.

(7) Brief information of environment within sub-project influence area[4]: Within the influence area of this sub-project there is no major water bodies, heavy vegetation are situated.

(8) Key activities of sub-project : Earth Cutting, Sand Filling, Brick Flat Soling, RCC, M.S Rod, Earth Filling etc.

(9) Estimated cost of sub-project : **4.5** (Million BDT)

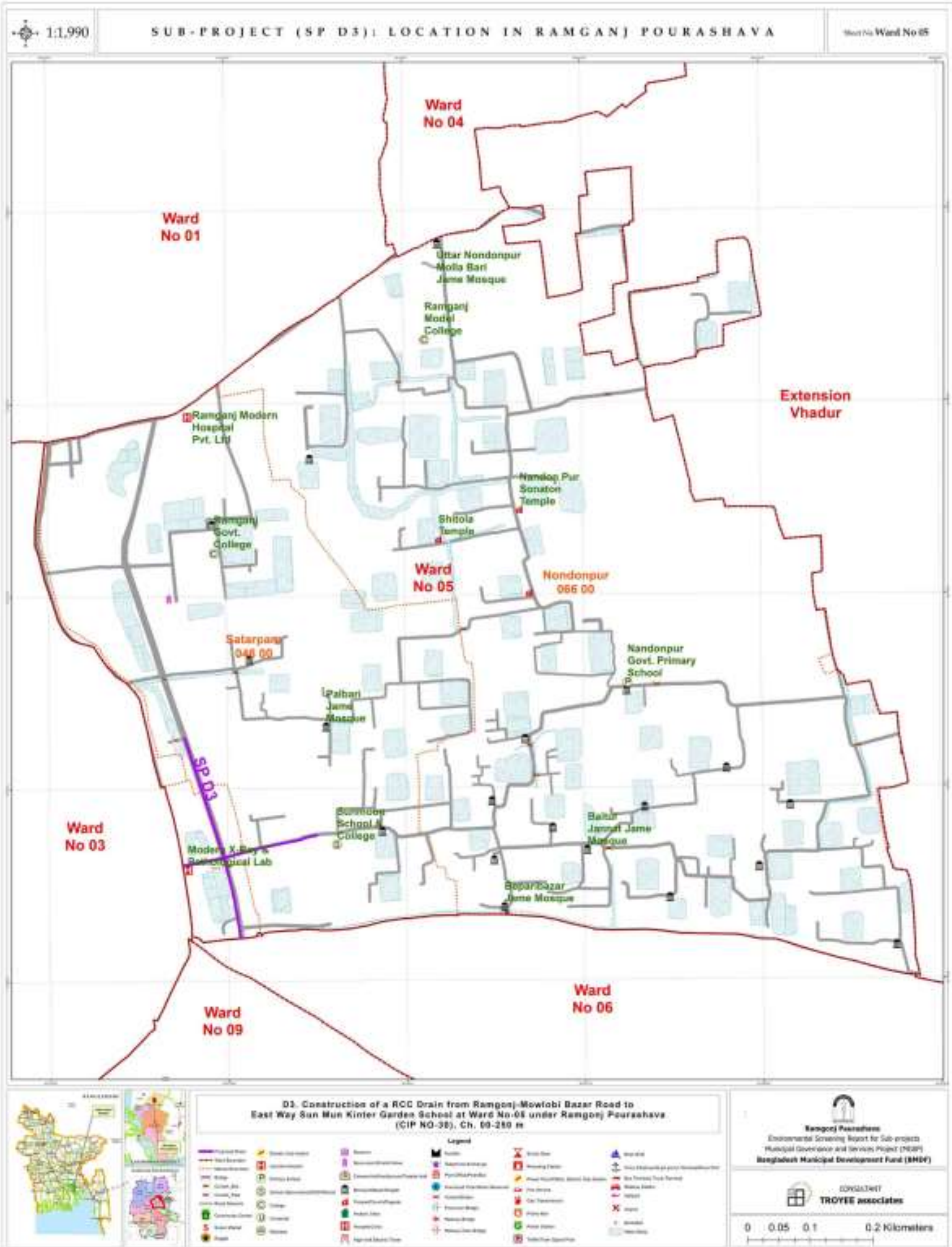
(10) Schedule of implementation

(a) Sub-project duration (months) : 06 months

(b) Tentative start date : 01/10/2018

(c) Tentative completion date : 31/03/2019

(11) Potential benefit from sub-project : This sub-project will facilitate about 8,000 people in communication. Accessibility to those residential areas will be increased, living environment will be improved and land value adjacent to the sub-project will rise.


1:1,990
SUB-PROJECT (SP D3): LOCATION IN RAMGANJ POURASHAVA
Ward No 05
Ward No 04
Ward No 01
Extension Vhadur
Ward No 05
Ward No 03
Ward No 06
Ward No 09
SP D3
Uttar Nondonpur Molla Bari Jame Mosque
Ramganj Model College
Ramganj Modern Hospital Pvt. Ltd
Nandon Pur Sonaton Temple
Shitola Temple
Ramganj Govt. College
Nondonpur 066 00
Satarpara 046 00
Nandonpur Govt. Primary School
Palbari Jame Mosque
School & College
Modern X-Ray & Pathological Lab
Bazar Jamat Jame Mosque
Bazar Jame Mosque
D3. Construction of a RCC Drain from Ramgonj-Mowlobi Bazar Road to
East Way Sun Mun Kinter Garden School at Ward No-05 under Ramgonj Pourashava
(CIP NO-38), Ch. 00-250 m
Legend
Ramgonj Pourashava
Bangladesh Municipal Development Fund (BMDF)
TROYEE associates
0 0.05 0.1 0.2 Kilometers

APPENDIX Y

Form 2: Environmental Screening
(to be completed by ULBs following Guideline presented in Section 3.3 of EMF)

Name of ULB : Ramgonj Pourashava

(1) Name of sub-project : D3. Construction of a RCC Drain from Ramgonj-Mowlobi Bazar Road to East Way Sun Mun Kinter Garden School at Ward No-05 under Ramgonj Pourashava (CIP NO-30), Ch. 00-250 m

1) Potential Environmental Impact **during Construction Phase:**

(a) Ecological impacts: (important sub-projects include storm drain, bridge, box culvert, and boat landing jetty)

• Felling of trees	Significant	Moderate	Minor	Number of tress- **Nil**
• Clearing of vegetation	Significant	Moderate	Minor √	
• Potential impact on species of aquatic (i.e., water) environment	Significant	Moderate	Minor √	

(b) Physicochemical impacts: (all sub-projects)

• Noise pollution	Significant	Moderate	Insignificant √
• Air pollution	Significant	Moderate	Insignificant √
• Drainage congestion	Very likely	Likely	Unlikely √
• Water pollution	Significant	Moderate	Insignificant √
• Pollution from solid construction waste	Significant	Moderate	Insignificant √
• Water logging	Significant	Moderate	Insignificant √

(c) Socio-economic impacts: (all sub-projects)

• Traffic congestion	Very likely	Likely	Unlikely √
• Health and safety	Significant	Moderate	Insignificant √
• Impact on archaeological & historical	Significant	Moderate	Insignificant √
• Employment generation	Significant √	Moderate	Insignificant

2) Potential Environmental Impact **during Operational Phase:**

(d) Ecological impacts: (important sub-projects include storm drain and boat landing jetty)

• Potential impact on species of aquatic (i.e. water) environment	Significant	Moderate	Minor√

(e) Physicochemical impacts: (all sub-projects)

Potential air quality and noise level(especially for road)	Improvement √	No-improvement	Deterioration
Drainage congestion (especially for drain)	Improvement √	Minor Improve	No Impact
Risk of Water pollution (especially for storm drain and jetty)	Significant	Moderate	Minor √
Pollution from solid waste (especially for SWM, and market)	Improvement √	No-improvement	Deterioration

(f) Socio-economic impacts: (all sub-projects)

Traffic (especially for road, bridge, box culvert, bus/truck terminal)	Improvement √	No-improvement	Adverse
Safety	Improvement √	No-improvement	Adverse
Employment generation	Significant √	Moderate	Minor

3) Summary of Possible Environmental Impacts of the subproject:

During the implementation there will be insignificant air, water, noise pollution but create some employment opportunities. It will not require to cut any trees. It will not create any traffic congestion, water logging. But after completion of the project it will improve the traffic mobility, safety, air quality and noise level and eradicate drainage congestion.

4) Category of sub-project : (follow Table 1 of EMF)

(a) According to ECR 1997 : Green / Orange A / Orange B √ / Red / Not Listed
(b) According to WB classification : Category B√ / Category C

5) Proposed mitigation measure (follow Appendix I or Table 9 of EMF as appropriate) :

- Construction of Sanitary latrine for construction labor
- Proper disposal system for removal of solid waste.
- Raising awareness about hygine practices among workers.
- Spray water on dry surface, construction materials.
- Initiatives to reduce noise level,
- Prevent direct waste water flow to near by water bodies

Operation Phase:

- Better traffic management, increased vehicle inspection
- Avoiding spillage of water on road from vehicles carrying fish/ fresh produce (through monitoring, creation of awareness)
- maintenance and clearance of road and drain regularly and properly

6) Overall Comments: This sub-project has been selected considering public demand and for the benefit of local people. It will not provide significant environmental impacts.

7) Prepared by : Engineering Division

Reviewed by: Anjuman Ara Rahman, Environmental Specialist (Consultant)

Appendix Z

Form 3: Analysis of Alternatives

Name of ULB : Ramgonj Municipality
Name of Sub-project : Construction of Drain

Brief description of Sub-project : RCC Drain
(a) Analysis of alternative:

Route/ Alignment	Advantages	Disadvantages
Alternative 1 (e.g., both sides of the road)	• Easier house connection • Ease of construction without much disruption to traffic	• Two drainage lines needs to be constructed
Alternative 2 (e.g., median/ center of the road)	• Single drain needs to be constructed along median	• Difficult to make house connection
Alternative 3 (e.g., one side of the road)	• Single drain needs to be constructed	• Difficult to make house connections from other side of road

Selected Route/ Alignment/ Location: Alternative 1

(b) Analysis of alternative designs:

Design	Advantages	Disadvantages
Alternative 1: RCC drain **Alternative 2: Earthen drain**	• Not prone to encroachment • Area above drain could be used as a part of road • Less cost of construction	• Higher cost of construction • Need more land for construction of open earthen drain • Prone to encroachment, disposal of solid waste/ debris

Selected Design: **Alternative 1**

(c) Analysis of alternative technologies/ methods of construction:

Construction method	Advantages	Disadvantages
Alternative 1: Mechanized excavation **Alternative 2: Manual excavation**	• Quick construction • Relatively less costly • Creation of employment	• Most costly • Width of local road not suitable for entry of mechanical excavator • Would require more time

Selected method of construction: **Alternative 2**

(d) No Sub-project Scenario: If the storm drain sub-project is not implemented, it will aggravate the water-logging problem in the locality, which will further damage the existing road.

(e) Conclusion: RCC drain at two sides of the road is selected. The drain will be excavated manually.

Appendix AA: List of Consulted Persons

Appendix D: List of Consulted Persons

Attendance of Local Participants in the Screening Exercise

Local Stakeholders Community members and WLCC/ CBO: 01

Name	Gender	Social Status	Contact Number	Signature
MD. RAJU AHMED	M	President	01722745395	
DILRUBA JAHAN	F	Vice-Presi	01727767715	
BILLAL HOSEN	M	Member		
DULAL MIA	M	"		
FARADIA AKTER	F	"		
LADU MIA	M	"		
ASHA AKTER	F	"		
SHOMON ATIA	M	"		
MD. ABUL ANSER	M	Gen. Sec. N/E	01811044746	

List of Affected Persons:

Name	Gender	Social Status	Contact Number	Signature

Appendix D: List of Consulted Persons

Attendance of Local Participants in the Screening Exercise

Local Stakeholders Community members and WLCC/ CBO: 03.

Name	Gender	Social Status	Contact Number	Signature
Md. Shajan	M	Prasedent	01716 097497	
DILRUBA JAHAN	F	Vic. Prese.	01727-769715	
Md. Hadut ullah	M	Member		
Momin Mamber	M	"		
Umma Kulsum Mira	F	"		
Manjahan Begum	F	"		
Md. Jashim uddin	M	"		
Kahnur begum	F	"		
Md. Abul Asser	M	Mem-Sec 2 A/E	01819-944966	

List of Affected Persons:

Name	Gender	Social Status	Contact Number	Signature

Appendix D: List of Consulted Persons

Attendance of Local Participants in the Screening Exercise

Local Stakeholders Community members and WLCC/ CBO: 04

Name	Gender	Social Status	Contact Number	Signature
MD. DELOWER HOSEN MOLLA	M	President	01766005206.	
Parvin AKter	F	Vice-Pres.	01715807013	
LADU MIA	M	Member		লেদু মিয়া
LAL MIA	M	"		লাল মিয়া
FARUL BEGUM	F	"		ফারুল
KARSHAD ALAM	M	"		কার্শাদ আলম
FEROJA BEGUM	F	"		ফিরোজা
ABDUL MANNAN	M	"		আঃ মন্নান
Md. ABUL ANSER	M	Mem-Sec & A/E		

List of Affected Persons:

Name	Gender	Social Status	Contact Number	Signature

Appendix D: List of Consulted Persons

Attendance of Local Participants in the Screening Exercise

Local Stakeholders Community members and WLCC/ CBO: 05

Name	Gender	Social Status	Contact Number	Signature
Md. Delowar Hossain	M	President	01726153450	[illegible]
PARVIN AKTER	F	Vic-Pres.	01715-807013	[illegible]
Md. Abdul Kader	M	Member	01717193947	[illegible]
Md. Abul Kalam	M	"	01734920909	[illegible]
Md. Harun-ur-Rashid	M	"	01716816567	[illegible]
SHOVA RANI	F	"		[illegible]
Md. Liton	M	"	01728701909	মো: লিটন
Makshuda Begum	F	"	01923219175	[illegible]
MD: Abul Anser	M	[illegible] - Secr	01814944966	[illegible]

List of Affected Persons:

Name	Gender	Social Status	Contact Number	Signature

Appendix D: List of Consulted Persons

Attendance of Local Participants in the Screening Exercise

Local Stakeholders Community members and WLCC/ CBO: 06

Name	Gender	Social Status	Contact Number	Signature
MAMUNOR RASHID	M	President	01717305154	
PARVIN AKTER	F	Vice-Pres.	01715807013	
HABIBUR RAHMAN	M	Member		
ABDUL MANNAN	M	U		
SHAPANA AKTER	F	U		
DELOWER HOSSAIN	M	U		
SIDDIA BEGUM	F	U		
SAKIL AHMED	M	U		
Md. ABUL ANSER	M	Mem-Secy A/E		

List of Affected Persons:

Name	Gender	Social Status	Contact Number	Signature

Appendix D: List of Consulted Persons

Attendance of Local Participants in the Screening Exercise

Local Stakeholders Community members and WLCC/ CBO: 07

Name	Gender	Social Status	Contact Number	Signature
Abdul Hannan	M	President	01819507731	
JAHANARA BEGUM	F	Vic-Pres.	01812705321	
MD. BABUL	M	Member		
ANOWARA BEGUM	F	"		
SHAMSUL ALAM	M	"		
RASHIDA BEGUM	F	"		
SHORABE HOSEN	M	"		
RAHANA BEGUM	F	"		
Md. Abul Anser	M	Gen-Secy A/E	01814944966	

List of Affected Persons:

Name	Gender	Social Status	Contact Number	Signature

Appendix D: List of Consulted Persons

Attendance of Local Participants in the Screening Exercise

Local Stakeholders Community members and WLCC/ CBO: 08 .

Name	Gender	Social Status	Contact Number	Signature
Md. Ariful Islam	M	President	01711542093	
JAHANARA BEGUM	F	Vice-Pres.	01819705321	
MD. DELOWER HOSS	M	Member		
HOSNARA BEGUM	F	"		
KARSHAD ALAM	M	"		
KIRON AKTER	F	"		
AKTER HOSEN RAJU	M	"		
RAHIMA BEGUM	F	"		
Md. Abul Ansar	M	Member Sec & AE	01511944966	

List of Affected Persons:

Name	Gender	Social Status	Contact Number	Signature

Appendix D: List of Consulted Persons

Attendance of Local Participants in the Screening Exercise

Local Stakeholders Community members and WLCC/ CBO: 09.

Name	Gender	Social Status	Contact Number	Signature
AHSON HABIB	M	President	01819[illegible]	
JAHANARA BEGUM	F	Vice Pres.	01819705321	
MD. SHARIJUL ISLAM	M	Member	01751799458	
FARASH CHANDARO SHATRODAR	M	ν	01725611977	
AFROJA AKTER		ν	01722232127	
Gita Rani Roy	F	ν	01921389369	
HOSEN AHMAD	M	ν		
SHONITA RAY	F	ν		
Md. Abul Hasen	M	Member Sec & AE	01514944966	

List of Affected Persons:

Name	Gender	Social Status	Contact Number	Signature

Appendix BB: National Environment Quality Standards

At present there are environmental standards in operation in Bangladesh also promulgated under the Environment Conservation Rules of 1997. There are standards prescribed for varying water sources; ambient air; noise; odor; industrial effluent and emission discharges; and vehicular emissions, etc. The standards, commonly known as Environmental Quality Standards (EQS), are legally binding. The Bangladesh standards for ambient air, noise, odor, sewage, industrial effluent and emission are furnished hereinafter. These are all in an authentic translation from original Bengali citing the specific source.

Table A2.1: National Standard for Inland Surface Water

Best Practice based classification	pH	BOD (mg/l)	Dissolved Oxygen (mg/l)	Total Coliform Number/100
a. Source of drinking water for supply only after disinfecting	6.5-8.5	2 or less	6 or above	50 or less
b. Water usable for recreational activity	6.5–8.5	3 or less	5 of more	200 or less
c. Source of drinking water for supply after conventional treatment	6.5–8.5	6 of less	6 or more	5000 or less
d. Water usable by fisheries	6.5–8.5	6 of less	5 or more	---
e. Water usable by various process and cooling industries	6.5–8.5	10 or less	5 or more	5000 or less
f. Water usable for irrigation	6.5–8.5	10 or less	5 or more	1000 or less

BOD = biological oxygen demand, mg/l = milligram per liter, pH = negative decimal logarithm of the hydrogen ion activity in a solution

Notes: 1. In water used for pisiculture, maximum limit of presence of ammonia as Nitrogen is 1.2 mg/l.

2. Electrical conductivity for irrigation water – 2250 µmhoms/cm (at a temperature of 25°C); Sodium less than 26%; boron less than 0.2%.

Source: Department of Environment (DOE).

Table A2.2: National Standard for Drinking Water

Parameter	Unit	Standards	Parameter	Unit	Standards
1. Aluminum	mg/L	0.2	26. Hardness (as CaCO3)	mg/L	200 – 500
2. Ammonia (NH3)	mg/L	0.5	27. Iron	mg/L	0.3 – 1.0
3. Arsenic	mg/L	0.05	28. Kjeldhl Nitrogen (total)	mg/L	1
4. Balium	mg/L	0.01	29. Lead	mg/L	0.05
5. Benzene	mg/L	0.01	30. Magnesium	mg/L	30 – 35
6. BOD5 20°C	mg/L	0.2	31. Manganese	mg/L	0.1
7. Boron	mg/L	1.0	32. Mercury	mg/L	0.001
8. Cadmium	mg/L	0.005	31. Manganese	mg/L	0.1
9. Calcium	mg/L	75	32. Mercury	mg/L	0.001
10. Chloride	mg/L	150 – 600*	33. Nickel	mg/L	0.1
11. Chlorinated alkanes			34. Nitrate	mg/L	10
carbontetrachloride	mg/L	0.01	35. Nitrite	mg/L	<1
1.1 dichloroethylene	mg/L	0.001	36. Odor	mg/L	Odorless
1.2 dichloroethylene	mg/L	0.03	37. Oil and grease	mg/L	0.01
tetrachloroethylene		0.03	38. pH	--	6.5 – 8.5
trichloroethylene		0.09	39. Phenolic compounds	mg/L	0.002
12. Chlorinated phenols			40. Phosphate	mg/L	6
pentachlorophenol	mg/L	0.03	41. Phosphorus	mg/L	0
2.4.6 trichlorophenol	mg/L	0.03	42. Potassium	mg/L	12
13. Chlorine (residual)	mg/L	0.2	43. Radioactive materials (gross alpha activity)	Bq/L	0.01
14. Chloroform	mg/L	0.09	44. Radioactive materials (gross beta activity)	Bq/L	0.1
15.Chromium (hexavalent)	mg/L	0.05	45. Selenium	mg/L	0.01
16. Chromium (total)	mg/L	0.05	46. Silver	mg/L	0.02
17. COD	mg/L	4	47. Sodium	mg/L	200
18. Coliform (fecal)	n/100ml	0	48. Suspended particulate matters	mg/L	10
19. Coliform (total)	n/100 ml	0	49. Sufide	mg/L	0

Parameter	Unit	Standards	Parameter	Unit	Standards
20. Color	Hazen unit	15	50. Sulfate	mg/L	400
21. Copper	mg/L	1	51. Total dissolved solids	mg/L	1000
22. Cyanide	Mg/L	0.1	52. Temperature	°C	20-30
23. Detergents	mg/L	0.2	53. Tin	mg/L	2
24. DO	mg/L	6	54. Turbidity	JTU	10
25. Fluoride	mg/L	1	55. Zinc	mg/L	5

BOD = biological oxygen demand, mg/l = milligram per liter, ml = milliliter

Notes: In coastal area 1000. Reference: Bangladesh Gazette, Addendum, August 28, 1997.

Source: Department of Environment (DOE).

Table A2.3: Bangladesh Standards for Ambient Air Quality Schedule-2, Rule 12, Environment Conservation Rules of 1997 (Micrograms /cubic meters)

Sl. No.	Area	Suspended Particulate Matters (SPM)	Sulfur Dioxide (SO_2)	Carbon Monoxide (CO)	Oxides of Nitrogen (NO_x)
Ka	Industrial and mixed	500	120	5000	100
Kha	Commercial and mixed	400	100	5000	100
Ga	Residential and rural	200	80	2000	80
Gha	Sensitive	100	30	1000	30

Notes: 1. Sensitive area includes national monuments, health resorts, hospitals, archaeological sites, educational institutions and other government designated areas (if any).

2. Any industrial unit located not in a designated industrial area will not discharge such pollutants, which may contribute to exceed the ambient air quality above in the surrounding areas of category 'Ga' and 'Gha'.

3. Suspended particulate matters mean airborne particles of diameter of 10 micron or less.

Source: Department of Environment (DOE). Schedule-2, Rule 12, Environment Conservation Rules of 1997 (Page 3123, Bangladesh Gazette, 28 August 1997) .

Table A2.4: Bangladesh Standards for Noise

Sl. No.	Area Category	Standards Values (all values in dBA)	
		Day	Night
Ka	Silent zone	45	30
Kha	Residential area	50	40
Ga	Mixed area (basically residential and together used for commercial and industrial purposes)	60	50
Gha	Commercial area	70	60
Umma	Industrial area	75	70

Notes: 1. Daytime is reckoned as the time between 6 a.m. to 9 p.m.

2. Night time is reckoned as the time between 9 p.m. to 6 a.m.

3. Silent zones are areas up to a radius of 100 meter around hospitals, educational institutions or special establishments declared or to be declared as such by the Government. Use of vehicular horn, other signals and loudspeakers is prohibited in silent zones.

Source: Department of Environment (DOE). Schedule 4, Rule-12, Environment Conservation Rules, 1997. (Page 3127, Bangladesh Gazette, 28 August 1997).

Table A2.5: Bangladesh Standards for Odor

Parameters	Unit	Values
Acetaldehyde	PPM	0.5-5
Ammonia	PPM	1-5
Hydrogen Sulfide	PPM	0.02-0.2
Methyl Disulfide	PPM	0.009-0.1
Methyl Mercaptan	PPM	0.02-0.2
Methyl Sulfide	PPM	0.01-0.2
Styrene	PPM	0.4-2.0
Trimethylamine	PPM	0.005-0.07

Notes: 1. Regulatory standards at emission/discharge outlets (apply to those outlets which are higher than 5 meters): Q = 0.108 x He2 cm,

1. Where Q – gas emission rate (Nm3/hour), He – effective height of the outlet (m),cm – above mentioned standard (ppm)

2. Where there is a range given for a parameter, the lower value will be used for warning and the higher value for initiation of legal procedure or punitive measures.

Source: Department of Environment (DOE). Schedule –8, Rule-12, Environment Conservation Rules, 1997. (Page 3130, Bangladesh

Gazette, 28 August 1997).

Table A2.6: Bangladesh Standards for Sewage Discharge

Parameters	Unit	Values
BOD	mg/l	40
Nitrate	mg/l	250
Phosphate	mg/l	35
Suspended Solids (SS)	mg/l	100
Temperature	oC	30
Coliforms	number/100ml	1000

mg/l = milligram per liter

Notes: 1. These standards are applicable for discharge into surface and inland water bodies. 2. Chlorination is to be done before final discharge.

Source: Department of Environment (DOE). Schedule- 9, Rule-13, Environment Conservation Rules, 1997. (Page-3131 of Bangladesh Gazette of 28 August 1997).

Table A2.7: Bangladesh Standards for Industrial and Project Effluent

Sl. No.	Parameters	Unit	Discharge To		
			Inland Surface Water	Public Sewer to Secondary Treatment Plant	Irrigable Land
1	Ammonical nitrogen (as elementary N)	mg/l	50	75	75
2	Ammonia (as free ammonia)	mg/l	5	5	15
3	Arsenic (as As)	mg/l	0.2	0.05	0.2
4	BOD5 at 20°C	mg/l	50	250	100
5	Boron	mg/l	2	2	2
6	Cadmium (as Cd)	mg/l	0.05	0.5	0.5
7	Chloride	mg/l	600	600	600
8	Chromium (as total Cr)	mg/l	0.5	1.0	1.0
9	COD	mg/l	200	400	400
10	Chromium (as hexavalent Cr)	mg/l	0.1	1.0	1.0
11	Copper (as Cu)	mg/l	0.5	3.0	3.0
12	Dissolved oxygen (DO)	mg/l	4.5-8	4.5-8	4.5-8
13	Electro-conductivity (EC)	µsiemens/cm	1200	1200	1200
14	Total dissolved solids	mg/l	2100	2100	2100
15	Flouride (as F)	mg/l	2	15	10
16	Sulfide (as S)	mg/l	1	2	2
17	Iron (as Fe)	mg/l	2	2	2
18	Total kjeldahl nitrogen (as N)	mg/l	100	100	100
19	Lead (as Pb)	mg/l	0.1	1	0.1
20	Manganese (as Mn)	mg/l	5	5	5
21	Mercury (as Hg)	mg/l	0.01	0.01	0.01
22	Nickel (as Ni)	mg/l	1.0	2.0	1.0
23	Nitrate (as elementary N)	mg/l	10.0	Not yet set	10
24	Oil and grease	mg/l	10	20	10
25	Phenolic compounds (as C_6H_5OH)	mg/l	1.0	5	1
26	Dissolved phosphorus (as P)	mg/l	8	8	15
27	Radioactive substance	(to be specified by Bangladesh Atomic Energy Commission)			
28	PH		6-9	6-9	6-9
29	Selenium (as Se)	mg/l	0.05	0.05	0.05
30	Zinc (as Zn)	Mg/l	5	10	10
31	Total dissolved solids	Mg/l	2100	2100	2100
32	Temperature	°C (summer) °C (winter)	40 45	40 45	40 45
33	Suspended solids	Mg/l	150	500	200
34	Cyanide	Mg/l	0.1	2.0	0.2

Source: Department of Environment. Schedule -10, Rule-13, Environment Conservation Rules, 1997 (Page 3132 – 3134 of Bangladesh Gazette of 28 August 1997) (Own authentic translation from original Bengali).

Notes:

1. These standards will be applicable for all industries other than those which are specified under 'industrial sector specific standards'.

2. These standards will have to be compiled from the moment of trial production in case of industries and from the moment of the very beginning in case of projects.

These standards will have to be met at any point of time and any sampling. In case of need for ambient environment condition, these standards may be made stringent. Inland surface water will include drains, ponds, tanks, water bodies, ditches, canals, rivers, streams and estuaries. Public sewer means leading to full fledged joint treatment facility comprising primary and secondary treatment. Land for irrigation means organized irrigation of selected crops on adequate land determined on the basis of quantum and characteristics of waste water. If any discharge is made into public sewer or on land

which does not meet the respective definitions in notes 5 and6 above, then the inland surface water standards will apply.

Sn. No.	Parameters	Values (in mg/Nm_3)
1	Particulates (ka) Power station of capacity of 200 MW or more (kha) Power station of capacity of less than 200 MW	 150 350
2	Chlorine	150
3	Hydrochloric acid vapor and mist	350
4	Total fluoride (as F)	25
5	Sulfuric acid mist	50
6	Lead particulates	50
7	Mercury particulates	10
8	Sulfur dioxide (ka) Sulfuric acid production (DCDA* process) (kha) Sulfuric acid production (SCSA* process) (* DCDA : Double conversion, double absorption, SCSA : Single conversion single absorption) Lowest height of stack for sulfur dioxide dispersion : (ka) Coal based power plant 500 MW or more 200 MW – 500 MW Less than 200 MW (kha) Boiler Steam per hour – up to 15 tons Steam per hour – more than 15 tons (Q = SO_2 emission in kg/hour)	kg/ton acid 4 100 275 m 220m 14(Q)0.3 11m 14(Q)0.3
9	Oxides of nitrogen (ka) Nitric acid production (kha) Gas based power stations 500 MW or more 200 – 500 MW Less than 200 MW (Ga) Metallurgical oven	 3 kg/ton acid 50 ppm 50 ppm 40 ppm 30 ppm 200 ppm
10	Kiln soot and dust (ka) Blast furnace (kha) Brick kiln (Ga) Coke oven (Gha) Lime kiln	Mg/Nm_3 500 1000 500 250

Source: Department of Environment (DOE). Schedule-11, Rule-13, Environment Conservation Rules, 1997 (Page 3135, 3136, Bangladesh Gazette, 28 August 1997).

Appendix F: Precautions for Protection of Environmental Resources

1. The Contractor shall ensure that construction activities do not result in any contamination of land or water by polluting substances.

2. Unless otherwise provided in the specifications, the Contractor shall ensure that no trees or shrubs or waterside vegetation are cut or harmed except those required to be cleared for execution of the works. The Contractor shall protect trees and vegetation from damage to the satisfaction of the Engineer.

3. The Contractor shall not use or permit the use of wood as a fuel for the execution of any part of the works and to the extent practicable, shall ensure that fuels other than wood are used

for cooking and heating in all camps and living accommodations. Any wood so used must be harvested legally, and the Contractor shall provide the Engineer with copies of the relevant permits, if required.5

4. The Contractor shall consult with local residents and local government before locating project offices, sheds, and construction plant. The work camps shall not be located near settlements, near drinking water supply intakes, protected areas, or wildlife habitats.

5. In the conduct of cleaning activities and operation of equipment, the Contractor will utilize such practicable methods and devices as are reasonably available to control, prevent and otherwise minimize air/noise pollution.

A. Noise and Air Pollution

1. All works will be carried out without unreasonable noise and air pollution. Subject and without prejudice to any other provision of the Contract and the law of the land and its obligation as applicable, the Contractor will take all precautions outlined in the EMP to avoid the air and noise pollution.

2. The Contractor shall monitor the environmental parameters periodically as specified in the monitoring plan and report to the Engineer.

3. The Contractor shall indemnify and keep indemnified the Employer from and against any liability for damages on account of noise or other disturbance created while carrying out the work, and from and against all claims, demands, proceedings, damages, costs, charges, and expenses, whatsoever, in regard or in relation to such liability.

B. Occupational Health and Safety During Construction

The Contractor shall, in accordance with the safety and health provisions specified in the EMP, provide workers with a safe and healthy working environment, in the work areas, through application of preventive and protective measures consistent with international good practice, as reflected in internationally recognized standards such as the World Bank Group's Environment, Health and Safety Guidelines. The borrower/client will take steps to prevent accidents, injury, and disease arising from, associated with, or occurring during the course of work by:

a) providing preventive and protective measures, including modification, substitution, or elimination of hazardous conditions or substances;
b) providing appropriate equipment to minimize risks and requiring and enforcing its use;

c) training workers and providing them with appropriate incentives to use and comply with health and safety procedures and protective equipment;

d) documenting and reporting occupational accidents, diseases, and incidents; and

e) having emergency prevention, preparedness, and response arrangements in place.

C. Post-Construction Clearance

1. On completion of work, wherever applicable, the Contractor shall clear away and remove from the sites all constructional plant, surplus materials, rubbish, scaffoldings, and temporary works of every kind and leave the whole of the sites and works in a clean condition. The handing over of the sites shall be done only after an inspection of the site and a written clearance by the Environmental specialist of the PMDSC.

2. Construction camp sites post construction shall be cleared as specified in the EMP and handed over to the Owner. It will be ensured by the contractor that the site handed over is in line with the conditions of temporary acquisition signed by both parties.