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Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Improvement of Community Infrastructure, Growth Centers, others roads, Connecting Roads & Landing stages at Kurigram District



Environmental & Social Assessment and Management Report of Community Roads

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ABBREVIATIONS

BBS	Bangladesh Bureau of Statistics
BDT	Bangladeshi Taka
BMD	Bangladesh Meteorological Department
BOQ	Bill of Quantity
DPHE	Department of Public Health Engineering
EA	Environmental & Social
ECR	Environmental Conservation Rules, 2023
E.I.C	Engineer in Charge
EMCRP	Emergency Multi-Sector Rohingya Crisis Response Project
E&S	Environmental and Social
ESCoP	Environmental and Social Codes of Practices
ESCP	Environmental Social Commitment Plan
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESSR	Environmental and Social Screening Report
ESSs	Environmental and Social Standards
FAO	Food and Agriculture Organization
GoB	Government of Bangladesh
GPS	Government Primary School
GRC	Grievance Redress Committee
GRM	Grievance Redress Mechanism
IEFs	Important Environmental Features
KM	Kilometer
KMPH	Kilometer Per Hour
LGED	Local Government Engineering Department
LMP	Labour Management Procedures
LS	Lump Sum
MDSP	Multipurpose Disaster Shelter Project
MoEFCC	Ministry of Environment, Forest and Climate Change
MM	Millimeter
MoLGRDC	Ministry of Local Government, Rural Development and Cooperatives
NPDM	National Plan for Disaster Management
PD	Project Director
PIU	Project Implementation Unit
PPE	Personal Protective Equipment
RIVER	Resilient Infrastructure for Adaptation and Vulnerability Reduction
RPF	Resettlement Policy Framework
SEP	Stakeholders Engagement Plan
SMC	School Management Committee
SOPs	Standard of Procedures
UNDP	United Nations Development Programme
WB	World Bank

Executive Summary

The Environmental & Social Assessment and Management Report (ESAMR) of Community Roads for Kurigram District has been prepared for the sub-project titled “Improvement of Community Infrastructure, Growth Centers, others roads, Connecting Roads & Landing stages at Kurigram District under the RIVER Project.” The initiative is jointly financed by the World Bank and the Government of Bangladesh and aims to strengthen climate-resilient infrastructure and enhance accessibility to essential community facilities in vulnerable flood-prone regions. The RIVER Project focuses on improving rural infrastructure and disaster preparedness in flood-affected districts of Bangladesh by developing safe evacuation routes, strengthening community connectivity, and ensuring reliable access to flood shelters during emergency situations.

Under this sub-project, thirteen (13) community infrastructures connecting roads in Kurigram District will be improved to provide safe and sustainable access to nearby flood shelters and essential social infrastructure. The roads are located in seven (7) upazilas- Kurigram Sadar (1 road with total length of 0.8 km), Rajarhat (2 roads with total length of 2.016 km), Nageshwari (1 road with 2.0 km), Ulipur (2 roads with 2.211 km), Rowmari (1 roads with active length of 1.83 km), Chilmari (4 roads with active length of 3.696 km), and Bhurungamari (2 roads with active length of 3.15 km) Upazila-which are characterized by rural settlements, agricultural landscapes, and periodic exposure to seasonal flooding.

The Environmental and Social Assessment has been conducted by D&SC to evaluate potential environmental and social impacts associated with the proposed road improvement activities and to develop suitable mitigation and management strategies in compliance with national environmental regulations and the environmental and social standards of the World Bank. The assessment process included environmental and social screening, field reconnaissance surveys, stakeholder consultations, and the review of relevant secondary data and policy documents. The assessment team visited the proposed road alignments and surrounding areas to identify sensitive environmental and social features that may be affected during construction and operation phases.

Overall, the activities under this works package involve rehabilitation and improvement of community roads through bituminous surfacing, localized structural works (including bridges/culverts), slope protection, utility relocation, and roadside plantation. More specifically, the interventions as well as the overall physical features around the roads are given below:

- (i) The **Bazer H/O Jalil Mawlana to Sholagari GPS via H/O Shnalal Bakshi Road (149774078)** will be upgraded with BC over the full 1.416 km length from Ch. 0+000 to 1+416, converting the existing earthen road into an all-weather paved surface. Existing drainage structures include culverts at Ch. 0+693 and Ch. 0+997 and a box culvert at Ch. 0+888, with a 0.9 m × 0.9 m culvert proposed at Ch. 0+997. The corridor is highly water-sensitive, with ponds, fishponds, ditches and waterbodies on both sides throughout most chainages, along with settlements, house areas, agricultural land and a mosque around Ch. 600-900. Palisading is proposed at several vulnerable

- edge sections from Ch. 0+005 to Ch. 1+381, mainly on the right side. Construction should maintain drainage flow near culverts, ponds and ditches, avoid spoil disposal near waterbodies, and ensure safe access for settlements and mosque users.
- (ii) The **Khamar Hasnabad School, Burirhat Road (149615027)** will be improved with BC from Ch. 0+000 to 2+000, replacing the existing earthen surface over the full 2.00 km length. The road already contains U-drain and culvert features, including U-drains at Ch. 0+030 and Ch. 0+920 and a culvert near Ch. 1+008, while additional U-drains are proposed at Ch. 0+030, 0+400, 0+920 and 1+700. Palisading and block palisading are proposed between Ch. 0+230-0+260, Ch. 0+540-0+560, Ch. 0+930-0+987 and Ch. 1+008-1+158. The influence area includes agricultural land, ponds, trees and local homes throughout the alignment, with a mosque in the Ch. 1+500-1+800 section and a primary school near Ch. 1+800-2+000. Construction should therefore protect ponds and trees, maintain drainage continuity, and provide safe movement near homes, the mosque and school areas.
- (iii) The **Chadni Bazer More-Bazer Bolderer More Road (149945093)** will be upgraded with BC over 0.975 km from Ch. 0+000 to 0+975, improving the existing earthen road surface. Existing U-drains are located at Ch. 0+178-0+179, Ch. 0+502-0+504 and Ch. 0+706-0+708, while new U-drain works are proposed at Ch. 0+236-0+263, Ch. 0+310-0+366, Ch. 0+504-0+520 and Ch. 0+733-0+742. A short palisading section is also proposed at Ch. 0+115-0+125. The road has a distinctly public-use character, starting from Chadni Bazar and passing near Chadni Bazar Government Primary School, local houses, Char Bazar High School, a pond, Anchar Ali Store and Char Bazar Primary School near the end. As the corridor serves bazar, school and residential movement, construction should prioritize pedestrian safety, school access, controlled material storage and functional drainage around U-drain locations.
- (iv) The **Bazra College More-Telipara Fulbabu Member Shop Road (149945094)** will be improved with BC from Ch. 0+000 to 1+236, upgrading the full existing earthen road. The road has existing palisading around Ch. 0+286-0+319 and Ch. 0+900, along with U-drains near Ch. 0+562 and Ch. 0+657. Proposed protection works include palisading at Ch. 0+197-0+289, 0+250-0+286, 0+660-0+670, 0+778-0+813 and 0+844-0+857. The roadside environment changes from houses and trees at the start to agricultural land in the middle, ponds around Ch. 300-600 and Ch. 900-1200, and shop, house and mosque areas near Ch. 1+200-1+236. Since ponds, households, shops and mosque users are present near the alignment, construction should control runoff, maintain access near the terminal shop area, and protect vulnerable road edges through the proposed palisading.
- (v) The **Sutirpar-Mollarchar Road via New BOP Camp (149795017)** will be upgraded with BC along the full 1.830 km length from Ch. 0+000 to 1+830. The existing road is fully earthen and includes a bridge from Ch. 0+584 to 0+630, while existing/proposed palisading is concentrated in the early section at Ch. 0+103-0+128, 0+130-0+152, 0+163-0+187 and 0+321-0+342. The road passes through local homes, agricultural land, ponds and trees in the first 300 m, a mosque and homes near Ch. 300-600, open

agricultural areas in the middle, and local homes with the BOP Camp on the right side near Ch. 1+500-1+830. Due to the bridge, mosque, settlement clusters and BOP Camp access, construction should maintain uninterrupted crossing, protect early vulnerable edge sections, and ensure local and institutional access during works.

- (vi) The **Pachim Vatia Para House of Bakter Member to Purbo Vatia Para-H/O Nasir Member Road (149095050)** will be rehabilitated with Uni Block over the full 0.900 km length from Ch. 0+000 to 0+900, restoring the existing damaged BC pavement. The road contains several existing drainage and crossing structures, including U-drains at Ch. 0+004, Ch. 0+156 and Ch. 0+335, box culverts at Ch. 0+454-0+456 and a bridge at Ch. 0+571-0+582. The roadside setting is mainly residential and agricultural, with local homes, trees and farmland on both sides up to Ch. 600 m, followed by East Vatiyapara Mosque on the left and East Vatiyapara Nasir Member House on the right in the final section. Rehabilitation works should keep U-drains, box culverts and the bridge functional, while access to homes, agricultural plots and the mosque should be maintained throughout construction.
- (vii) The **Fakir Para Pucca Road-North Side Dompur More Road (149095115)** will be upgraded with BC from Ch. 0+000 to 1+012, replacing the existing earthen road. Existing structures include box culverts at Ch. 0+217-0+229, a U-drain at Ch. 0+376, a bridge at Ch. 0+584-0+596 and palisading at Ch. 0+634-0+656. Additional palisading is proposed at Ch. 0+377-0+399, Ch. 0+700-0+715, Ch. 0+798-0+813, Ch. 0+850-0+897 and Ch. 0+980-1+012. The road is environmentally sensitive due to ponds, waterbodies and trees along several sections, with houses and agricultural land also present on both sides. Drainage and waterbody protection should be emphasized near the culvert, U-drain and bridge locations, while palisading sections should be carefully executed to stabilize road edges beside pond and waterbody areas.
- (viii) The **Sarker Para Mosque-H/O Kazim Uddin Sarker-H/O Jalil Road via H/O Bazer Rashid Road (149095114)** will be upgraded with BC over 0.994 km, improving the damaged HBB surface from Ch. 0+000 to 0+994. Existing structures include bridges at Ch. 0+407-0+420 and Ch. 0+780-0+783, U-drains at Ch. 0+500 and Ch. 0+769, and existing palisading around Ch. 0+759-0+783. Proposed palisading is planned at Ch. 0+085-0+095, Ch. 0+348-0+382 and Ch. 0+783-0+802. The road passes through house and tree areas at the beginning, shop activity on the right side, pond and agricultural land in the middle, and madrasah, pond, shop and residential areas toward the end. Construction should ensure safe passage near houses, shops and the madrasah, and should maintain bridge and U-drain functionality, especially around the Ch. 0+780 bridge and adjacent palisading section.
- (ix) The **R&H Road Amtola More-Miloni Bazar Road (149065079)** will be developed with BC from Ch. 0+000 to 1+250, converting the full earthen section into a paved road. Existing structures include culverts at Ch. 0+270, Ch. 0+620 and Ch. 1+190, and a U-drain at Ch. 0+960, while a box culvert is proposed at Ch. 0+960. B/W palisading is proposed at Ch. 0+045-0+070, 0+090-0+110, 0+470-0+500 and 0+560-0+580. The road starts from Amtola More with shop areas on both sides, continues through

dense house areas around Ch. 275-300, Ch. 500-590, Ch. 750 and Ch. 1120-1150, and ends near Miloni Bazar with shops around Ch. 1+200. As this corridor connects two active commercial nodes with residential clusters in between, construction should prioritize traffic management, safe pedestrian movement, access to shops and houses, and drainage continuity at culvert locations.

- (x) The **Pandit Para Nurul Ulom Girls Madrasa-Mina Bazar via Rahul Amin Baparer House Road (149065075)** will be improved with BC over the full 1.90 km length. The existing pavement is mixed and discontinuous, consisting of RCC from Ch. 0+980-1+224 with damage at Ch. 1+115-1+150, HBB from Ch. 0+903-0+980 and Ch. 1+224-1+804 with damaged parts at Ch. 1+304-1+420 and Ch. 1+600-1+634, and earthen sections from Ch. 0+000-0+903, Ch. 0+980-1+036 and Ch. 1+804-1+900. A box culvert is proposed at Ch. 0+530, and B/W palisading at Ch. 1+050-1+068. The road is highly settlement-oriented, with houses recorded repeatedly from Ch. 90 m to Ch. 1817 m, and a girls' madrasa located near Ch. 10 m on the left. As the alignment serves educational and dense residential access, construction should maintain safe access to the madrasa, manage traffic and dust near house clusters, and ensure drainage improvement at Ch. 0+530.
- (xi) The **Kurigram, Anantapur GC Road H/O Asswari Kumar (149524010)** will be upgraded with BC from Ch. 0+000 to 0+800, replacing the existing earthen surface. Existing features include palisading at Ch. 0+214-0+241 and Ch. 0+329-0+354 and a culvert at Ch. 0+435, while additional palisading is proposed at Ch. 0+390-0+435, Ch. 0+593-0+615 and Ch. 0+620-0+652. The road passes through agricultural land, pond areas, local houses, trees, shops and waterbodies, with a madrasah about 20 m away, a mosque about 15 m away in the first section, another mosque about 5 m away around Ch. 300-600, and a government primary school about 15 m away near the final section. Due to the concentration of religious, educational, residential and waterbody features within a short 0.8 km corridor, construction should ensure strict access control, pedestrian safety near schools and mosques, and protection of ponds and waterbodies near drainage works.
- (xii) The **Sukhdeb Mouza-Ranjitswar Mouza Shom Nerajan Road (149774017)** will be upgraded with BC over 0.600 km from Ch. 0+000 to 0+600, converting the existing earthen road into a paved access route. Existing structures include slab culverts at Ch. 0+271 and Ch. 0+327 and a 400 mm diameter pipe culvert at Ch. 0+386. The proposed works include box culverts at Ch. 0+127, Ch. 0+271, Ch. 0+327 and Ch. 0+386, along with palisading at Ch. 0+012-0+035, Ch. 0+039-0+057, Ch. 0+259-0+271 and Ch. 0+400-0+428. The road passes through agricultural land, shops, Biddananda College, ditches, ponds and settlements in the first half, and near Sukhdeb Community Clinic and a mosque in the second half. Because the short alignment contains multiple drainage and community-service features, construction should maintain access to the college, clinic and mosque while protecting ponds, ditches and culvert discharge points.

- (xiii) The **New Jorgach-BWDB Embankment at Kharkharia Road (149094004)** will be upgraded with BC over 0.790 km from Ch. 0+000 to 0+790, replacing the existing earthen road. Existing structures include a U-drain at Ch. 0+432 and a bridge at Ch. 0+450, making the central section important for drainage and crossing continuity. The surrounding area includes agricultural land and settlements in the first 300 m, settlement and pond areas from Ch. 300-600, and settlements with roadside trees from Ch. 600-790. Since the road connects toward the BWDB embankment and passes through settlement and pond-adjacent areas, construction should keep the bridge and U-drain functional, protect the pond and roadside trees, and maintain safe access for local residents during road improvement works.

The assessment study also reveals that the proposed road improvement works will largely be carried out within the existing Right of Way (ROW), thereby minimizing the need for land acquisition and significantly reducing potential resettlement issues. The existing roads are mainly earthen or partially paved rural roads that require improvement to ensure year-round accessibility, improved drainage, and enhanced structural stability. The project will involve activities such as road widening where necessary and contingent upon the available land within ROW, strengthening of road surfaces, improvement of drainage systems, and installation of small culverts or cross-drainage structures where required. However, the scope of works, including specific safety and environmental measures along with potential impacts that may arise from the proposed interventions, are tabulated hereunder:

Despite the substantial socio-economic benefits the project will bring, certain construction-phase activities, such as earthworks, excavation, and material handling, are likely to cause localized soil disturbance, potential erosion, and impacts on roadside vegetation. The removal of trees and clearing of vegetation may temporarily affect the ecological balance and visual landscape, while also contributing to minor habitat disruption. In addition, construction near water bodies poses a risk of water contamination due to sediment runoff, improper waste disposal, or accidental spillage of construction materials. Air and noise pollution are anticipated due to vehicular movement, operation of construction machinery, and material transport, which may affect nearby residents, educational institutions, and health facilities. These activities may also cause temporary disruption to traffic flow and pedestrian movement, limiting access to homes, schools, and community services. In areas with dense human settlements or educational institutions, there is an increased risk of accidents, as well as occupational health and safety (OHS) concerns for workers and the public. Furthermore, the presence of a mobile workforce introduces potential risks related to Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH), which require careful management. Additional impacts include temporary social inconvenience, restricted access to local infrastructure, and safety hazards associated with open excavations, movement of heavy vehicles, and ongoing construction operations. The dismantling and relocation of electric poles may also temporarily interrupt utility services if not properly coordinated. All these impacts are very localized and mostly avoidable and do not pose any significant threat or harm to local inhabitants or biodiversity, if general good engineering and OHS practices are adopted. Therefore, the overall risk for this sub-project can be categorized as

'Moderate'. No ethnic groups are found living within the catchment area and there is no risk of involuntary resettlement or loss of common property resources.

To address these potential impacts, a comprehensive Environmental and Social Management Plan (ESMP) has been developed as part of this report in **Annexure-1**. The ESMP outlines specific mitigation and management measures that must be implemented during project construction and operation phases. Key environmental mitigation measures include regular water spraying to control dust, proper maintenance of construction equipment to minimize noise and emissions, safe disposal and management of construction waste, and restoration of disturbed areas following construction activities. Where roadside trees need to be removed, compensatory plantation programs will be undertaken to restore local vegetation and maintain ecological balance.

In addition, drainage systems will be carefully designed and maintained to prevent waterlogging and ensure the natural flow of stormwater. Construction activities near water bodies and agricultural lands will be conducted with special precautions to prevent contamination and protect local livelihoods dependent on farming and fisheries.

Social mitigation measures include the preparation and implementation of a Traffic Management Plan to ensure the safe movement of vehicles and pedestrians during construction works. Adequate signage, barricades, and warning signals will be installed at construction sites to reduce accident risks. Contractors will also be required to ensure proper occupational health and safety measures for workers, including the use of personal protective equipment (PPE), training on workplace safety, and emergency preparedness.

Stakeholder consultation was an integral component of the assessment process. Local community members, school authorities, religious leaders, local government representatives, and other relevant stakeholders were consulted during field visits to gather their views, concerns, and recommendations regarding the proposed road improvements. Most of the stakeholders expressed strong support for the project, highlighting that improved community roads will reduce travel time, facilitate access to markets and services, and significantly enhance evacuation and mobility during flood emergencies. Community members also emphasized the importance of proper drainage, road safety measures, and protection of roadside vegetation. Public consultation attendance sheets are in **Annexure 2**.

The project is expected to generate significant positive impacts in the long term. Improved community roads will strengthen connectivity between rural communities and flood shelters, thereby enhancing disaster resilience and emergency preparedness. Better road infrastructure will also support local economic development by facilitating the transportation of agricultural products, improving access to educational and health services, and enhancing overall mobility of the rural people. In addition, the project will contribute to improved safety and accessibility for women, children, elderly people, and persons with disabilities who rely on these roads for daily activities.

The implementation of the ESMP, along with continuous monitoring and stakeholder engagement, will ensure that environmental and social risks are minimized while maximizing the long-term benefits of the project for local communities. The report therefore provides a comprehensive framework to guide environmentally responsible and socially inclusive implementation of community road improvement works under the RIVER Project.

1. INTRODUCTION

1.1 Sub-Project Background

Bangladesh is widely recognized as one of the most disaster-prone countries in the world due to its geographic location, low-lying topography, and extensive river systems. Seasonal floods, riverbank erosion, and intense rainfall events frequently disrupt rural livelihoods and damage infrastructure, particularly in northern districts located near major transboundary rivers. In this context, improving resilient rural infrastructure and ensuring reliable access to emergency facilities such as flood shelters through community road infrastructures have become critical priorities for disaster risk reduction and sustainable development in the country.

To address these challenges, the Government of Bangladesh, with financial and technical assistance from the World Bank, has undertaken the RIVER Project, which aims to strengthen disaster resilience and improve rural infrastructure in flood-vulnerable regions. The project focuses on the construction and improvement of multipurpose flood shelters as well as the development of community infrastructure connecting roads to ensure safe and efficient access to these shelters during flood emergencies. These infrastructures not only function as evacuation centers during disasters but also serve as community facilities such as schools or community centers during normal periods.

The project area covers seven upazilas of Kurigram District, namely Roumari Upazila, Rajarhat Upazila, Bhurungamari Upazila, Kurigram Sadar Upazila, Ulipur Upazila, Nageshwari Upazila; and Chilmari Upazila. These upazilas are predominantly rural and depend heavily on agriculture and local trade for livelihoods. However, many villages within these areas experience difficulties in accessing reliable transportation infrastructure, especially during the monsoon season when roads often become submerged, damaged, or impassable due to floodwater. As a result, communities frequently face challenges in reaching schools, healthcare centers, markets, and emergency shelters during extreme weather events.

The proposed sub-project therefore focuses on improving the condition and resilience of existing community roads that connect villages to nearby flood shelters. These roads generally exist in the form of earthen or partially paved rural roads, which often deteriorate due to seasonal flooding, poor drainage, and heavy usage. Through the planned improvement works, these roads will be upgraded to more durable and climate-resilient standards to ensure year-round accessibility and safe evacuation routes during disasters.

The improvement of community infrastructure connecting roads will play a significant role in strengthening disaster preparedness and response capacity in the project area. By ensuring reliable access to flood shelters, the sub-project will enable communities to evacuate more quickly and safely during flood events. At the same time, improved road connectivity will facilitate daily livelihood and social activities such as transportation of agricultural goods, access to markets, educational institutions, healthcare services, and other public facilities.

In addition to enhancing disaster resilience, the development of these community roads is expected to contribute to broader rural development objectives. Improved road infrastructure will support local economic growth, improve mobility for residents, and increase accessibility for women, children, elderly persons, and individuals with disabilities who rely on these routes for daily travel.

Considering that infrastructure development activities may create certain environmental and social impacts during construction and operation phases, this Environmental & Social Assessment and Management Report (ESAMR) has been prepared to assess potential risks and identify appropriate mitigation measures. The assessment ensures that the proposed road improvement works are implemented in an environmentally sustainable and socially responsible manner, in compliance with national environmental regulations and the environmental and social standards of the World Bank.

The findings and recommendations presented in this report will lead steer project authorities, contractors, and relevant stakeholders in implementing the sub-project while minimizing environmental disturbances, protecting local communities, and maximizing the long-term benefits of improved community infrastructure in Kurigram District.

1.2 Objective of the Sub-Project

The primary objective of the sub-project is to enhance the resilience, accessibility, and functionality of rural road networks that provide critical connectivity to nearby flood shelters and essential community facilities. The sub-project aims to ensure safe, reliable, and all-weather access for local communities, particularly during flood and emergency events, thereby supporting timely evacuation and reducing vulnerability to disasters. By upgrading existing road surfaces, improving drainage systems, and strengthening road structures within the existing Right of Way (ROW), the project seeks to minimize environmental and social disruptions while maximizing socio-economic benefits.

Key objectives also include facilitating the movement of people, goods, and agricultural produce, improving access to education, healthcare, and markets, and supporting the overall disaster preparedness and resilience of communities in flood-prone areas of **Kurigram District**. Ultimately, the sub-project contributes to both short-term safety and long-term sustainable development of rural infrastructure, ensuring that flood shelters remain accessible and that the livelihoods of residents are protected and enhanced.

1.3 Scope of the Project

The scope of the project includes the construction of multipurpose flood shelters and construction of related access roads, flood embankments, drainage channels (both natural and manmade). The proposed infrastructure should be climate resilient, including cross-drainage culverts and rural bridges necessary for assured rural accessibility. Raising of selected community land above the high flood level and small-scale community infrastructure to protect land and properties are also included.

1.4 Objectives of the Report

The main objective of this Environmental & Social Assessment and Management Report (ESAMR) is to provide a comprehensive evaluation of the potential environmental and social impacts associated with the improvement of community infrastructure connecting roads at Kurigram District under the RIVER Project and to propose appropriate mitigation measures and management actions. The report aims to ensure that the sub-project is planned and implemented in an environmentally sustainable and socially inclusive manner, minimizing adverse impacts on local communities, sensitive receptors, and natural resources while enhancing positive outcomes.

Specific objectives include identifying environmental features and social conditions along the road corridors, assessing risks related to construction and operational activities, recommending measures to mitigate potential impacts such as dust, noise, drainage disruption, tree removal, and traffic hazards, and providing guidelines for occupational health and safety, stakeholder engagement, and grievance redress mechanisms. Additionally, the report seeks to support compliance with national environmental and social regulations as well as the environmental and social standards of the World Bank, thereby facilitating responsible implementation of the sub-project while improving community connectivity to nearby flood shelters and essential facilities.

2.0 SUB-PROJECT LOCATION AND DESCRIPTION

This section provides a detailed description of the sub-project location, its physical and socio-economic context, and the nature of the proposed improvement works for the community infrastructure connecting roads in Kurigram District under the RIVER Project.

2.1 Sub-Project Location

The sub-project covers selected community roads located in Kurigram District, which is considered by its fertile alluvial plains and riverine chars, which are emergent islands formed through sediment deposition in the braided river systems. The topography of features of this district predominantly flat alluvial plains of the Teesta, Brahmaputra basin which is in the northern part of Bangladesh and is prone to seasonal flooding due to its low-lying topography and proximity to major rivers. Kurigram is often called the “Land of Rivers” due to the plenty of waterways that defined its geographical characteristics. The sub-project specifically targets seven upazilas, are:

- 1. Kurigram Sadar Upazila** - As the district headquarters, this upazila has a mix of semi-urban and rural areas. Sadar Upazila includes the alluvial plain of the Teesta-Brahmaputra basin, with the Dharala river being a significant geographical feature. Sadar Upazila of Kurigram had 90,115 households and a population of 361,408. Literacy rate (Age 7 years and above) was found 69.87%: 72.85% for males and 67.00% for females, and a sex ratio of 97.29 males against 100 females. 63.50 percent of the population lived in the rural areas. In the rural areas the connecting roads targeted here link local communities with flood shelters, health facilities, and administrative centers, enhancing both daily accessibility and emergency response capacity.

- 2. Nageshwari Upazila** - Nageshwari Upazila had 112,330 households and a population of 444,699. Nageshwari had a literacy rate (age 7 and over) of 62.75%: 65.92% for males and 59.67% for females, and a sex ratio of 98.84 males for 100 females. In Nageshwari Upazila 74.09 percent of the population was found living in rural areas. It is characterized by flat agricultural terrain, this upazila experiences seasonal inundation. The connecting roads targeted under this sub-project are essential for linking villages with local markets, schools, health facilities, and nearby flood shelters.
- 3. Bhurungamari Upazila** - Bhurungamari upazila is characterized by its flat, alluvial terrain and is part of the Brahmaputra flood plain. The presence of rivers in this upazila such as the Brahmaputra, Teesta, Dharla and Dudhkumar , which play a significant role in ecology and livelihoods. The rivers also pose crucial risks due to seasonal flooding, riverbank erosion, and climate vulnerability. The ongoing climate change crisis is exacerbating and causes displacement of communities. The sub-project roads in this upazila pass through several small settlements and agricultural areas, often adjacent to flood shelters constructed under the RIVER Project. The roads are critical for emergency evacuation during flood events.
- 4. Rajarhat Upazila** - Rajarhat upazila is surrounded by two rivers, Teesta and Dharla. The climate in Rajarhatis is characterized by a tropical climate with south-west monsoon occurring in monsoon season and a dry period in winter season. Rajarhat has been significantly affected by climate change, with the northeastern flash flood in 2022 impacting over 7.2 million people. The upazila is also prone to natural hazards such as cyclones, floods, landslides, thunderstorms and earthquakes. The government and development partners have been working on strengthening institutional capacity to address climate vulnerability and improve risk management. LGED has been working on constructing Flood Shelters and improvement of community roads for emergency accessibility. Rajarhat upazila demography reveal a population of 203,060 as of 2022 census (Population Census, BBS, 2022). The literacy rate shows 70.27 percent with 74.43 percent for males and 66.33 percent for females. The sex ratio is 95. 83 males for every 100 females. Village areas account for 91.56 percent of the population.
- 5. Ulipur Upazila** - Ulipur upazila of Kurigram district is within the floodplain of major rivers such as the Brahmaputra, Dharla and Teesta. The climate is characterized by fertile alluvial soil, riverine landscapes and seasonal raining, estimated 45.52 percent rainy days in a year. The region is vulnerable to natural disasters like flooding and riverbank erosion, which significantly affect agriculture, housing and livelihoods. Ulipur upazila has population of 440,152 distributed across 120,793 households as of 2022 census (Population Census, BBS). The literacy rate is 64.70 percent with 68.20 percent for males and 61.39 percent for females. The sex ratio was 95.76 males for every 100 females, and 85.11 percent of population is living in rural areas.

- 6. Rawmari Upazila** - Rowmari upazila is characterized by its proximity to the Brahmaputra River and the presence of water bodies such as the Jhingiram and Halhali rivers. The climate in Rowmari is influenced by its geographical location, and rainfall throughout the year, however, floods and river erosion is a common phenomenon in this upazila, particularly floods cause due to upstream water from Assam, India inundates quite numbers of villages, agricultural fields and homesteads make the population homeless. The upazila has a population of 227,513 as of 2022 census (Population Census, BBS). The literacy rate was 60.52 percent, with 62.85 percent for males and 58.30 percent for females. The sex ratio is 95.98 males for every 100 females. About 85.05 percent of population live in rural areas.

- 7. Chilmari Upazila** - Chilmari upazila of Kurigram district is within the floodplain of major river such as the Brahmaputra. The climate is characterized by fertile alluvial soil, riverine landscapes and seasonal raining, estimated 161.12 rainy days (44.14% of the time) annually. The region is vulnerable to natural disasters like flooding and riverbank erosion, which significantly affect agriculture, housing and livelihoods. Chilmari upazila has a population of 132,715 with 34,576 households as of 2022 census (Population Census, BBS). The literacy rate was 68.38 percent, with 69.03 percent for males and 63.81 percent for females. The sex ratio is 98.16 males for every 100 females. About 71.05 percent of population live in the rural areas

The selected roads for improvement are strategically located near flood shelters to ensure safe and timely access during floods and other natural disasters. Most of the roads traverse agricultural lands, rural settlements, and areas with community facilities such as schools, mosques, and local markets. Map illustrating Community Roads of Kurigram District is attached in **Figure 2.1**.

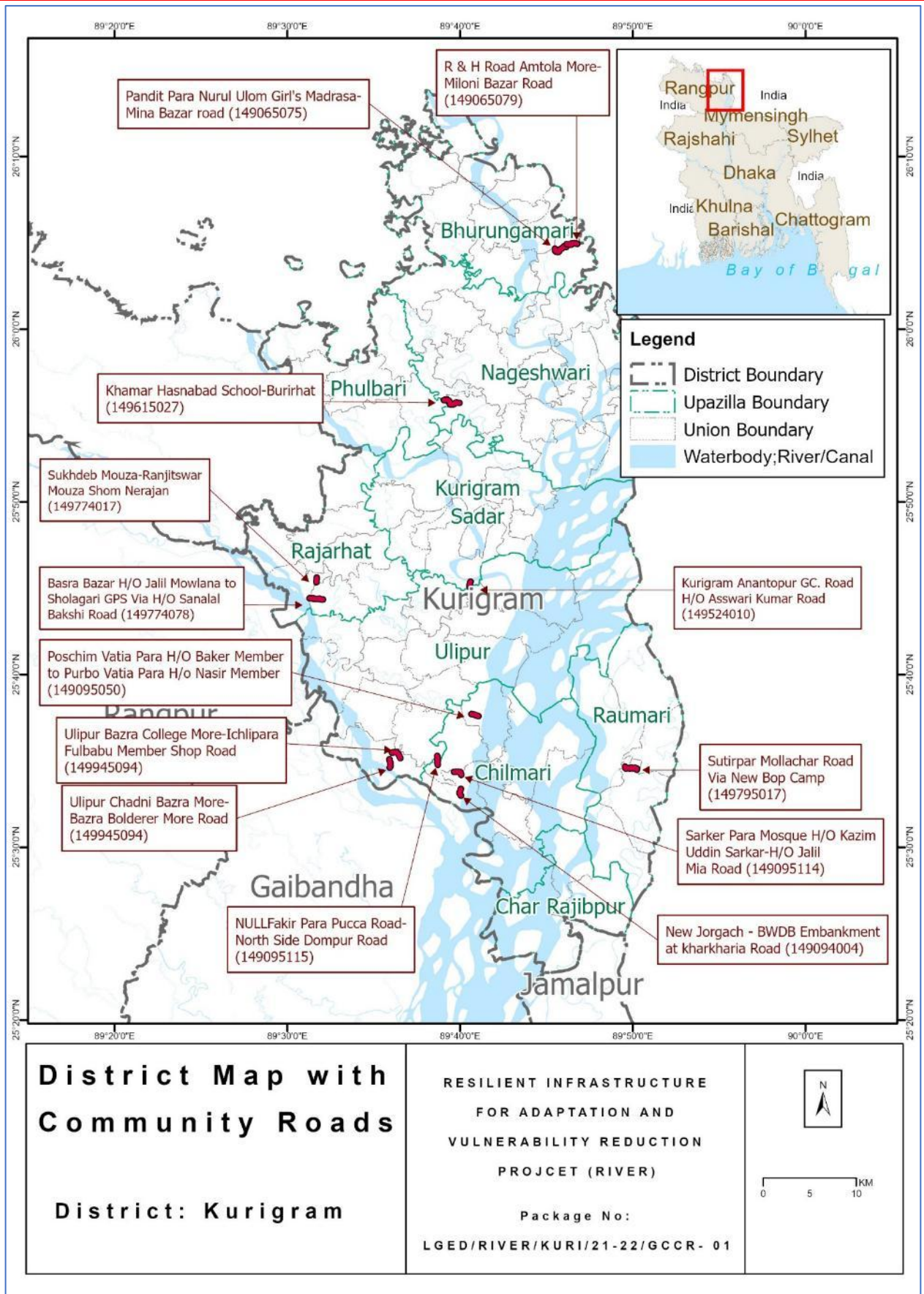


Figure 2.1: Map illustrating Community Roads of Kurigram District

2.2 Physical Features and Environment

The terrain across the project area is predominantly flat and low-lying, with several rivers, canals, and drainage channels passing through the upazilas. During monsoon season, these areas are prone to waterlogging and localized flooding. The existing road infrastructure mainly consists of earthen or semi-paved roads with limited drainage facilities, making them vulnerable to damage and disruption during heavy rainfall. Roadside vegetation, including trees and shrubs, is present along many stretches, contributing to local ecology and providing shade to communities.

2.3 Socio-Economic Context

The project area is predominantly rural, with communities largely dependent on agriculture, fisheries, and small-scale trade for their livelihoods. Key social features along the proposed road corridors include:

- Local settlements and homesteads
- Agricultural fields, small marketplaces and roadside shops
- Educational institutions such as primary and secondary schools
- Religious institutions including mosques and madrassas
- Public infrastructure such as community centers and flood shelters

These roads are vital for socio-economic development, enabling residents to access essential services, markets, and emergency evacuation routes during floods. The proximity of flood shelters to these roads underscores their importance for disaster preparedness and response.

2.4 Sub-Project Description

The sub-project involves the improvement of existing community roads to enhance their structural stability, surface quality, and drainage capacity. Key components of the road improvement work include:

- Road Surface Improvement - Upgrading existing earthen or semi-paved roads with compacted soil, gravel, or pavement to ensure year-round usability.
- Road Widening and Shoulder Stabilization - Where necessary, the roads will be widened within the existing Right of Way (ROW) to facilitate safer two-way movement of vehicles and pedestrians.
- Drainage Enhancement - Construction or repair of side drains, culverts, and cross-drainage structures to prevent waterlogging and maintain road longevity.
- Slope Protection and Embankment Strengthening - Stabilization of embankments and road shoulders to reduce erosion and maintain structural integrity during floods.
- Traffic Safety Measures - Installation of signage, demarcation, and other traffic management interventions near schools, markets, and flood shelters to ensure safety during construction and operation.

The sub-project is designed to minimize environmental and social impacts by utilizing existing ROWs and avoiding unnecessary land acquisition. Construction activities will be planned to limit disruption to local communities and ensure continuous access to flood shelters.

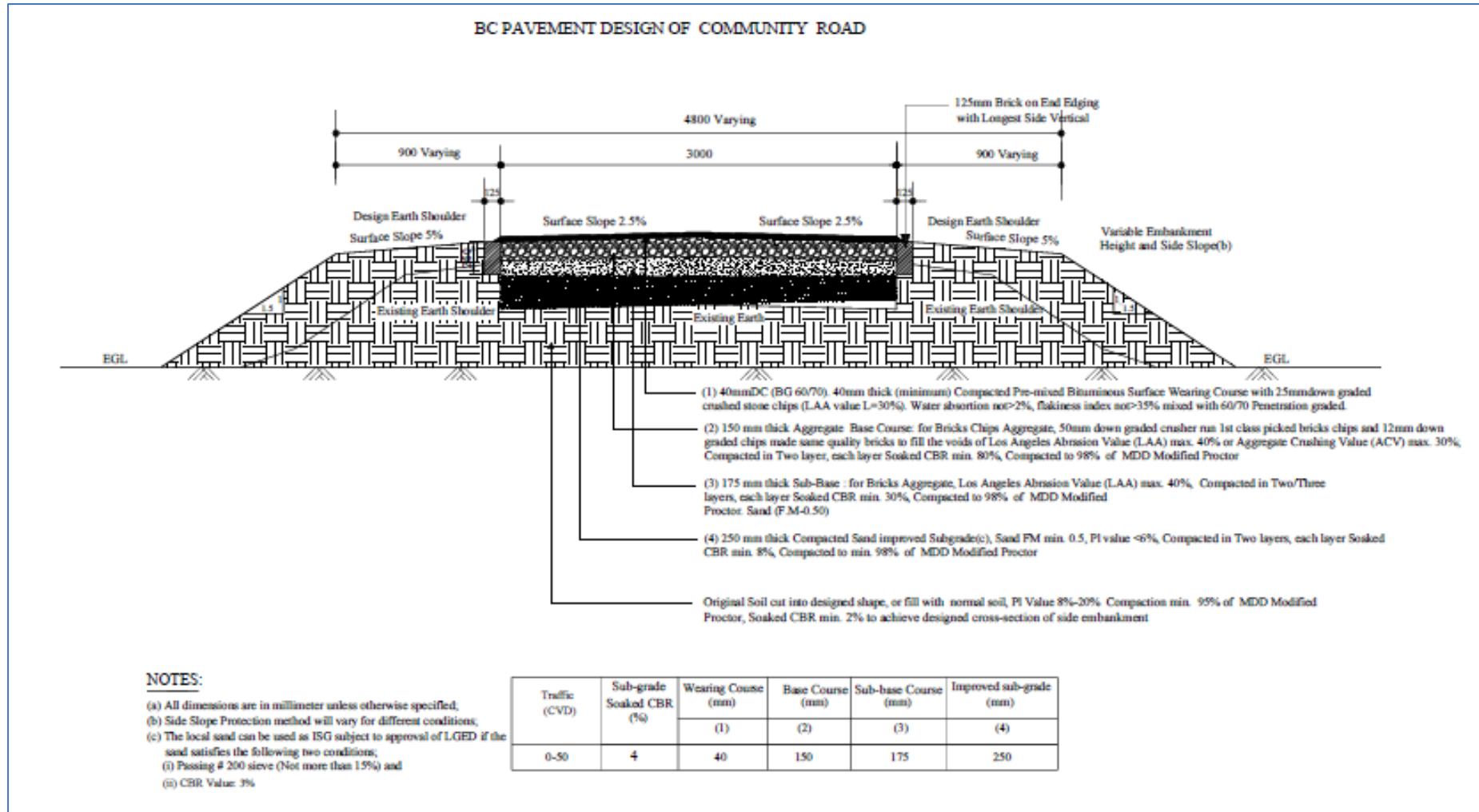


Figure 2.2: Typical Pavement Design of Community Roads

2.5 Elementary information of Community Road in Kurigram District

The community road package components in Kurigram District, located in the northern region of Rangpur Division, have been identified under the RIVER Project to improve rural connectivity and facilitate access to nearby flood shelters and community facilities. The proposed community roads fall within the project influence area of several flood shelter construction sites located in different upazilas such as Kurigram Sadar, Nageshwari, Bhurungamari, Rowmari, Rajarhat, Chilmari and Ulipur upazilas. Each road component has been identified with specific GPS coordinates to define its alignment and location within the respective union parishads such as Nazim Khan, Sukhdeb, Hasnabad, Bazra, 4 No. Rowmari, Raniganj, Thana Hat, Romna, Boldia, Mogolbasha unions etc. These community roads are strategically selected to connect surrounding rural settlements, growth centres and different service facilities with the nearest proposed flood shelter sites, ensuring safe evacuation and improved access during flood events. The project influence area generally includes roadside settlements, agricultural fields, local markets, and educational institutions situated along the alignment. The development and rehabilitation of these roads will significantly enhance disaster resilience, mobility, and socio-economic activities of the local population while ensuring better connectivity to emergency shelters and essential services. Acknowledging this matter, such details are accounted for as given below in **Table 2.1**.

Table 2.1: Basic Featured Information of community road components

Sl. No.	Name of Upazila	Union	Name of Proposed Community Road	GPS Coordinates	Total Length (Km)	Locations Under Project Influence Area	Nearby Proposed Flood Shelter	Distances from nearby Shelters
1.	Rajarhat	Nazim Khan	Basra Bazar H/O Jalil Mawlana to Sholagari GPS via H/O Shnalal Bakshi Road. (149774078)	<u>Starting Point</u> 25.739360 N 89.534365 E <u>Ending Point</u> 25.740457 N 89.521277 E	1.416	Sholagari, Ronjitessor, , Rotigram, Nazim khan, Rajarhat	Bachhra GPS	900m from the proposed shelter
2.	Nageshwari	Hasnabad	Khamar Hasnabad School, Burirhat (149615027)	<u>Starting Point</u> 25.92906 N 89.666035 E	2.000	Telipara, Mondol Para, Anondo Bazar, Hasnabad	Kuti Bamandanga GPS	12km from the proposed shelter

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Sl. No.	Name of Upazila	Union	Name of Proposed Community Road	GPS Coordinates	Total Length (Km)	Locations Under Project Influence Area	Nearby Proposed Flood Shelter	Distances from nearby Shelters
				<u>Ending Point</u> 25.931861 N 89.65093 E				
3.	Ulipur	Bazra	Ulipur Chadni Bazra More-Bazra Bolderer More Road (149945093)	<u>Starting Point</u> 25.58509 N 89.598538 E <u>Ending Point</u> 25.576882 N 89.598747 E	0.975	Chadni Bazra, Moddho Bazra, Char Bazra, Ulipur	Bazra GPS	1.5km from the proposed shelter
4.			Ulipur Bazra College More-Ichlipara Fulbabu Member Shop Road (149945094)	<u>Starting Point</u> 25.591444 N 89.60088 E <u>Ending Point</u> 25.586021 N 89.608966 E	1.236	Chadni Bazra, Bazra, Ulipur.	Bazra GPS	700m from the proposed shelter
5.	Rowmari	4 No. Rowmari	Sutirpar - Mollarchar road via New BOP camp (149795017)	<u>Starting Point</u> 25.575 N 89.837 E <u>Ending Point</u> 25.578 N 89.826 E	1.830	Sutir Para, Mollar Char, Rowmari	Shoulmari GPS	1km from the proposed shelter
6.	Chilmari	Raniganj	Pachim vatia para house of Bakter member to purbo vatia para -H /O Nasir	<u>Starting Point</u> 25.621209 N 89.670601 E	0.9	Purbo Vatiya Para, Raniganj, Chilmari.	Rajarvita GPS	1.5km from the proposed shelter

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Sl. No.	Name of Upazila	Union	Name of Proposed Community Road	GPS Coordinates	Total Length (Km)	Locations Under Project Influence Area	Nearby Proposed Flood Shelter	Distances from nearby Shelters
			member Road (149095050)	<u>Ending Point</u> 25.62633 N 89.684503 E				
7.	Chilmari	Thana Hat	Fakir Para Pucca Road-North Side Dompur Road (149095115)	<u>Starting Point</u> 25.5796956 N 89.6403157 E <u>Ending Point</u> 25.588235 N 89.644576 E	1.012	Fokir para, Uttar Mas Para, Thana Hat	Rajarvita GPS	1.25km from the proposed shelter
8.		Romna	Sarker para mosque - H/O Kazim Uddin Sarker -H/O Jalil Road via H/O Bazer Rashid OC (149095114)	<u>Starting Point</u> 25.572798 N 89.660774 E <u>Ending Point</u> 25.569926 N 89.667595 E	0.994	Shorkar Para, Romna, Chilmari.	Rajarvita GPS	700m from the proposed shelter
9.	Bhurungamari	Boldia	R & H Road Amtola More- Miloni Bazar Road (149065079)	<u>Starting Point</u> 26.08258175 N 89.77970878 E <u>Ending Point</u> 26.08234608 N 89.76950928 E	1.250	Sonbanda, Parsuramer kuti, Boldia.	Parsuramer kuti GPS	1.2km from the proposed shelter
10.			Pandit para Nurul Ulom Girls Madrasha - Mina Bazar via Rahul Amin Baparar	<u>Starting Point</u> 26.07956176 N 89.76915825 E	1.9	Uttar Boldia, Parsuramer Kuti, Boldia.	Parsuramer kuti GPS	2.6km from the proposed shelter

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Sl. No.	Name of Upazila	Union	Name of Proposed Community Road	GPS Coordinates	Total Length (Km)	Locations Under Project Influence Area	Nearby Proposed Flood Shelter	Distances from nearby Shelters
			House Road (149065075)	<u>Ending Point</u> 26.07778995 N 89.75815547 E				
11.	Kurugram Sadar	Mogolbasha	Kurigram, Anantapur, GC road H/O Asswari Kumar (149524010)	<u>Starting Point</u> 25.75252 N 89.67441 E <u>Ending Point</u> 25.77215 N 89.68236 E	0.800	Gariyal Para, Majhgram, Bhatlar Par, Bearipara.	Kektirpar GPS	1.4km from the proposed shelter
12.	Rajarhat	Biddananda	Sukhdeb Mouza-Ranjitswar Mouza Shom Nerajan (149774017)	<u>Starting Point</u> 25.760423 N 89.52834 E <u>Ending Point</u> 25.755927 N 89.52802 E	0.600	Sukhdeb	Sukhdeb GPS	3m from the proposed shelter
13.	Chilmari	Ramna	New Jorgach - BWDB Embankment at kharkharia Road (149094004)	<u>Starting Point</u> 25.55643203 N 89.66742934 E <u>Ending Point</u> 25.54998026 N 89.66762847 E	0.79	Ramna	Rajarvita GPS	1.7km from the proposed shelter

[*Sources of data: Field survey, April 2026]

2.6 Environmental / Social Category of the Subproject

The overall anticipated adverse impacts of the subproject are minimal, localized, and site-specific in nature, and mostly avoidable or mitigable and do not pose any significant threat or harm to local inhabitants or biodiversity, if general good engineering and OHS practices are adopted. Moreover, the roads will be constructed within the existing ROW and no rehabilitation or acquisition of land is required or provisioned. Further, no ethnic groups are found living within the catchment area and there is no risk of involuntary resettlement or loss of common property resources. Therefore, considering all the anticipated impacts, existing social and environmental settings and scope of work, the overall risk for this subproject can be categorized as 'Moderate'.

2.7 Baseline Conditions of the Community Road

The baseline assessment of the community roads under the sub-project in Kurigram District provides a detailed understanding of the existing physical and social conditions, which serves as the foundation for planning road improvements while minimizing environmental and social impacts. The targeted roads pass through the upazilas of Kurigram Sadar, Nageshwari, Bhurungamari, Rowmari, Rajarhat, Chilmari and Ulipur.

Existing Pavement Condition and Chainage: Most of the existing roads are paved or semi-paved and exhibit varying levels of deterioration due to seasonal flooding, heavy monsoon rainfall, and limited maintenance. Potholes, rutting, and erosion along shoulders are commonly observed, particularly in low-lying sections and areas adjacent to drainage channels. Road surfaces along chainages near settlements and marketplaces are particularly affected by frequent pedestrian and vehicular use.

Existing Structures on the Road: The roads traverse areas with various existing structures, including small culverts, side drains, footbridges, local marketplaces, schools, mosques, and roadside residences. In some sections, informal drainage channels and agricultural access points intersect the road alignment. Tree covers and roadside vegetation are present along several stretches, contributing to local ecology.

Proposed Road Interventions: The sub-project proposes to upgrade the existing roads within the available Right of Way (ROW) to improve structural stability, all-weather accessibility, and flood resilience. Interventions include earthwork for raising low-lying sections, paving with compacted gravel or bituminous surfaces, slope stabilization, shoulder reinforcement, and improvement of roadside drainage to prevent waterlogging.

Proposed Structures: The project includes the construction of new small culverts, cross-drainage structures, and side drains at strategic locations to ensure uninterrupted water flow and prevent road flooding.

Safeguard Features: To ensure environmental and social sustainability, safeguard measures will be incorporated during construction and operation. Signage, speed control measures, and pedestrian pathways will be provided to enhance safety.

Overall, the baseline conditions highlight the need for targeted interventions to enhance road safety, connectivity, and resilience, while the proposed structural improvements and safeguard features are designed to address environmental and social risks, improve access to flood shelters, and support the sustainable development of the rural road network in Kurigram District. Road wise Baseline Conditions of the community Roads status are in **Table 2.2**.

Table 2.2 Status of Baseline Conditions of the Community Road

Sl. No.	Road Name	Road ID	Total Length (Km)	Pavement Condition with Chainage	Existing Structures on the road	Proposed Road Interventions	Safeguard Features
1.	Bazer H/O Jalil Mawlana to Sholagari GPS via H/O Shnalal Bakshi Road (Village A)	149774078	1.416	Unpaved/Earthen- 0+00 to 1+416	Culvert- (Ch. 0+693) Box Culvert- (Ch. 0+888) Culvert- (Ch. 0+997)	BC- 0+000 to 1+416 Culvert (0.9m × 0.9m)- Ch. 0+997 Palisading- Ch. 0+005 to 0+029 (Right Side) Palisading- Ch. 0+005 to 0+029 (Right Side) Palisading- Ch. 0+033 to 0+066 (Right Side) Palisading- Ch. 0+131 to 0+158 (Left Side) Palisading- Ch. 0+384 to 0+406 (Right Side) Palisading- Ch. 0+880 to 0+887 (Left Side) Palisading- Ch. 0+911 to 0+929 (Right Side) Palisading- Ch. 1+147 to 1+163 (Left Side) Palisading- Ch. 1+189 to 1+207 (Right Side) Palisading- Ch. 1+212 to 1+250 (Right Side) Palisading- Ch. 1+241 to 1+255 (Right Side) Palisading- Ch. 1+354 to	Not available on site

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Sl. No.	Road Name	Road ID	Total Length (Km)	Pavement Condition with Chainage	Existing Structures on the road	Proposed Road Interventions	Safeguard Features
						1+381 (Left Side)	
2	Khamar Hasnabad School, Burirhat (Village B)	149615027	2.000	Unpaved/Earthen - 0+00 to 2+000	U Drain (Ch. 30m), Culverts (Ch. 1008m) Palisading (Ch. 0+230 to 0+260) Palisading (Ch. 0+540 to 0+560m) U Drain (Ch. 0+920m)	BC- 0+000 to 2+000 U-Drain - Ch. 0+030 Palisading - Ch. 0+230 to 0+260 (Right Side) U-Drain - Ch. 0+400 Palisading - Ch. 0+540 to 0+560 (Left Side) U-Drain - Ch. 0+920 Block Palisading - Ch. 0+930 to 0+987 (Right Side) Block Palisading - Ch. 0+960 to 0+987 (Left Side) Block Palisading - Ch. 1+008 to 1+013 (Left Side) Block Palisading - Ch. 1+008 to 1+158 (Right Side) U-Drain - Ch. 1+700	Not available on site
3.	Chadni Bazer more -Bazer Bolderer more Road (Village B)	149945093	0.975	Unpaved/Earthen - 0+00 to 0+975	U Drain (Ch. 0+178 to 0+179m), U Drain (Ch. 0+502 to 0+504m), U Drain (Ch. 0+706 to 0+708m).	BC-0+00 to 0+975 Palisading - Ch. 0+115 to 0+125 U-Drain - Ch. 0+236 to 0+263 U-Drain - Ch. 0+310 to 0+366 U-Drain - Ch. 0+504 to	Not available on site

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Sl. No.	Road Name	Road ID	Total Length (Km)	Pavement Condition with Chainage	Existing Structures on the road	Proposed Road Interventions	Safeguard Features
						0+520 U-Drain - Ch. 0+733 to 0+742	
4.	Bazra College, More-Telipara Fulbabu, Shop Road (Village B)	149945094	1.236	Unpaved/Earthen - 0+00 to 1+236	Palisading (Ch. 0+286 to 0+319m) U Drain (Ch. 0+562 to 0+563m), U Drain (Ch. 0+657 to 0+558m), Palisading (Ch. 0+900m)	BC-0+00 to 1+236 Palisading - Ch. 0+197 to 0+289 Palisading - Ch. 0+250 to 0+286 Palisading - Ch. 0+660 to 0+670 Palisading - Ch. 0+778 to 0+813 Palisading - Ch. 0+844 to 0+857	Not available on site
5.	Sutirpar - Mollarchar road via New BOP camp Sarker hat Jongra UP (Village B)	149795017	1.830	Unpaved/Earthen - 0+00 to 1+830	Bridge (Ch. 0+584 to 0+630) Palisading (Ch. 0+103 to 0+128m) Palisading (Ch. 0+130 to 0+152m) Palisading (Ch. 0+163 to 0+188m) Palisading (Ch. 0+321 to 0+342m)	BC-0+00 to 1+830 Palisading - Ch. 0+103 to 0+128 (Right Side) Palisading - Ch. 0+130 to 0+152 (Left Side) Palisading - Ch. 0+163 to 0+187 (Left Side) Palisading - Ch. 0+321 to 0+342 (Left Side)	Not available on site
6.	Pachim vatia para house of Bakter member to purbo vatia para -H /O Nasir member	149095050	0.9	Damaged BC - 0+00 to 0+900	U Drain (Ch. 0+04m), U Drain (Ch. 0+156m), U Drain (Ch. 0+335m). Box culverts (Ch. 0+454 to 0+456m)	Rehabilitation Uni Block- 0+00 to 0+900	Not available on site

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Sl. No.	Road Name	Road ID	Total Length (Km)	Pavement Condition with Chainage	Existing Structures on the road	Proposed Road Interventions	Safeguard Features
	Road. (Village B)				Bridge (Ch. 0+571 to 0+582m)		
7.	Fakir para pucca road - north side Dompur More Road (Village B)	149095115	1.012	Unpaved/Earthen - 0+00 to 1+012	Box culverts (Ch. 0+217 to 0+229m) U Drain (Ch. 0+376m). Bridge (Ch. 0+584 to 0+596m) Palisading (Ch. 0+634 to 0+656m)	BC-0+00 to 1+012 Palisading (Ch. 0+377 to 0+399m) Palisading (Ch. 0+700 to 0+715m) Palisading (Ch. 0+798 to 0+813m) Palisading (Ch. 0+850 to 0+897m) Palisading (Ch. 0+980 to 1+012m)	Not available on site
8	Sarker para mosque -H/O Kazim Uddin Sarker -H/O Jalil Road via H/O Bazer RashidOC (Village B)	149095114	0.994	Damaged HBB- 0+00 to 0+994	Bridge (Ch. 0+407 to 0+420m) U Drain (Ch. 0+500m) U Drain (Ch. 0+769m) Bridge (Ch. 0+780 to 0+783m) Palisading (Ch. 0+759 to 0+783m)	BC-0+00 to 0+994 Palisading (Ch. 0+085 to 0+095m) Palisading (Ch. 0+348 to 0+382m) Palisading (Ch. 0+783 to 0+802m)	Not available on site
9.	R & H Road, Amtola, Miloni Bazar Road (Village B)	149065079	1.250	Unpaved/Earthen - 0+00 to 1+250	Culvert- (Ch. 0+270m) Culvert- (Ch. 0+620m) U Drain (Ch. 0+960m) Culvert- (Ch. 1+190m)	BC-0+00 to 1+250 B/W Palisading (Ch. 0+045 to 0+070m) B/W Palisading (Ch. 0+090 to 0+110m) B/W Palisading (Ch. 0+470 to 0+500m)	Not available on site

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Sl. No.	Road Name	Road ID	Total Length (Km)	Pavement Condition with Chainage	Existing Structures on the road	Proposed Road Interventions	Safeguard Features
						B/W Palisading (Ch. 0+560 to 0+580m) Box Culvert (Ch. 0+960m)	
10.	Pandit para Nurul Ulom Girls Madrasha - Mina Bazar via Rahul Amin Baparer House Road (Village B)	149065075	1.9	RCC- 0+980 to 1+224 (Damaged 1+115 to 1+150) HBB- 0+903 to 0+980 and 1+224 to 1+804 (Damaged 1+304 to 1+420 and 1+600 to 1+634) Unpaved/Earthen- 0+00 to 0+903, 0+980 to 1+036 and 1+804 to 1+900	U Drain (Ch. 0+530m)	BC-0+00 to 1+900 Box culverts (Ch. 0+530m) B/W Palisading (Ch. 1+050 to 1+068m)	Not available on site
11.	Kurigram, Anantapur, GC road H/O Asswari Kumar (Village A)	149524010	0.800	Unpaved/Earthen - 0+00 to 0+800	Palisading- Ch. 0+214 to 0+241 (right side), Ch. 0+329 to 0+354 (right side) Culvert- (Ch. 0+435)	BC-0+00 to 0+800 Palisading- Ch. 0+214 to 0+241 (right side) Palisading- Ch. 0+329 to 0+354 (left side) Palisading- Ch. 0+390 to 0+435 (left side) Culvert- Ch. 0+435 Palisading- Ch. 0+593 to 0+615 (left side) Palisading- Ch. 0+620 to 0+652 (left side)	Not available on site
12.	Sukhdeb Mouza-Ranjitswar Mouza Shom	149774017	0.600	Unpaved/Earthen - 0+00 to 0+600	Slab Culvert - (6.650m × 0.650m) Ch. 0+271 Slab Culvert - (6.650m ×	BC-0+00 to 0+600 Box Culvert - (0.750m ×	Not available on site

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Sl. No.	Road Name	Road ID	Total Length (Km)	Pavement Condition with Chainage	Existing Structures on the road	Proposed Road Interventions	Safeguard Features
	Nerajan (Village A)				0.650m) Ch. 0+327 Pipe Culvert - (400 mm Dia) Ch. 0+386	0.750m) Ch. 0+271 Box Culvert - (0.750m × 0.750m) Ch. 0+327 Box Culvert - (1.00m × 1.00m) Ch. 0+386 Box Culvert - (0.750m × 0.750m) Ch. 0+127 Palisading - Ch. 0+012 to 0+035 (Right Side) Palisading - Ch. 0+039 to 0+057 (Left Side) Palisading - Ch. 0+259 to 0+271 (Right Side) Palisading - Ch. 0+400 to 0+428 (Right Side)	
13.	New Jorgach - BWDB Embankment at kharkharia Road (Village A)	149094004	0.79	Unpaved/Earthen - 0+00 to 0+790	U Drain (Ch. 0+432m) Bridge (Ch. 0+450m)	BC-0+00 to 0+790	Not available on site

3.0 Environmental and Social Survey and Screening

3.1 Survey and Screening Methodology

An Environmental and Social Survey and Screening have been carried out within the Project Influence Area (PIA), defined as a 0.5 km buffer on both sides from the centerline of the proposed road alignment. The purpose of the survey was to identify baseline environmental and socio-economic conditions, as well as potential sensitive receptors that may be affected by project activities. The methodology generally involves a combination of desk review, field reconnaissance, and stakeholder consultation. Initially, relevant secondary information was reviewed to understand the baseline settings. This was followed by systematic field surveys along the road alignment within the 0.5 km PIA, where environmental features (water bodies, vegetation, wetlands, and flora and fauna, etc.) and social features (settlements, educational institutions, mosques/temples, markets, health facilities, agricultural lands, and cultural properties) were identified and impacts from the implementation works were assessed. Structured observations, photographic documentation, and transect walks were used during the field investigation. In addition, consultations with local communities, local government representatives, and relevant stakeholders were conducted to gather information on livelihood activities, land use, community resources, and potential concerns regarding the proposed interventions. The collected information was then analyzed through a screening process to assess the likelihood and significance of environmental and social impacts during construction and operation phases. The outcome of the survey and screening helps determine the level of environmental and social assessment required and supports the preparation of appropriate mitigation measures and management plans to ensure environmentally sustainable and socially responsible road development in the area.

3.2 Important features/establishments around the PIA

The project influences area of the proposed community road sub-projects includes a variety of environmental, social, economic, and cultural features located along or near the existing road alignments. These features have been identified during field reconnaissance surveys and consultations with local communities to understand the baseline conditions and potential interactions between the proposed road maintenance activities and surrounding establishments. The community roads generally pass through rural settlements and agricultural landscapes within different unions and upazilas, where local infrastructure and community facilities are closely located near the roadside.

From an environmental perspective, the surrounding areas of the assessed community roads are predominantly characterized by agricultural landscapes, low-lying floodplains, scattered vegetation, and rural homestead gardens. Small ponds, irrigation canals, and natural drainage channels are also commonly found along or near the road alignments, which play a significant role in local water management and fish cultivation. These natural and semi-natural environmental features contribute to the ecological balance of the area and therefore require

careful consideration during construction activities to avoid unnecessary disturbance, sedimentation, or blockage of drainage paths.

The social features within the project influence area include rural households, schools, religious institutions, community centers, and public service facilities located close to the existing road corridors. Residential settlements are often situated along both sides of the roads, indicating that these roads serve as important local access routes for daily community activities. Educational institutions such as primary and secondary schools, madrasa buildings, and playgrounds may also be located within short distances from the road alignment. Religious establishments including mosques and community graveyards are common features in the project area and are often found near village centers along the road network. These social infrastructures are important gathering places for residents and require careful consideration during construction activities to minimize disruption and maintain safe access.

In terms of economic features, the project influence area contains small local markets, roadside shops, agricultural storage areas, and facilities supporting rural livelihoods. Weekly rural markets (hats), small grocery shops, tea stalls, and agricultural input stores are frequently located at road intersections or village centers. These establishments depend heavily on the accessibility provided by community roads for transportation of goods and services. In addition, agricultural activities such as crop production, livestock rearing, and fish cultivation are key sources of livelihood for the surrounding communities. Improved road conditions are therefore expected to enhance local economic activities by facilitating easier transportation of agricultural products, improving market access, and reducing travel time for rural populations.

The cultural and community heritage features within the project influence area may include local mosques, Eidgah grounds, graveyards, and other culturally significant landmarks. These sites hold social and cultural importance for local communities and are often located within proximity to village roads. Any construction or maintenance work near such cultural features will require special attention to ensure that these sites are protected and that community access remains uninterrupted.

In addition to these environmental, social, economic, and cultural features, the project influence area may also include essential service infrastructure such as tube wells, rural electrification lines, irrigation pumps, drainage outlets, and small water supply systems. These utilities support the daily needs of the local communities and must be carefully protected during construction to prevent service disruptions. Where temporary disturbances are unavoidable, appropriate mitigation measures and coordination with local authorities will be necessary to restore services promptly.

Overall, the surrounding features and establishments within the project influence area reflect the typical rural landscape and socio-economic structure of Kurigram District. The identification and documentation of these features are essential for assessing potential environmental and social impacts associated with the community road improvement works. Detailed information on these environmental, social, economic, and cultural establishments

identified during the field assessment has been systematically presented in **Table 3.1**, which provides a location-specific inventory of important features situated along or near the assessed road alignments. This inventory will help guide the implementation of appropriate mitigation measures and ensure that project activities are carried out in an environmentally and socially responsible manner.

Table 3.1: Important features under Project Influence Area

Division: Rangpur		District: Kurigram		Upazila: Rajarhat	
Name of the Road:		Bazer H/O Jalil Mawlana to Sholagari GPS via H/O Shnalal Bakshi Road. (149774078)			
Total Road Length (Km)		1.416			
Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)		
00-300	L		Agricultural Land, pond, ditches, waterbody, fishpond, and human settlement.		
		R	Agricultural Land, fishpond, ditches, and waterbody.		
300-600	L		Agricultural Land, pond, fishpond, ditches, and house area.		
		R	Agricultural Land, fishpond, pond, ditches, and human settlement.		
600-900	L		Human settlement, Mosque, ditches, Agriculture land.		
		R	Agriculture land, human settlements, fishponds, and ponds.		
900-1200	L		Agricultural Land, fishpond, human settlement.		
		R	Human settlement, fishpond, ditches, and pond.		
1200-1416	L		Agriculture land, human settlement, and fishpond.		
		R	Agriculture land, human settlement, and pond.		
Division: Rangpur		District: Kurigram		Upazila: Nageshwari	
Name of the Road:		Khamar Hasnabad School, Burirhat (149615027)			
Total Road Length (Km)		2.000			
Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)		
00-300	L		Agricultural land, pond, and trees.		
		R	Local homes, agricultural land, and pond		
300-600	L		Agriculture land, local homes, and trees.		
		R	Local homes, pond and trees.		

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600-900	L		Local home, agriculture land, trees
		R	Local home, trees, agriculture land etc.
900-1200	L		Water body, pond etc.
		R	Waterbody, pond etc.
1200-1500	L		Local homes, agricultural land.
		R	Local homes, agricultural land.
1500-1800	L		Local home, agriculture land, and trees.
		R	Local home, agriculture land, and mosque.
1800-2000	L		Local homes, primary school and trees.
		R	Local home, agriculture land etc.
Division: Rangpur	District: Kurigram		Upazila: Ulipur
Name of the Road:	Chadni Bazer more -Bazer Bolderer more Road. (149945093)		
Total Road Length (Km)	0.975		
Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)
00-300	L		Bazar area and chandi bazar government primary school.
		R	Bazar area.
300-600	L		Local house area.
		R	Local homes and agricultural land.
600-900	L		Char bazar high school and pond.
		R	Local house area.
900-975	L		Anchar ali store.
		R	Char bazar primary school.
Name of the Road:	Bazra Collage more-Telipara Fulbabu member Shop Road (149945094)		
Total Road Length (m)	1.236		
Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)
00-300	L		House and trees.
		R	Agriculture land and trees.
300-600	L		Agriculture land.
		R	Pond and trees.
600-900	L		Agriculture land.
		R	Agriculture land.

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900-1200	L		Pond.
		R	Local house area
1200-1236	L		Shop
		R	House area and mosque.
Division: Rangpur	District: Kurigram		Upazila: Rowmari
Name of the Road:	Sutirpar - Mollarchar road via New BOP camp. (149795017)		
Total Road Length (Km)	1.830		
Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)
00-300	L		Local home, agriculture land, pond and trees.
		R	Local home, agriculture land, and pond.
300-600	L		Mosque, local home, agriculture land (370m)
		R	Local home and agriculture land.
600-900	L		Agriculture land.
		R	Agriculture land and homes.
900-1200	L		Agriculture land.
		R	Agriculture land and local homes.
1200-1500	L		Local homes, and agriculture land.
		R	Local home and agriculture land.
1500-1830	L		Local home, agriculture land.
		R	Local home, agriculture land, BOP Camp.
Division: Rangpur	District: Kurigram		Upazila: Chilmari
Name of the Road:	Pachim vatia para house of Bakter member to purbo vatia para -H /O Nasir member Road. (149095050)		
Total Road Length (Km)	0.9		
Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)
00-300	L		Local home, agriculture land, and trees.
		R	Local home, agriculture land.
300-600	L		Houses, trees and agriculture.
		R	Houses, trees and agriculture.

600-900	L		East Vatiyapara mosque.
		R	East Vatiyapara Nashir member house.
Name of the Road:	Fakir para pucca road - north side dompor more road (149095115)		
Total Road Length (m)	1.012		
Chainage	Orientation (Left/Right)	Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)	
00-300	L		Agriculture land, house area and pond.
		R	Pond and agriculture land.
300-600	L		House area and pond.
		R	Agriculture land, house area and pond.
600-900	L		Waterbody, trees and pond.
		R	Trees and house area.
900-1012	L		Agriculture land, house area and pond.
		R	Houses and trees.
Name of the Road:	Sarker para mosque -H/O kazim uddin sarker -H/O jalil road via H/O bazer rashid oc (149095114)		
Total Road Length (m)	0.994		
Chainage	Orientation (Left/Right)	Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)	
00-300	L		Houses and trees area.
		R	House, Shop and trees.
300-600	L		Pond and agriculture land.
		R	Houses and agriculture land.
600-900	L		Houses and trees.
		R	House area, madrasah and pond.
900-994	L		Mohsin House and trees.
		R	Shop and pond area.
Division: Rangpur	District: Kurigram	Upazila: Bhurungamari	
Name of the Road:	R & H Road Amtola more Miloni Bazar Road. (149065079)		
Total Road Length	1.250		

(Km)			
Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)
00-300	L		Chainage: 00- Shop area, amtola more, chainage: 275 m house area, 290m houses, 300m houses.
		R	Chainage: 00- Shp area amtola more, 290 m house area.
300-600	L		500m- House area, 590m house area.
		R	500m- House area, 590m house area.
600-900	L		House area 750m.
		R	House area 750m.
900-1200	L		House area 1120m, and Houses 1150m.
		R	House area 1120m.
1200-1250	L		Shop 1200m, Milani Bazar area.
		R	Milani Bazar area shop. 1200m.
Name of the Road:	Pandit para Nurul Ulom Girls Madrasha - Mina Bazar via Rahul Amin Baparer House Road. (149065075)		
Total Road Length (m)	1.9		
Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)
00-300	L		Chainage:10m Pandit para Nurul Alam Girls Nurani & Hafikia Madrasah, Chainage: 90m- Houses, Chainage:100m- Houses, Chainage:300m- House area.
		R	Chainage:100m- houses, Chainage: 120m- house area, Chainage: 300m- house area.
300-600	L		Chainage: 455m- House area.
		R	Chainage: 455m- House area.
600-900	L		Chainage: 765m- House area, and Chainage:835m- House area.
		R	Chainage: 700m- house area, chainage:840m- house area.
900-1200	L		Chainage:985m-house area, Chainage:1070m-house area.
		R	Chainage:905m-house area, Chainage:985m-house area, Chainage: 1080m- house area.
1200-1500	L		Chainage:1220m-house area, Chainage:1260m-house area.
		R	Chainage:1215m-house area, Chainage:1260m-house area.
1500-1800	L		Chainage:1505m-house area, Chainage:1610m-house

			area, Chainage:1630m-house area, Chainage:1790m-house area.
		R	Chainage:1540m-house area, Chainage:1625m-house area, Chainage:1780m-house area, Chainage:1800m-house area.
1800-1900	L		Chainage:1805m-house area
		R	Chainage:1817m-house area
Division: Rangpur	District: Kurigram	Upazila: Kurigram Sadar	
Name of the Road:	Kurigram, Anantapur, GC road H/O Asswari Kumar. (149524010)		
Total Road Length (Km)	0.800 km		
Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)
00-300	L		Agriculture land, madrasah 20m, pond area.
		R	Local house area, mosque 15m, pond.
300-600	L		Local home, waterbody, trees, shop, mosque 5m.
		R	Agriculture land, local residences, trees.
600-900	L		Waterbody, local houses.
		R	Local home and Government primary school 15m.
Division: Rangpur	District: Kurigram	Upazila: Rajarhat	
Name of the Road:	Sukhdeb Mouza-Ranjitswar Mouza Shom Nerajan (149774017)		
Total Road Length (Km)	0.600 km		
Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)
00-300	L		Agriculture land, Shpps, Biddananda College, Ditches, Pond
		R	Pond, Agricultural Land, Settlement
300-600	L		Agricultural Land, Settlement, Ditches, Sukhdeb Community Clinic, Mosque
		R	Agriculture land, Settlement, Ditches, Pond
Division: Rangpur	District: Kurigram	Upazila: Chilmari	
Name of the Road:	New Jorgach - BWDB Embankment at kharkharia Road (149094004)		
Total Road Length (Km)	0.79 km		

Chainage	Orientation (Left/Right)		Social/Economic/Cultural/Environmental Features (With distance from the centerline of the road)
00-300	L		Agriculture land, Settlement
		R	Settlement
300-600	L		Settlement, Pond
		R	Agriculture land, Settlement
600-790	L		Settlement, Trees
		R	Settlement, Trees

(*Data Source: Field Survey, April 2026)

4.0 Environmental and Social Impacts and Proposed Mitigation and Enhancement Measures

4.1 Environmental and Social Impacts for the Implementation of Work

The proposed community road improvement in Kurigram District under the RIVER Project aims to rehabilitate and maintain existing rural road infrastructure to improve accessibility, disaster resilience, and socio-economic connectivity within the project influence area. Since the project interventions will mostly take place within the existing right-of-way of community roads, the anticipated environmental and social impacts are expected to be moderate, temporary, and site-specific in nature. However, certain environmental and social risks may arise during the construction and operational phases that require appropriate mitigation and enhancement measures to ensure sustainable project implementation.

Environmental protection and enhancement will be an integral component of the sub-projects. Environmental and Social Mitigation and Enhancement Measures to address potential impacts of environmental and social on the communities during construction and operation phase. These measures will be implemented in accordance with the Environmental and Social Management Framework (ESMF) of the RIVER Project. Key mitigation measures will include dust suppression through regular water spraying, proper management of construction waste, control of noise during construction activities, and prevention of water pollution from construction materials or machinery uses. Social mitigation measures will focus on minimizing disruption to local communities and their livelihoods along the road corridors. Construction activities will be carefully scheduled to avoid blocking community access routes for long periods. Temporary access arrangements will be maintained where construction works interfere with local community movement. Safety awareness will be promoted among workers and community members to reduce occupational and public health risks. Local labor will be encouraged where possible, which may contribute to temporary employment opportunities for nearby residents. Site specific Environmental Impacts and Mitigation Measures are described in **Table 4.1**.

Table 4.1: Environmental and Social Impacts and Proposed Mitigation and Enhancement Measures for Community Road Improvement in Kurigram District

Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
1	Bazer H/O Jalil Mawlana to Sholagari GPS via H/O Shnalal Bakshi Road.	<ul style="list-style-type: none"> Dust generation and air pollution during earthworks, transportation of construction materials, and road surface improvement which may affect nearby settlements and the area around Nij Shekh Sundar Jame Mosque. Noise disturbance from construction machinery and vehicles, particularly affecting nearby residents and religious activities at the mosque. Temporary disruption of local movement and access for residents, pedestrians, and local vehicles during road rehabilitation activities. Occupational and community safety risks due to movement of construction vehicles and operation of equipment along the road corridor. 	<ul style="list-style-type: none"> Regular water spraying on exposed soil and road surfaces, covering construction materials during transport, limiting vehicle speed, and maintaining machinery to control dust emissions. Restrict construction work during sensitive hours (especially prayer times), maintain equipment to reduce noise, and avoid unnecessary honking or heavy machinery operation near the mosque area. Maintain temporary access pathways, install warning signs and barricades, implement a basic traffic management plan, and inform local residents in advance about construction schedules. Provide personal protective equipment (PPE) to workers, install safety signage and barricades, conduct safety briefings for workers, and ensure safe movement of construction vehicles within the work zone.
2	Khamar Hasnabad School, Burirhat	<ul style="list-style-type: none"> Dust generation and air pollution from earthworks, transportation of materials, and road surface preparation which may affect nearby settlements and roadside shops. Noise disturbance from construction equipment and vehicles, particularly affecting nearby households, schools, and local religious 	<ul style="list-style-type: none"> Regular water spraying on exposed surfaces, covering construction materials during transport, maintaining vehicles and limiting speed near settlements. Restrict high-noise activities to daytime hours, maintain machinery properly, and avoid construction work during prayer times or school

Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
		<p>establishments.</p> <ul style="list-style-type: none"> • Temporary disruption of local traffic and pedestrian movement during culvert repair, earthworks, and road surface improvement. • Potential drainage blockage and localized waterlogging are due to damaged culverts or improper construction practices. 	<p>hours where feasible.</p> <ul style="list-style-type: none"> • Install temporary traffic management signs, maintain alternate access routes, and ensure safe pedestrian passage during construction. • Rehabilitate and maintain existing culverts and cross-drainage structures, ensure proper alignment of drainage channels, and keep drainage paths clear during construction.
3	Chadni Bazer more -Bazer Bolderer more Road	<ul style="list-style-type: none"> • Noise and vibration from construction equipment disturbing nearby residents, schools, and local community activities. • Temporary disruption of local traffic and pedestrian movement along the road corridor during construction activities. • Minor removal of roadside vegetation or small trees within the existing right of way. • Risk of soil erosion or embankment instability particularly during the rainy season. • Community safety risks due to movement of construction vehicles near settlements and agricultural fields. • Temporary disturbance to roadside economic activities and access to houses or agricultural land. 	<ul style="list-style-type: none"> • Restrict construction activities to daytime hours, maintain machinery properly, and avoid excessive noise near sensitive locations. • Install warning signs and barricades, ensure temporary access for pedestrians and local vehicles, and implement a basic traffic management plan. • Minimize cutting of trees and vegetation; undertake compensatory roadside tree plantation after construction where feasible. • Maintain alternative access paths where required, schedule works in sections to minimize disruption and consult with local residents before major activities.
4	Bazra College, More-Telipara Fulbabu, Shop Road	<ul style="list-style-type: none"> • Dust generation from earthworks, excavation, and movement of construction vehicles affecting nearby households and roadside shops. 	<ul style="list-style-type: none"> • Regular water spraying on exposed surfaces, covering construction materials during transport, and limiting vehicle speed within settlements.

Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
		<ul style="list-style-type: none"> • Noise disturbance from operation of construction machinery near residential areas, schools, and religious establishments. • Temporary traffic congestion and disruption of local mobility during road repair and culvert improvement works. • Community safety risks due to movement of heavy vehicles and construction equipment near settlements and schools. • Temporary disturbance to local economic activities such as roadside shops and vendors. 	<ul style="list-style-type: none"> • Restrict high-noise activities to daytime hours, maintain machinery properly, and avoid construction near sensitive locations during school or prayer times. • Implement traffic management measures including temporary diversions, warning signs, flagmen, and maintaining access to houses and local roads. • Install warning signs, safety barriers, and speed control measures; assign flagmen in busy locations to guide traffic and pedestrians. • Dispose excess materials at designated sites, reuse suitable materials for road embankment, and maintain proper waste management practices. • Maintain access to shops and markets during construction, conduct works in phases, and coordinate with local community representatives to minimize disruptions.
5	Sutirpar - Mollarchar road via New BOP campSarker hat Jongra UP	<ul style="list-style-type: none"> • Dust generation during earthworks, road resurfacing, and material transportation, affecting nearby homes, shops, schools, and roadside settlements. • Temporary obstruction of pedestrian and local traffic, creating difficulties for villagers, school children, and vendors. • Blockage or inadequate cross-drainage and culverts, leading to waterlogging and localized 	<ul style="list-style-type: none"> • Regular sprinkling of water on roads, covering transport vehicles, limiting speed of vehicles, and maintaining construction equipment to minimize dust. • Construct protection walls, palisading walls, and guide walls where required; use compaction and proper grading to stabilize embankments. • Maintain access to businesses, communicate construction schedules in advance, and coordinate

Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
		<p>flooding along the road.</p> <ul style="list-style-type: none"> • Generation of construction waste and debris, which may pollute nearby fields or drainage channels if improperly managed. • Disturbance to local livelihoods, including roadside vendors, small shops, and farmers during construction activities. 	<p>temporary relocation or alternate access routes if required.</p> <ul style="list-style-type: none"> • Ensure road maintenance after construction, integrate road safety features, and promote roadside plantation for environmental enhancement.
6	Pachim vatia para house of Bakter member to purbo vatia para -H /O Nasir member Road.	<ul style="list-style-type: none"> • Temporary obstruction of local traffic and pedestrian movement during culvert replacement and embankment works. • Soil erosion and slope instability along embankment sections, especially in low-lying areas prone to flooding. • Waterlogging and drainage blockage due to construction near existing culverts and cross drains. • Waste generation from construction debris and excavated soil causing visual pollution and potential blockage. • Community health and safety risks from heavy vehicles and construction near schools, mosques, and settlements. • Enhanced disaster resilience and evacuation access to nearby flood-prone areas and embankments. • Potential cultural sensitivity issues near Narikelbari Eidgha and local community gathering areas. 	<ul style="list-style-type: none"> • Implement traffic management plan, provide warning signs, maintain alternative routes, and allow temporary pedestrian access. • Stabilize slopes with palisading or protection walls, compaction of earthworks, and turfing or roadside plantation. • Clean and rehabilitate existing drains, construct additional drainage where needed, and ensure water flow during monsoon. • Proper disposal at designated sites, reuse suitable materials for embankment, and maintain clean worksite. • Climate-resilient road design, improved drainage, and clear linkages with Ratnai Embankment and other shelters. • Maintain buffer zones around religious or cultural sites, avoid construction activities during events, and consult local leaders before works.
7	Fakir para pucca road - north	<ul style="list-style-type: none"> • Dust generation during earthworks, road surface 	<ul style="list-style-type: none"> • Regular water spraying on construction sites and

Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
	side Dompur More Road	<p>improvement, and material transport affecting nearby households, schools, and shops.</p> <ul style="list-style-type: none"> Noise and vibration from machinery and vehicles disturbing residents, nearby schools, and religious establishments. Temporary disruption of pedestrian and vehicular traffic along the road. Soil erosion and embankment are instability due to excavation, filling, or rainfall. Removal of roadside trees or vegetation for road widening or protection works. Construction waste and debris generation that may affect nearby settlements or drainage. Disturbance to agricultural lands adjacent to the road during earthwork and material storage. 	<p>road surfaces, covering trucks carrying materials, and minimizing speed of vehicles.</p> <ul style="list-style-type: none"> Stabilize embankments with compaction, turfing, palisading walls, and guide/protection walls where required. Avoid unnecessary encroachment, fence off agricultural plots, and restore disturbed lands after construction. Introducing speed limits, warning signs, temporary barriers, and raise awareness among local residents.
8	Sarker para mosque -H/O Kazim Uddin Sarker -H/O Jalil Road via H/O Bazer Rashid oc	<ul style="list-style-type: none"> Temporary obstruction of traffic and pedestrian movement along the road. Erosion of road shoulders and embankments during earthworks or heavy rainfall. Waterlogging and improper drainage due to old or insufficient culverts and cross drains. Safety risks for workers include accidents, injuries, and exposure to dust or noise. Safety risks for local communities from heavy machinery, trucks, and construction activities. Access disruption to schools, mosques, and 	<ul style="list-style-type: none"> Implement traffic management plans; provide alternative access or temporary detours; install warning signs and barricades. Stabilize embankments with turfing, palisading walls, guide/protection walls; proper compaction and grading of shoulders; maintain drainage. Rehabilitate existing culverts; construct additional cross-drains where needed; ensure free flow of water during and after construction. Avoid encroachment on crop areas; coordinate with landowners; restore disturbed farmland after

Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
		<p>markets along the road alignment.</p> <ul style="list-style-type: none"> • Impact on small roadside businesses or vendors due to construction activities. • Potential soil and water contamination from fuel, lubricants, and construction materials. • Improved disaster resilience and evacuation route during floods or emergencies. • Enhancement of local environment and aesthetics along the road corridor. 	<p>construction.</p> <ul style="list-style-type: none"> • Install road signs, barriers, and speed control measures; conduct safety awareness sessions for residents, students, and road users. • Provide temporary access; schedule work to avoid peak market hours; inform vendors in advance. • Store fuel and chemicals in safe, designated areas; prevent leakage; maintain spill containment measures; avoid disposal in drains or water bodies.
9.	R & H Road, Amtola, Miloni Bazar Road.	<ul style="list-style-type: none"> ▪ Noise and vibration from construction equipment disturbing nearby residents, schools, and local community activities. ▪ Temporary disruption of local traffic and pedestrian movement along the road corridor during construction activities. ▪ Minor removal of roadside vegetation or small trees within the existing right of way. ▪ Risk of soil erosion or embankment instability particularly during the rainy season. ▪ Community safety risks due to movement of construction vehicles near settlements and agricultural fields. ▪ Temporary disturbance to roadside economic activities and access to houses or agricultural land. 	<ul style="list-style-type: none"> ▪ Restrict construction activities to daytime hours, maintain machinery properly, and avoid excessive noise near sensitive locations. ▪ Install warning signs and barricades, ensure temporary access for pedestrians and local vehicles, and implement a basic traffic management plan. ▪ Minimize cutting of trees and vegetation; undertake compensatory roadside tree plantation after construction where feasible. ▪ Maintain alternative access paths where required, schedule works in sections to minimize disruption and consult with residents before major activities.
10.	Pandit para Nurul Ulom Girls	<ul style="list-style-type: none"> • Dust generation during earthworks, road 	<ul style="list-style-type: none"> • Regular sprinkling of water on roads, covering

Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
	Madrasha - Mina Bazar via Rahul Amin Baparer House Road	<p>resurfacing, and material transportation, affecting nearby homes, shops, schools, and roadside settlements.</p> <ul style="list-style-type: none"> • Temporary obstruction of pedestrian and local traffic, creating difficulties for villagers, school children, and vendors. • Blockage or inadequate cross-drainage and culverts, leading to waterlogging and localized flooding along the road. • Generation of construction waste and debris, which may pollute nearby fields or drainage channels if improperly managed. • Disturbance to local livelihoods, including roadside vendors, small shops, and farmers during construction activities. 	<p>transport vehicles, limiting speed of vehicles, and maintaining construction equipment to minimize dust.</p> <ul style="list-style-type: none"> • Construct protection walls, palisading walls, and guide walls where required; use compaction and proper grading to stabilize embankments. • Maintain access to businesses, communicate construction schedules in advance, and coordinate temporary relocation or alternate access routes if required. • Ensure road maintenance after construction, integrate road safety features, and promote roadside plantation for environmental enhancement.
11.	Kurigram, Anantapur, GC road H/O Asswari Kumar	<ul style="list-style-type: none"> • Temporary obstruction of traffic and pedestrian movement along the road. • Erosion of road shoulders and embankments during earthworks or heavy rainfall. • Waterlogging and improper drainage due to old or insufficient culverts and cross drains. • Safety risks for workers include accidents, injuries, and exposure to dust or noise. • Safety risks for local communities from heavy machinery, trucks, and construction activities. • Access disruption to schools, mosques, and 	<ul style="list-style-type: none"> • Implement traffic management plans; provide alternative access or temporary detours; install warning signs and barricades. • Stabilize embankments with turfing, palisading walls, guide/protection walls; proper compaction and grading of shoulders; maintain drainage. • Rehabilitate existing culverts; construct additional cross-drains where needed; ensure free flow of water during and after construction. • Avoid encroachment on crop areas; coordinate with landowners; restore disturbed farmland after

Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
		<p>markets along the road alignment.</p> <ul style="list-style-type: none"> • Impact on small roadside businesses or vendors due to construction activities. • Potential soil and water contamination from fuel, lubricants, and construction materials. • Improved disaster resilience and evacuation route during floods or emergencies. <p>Enhancement of local environment and aesthetics along the road corridor.</p>	<p>construction.</p> <ul style="list-style-type: none"> • Install road signs, barriers, and speed control measures; conduct safety awareness sessions for residents, students, and road users. • Provide temporary access; schedule work to avoid peak market hours; inform vendors in advance. • Store fuel and chemicals in safe, designated areas; prevent leakage; maintain spill containment measures; avoid disposal in drains or water bodies.
12.	Sukhdeb Mouza-Ranjitswar Mouza Shom Nerajan	<ul style="list-style-type: none"> • Dust generation during earthworks, road resurfacing, and material transportation, affecting nearby homes, shops, schools, and roadside settlements. • Temporary obstruction of pedestrian and local traffic, creating difficulties for villagers, school children, and vendors. • Blockage or inadequate cross-drainage and culverts, leading to waterlogging and localized flooding along the road. • Generation of construction waste and debris, which may pollute nearby fields or drainage channels if improperly managed. • Disturbance to local livelihoods, including roadside vendors, small shops, and farmers during construction activities. 	<ul style="list-style-type: none"> • Regular sprinkling of water on roads, covering transport vehicles, limiting speed of vehicles, and maintaining construction equipment to minimize dust. • Construct protection walls, palisading walls, and guide walls where required; use compaction and proper grading to stabilize embankments. • Maintain access to businesses, communicate construction schedules in advance, and coordinate temporary relocation or alternate access routes if required. • Ensure road maintenance after construction, integrate road safety features, and promote roadside plantation for environmental enhancement.

Sl. No.	Name of Community Road	Environmental and Social Impacts	Proposed Mitigation and Enhancement Measures
13.	New Jorgach - BWDB Embankment at kharkharia Road	<ul style="list-style-type: none"> • Temporary obstruction of traffic and pedestrian movement along the road. • Erosion of road shoulders and embankments during earthworks or heavy rainfall. • Waterlogging and improper drainage due to old or insufficient culverts and cross drains. • Safety risks for workers include accidents, injuries, and exposure to dust or noise. • Safety risks for local communities from heavy machinery, trucks, and construction activities. • Access disruption to schools, mosques, and markets along the road alignment. • Impact on small roadside businesses or vendors due to construction activities. • Potential soil and water contamination from fuel, lubricants, and construction materials. • Improved disaster resilience and evacuation route during floods or emergencies. • Enhancement of local environment and aesthetics along the road corridor. 	<ul style="list-style-type: none"> • Implement traffic management plans; provide alternative access or temporary detours; install warning signs and barricades. • Stabilize embankments with turfing, palisading walls, guide/protection walls; proper compaction and grading of shoulders; maintain drainage. • Rehabilitate existing culverts; construct additional cross-drains where needed; ensure free flow of water during and after construction. • Avoid encroachment on crop areas; coordinate with landowners; restore disturbed farmland after construction. • Install road signs, barriers, and speed control measures; conduct safety awareness sessions for residents, students, and road users. • Provide temporary access; schedule work to avoid peak market hours; inform vendors in advance. • Store fuel and chemicals in safe, designated areas; prevent leakage; maintain spill containment measures; avoid disposal in drains or water bodies.

5.0 Environmental and Social Management Plan (ESMP)

5.1 Purpose of the ESMP

The purpose of the Environmental and Social Management Plan (ESMP) for the sub-project “Improvement of Community Infrastructure Connecting Roads” is to provide a structured framework to identify, mitigate, and manage potential environmental and social impacts associated with the design, construction, and operation of the community roads. The ESMP ensures that all project activities comply with national environmental and social regulations as well as the environmental and social standards of the World Bank, promoting sustainable and socially inclusive infrastructure development.

Specifically, the ESMP aims to minimize adverse effects on local communities, settlements, flood shelters, agricultural lands, roadside vegetation, water bodies, and sensitive receptors such as schools and religious institutions. It outlines detailed mitigation measures for construction-related impacts such as dust, noise, traffic disruption, soil erosion, and safety hazards, and includes measures for operational sustainability and long-term maintenance of the roads. Furthermore, the ESMP establishes procedures for stakeholder engagement, grievance redress, occupational health and safety, and monitoring and reporting, ensuring that the project delivers its intended benefits—enhanced connectivity, safer access to flood shelters, and improved resilience of rural communities—while safeguarding the environment and promoting social well-being.

5.2 Environmental and Social Management Plan (ESMP)

The Environmental and Social Management Plan (ESMP) for the sub-project under the RIVER Project provides a comprehensive framework for the systematic management of potential environmental and social impacts throughout the design, construction, and operational phases of the project. The ESMP is developed to ensure compliance with the national environmental and social regulations of Bangladesh as well as the Environmental and Social Standards (ESS) of the World Bank, thereby promoting sustainable, safe, and socially inclusive implementation of road improvement works.

The ESMP identifies key potential environmental impacts, including dust and air pollution, noise and vibration from construction equipment, soil erosion, sedimentation in nearby water bodies, removal of roadside vegetation, and temporary disruption of natural drainage patterns. It also addresses social impacts such as disturbance to local settlements, access restrictions for pedestrians and vehicles, occupational health and safety risks for workers, and potential conflicts with nearby institutions including schools, mosques, markets, and flood shelters.

To mitigate these impacts, the ESMP proposes detailed measures across multiple categories. Environmental mitigation measures include regular water spraying and dust control, proper storage and disposal of construction materials and waste, restoration of disturbed areas, erosion control and slope protection, protection of existing trees with compensatory

planting where removal is unavoidable, and careful management of drainage systems to prevent waterlogging and contamination. Social mitigation measures include implementing traffic management plans, ensuring safe pedestrian pathways, establishing buffer zones near sensitive receptors such as schools and religious institutions, scheduling construction activities to minimize community disruption, and maintaining clear communication with residents regarding work schedules and potential impacts.

The ESMP also emphasizes occupational health and safety (OHS), including mandatory use of personal protective equipment (PPE), safety training for all construction personnel, emergency response procedures, and routine site inspections to ensure compliance with safety standards. In addition, it establishes community engagement and Grievance Redress Mechanisms (GRM) to ensure that local stakeholders have avenues to raise concerns, provide feedback, and participate in monitoring the implementation of mitigation measures. The activity wise anticipated environmental and social impacts and corresponding mitigation measures and Site-Specific Impacts and mitigation/management measures have been outlined in **Table 5.1**.

Furthermore, the ESMP outlines a monitoring and reporting framework to track the effectiveness of mitigation measures, identify unforeseen impacts, and facilitate adaptive management. Regular monitoring of air and water quality, noise levels, traffic safety, and compliance with environmental safeguards is recommended, along with periodic reporting to project authorities and relevant regulatory agencies. The plan also includes a schedule for maintenance and operational safeguards post-construction to ensure long-term functionality, safety, and environmental sustainability of the improved road network.

Overall, the ESMP serves as an essential tool to ensure that the sub-project not only enhances community connectivity and access to flood shelters but also minimizes environmental degradation, safeguards community health and safety, and strengthens the resilience of rural populations in Kurigram Sadar, Nageshwari, Bhurungamari, Rowmari, Rajarhat, Chilmari and Ulipur upazilas. By integrating environmental and social considerations into every stage of project implementation, the ESMP ensures that the benefits of improved road infrastructure are maximized while negative impacts are systematically prevented, mitigated, and managed.

Table 5.1: ESMP_ Pre-Construction phase, Construction Phase and Operation Phase

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of land / and other physical assets	<ul style="list-style-type: none"> No land acquisition is allowed in or nearby areas of the sub-project, or for any sub-project related activities. Therefore, no mitigation measures are suggested in this respect. If and whenever any land/physical assets related grievances are raised at any point of the subproject implementation, project GRCs will take due course of actions to resolve the issues or grievances. 	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Loss of livelihood	<ul style="list-style-type: none"> Under this subproject, there is no scope of negative impact on the livelihoods of adjacent communities or people. Contractors will be encouraged to engage local labors (both skilled and unskilled) as priority at their construction works, and women labor would get higher priority in recruitment. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> All of the project stakeholders should be consulted Separate community level consultation meeting with the potential affected HHs All the safeguard documents will be disclosed to all relevant stakeholders. People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of right to access	<ul style="list-style-type: none"> Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. In case of unavoidable circumstances, alternative access will be provided. 	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	<ul style="list-style-type: none"> Transportation of construction materials to the site will be carried out by covering the materials as a whole. Store the materials in designated places, with proper fencing and coverings. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor's officials/employees will be provided. Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation	<ul style="list-style-type: none"> Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	of ESHS issues.	<ul style="list-style-type: none"> • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Construction of sanitary latrine with septic tank for both male and female workers and staffs; and ensure regular cleaning of those. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those. • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>polythene lying over it.</p> <ul style="list-style-type: none"> • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc. 		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • Existing utility services must be relocated or adjusted where they obstruct the works or pose a risk of 	PIU & Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>damage, in close cooperation with the appropriate authority.</p> <ul style="list-style-type: none"> The contractor must ensure sound environment for the local residents near the sub project site. 		
Construction Activity	Noise from construction works	<ul style="list-style-type: none"> Construction activities mostly shall finish at day time within 05:00 PM, and must confirm proper measures for avoiding any disturbance. All Personal Protective Equipment (PPEs) must be available at sites before starting any kind of construction works. Noise producing vehicles and equipment will be keep in maintenance regularly. Since expensive engineering controls (e.g., acoustic curtains, noise barriers, etc.) may not be feasible in terms of availability and scope of the project works, noise reduction muffler or less expensive alternative options will be selected during the construction works. 	Contractor	Environmental Consultant of PIU
Construction Activity	Dust	<ul style="list-style-type: none"> Acceptable range of emission of CO, particulate matter [SPM (Suspended particulate matter), PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>pipes.</p> <ul style="list-style-type: none"> • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site. 		
Construction Activity	Safety Issues	<ul style="list-style-type: none"> • Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape. 	Contractor	Environmental Consultant of PIU
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. Local traffic police department should be contacted, if traffic problem becomes more complex. 		
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering the availability of nearby resources and technical options, and potential risks of extracting water from the same sources used by other consumer groups especially during the critical period. Water from any installed tubewell or an existing surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works. If ground or surface water is withdrawn for the use of construction works from outside of the other selected places, adequate approvals from the appropriate authority need to be taken before extraction or setting up bore wells. Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Local community must be consulted before any construction works start. 		
Construction Activity	Increase in road accidents	<ul style="list-style-type: none"> • Maintain safety measures during the movement of heavy machinery and equipment. • Proper signage to be displayed at major junctions; and road diversions and closures to be informed well in advance to the local community. • Vehicular movement to be controlled near sensitive locations (e.g., schools, colleges, hospitals, etc.) • Local community will be trained up on traffic management and awareness. 	Contractor	Environmental Consultant of PIU
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> • Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor 	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>forces.</p> <ul style="list-style-type: none"> • Labor code of conduct is to be disclosed through consultation. 		
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> • A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules. 		
Construction Activity	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants,	<ul style="list-style-type: none"> • Slope protection measures (proper compaction, palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road. 	Contractor	Environmental and Social Development Consultant of PIU,

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	etc. to nearby water bodies	<ul style="list-style-type: none"> Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 		PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and 	<ul style="list-style-type: none"> All construction equipment will be properly inspected timely. The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. Proper Signpost at any slippery areas will be ensured in construction site. Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, emergency response and evacuation procedure and personnel will be trained and drilled to test and 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	dermatitis.	<p>ensure the coherence with the plan.</p> <ul style="list-style-type: none"> • All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. • Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>necessary and to ensure that there are satisfactory washing and changing facilities.</p> <ul style="list-style-type: none"> • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used. 		
Construction Activity	Pollution of water bodies	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from surface water bodies and areas prone to surface runoff. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive 	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>potential of surface water flows elsewhere.</p> <ul style="list-style-type: none"> • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. 		
Construction Activity	<p>Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge from latrines is to be undertaken properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this document. • The contractor must arrange the cancellation of all 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		temporary services.		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> Preventative maintenance schedule should be followed. Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time. 	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction Stage	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU. 	Contractor	Environmental Consultant of PIU
Operation & Maintenance	Road Safety. Impacts include: <ul style="list-style-type: none"> The increased vehicular movement and speed may trigger road safety issues like traffic 	<ul style="list-style-type: none"> Road safety issues can be minimized in following ways: <ul style="list-style-type: none"> By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn 	Upazila Engineer (UE)	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>accidents. The accidents may also be due to tiredness of drivers.</p> <ul style="list-style-type: none"> Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries. 	<p>areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding.</p> <ul style="list-style-type: none"> All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time. 		
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

5.3 Monitoring of ES Performance

Monitoring of Environmental and Social (ES) performance is a crucial component of the implementation of community road improvement activities under the RIVER Project to ensure that all environmental and social safeguard measures are effectively applied during construction and operation phases. A systematic monitoring framework to be established to assess compliance with the Environmental and Social Management Plan (ESMP), national environmental regulations of Bangladesh, and the safeguard requirements of the World Bank. The monitoring process will involve regular field inspections, supervision visits, and periodic reporting to evaluate the effectiveness of mitigation measures related to dust suppression, noise control, traffic management, occupational health and safety, waste management, protection of nearby water bodies, and conservation of roadside vegetation. Social aspects such as community safety, access to local settlements and institutions, prevention of labor influx issues, grievance redress mechanisms, and engagement with local stakeholders will also be closely monitored. Monitoring facilitates continuous tracking of compliance, assessment of performance, and early identification of potential environmental and social risks. The monitoring plan clearly specifies the parameters to be observed, along with the frequency, timing, responsible stakeholders, and verification mechanisms for each key environmental and social component. It combines site-level implementation by contractors with supervision from the Project Implementation Unit (PIU) and the Design and Supervision Consultant (D&SC).

Monitoring activities shall adopt both proactive (preventive) approaches such as routine inspections, audits, and stakeholder consultations along with reactive (corrective) measures based on incident reporting, grievance redress mechanisms, and non-compliance findings. The monitoring framework is aligned with national environmental regulations set by the Department of Environment (DoE), the World Bank Environmental and Social Framework (ESF), and the internal Environmental and Social Management Guidelines of the Local Government Engineering Department (LGED).

Table 5.2: Monitoring Framework for achieving overall ES Performance

Sl. No.	ES Aspect / Issue	Monitoring Parameters / Indicators	Frequency / Timing	Responsibility	Means of Verification / Monitoring Method
1.	Air Quality / Dust Emission	Dust generation from earthworks and vehicle movement; effectiveness of water spraying	Weekly during construction	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Site inspection, photographic records
2.	Noise Pollution	Noise disturbance near settlements, schools, and	Weekly / During heavy construction	Contractor (monitoring & Implementation); PIU/D&SC	Field observation, community feedback

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Sl. No.	ES Aspect / Issue	Monitoring Parameters / Indicators	Frequency / Timing	Responsibility	Means of Verification / Monitoring Method
		religious institutions		(verification)	
3.	Construction Waste Management	Segregation, collection, and proper disposal of construction debris	Weekly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Site inspection, waste disposal records
4.	Soil Erosion and Land Degradation	Evidence of soil erosion, slope protection measures, roadside stabilization	Monthly and after heavy rainfall	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Field inspection
5.	Drainage and Water Flow	Functionality of roadside drains and culverts; prevention of waterlogging	Monthly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Field verification
6.	Protection of Surface Water	Prevention of sediment, oil, or construction waste entering ponds, canals, or rivers	Bi-weekly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Visual inspection, photo documentation
7.	Storage of Construction Materials	Proper storage of sand, soil, bitumen, and aggregates	Weekly	Contractor (Implementation); PIU/D&SC (verification)	Site inspection
8.	Fuel and Chemical Handling	Safe storage and handling of fuel, lubricants, and chemicals	Weekly	Contractor (Implementation); PIU/D&SC (verification)	Inspection checklist
9.	Occupational Health and Safety	Availability and use of PPE (helmet, gloves, boots, reflective jackets)	Weekly	Contractor (Safety Officer); PIU/D&SC (verification)	Safety checklist, field inspection
10.	Worker Safety Training	Records of safety briefings and toolbox meetings	Monthly	Contractor (Safety Officer); PIU/D&SC (verification)	Training records review
11.	Construction Site Safety	Warning signs, barricades, and safe access control at work sites	Weekly	Contractor (Safety Officer); PIU/D&SC (verification)	Field inspection
12.	Traffic Management	Presence of traffic signs, flagmen, and safe vehicle movement	Weekly	Contractor (Implementation); PIU/D&SC (verification)	Observation, traffic control records
13.	Community Health and Safety	Protection of pedestrians and local residents from construction hazards	Weekly	Contractor (Safety Officer); PIU/D&SC (verification)	Community consultation, site inspection
14.	Access to Local Facilities	Uninterrupted access to homes, markets, schools, mosques, and	Weekly	Contractor (monitoring & Implementation); PIU/D&SC	Field observation

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Sl. No.	ES Aspect / Issue	Monitoring Parameters / Indicators	Frequency / Timing	Responsibility	Means of Verification / Monitoring Method
		agricultural land		(verification)	
15.	Protection of Roadside Vegetation	Preservation of existing roadside trees and vegetation	Monthly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Field verification
16.	Compensatory Tree Plantation	Plantation of trees where roadside trees are removed	Quarterly	Contractor (Implementation); PIU/D&SC (verification)	Plantation records, site inspection
17.	Borrow Area and Earth Source Management	Proper sourcing of earth materials without damaging agricultural land	Monthly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Field verification
18.	Labor Management	Absence of child labor and forced labor; compliance with labor laws	Monthly	Contractor (Implementation); PIU/D&SC (verification)	Labor records review
19.	Worker Welfare Facilities	Availability of safe drinking water, sanitation, and rest areas for workers	Monthly	Contractor (monitoring & Implementation); PIU/D&SC (verification)	Site inspection
20.	Gender and Social Inclusion	Participation of local community including women in consultations	Quarterly	Contractor (recording); PIU (review)	Consultation meeting records
21.	Grievance Redress Mechanism (GRM)	Number of grievances received and resolved within specified timeframe	Monthly	Contractor (recording); PIU (review)	GRM register review
22.	Community Consultation	Stakeholder engagement and awareness regarding construction activities	Quarterly	Contractor (recording); PIU (review)	Meeting minutes, attendance records
23.	Cultural and Religious Sites Protection	Protection of nearby mosques, graveyards, temples, or cultural structures	As required	Contractor (Implementation); PIU/D&SC (verification)	Field inspection
24.	Compliance with ESMP	Overall implementation status of mitigation measures described in ESMP	Monthly	Contractor (Implementation); PIU (verification)	Monitoring checklist, compliance report
25.	Environmental and Social Reporting	Preparation and submission of ES monitoring reports	Monthly / Quarterly	Contractor (Implementation); PIU/D&SC (verification)	Monitoring reports

5.4 Capacity Development Measures

Effective management of Environmental, Social, and Gender issues in construction projects requires proactive capacity building for all actors involved including the Implementing Agency, Contractors, and Supervision Consultants. To ensure compliance with environmental and social standards, all project stakeholders must be adequately trained and informed about their responsibilities, mitigation measures, and reporting mechanisms. Capacity-building programs through formal trainings, on-site guidance, tool-box meetings, and awareness sessions help strengthen institutional capacity, improve coordination, and ensure that sustainability and gender equity principles are integrated into project planning, implementation, and monitoring.

The following table outlines the recommended capacity-building measures, target participants, training frequency, and key topics to be covered under an ESG management framework for building and road construction projects.

Table 5.3: Capacity-Building and Training Measures for ES Compliance and Management

Sl. No.	Key Actor / Target Group	Type of Training / Guidance	Objectives	Main Topics to be Covered	Frequency/ Timing	Responsible Entity
1	LGED / Project Management Unit (PIU)	Orientation on Environmental and Social Safeguards	To strengthen understanding of E&S policies, legal requirements, and roles in project implementation.	-National environmental & labour laws -World Bank E&S Framework- Grievance Redress Mechanism (GRM)- ESMP implementation & monitoring -Gender Issues in Infrastructure Development Project.	At project start and annually	Environmental & Social Specialists (PIU)/ D&S Consultant
2	Supervision Consultants	Training on E&S Supervision and Monitoring	To ensure that consultants effectively monitor contractors' compliance with E&S standards.	- ESMP & site-specific E&S checklists -Waste management & pollution control- Labor & working condition compliance -Occupational Health & Safety (OHS) -Gender-sensitive supervision- Incident reporting & corrective actions.	Before mobilization and quarterly refreshers	PIU with support from E&S Experts

Sl. No.	Key Actor / Target Group	Type of Training / Guidance	Objectives	Main Topics to be Covered	Frequency/ Timing	Responsible Entity
3	Contractor's Management Staff	Induction and Periodic E&S Management Training	To ensure site managers and engineers integrate E&S compliance in daily site operations.	-Contractor's ESMP & Method Statements- Environmental and Social Codes of Practices (ESCoPs) -OHS plan implementation -Labor rights and grievance mechanism- Community health & safety -Gender-based violence (GBV) and SEA/SH prevention	Prior to construction & bi-annually, if deemed required.	Supervision Consultant / PIU E&S Team
4	Contractor's Workforce (Skilled & Unskilled Workers)	Toolbox Meetings/ Awareness Sessions	To build awareness and behavioral change for safe, responsible, and inclusive site practices.	-Worksite safety protocols (PPE use, accident prevention) -Environmental cleanliness & waste segregation -Respectful workplace behaviour & anti-harassment -Gender equality & inclusion- HIV/AIDS and communicable disease awareness	Weekly or bi-weekly at site	Contractor's E&S Officer / OHS Supervisor
5	Community Representatives / Local Stakeholders	Information & Awareness Session	To enhance local understanding of project impacts, grievance redress, and gender inclusion measures.	- Project scope & benefits -Potential impacts & mitigation measures -Community safety measures- GRM process - Gender & inclusion awareness	During pre-construction & as needed	PIU & Contractor's Community Engagement Officer
6	Gender Focal Points (PIU, Contractor, Consultant)	Gender and Social Inclusion (GESI) Training	To promote integration of gender considerations into project implementation.	- Gender Action Plan implementation- GBV/SEA/SH mitigation & referral pathways - Inclusive employment & equal pay- Women's participation in decision-making	At project start & mid-term	PIU Gender Specialist / External Expert

5.5 Tree Plantation Plan

The Government of Bangladesh has long promoted roadside plantation to improve environmental quality, restore ecological balance, and support rural livelihoods through timber, fuel, and other biological resources. Trees absorb carbon dioxide and release oxygen, reduce dust pollution, and provide habitat and economic value. To compensate for project-related tree loss, the Forest Department requires plantation at a 3:1 ratio (three trees planted for every tree felled).

Plantation will be carried out along roadside slopes, embankments, and other available spaces within and beyond the right-of-way, including suitable Upazila-owned land. Native fruit-bearing, flowering, medicinal, and ornamental species will be prioritized, selected in consultation with the Forest Department based on lost vegetation. Saplings (minimum 1 m height) will be protected and maintained through the defect liability period.

The initiative aims to restore biodiversity, enhance greenery, prevent erosion, improve aesthetics, and ensure long-term environmental sustainability while supporting local employment. However, a generic list of species to be used for the plantation is given below in **Table 5.4**, and it is to be noted that the tree species should be native to the project location.

Table 5.4: The List of Selected Species for Tree Plantation

SL No.	Local Name	English Name	Scientific Name
Timber Tree			
1	Debdaru	Indian Mast Tree	<i>Polyalthia longifolia</i>
2	Gurjan	Gurjun	<i>Dipterocarpus turbinatus</i>
3	Silkoroi	White Siris	<i>Albizia procera</i>
4	Segun	Teak	<i>Tectona grandis</i>
5	Akashmoni	Earleaf Acacia	<i>Acacia auricoliformis</i>
6	Katbadam	Bengal almond	<i>Terminalia calappa</i>
7	Jarul	Giant Crape-myrtle	<i>Lagerstroemia speciosa</i>
	Punal	Asian indigo	<i>Callophyllum inophyllum</i>
8	Mahogany	Mahogany	<i>Swietenia mahagoni</i>
9	Epil-Ipil	White Lead Tree	<i>Leucaena leucocephala</i>
Fruit Tree			
10	Am	Mango	<i>Mangifera indica</i>
11	Kathal	Jackfruit	<i>Artocarpus heterophyllus</i>
12	Peyara	Guava	<i>Psidium guajava</i>
13	Jam	Black Berry	<i>Syzygium cumini</i>
14	Khejur	Date Palm	<i>Phoenix sylvestries</i>
15	Tal	Palm	<i>Borossus flabelliformis</i>
16	Amra	Hogplum	<i>Spondias pinnata</i>
17	Narikel	Coconut	<i>Cocos nucifera</i>
18	Chalta	Elephant Apple	<i>Dillenia indica</i>
19	Kul/Boroi	Jujube	<i>Ziziphus mauritiana</i>
20	Lichu	Lychee	<i>Litchi chinesis</i>
21	Tetul	Tamarind	<i>Temarindus indica</i>

SL No.	Local Name	English Name	Scientific Name
22	Jambura	Pumelo	<i>Citrus grandis</i>
23	Bel	Wood Apple	<i>Aegle marmelos</i>
24	Kodbel	Wood Apple	<i>Limonia acidissima</i>
25	Jolpai	Olive	<i>Elaeocarpus floribundus</i>
Medicinal Tree			
26	Neem	Indian lilac	<i>Azarlira chlaindica</i>
27	Arjun	Arjun	<i>Terminalia arjuna</i>
28	Amlaki	Indian gooseberry	<i>Phyllanthus emblica</i>
29	Horitoki	Chebolic Myrobalan	<i>Terminalia chebula</i>
30	Bohera	Beleric Myrobalan	<i>Terminalia belliricha</i>
31	Akando	White Aak Plant	<i>Calotropis gigantea</i>
Fuel Tree			
32	Shimul	Silk Cotton Tree	<i>Bombox ceiba</i>
33	Gab	Malabar ebony	<i>Diospyros spp.</i>
34	Kadam	Burflower Tree	<i>Anthocephalus chinensis</i>
35	Jhau	Tamarisk	<i>Tamarix dioica</i>
36	Pituli	Patchouli	<i>Trewta nudiflora</i>

According to the prevailing practice in Bangladesh, the FD has recommended to plant minimum three trees for each tree cut for the implementation of the proposed project.

Under the proposed tree plantation plan:

- Timber tree species will cover 40% of the total area,
- Fruit tree species will cover 30% of the total area,
- Medicinal tree species will cover 20% of the total area and
- Fuel tree species will cover the rest 10% of the total area.

Apart from roadsides, other places for planting trees shall be proposed at mosques, temples, madrasas, schools, colleges etc. Spacing between each plant shall be calculated according to the available space within the ROW. The tree plantation shall follow the following SOPs provided in **Table 5.5**.

Table 5.5: Standard of Procedures (SOPs) for Tree Plantation

Plant Selection	Height and Spacing	Planting and Fencing Details	Maintenance
<ul style="list-style-type: none"> • Most types of trees average height should be more than 1 meter which equals more than 3ft. at the time of planting; • As all tree heights are not same, at the time of some specific tree plantation Upazila and Contractor 		Preparation of plantation pits will involve excavation of pits measuring 600 mm × 600 mm × 450 mm. The excavated soil will be mixed with loamy silty soil and cow dung to create suitable planting media. Saplings will then be planted and securely supported using 1800 mm long Borrak bamboo stakes, tied with	<ul style="list-style-type: none"> • Watering: needs two times in a day; Prefer especially rainy season for tree plantation if it is in other season then proper watering is needed; • Needs weed out grass and other unnecessary

Plant Selection	Height and Spacing	Planting and Fencing Details	Maintenance
should communicate with Consultant Team; <ul style="list-style-type: none"> Tree plantation spacing should be 3m c/c from one tree to another tree 	jute rope, including the provision of necessary tools and planting materials, all in accordance with the instructions of the E-I-C. In addition, protective tree guards will be provided using high-quality Muli bamboo, measuring approximately 1200 mm in height and 500 mm in diameter. The guards will be constructed using 2 mm thick bamboo splits arranged in a grid pattern with 75 mm × 75 mm square openings, reinforced with additional bamboo splits on both sides and secured with G.I. wire. Each tree guard will be firmly supported by three Borrak bamboo posts of 1800 mm length (63 mm diameter), with at least 600 mm embedded into the ground through proper excavation and backfilling. All works, including supply, preparation, installation, and finishing, will be completed as per the direction of the E-I-C.	vegetation <ul style="list-style-type: none"> Need regular monitoring by Upazila 	

5.6 Cost of Environmental and Social Enhancement Works in BOQ

The estimated cost of environmental and social enhancement works has been incorporated into the Bill of Quantities (BOQ) for the sub-project covering thirteen identified community roads across Kurigram Sadar, Nageshwari, Bhurungamari, Rowmari, Rajarhat, Chilhari and Ulipur upazilas. The detailed road wise estimate, with tentative cost for implementing the ESMP, is given in annexure 1. These costs are specifically allocated to implementing mitigation measures and safeguard activities that address environmental and social risks during construction and operation phases. Key components included in the BOQ for ES enhancement works comprise dust suppression through regular water spraying,

The BOQ also includes provisions for Occupational Health and Safety (OHS) equipment for workers PPE, First Aid Box, Labor Shed, Environmental Management, drinking water facility with water tests, temporary latrines for both male and female as well as waste disposal systems has been accounted for. Ensuring sustainable labor performance regarding environmental and social considerations motivational training has been considered. By integrating these costs into the project BOQ, the sub-project ensures that environmental

and social safeguards are systematically implemented without compromising project timelines or quality, while promoting sustainable, safe, and resilient road infrastructure that benefits local communities and maintains safe access to flood shelters.

6.0 PUBLIC CONSULTATION MEETING

6.1 Stakeholder Engagement

Stakeholder engagement is a critical component for ensuring that the perspectives, concerns, and suggestions of affected communities and relevant stakeholders are incorporated into project planning and implementation, a comprehensive series of stakeholder engagement and site-specific consultation meetings were conducted for all proposed shelter sites. These meetings were held from March 28 - April 23, 2026. Public consultation meetings were conducted alongside covering of the thirteen (13) identified community roads. Refer to **Annexure 2** for details of the attendance of the meeting. Participants included residents, community leaders, school authorities, representatives of religious institutions, flood shelter managers, and local government officials. During these consultations, stakeholders were informed about the objectives, scope, and expected benefits of the road improvement works, including enhanced connectivity to flood shelters, improved mobility, and disaster preparedness. Discussions focused on potential environmental and social impacts such as temporary disruption to access, noise, dust, removal of roadside vegetation, and traffic safety during construction. Stakeholders were encouraged to provide feedback on site-specific concerns and suggest measures to minimize negative impacts.

Key outcomes from these consultations included requests for proper traffic management near schools and marketplaces, adequate drainage improvements to prevent waterlogging, compensation or replantation of affected trees, and timely communication regarding construction schedules. The feedback gathered has been integrated into the Environmental and Social Management Plan (ESMP) to ensure that mitigation measures are responsive to local needs, enhance community safety, and promote transparency and participation throughout the project cycle.

6.2 Methodology

Public consultation meetings were designed to ensure inclusive, transparent, and participatory engagement with local stakeholders. Site-specific consultation meetings were systematically conducted at all proposed roadside locations across Kurigram District to ensure inclusive participation and transparent stakeholder engagement in accordance with the Environmental and Social Framework (ESF) prescribed ES Assessment checklist and the project's safeguard requirements. Prior to the consultations, stakeholders—including residents, community leaders, school authorities, religious institution representatives, and local government officials, and bazar management committee were informed about the purpose, scope, and potential impacts of the proposed road improvements. Meetings were

conducted at accessible community locations, such as schools, union parishad offices, and community centers, to maximize participation. During the sessions, project plans and environmental and social considerations were presented using simple visual aids and local language explanations to facilitate understanding. Stakeholders were encouraged to express concerns, provide suggestions, and prioritize site-specific issues, particularly regarding traffic safety, drainage, tree protection, access to flood shelters, mobility during construction and other construction-related disturbances. The feedback collected through these consultations was systematically documented, analyzed, and incorporated into the Environmental and Social Management Plan (ESMP) and project design to ensure that mitigation measures are practical, locally relevant, and responsive to the needs and expectations of the affected communities.

This consultative process played a critical role in identifying location-specific issues, such as access constraints, local waterlogging, land use sensitivity, or community preferences, and helped enhance project acceptance and ownership at the grassroots level. Refer to Figure 6.1 for selected photographs of the participatory public consultation held at the sub-project sites and Table 6.1 refers to Consultation meeting participants' summary for the sub-project.

Table 6.1: Consultation Meetings Summary

Sl. No.	Name of Community Road	Date DD-MM-YYYY	Venue	Main Participant Groups	No. of Participants
1.	Bazer H/O Jalil Mawlana to Sholagari GPS via H/O Shnalal Bakshi Road (149774078)	28.03.2026	In a shop of Sholagari, Rotigram.	UP persons, businesspersons, service holders, students, farmers, and housewives.	13
2.	Khamar Hasnabad School, Burirhat (149615027)	01.04.2026	Telipara, Mondolpara, Ananda Bazar	Service holders, farmers, and housewives.	15
3.	Chadni Bazer more -Bazer Bolderer more Road (149945093)	28.03.2026	Chadni Bajra, Moddho Bajra.	Army, teachers, businesspersons, and farmers.	20
4.	Bazra College, more-Telipara Fulbabu member Shop Road (149945094)	28.03.2026	Chadni Bazar	Member, students, business, service holder, and farmer.	20
5.	Sutirpar - Mollarchar road via New BOP camp (149795017)	28.03.2026	Sutirpar.	Serviceholders, students, farmers, and housewives.	13
6.	Pachim vatiya para house of Bakter	31.03.2026	West vatiya para, vatiya	Farmers group.	06

Sl. No.	Name of Community Road	Date DD-MM-YYYY	Venue	Main Participant Groups	No. of Participants
	member to purbo vatia para -H /O Nasir member Road (149095050)		para.		
7.	Fakir para pucca road - North side dompur more road (149095115)	31.03.2026	Fakirpara	Teachers, business persons, students, and farmers.	14
8.	Sarker para mosque -H/O Kazim Uddin Sarker -H/O Jalil Road via H/O Bazer Rashid OC (149095114)	31.03.2026	Sharkar para, Romna.	Member, Emam, Student, and farmers.	10
9.	R & H Road, Amtola, Miloni Bazar Road (149065079)	02.04.2026	Pushuramer kuti, Sonbanda.	Teachers, businesspeople, students, service holders, farmers.	16
10.	Pandit para Nurul Ulom Girls Madrasa - Mina Bazar via Rahul Amin Baparar House Road (149065075)	02.04.2026	Pandit para starting point.	Doctors, Maulanas, Businesspersons, and farmers.	10
11.	Kurigram, Anantapur, GC road H/O Asswari Kumar (149524010)	29.03.2026	Gariyalpara, Chair Shithijar, Beparipara.	Assistant Teachers, LGED persons, and farmers.	21
12.	Sukhdeb Mouza- Ranjitswar Mouza Shom Nerajan (149774017)	28.03.2026	Sukhdeb, Biddanda	Businessmen, Students, Farmers, Teachers, Local Physician	12
13.	New Jorgach - BWDB Embankment at kharkharia Road (149094004)	23.04.2026	Romna, Chilmari	UP member, Businessmen, Service Holder	09



Figure 6.1: Public Consultation through FGD's and KII alongside the proposed road

6.3 Issues and Recommendations raised by the Participants in regard to component interventions

During the public consultation meetings conducted in the project influence areas of the proposed community road sub-projects in Kurigram District, local community members, representatives of local government institutions, teachers, farmers, and other stakeholders actively shared their views regarding the planned interventions under the project. Participants highlighted several key issues including poor road conditions during the rainy season, inadequate drainage facilities causing waterlogging, damaged culverts restricting natural water flow, and erosion of road embankments in certain vulnerable sections. Community members also expressed concerns about temporary disturbances during construction such as dust, noise, traffic obstruction, and safety risks for school children and pedestrians.

In response to these concerns, participants recommended ensuring proper rehabilitation of existing culverts and cross drains, construction of protective structures where erosion occurs, implementation of effective dust and noise control measures during construction, and installation of road safety signs near schools, markets, and densely populated areas. They also suggested maintaining uninterrupted access for residents and agricultural transport during construction activities and giving priority to local labor employment where possible. Based on these discussions, participants recommended that the project should ensure proper rehabilitation and installation of culverts and cross-drainage structures to facilitate natural water flow and prevent water stagnation. They also suggested strengthening road embankments and constructing protection walls or palisading structures

at vulnerable locations to reduce erosion and structural damage. Community members emphasized the need for road safety measures such as warning signs, speed breakers near educational institutions, and improved visibility at road intersections. In addition, participants recommended minimizing construction disturbances, controlling dust and noise during construction activities, and ensuring that local access roads remain open during the implementation period. The issues and recommendations collected during these consultations have been summarized and documented in **Table 6.2**, which will guide the integration of appropriate environmental, social, and safety mitigation measures during project implementation.

Table 6.2: Issues and Recommendations raised by the Participants

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
1.	Bazer H/O Jalil Mawlana to Sholagari GPS via H/O Shnalal Bakshi Road. (149774078)	28.03.2026 and In a shop of Sholagari, Rotigram.	<ul style="list-style-type: none"> Existing road surfaces are damaged and become muddy and difficult to use during the rainy season. Some road sections remain submerged due to poor drainage and low elevation. Need to ensure safe and quick access to flood shelters during emergencies. Construction waste may be dumped improperly and affect nearby land or water bodies. Potential impact on nearby agricultural lands and irrigation channels. Need for community awareness regarding project activities and safety measures. 	<ul style="list-style-type: none"> Improve road pavement and strengthen the road base to ensure all-weather accessibility. Raise the road level where necessary and construct adequate side drains and cross-drainage structures. Design road improvements to ensure uninterrupted connectivity to nearby flood shelters. Install road safety signs, speed control measures, and pedestrian-friendly features near schools and settlements. Conduct community awareness programs and maintain regular communication with local stakeholders. Encourage contractors to prioritize hiring local workers where possible.
2.	Khamar Hasnabad School, Burirhat (149615027)	01.04.2026 and Telipara, Mondolpara, Ananda Bazar	<ul style="list-style-type: none"> Dust pollution during construction may affect nearby houses, schools, and markets. Noise and disturbance may occur near schools, mosques, and residential areas. Traffic congestion and safety risks may occur during construction activities. Concerns about removal of roadside trees during road widening. Temporary disruption to access of local houses, shops, and agricultural lands 	<ul style="list-style-type: none"> Regular water spraying and proper management of construction materials to minimize dust generation. Restrict heavy construction activities during sensitive hours and maintain noise control measures. Prepare and implement a traffic management plan including warning signs, barriers, and designated detours. Avoid unnecessary tree cutting; where unavoidable, implement compensatory plantation programs. Maintain temporary access routes and inform the community in advance about construction

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
			<p>during construction.</p> <ul style="list-style-type: none"> • Need to ensure safe and quick access to flood shelters during emergencies. • Risk of erosion and damage to road shoulders during heavy rainfall. 	<p>schedules.</p> <ul style="list-style-type: none"> • Design road improvements to ensure uninterrupted connectivity to nearby flood shelters. • Strengthen road shoulders and provide slope protection and erosion control measures. • Install road safety signs, speed control measures, and pedestrian-friendly features near schools and settlements. • Ensure proper drainage design and avoid blockage of irrigation channels during construction.
3.	Chadni Bazer more - Bazar Bolderer more Road. (149945093)	28.03.2026 and Chadni Bajra, Moddho Bajra.	<ul style="list-style-type: none"> • Waterlogging occurs in some low-lying sections of the road. • Road width is narrow in certain segments which creates difficulty for two-way traffic. • Dust pollution during construction may affect nearby households and shops. • Farmers depend on roadside access to transport agricultural products to local markets. • Some households are located very close to the road alignment. • Flood shelter accessibility is important during flood emergencies. • Community members requested installation of safety signage. 	<ul style="list-style-type: none"> • The road surface should be improved with proper pavement and compaction to ensure all-weather accessibility. • Adequate roadside drainage and culverts should be constructed to facilitate smooth water flow and prevent waterlogging. • Minor widening should be considered within the available Right of Way (ROW) to improve traffic movement and safety. • Regular water spraying and proper construction management should be implemented to minimize dust generation. • Traffic management measures, warning signs, and temporary safety barriers should be installed during construction. • Construction activities should be planned to avoid blocking access to agricultural lands and transport

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
4.	Bazra College, more-Telipara Fulbabu member Shop Road (149945094)	28.03.2026 and Chadni Bazar	<ul style="list-style-type: none"> • Road width is narrow in certain segments which creates difficulty for two-way traffic. • Dust pollution during construction may affect nearby households and shops. • Movement of vehicle construction may create safety risks for pedestrians and schoolchildren. • Roadside trees provide shade and environmental benefits for the community. • Farmers depend on roadside access to transport agricultural products to local markets. • Some households are located very close to the road alignment. • Improper disposal of construction waste may affect nearby agricultural land. • Community members requested installation of safety signage. 	<p>routes.</p> <ul style="list-style-type: none"> • Minor widening should be considered within the available Right of Way (ROW) to improve traffic movement and safety. • Regular water spraying and proper construction management should be implemented to minimize dust generation. • Traffic management measures, warning signs, and temporary safety barriers should be installed during construction. • Contractors should maintain safe working distances and ensure minimal disturbance to residents. • The road improvement should prioritize ensuring safe and quick access to the nearby flood shelter. • Construction work should be scheduled during daytime and equipment should be properly maintained to reduce noise. • Waste materials should be properly managed and disposed of at designated locations. • Road safety signs and markings should be installed near settlements, intersections, and flood shelters.
5.	Sutirpar - Mollarchar road via New BOP camp (149795017)	28.03.2026 and Sutirpar.	<ul style="list-style-type: none"> • Waterlogging occurs in several low-lying sections of the road during monsoon. • Movement of school students and pedestrians may be at risk during 	<ul style="list-style-type: none"> • Adequate side drains and cross-drainage structures (culverts) should be constructed or improved to ensure proper drainage. • Contractors should implement traffic safety measures, including warning signage, speed control,

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
			<p>construction activities.</p> <ul style="list-style-type: none"> • Dust generation during construction may affect nearby houses and roadside shops. • Noise from construction machinery may disturb nearby residents and institutions. • Some roadside trees may need to be removed during road widening. • Temporary disruption to local transportation and market access may occur during construction. 	<p>and safe pedestrian passage near schools and settlements.</p> <ul style="list-style-type: none"> • A temporary traffic management plan should be prepared to ensure continued movement of local transport and access to markets such as Kabarstan Hat and Sarker Hat. • Installation of road safety signage, speed breakers, and road markings near market areas is recommended.
6.	Pachim Vatia Para house of Bakter member to purbo Vatia para -H/O Nasir member Road. (149095050)	31.03.2026 and West vatiya para, vatiya para.	<ul style="list-style-type: none"> • Noise from construction machinery may disturb nearby residents and institutions. • Some roadside trees may need to be removed during road widening. • Safety concerns near local markets due to increased traffic after road improvement. • Risk of improper disposal of construction waste near agricultural lands. • Community members emphasized the importance of quick access to flood shelters during emergencies. 	<ul style="list-style-type: none"> • The road should be properly improved and strengthened with suitable pavement to ensure all-weather accessibility for local residents and vehicles. • Contractors should implement traffic safety measures, including warning signage, speed control, and safe pedestrian passage near schools and settlements. • Regular water spraying and proper construction material management should be carried out to minimize dust pollution. • Construction work should be scheduled during daytime and machinery should be properly maintained to reduce noise levels. • Tree cutting should be minimized, and compensatory tree plantation should be undertaken along suitable roadside locations. • The road design should ensure uninterrupted

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
				connectivity to nearby flood shelters and maintain the road at an appropriate elevation to remain usable during floods.
7.	Fakir para pucca road - North side dompor more road (149095115)	31.03.2026 and Fakirpara	<ul style="list-style-type: none"> • Existing road surface is uneven and becomes muddy during monsoon season. • Narrow road width causes difficulty for two-way traffic movement. • Some roadside trees may need to be removed during road improvement works. • Traffic safety concerns near settlements and local markets. • Risk of accidents during construction due to movement of heavy vehicles and machinery. • Temporary disruption of access to houses, shops, and agricultural lands during construction. • Safety concerns of school children and pedestrians using the road. • Need for reliable road access to nearby flood shelters during emergencies. 	<ul style="list-style-type: none"> • Improve the road pavement with proper compaction and surfacing to ensure all-weather accessibility. • Widen the road within the available Right of Way (ROW) where feasible to improve vehicle movement and safety. • Minimize tree cutting where possible and implement compensatory tree plantation along the roadside. • Install traffic signs, speed breakers, and safety markings near populated areas and markets. • Implement a traffic management plan with proper signage, barricades, and safety personnel. • Maintain temporary access routes and inform residents about construction schedules. • Provide pedestrian safety measures, signage, and speed control near schools and populated areas. • Ensure that road elevation, pavement strength, and drainage are designed to remain functional during flood conditions.
8.	Sarker para mosque -H/O Kazim Uddin Sarker -H/O Jalil Road via H/O Bazer Rashid oc (149095114)	31.03.2026 Sharkar para, Romna.	<ul style="list-style-type: none"> • Waterlogging occurs at several low-lying sections of the road during heavy rainfall. • Dust generation during construction may affect nearby houses, schools, and shops. • Some roadside trees may need to be 	<ul style="list-style-type: none"> • Construct adequate side drains and cross-drainage structures to ensure proper water flow and prevent waterlogging. • Regular water spraying and proper material handling should be implemented to control dust pollution. • Minimize tree cutting where possible and

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
			<p>removed during road improvement works.</p> <ul style="list-style-type: none"> • Risk of accidents during construction due to the movement of heavy vehicles and machinery. • Drainage obstruction could affect nearby agricultural lands. • Waste materials from construction may be dumped near agricultural fields or water bodies. • Workers' safety during construction activities. • Community members requested regular maintenance after project completion. 	<p>implement compensatory tree plantation along the roadside.</p> <ul style="list-style-type: none"> • Implement a traffic management plan with proper signage, barricades, and safety personnel. • Ensure proper drainage design and avoid blocking natural water channels during construction. • Proper waste management practices should be implemented, and disposal sites should be designated in advance. • Ensure the use of Personal Protective Equipment (PPE) and implement occupational health and safety measures at construction sites. • Establish a maintenance mechanism and monitoring system to ensure long-term road usability.
9.	R & H Road, Amtola, Miloni Bazar Road. (149065079)	02.04.2026 and Pushuramer kuti, Sonbanda.	<ul style="list-style-type: none"> ▪ Existing road surfaces are damaged and become muddy and difficult to use during the rainy season. ▪ Some road sections remain submerged due to poor drainage and low elevation. ▪ Need to ensure safe and quick access to flood shelters during emergencies. ▪ Construction waste may be dumped improperly and affect nearby land or water bodies. ▪ Potential impact on nearby agricultural lands and irrigation channels. ▪ Need for community awareness regarding project activities and safety measures. 	<ul style="list-style-type: none"> ▪ Improve road pavement and strengthen the road base to ensure all-weather accessibility. ▪ Raise the road level where necessary and construct adequate side drains and cross-drainage structures. ▪ Design road improvements to ensure uninterrupted connectivity to nearby flood shelters. ▪ Install road safety signs, speed control measures, and pedestrian-friendly features near schools and settlements. ▪ Conduct community awareness programs and maintain regular communication with local stakeholders. ▪ Encourage contractors to prioritize hiring local workers where possible.

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
10.	Pandit para Nurul Ulom Girls Madrasha - Mina Bazar via Rahul Amin Baparer House Road. (149065075)	02.04.2026 and Pandit para starting point.	<ul style="list-style-type: none"> • Waterlogging occurs in some low-lying sections of the road. • Road width is narrow in certain segments which creates difficulty for two-way traffic. • Dust pollution during construction may affect nearby households and shops. • Farmers depend on roadside access to transport agricultural products to local markets. • Some households are located very close to the road alignment. • Flood shelter accessibility is important during flood emergencies. • Community members requested installation of safety signage. 	<ul style="list-style-type: none"> • The road surface should be improved with proper pavement and compaction to ensure all-weather accessibility. • Adequate roadside drainage and culverts should be constructed to facilitate smooth water flow and prevent waterlogging. • Minor widening should be considered within the available Right of Way (ROW) to improve traffic movement and safety. • Regular water spraying and proper construction management should be implemented to minimize dust generation. • Traffic management measures, warning signs, and temporary safety barriers should be installed during construction. • Construction activities should be planned to avoid blocking access to agricultural lands and transport routes.
11.	Kurigram, Anantapur, GC road H/O Asswari Kumar (149524010)	29.03.2026 and Gariyalpara, Chair Shithijar, Beparipara.	<ul style="list-style-type: none"> • Noise from construction machinery may disturb nearby residents and institutions. • Some roadside trees may need to be removed during road widening. • Safety concerns near local markets due to increased traffic after road improvement. • Risk of improper disposal of construction waste near agricultural 	<ul style="list-style-type: none"> • The road should be properly improved and strengthened with suitable pavement to ensure all-weather accessibility for local residents and vehicles. • Contractors should implement traffic safety measures, including warning signage, speed control, and safe pedestrian passage near schools and settlements. • Regular water spraying and proper construction material management should be carried out to

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
			<p>lands.</p> <ul style="list-style-type: none"> Community members emphasized the importance of quick access to flood shelters during emergencies. 	<p>minimize dust pollution.</p> <ul style="list-style-type: none"> Construction work should be scheduled during daytime and machinery should be properly maintained to reduce noise levels. Tree cutting should be minimized, and compensatory tree plantation should be undertaken along suitable roadside locations. The road design should ensure uninterrupted connectivity to nearby flood shelters and maintain the road at an appropriate elevation to remain usable during floods.
12.	Sukhdeb Mouza-Ranjitswar Mouza Shom Nerajan (149774017)	28.03.2026 and in Sukhdeb, Biddanda	<ul style="list-style-type: none"> Waterlogging occurs at several low-lying sections of the road during heavy rainfall. Dust generation during construction may affect nearby houses, schools, and shops. Some roadside trees may need to be removed during road improvement works. Risk of accidents during construction due to the movement of heavy vehicles and machinery. Drainage obstruction could affect nearby agricultural lands. Waste materials from construction may be dumped near agricultural fields or water bodies. Workers' safety during construction activities. 	<ul style="list-style-type: none"> Construct adequate side drains and cross-drainage structures to ensure proper water flow and prevent waterlogging. Regular water spraying and proper material handling should be implemented to control dust pollution. Minimize tree cutting where possible and implement compensatory tree plantation along the roadside. Implement a traffic management plan with proper signage, barricades, and safety personnel. Ensure proper drainage design and avoid blocking natural water channels during construction. Proper waste management practices should be implemented, and disposal sites should be designated in advance. Ensure the use of Personal Protective Equipment (PPE) and implement occupational health and safety measures at construction sites.

Sl. No.	Name of community roads	Date and Site of Consultation	Issues raised and discussed	Recommendations and Comments
13.	New Jorgach - BWDB Embankment at kharkharia Road (149094004)	23.04.2026 and in Romna, Chilmari	<ul style="list-style-type: none"> • Community members requested regular maintenance after project completion. • Noise from construction machinery may disturb nearby residents and institutions. • Some roadside trees may need to be removed during road widening. • Safety concerns near local markets due to increased traffic after road improvement. • Risk of improper disposal of construction waste near agricultural lands. • Community members emphasized the importance of quick access to flood shelters during emergencies. 	<ul style="list-style-type: none"> • Establish a maintenance mechanism and monitoring system to ensure long-term road usability. • The road should be properly improved and strengthened with suitable pavement to ensure all-weather accessibility for local residents and vehicles. • Contractors should implement traffic safety measures, including warning signage, speed control, and safe pedestrian passage near schools and settlements. • Regular water spraying and proper construction material management should be carried out to minimize dust pollution. • Construction work should be scheduled during daytime and machinery should be properly maintained to reduce noise levels. • Tree cutting should be minimized, and compensatory tree plantation should be undertaken along suitable roadside locations. • The road design should ensure uninterrupted connectivity to nearby flood shelters and maintain the road at an appropriate elevation to remain usable during floods.

7.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the environmental and social assessment conducted for Community Roads in Kurigram District under the RIVER Project, it could be concluded that the proposed improvement of thirteen (13) community roads across Kurigram Sadar Upazila, Nageshwari Upazila, Bhurungamari Upazila, Rowmari Upazila, Rajarhat Upazila, Chilmari Upazila and Ulipur Upazila in Kurigram District is environmentally and socially feasible, provided that the proposed mitigation and management measures are properly implemented. The improvement of these community roads will significantly enhance rural connectivity, improve year-round accessibility, and ensure safe and reliable access to nearby flood shelters, which is crucial during flood emergencies and other natural disasters. The project is expected to bring considerable socio-economic benefits to the local population by facilitating access to markets, schools, health facilities, and other essential services, while also supporting the transportation of agricultural products and strengthening local economic activities.

The assessment indicates that most of the proposed road improvement works will be carried out within the existing Right of Way (ROW), which minimizes the requirement of land acquisition and significantly reduces the risk of physical displacement of households/shops for resettlement. However, some minor environmental and social impacts may arise during the construction phase, including temporary dust and noise pollution, disruption of local traffic and pedestrian movement, temporary obstruction of drainage channels, and short-term access limitations for nearby settlements, agricultural lands, and community institutions. In addition, occupational health and safety risks for construction workers and safety concerns for pedestrians, particularly near schools, markets, and flood shelters, may occur if adequate safety measures are not implemented.

To address these potential impacts, the Environmental and Social Management Plan (ESMP) has been prepared as an integral component of this report. The ESMP outlines practical mitigation and enhancement measures such as dust suppression through regular water spraying, proper management and disposal of construction waste, installation of adequate drainage structures to prevent waterlogging, slope stabilization to reduce erosion, and compensatory tree plantation for any unavoidable vegetation removal. Traffic management measures, including warning signs, barricades, and speed control near sensitive locations, should be implemented to ensure public safety during construction.

In addition, strict compliance with occupational health and safety (OHS) standards should be ensured at all construction sites. Contractors should provide appropriate personal protective equipment (PPE), conduct regular safety training for workers, and implement emergency response procedures to minimize workplace accidents. Environmental monitoring should also

be conducted periodically to ensure that construction activities remain within acceptable environmental limits for air quality, noise levels, and waste management.

Stakeholder consultations conducted in the project areas indicate strong community support for the proposed road improvements, particularly eventual anticipated benefits in terms of improved mobility, enhanced disaster preparedness, and better access to essential services. Community members emphasized the importance of proper drainage systems, road safety measures, protection of roadside vegetation, and regular maintenance after completion of the works. These concerns have been incorporated into the ESMP to ensure that the project remains responsive to the needs and expectations of local stakeholders.

In conclusion, the improvement of community infrastructure connecting roads under the RIVER Project in Kurigram District represents a positive intervention that will contribute to sustainable rural infrastructure development and increased resilience of flood-prone communities. With the effective implementation of the recommended environmental and social mitigation measures, continuous monitoring, and active stakeholder engagement, the project will minimize potential adverse impacts while maximizing long-term benefits for the communities in Kurigram Sadar, Nageshwari, Bhurungamari, Rowmari, Rajarhat, Chilmari and Ulipur upazilas. It is therefore recommended that the project may proceed with implementation while ensuring strict adherence to the Environmental and Social Management Plan (ESMP) and relevant regulatory and institutional requirements.

ANNEXURE 1:
ROAD WISE ENVIRONMENTAL AND SOCIAL FINDINGS UNDER KURIGRAM
DISTRICT (GCCR-01)

ANNEXURE 1: ROAD WISE ENVIRONMENTAL AND SOCIAL FINDINGS UNDER KURIGRAM DISTRICT (GCCR-01)

Name of Sub-Project: Improvement of Community Road for Basra Bazar H/O Jalil Mowlana to Sholagari GPS Via H/O Sanalal Bakshi Road, ID: 149774078

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Kurigram

Upazila: Rajarhat

Union: Nazim Khan

Name of Community/Local Area: Sholagari, Ronjiteessor, Rotigram, Nazim khan, Rajarhat

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project includes the development of the Bazer H/O Jalil Mawlana to Sholagari GPS via H/O Shnalal Bakshi Road, having a total length of approximately 1.416 km. The existing road is fully unpaved and earthen from chainage 0+000 to 1+416. Existing cross-drainage structures include culverts at Ch. 0+693 and Ch. 0+997, and a box culvert at Ch. 0+888. The project will involve upgrading the full alignment with Bituminous Carpeting to improve all-weather connectivity. A 0.9 m × 0.9 m culvert at Ch. 0+997 will be incorporated in the works to maintain drainage flow. Palisading has been proposed at several vulnerable sections on both sides, including Ch. 0+005–0+029, 0+033–0+066, 0+131–0+158, 0+384–0+406, 0+880–0+887, 0+911–0+929, 1+147–1+163, 1+189–1+207, 1+212–1+250, 1+241–1+255 and 1+354–1+381. These interventions will improve pavement condition, protect weak edges, and strengthen drainage and embankment stability while maintaining the existing alignment. The project footprint will remain largely within the existing road alignment in order to minimize potential environmental and social impacts. Appropriate road safety measures and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure the safety, sustainability, and resilience of the sub-project.

Estimated footprint / land area for this sub-project is 4,248 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 1416m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		Agricultural Land, pond, ditches, waterbody, fishpond, and human settlement.
		R	Agricultural Land, fishpond, ditches, and waterbody.
300-600	L		Agricultural Land, pond, fishpond, ditches, and house

Chainage	(Left/Right)		Environmental and Social Impact
			area.
		R	Agricultural Land, fishpond, pond, ditches, and human settlement.
600-900	L		Human settlement, Mosque, ditches, Agriculture land.
		R	Agriculture land, human settlements, fishponds, and ponds.
900-1200	L		Agricultural Land, fishpond, human settlement.
		R	Human settlement, fishpond, ditches, and pond.
1200-1416	L		Agriculture land, human settlement, and fishpond.
		R	Agriculture land, human settlement, and pond.



Starting Point of Basra Bazar H/O Jalil Mowlana to Sholagari GPS Via H/O Sanalal Bakshi Road

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passve their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will

be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

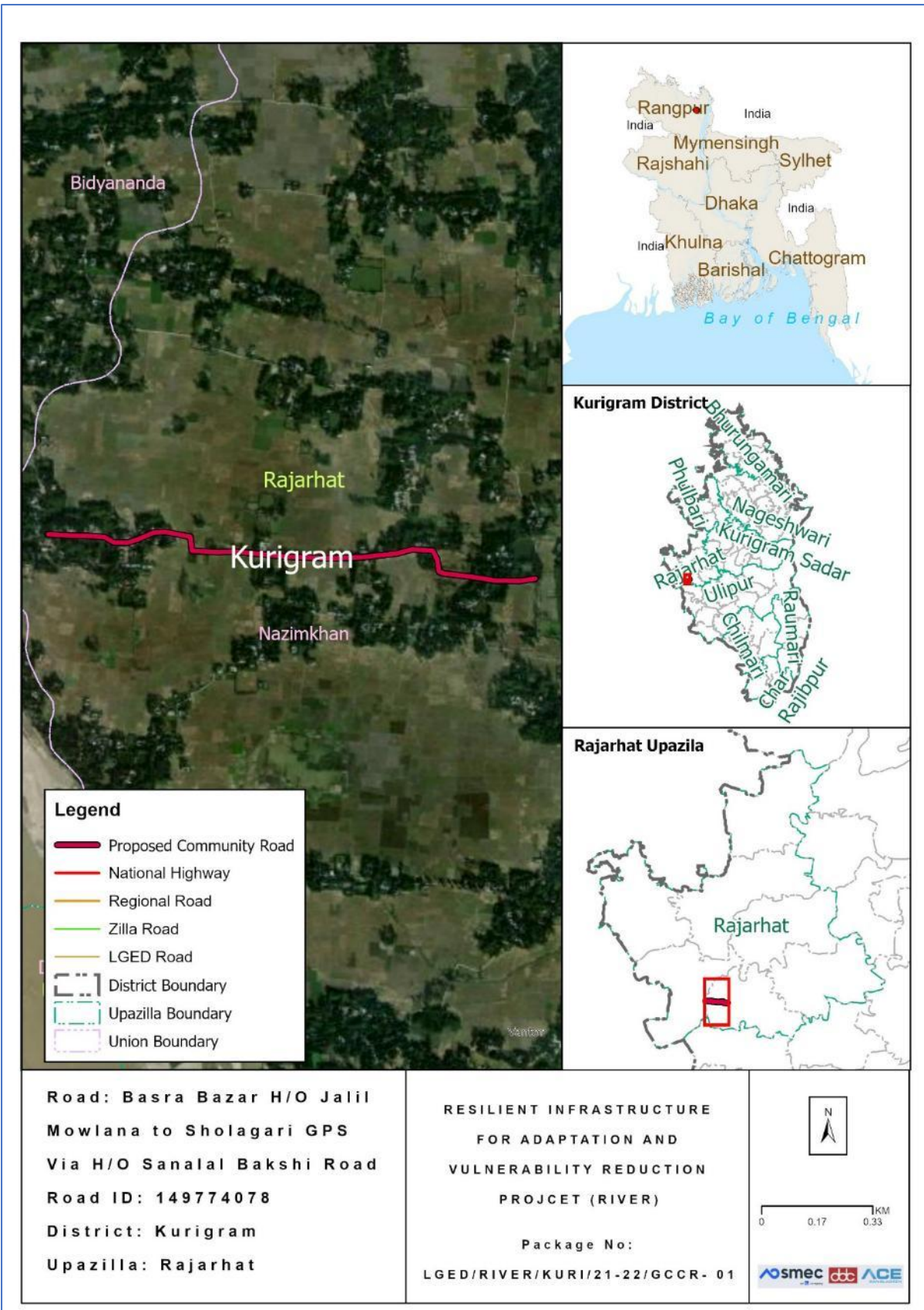
It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct influence area of the proposed sub-project. This 1.416 km road traverses through a combination of agricultural land and residential areas, with various natural features such as ponds, fishponds, and ditches. From 0 to 300 meters on the left, the road passes through agricultural land, ponds, and human settlements, with water bodies and fishponds. On the right side, agricultural land, fishponds, and water bodies are present. Between 300 and 600 meters, the left side includes agricultural land, ponds, fishponds, and house areas, while the right side features similar features along with human settlements. From 600 to 1200 meters, the left side is a mix of human settlements, mosques, agriculture, and ditches. The right side includes agricultural land, human settlements, fishponds, and ponds. In the final stretch, from 1200 to 1416 meters, agricultural land and human settlements are present on both sides, with fishponds on the left and ponds on the right. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.



Location Map of the proposed Community Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **village road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Bituminous Carpeting (BC)**. According to the project design, the road will be upgraded with **Bituminous Carpeting (BC)** along the entire alignment from **Chainage 0 0m to Chainage 1416 m**.

Sub-project Location:

Important Features	
ID	149774078
District	Kurigram
Upazila	Rajarhat
Union	Nazim Khan
Total Chainage	1416m
Proposed Chainage	1416m
Road Type	Village Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	25.739360 N, 89.534365 E
Road Ending Point Coordinates	25.740457 N, 89.521277 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio-cultural assets): Please also explain any analysis on alternative location was conducted:

- i) The proposed Sub-project is located within Sholagari, Ronjiteessor, Rotigram, Nazim khan, and Rajarhat.
- ii) No historical sites were found
- iii) Not required to relocate local community.
- iv) Some trees, vegetation and livelihood will be affected.
- v) Very low chance of loss of agricultural land.
- vi) Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

B.1: Environmental and Social feature of sub-project location

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmentally and socially sensitive establishments, including educational and religious institutions, are located within approximately 1 km of the project area. From 0 to 300 meters on the left, the road passes through agricultural land, ponds, and human settlements, with water bodies and fishponds. On the right side, agricultural land, fishponds, and water bodies are present. Between 300 and 600 meters, the left side includes agricultural land, ponds, fishponds, and house areas, while the right side features similar features along with human settlements. From 600 to 1200 meters, the left side is a mix of human settlements, mosques, agriculture, and ditches. The right side includes agricultural land, human settlements, fishponds, and ponds. In the final stretch, from 1200 to 1416 meters, agricultural land and human settlements are present on both sides, with fishponds on the left and ponds on the right. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.

Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures.

Noise:

The existing noise level in the project area is generally low. Noise mainly originates from the daily activities and movement of local residents and vehicles. During the construction

period, noise levels may temporarily increase due to the operation and transportation of construction equipment and materials. However, these impacts will be temporary and limited to the construction period.

Baseline soil quality:

The sub-project area in Kurigram is characterized by recent floodplain and char-land soils formed from active deposits of the Brahmaputra River and its distributaries, particularly the Dharla River and Teesta River. The soils are predominantly sandy loam, silty loam, and alluvial clay in texture, with localized char areas containing loose sandy deposits highly vulnerable to erosion and seasonal reworking. In lower floodplain areas, finer silty-clay soils occur, often supporting paddy cultivation and seasonal cropping. These soils are generally moderately fertile but are highly influenced by annual flooding, sediment deposition, waterlogging, and riverbank erosion. In erosion-prone and char areas, soil instability can be significant, making slope protection, embankment stabilization, and erosion-sensitive road design important considerations for rural infrastructure development.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area. People in the area primarily depend on shallow and deep tube wells for their daily domestic water needs. The average groundwater table is typically found at a depth of approximately 120 to 280 feet below ground level. Groundwater quality assessments indicate the presence of iron in tube-well water, and localized arsenic concerns have been reported in some areas, which may cause health and aesthetic concerns if consumed without treatment. Therefore, appropriate public health measures, including iron removal systems, regular water quality testing, and community awareness programs, are essential to ensure safe drinking water. Local people usually prefer deep tube-well water for drinking and other domestic purposes. There should have deep tube wells which pump water from the confined aquifer.

Groundwater quality: pH-5.5 to 8.4, DO-2.0 to 8.0 mg/l, TDS-30 to 350 mg/l, EC-30 to 700 µs/cm, Fe-0.5 to 6.5 mg/l and As-Low to Nil (Field Study Report, March 2026)

Status of wildlife movement:

The area supports a variety of common local bird species, frequently observed in surrounding agricultural fields, homesteads, char lands, and wetland habitats. Notable species include ghugu, bok and Choro (House Sparrow, *Passer domesticus*), along with herons, kingfishers and seasonal migratory water birds. These birds play a vital role in controlling insect populations, dispersing seeds, pollinating plants, and maintaining ecological balance within rural landscapes. In addition, the presence of wild mammals, such as Bon Biral (Jungle Cat, *Felis chaus*), snake and Fox (Bengal Fox, *Vulpes bengalensis*), reflects the typical rural biodiversity and ecological integrity of the area. These mammals function as natural predators, helping regulate populations of rodents and other small

animals, thereby contributing to agricultural pest control and ecosystem stability. Seasonal fish movement is also associated with the Brahmaputra, Dharla and Teesta floodplain system. Overall, the diversity of fish, birds, and mammals in the area indicates a functioning and interconnected ecosystem. Protecting these species through sustainable water management, habitat conservation, preservation of wetland connectivity, and environmentally responsible development is essential for maintaining biodiversity, ecological resilience, and long-term environmental sustainability in the locality.

State of forestation:

Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable):

Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:

Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.

Possible location of labor camps:

Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.

Requirement and type of raw materials (e.g. sand, stone, wood, etc.):

i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vii) steels viii) Bitumen are the most common type of road materials used in construction.

Identification of access road for transportation (Yes/No):

Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.

Location identification for raw material storage:

Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.):

Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):

Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.

Type and quantity of raw materials used (wood, bricks, cement, water, etc.):

Type: i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.

Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards:

No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.

Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

No existing drainage system has been identified along this road. However, natural drainage features such as ponds, ditches, and water bodies are present along the alignment. On the

left side, three ponds are located at approximately 300 meters, 544 meters, and 1,695 meters from the road. On the right side, ponds and palisades can be found at approximately 25 meters, 10 meters, 1,646 meters, and 1,695 meters from the alignment.

Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).

Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:

Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)

Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles:

No

Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description)

No

Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description)

No.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.

Likely direct and indirect impacts on economic development in the project areas by the sub-project:

Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.

Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated.

Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

There are no protected areas in or around project sites, and no known areas of ecological interest.

Activities leading to landslides, slumps, slips and other mass movements in road cuts:

The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation)

No

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Basra Bazar H/O Jalil Mowlana to Sholagari GPS Via H/O Sanalal Bakshi Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of livelihood	<ul style="list-style-type: none"> Under this subproject, there is no scope of negative impact on the livelihoods of adjacent communities or people. Contractors will be encouraged to engage local labors (both skilled and unskilled) as priority at their construction works, and women labor would get higher priority in recruitment. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> All of the project stakeholders should be consulted Separate community level consultation meeting with the potential affected HHs All the safeguard documents will be disclosed to all relevant stakeholders. People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Loss of right to access	<ul style="list-style-type: none"> Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. In case of unavoidable circumstances, alternative access will be provided. 	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential	<ul style="list-style-type: none"> Transportation of construction materials to the site will be carried out by covering the materials as a whole. Store the materials in designated places, with proper fencing and coverings. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	accidents to workers/ local people, generating dust and noise)			
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> • Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor's officials/employees will be provided. • Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<ul style="list-style-type: none"> • Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Construction of sanitary latrine with septic tank for both male and female workers and staffs; and ensure regular cleaning of those. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those. • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc. 		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind or surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and 	PIU & Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>natural water flow.</p> <ul style="list-style-type: none"> • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • Existing utility services must be relocated or adjusted where they obstruct the works or pose a risk of damage, in close cooperation with the appropriate authority. • The contractor must ensure sound environment for the local residents near the sub project site. 		
Construction Activity	Noise from construction works	<ul style="list-style-type: none"> • Construction activities mostly shall finish at day time within 05:00 PM, and must confirm proper measures for avoiding any disturbance. • All Personal Protective Equipment (PPEs) must be available at sites before starting any kind of construction works. • Noise producing vehicles and equipment will be keep in maintenance regularly. • Since expensive engineering controls (e.g., acoustic curtains, noise barriers, etc.) may not be feasible in 	Contractor	Environmental Consultant of PIU

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of Community Roads for Kurigram District (GCCR-01)

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>terms of availability and scope of the project works, noise reduction muffler or less expensive alternative options will be selected during the construction works.</p>		
Construction Activity	Dust	<ul style="list-style-type: none"> • Acceptable range of emission of CO, particulate matter [SPM (Suspended particulate matter), PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site. 	Contractor	Environmental Consultant of PIU
Construction Activity	Safety Issues	<ul style="list-style-type: none"> • Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Every construction materials storage site will be well fenced by Tin and safety caution tape. 		
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex. 	Contractor	Environmental Consultant of PIU
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering the availability of nearby resources and technical options, and potential risks of extracting water from the same sources used by other consumer groups especially during the critical period. • Water from any installed tubewell or an existing surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works. • If ground or surface water is withdrawn for the use of construction works from outside of the other selected places, adequate approvals from the appropriate 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>authority need to be taken before extraction or setting up bore wells.</p> <ul style="list-style-type: none"> • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction works start. 		
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> • Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> • A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) 	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>/grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner.</p> <ul style="list-style-type: none"> • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same. 		
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers. • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>areas and/ or at the site.</p> <ul style="list-style-type: none"> • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules. 		
Construction Activity	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<ul style="list-style-type: none"> • Slope protection measures (proper compaction, palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road. • Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 	Contractor	Environmental and Social Development Consultant of PIU, PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in 	<ul style="list-style-type: none"> • All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>electrical installation, mobile plant and vehicles, and electrical shocks.</p> <ul style="list-style-type: none"> Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis. 	<p>conditions underfoot; signposted and with adequate lighting.</p> <ul style="list-style-type: none"> Proper Signpost at any slippery areas will be ensured in construction site. Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, emergency response and evacuation procedure and personnel will be trained and drilled to test and ensure the coherence with the plan. All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>provided that are suitable and can do the works.</p> <ul style="list-style-type: none"> • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used. 		
Construction Activity	Pollution of water bodies	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) 	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. 		
Construction Activity	<p>Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local 	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of Community Roads for Kurigram District (GCCR-01)

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	community.	<p>from latrines is to be undertaken properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this document.</p> <ul style="list-style-type: none"> The contractor must arrange the cancellation of all temporary services. 		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> Preventative maintenance schedule should be followed. Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time. 	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU. 	Contractor	Environmental Consultant of PIU
Operation & Maintenance	Road Safety. Impacts include: <ul style="list-style-type: none"> The increased vehicular 	<ul style="list-style-type: none"> Road safety issues can be minimized in following ways: By enforcing speed limits and imposing penalties on the 	Upazila Engineer (UE)	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers.</p> <ul style="list-style-type: none"> Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries. 	<p>traffic violators will ensure the road safety.</p> <ul style="list-style-type: none"> Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time. 		
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl. no.	Description of item	Quantity	Unit price	Total amount
1.	<u>Grass Turfing</u> Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)	1699.2 Sq.m	@38.15 Tk. Per sqm	64,824.48
2.	<u>Dust suppression measures</u> Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C	1416.0m	@ 2.56 BDT	3,624.96
3.	<u>Tree Plantation</u> For each tree felled, 3 shall be planted as replacement.	5	@ 500 BDT	7,500.00
4.	<u>Water Supply and Sanitation</u> Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at d Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for	2 nos.	@12822.86 per toilet	25,645.72

Sl. no.	Description of item	Quantity	Unit price	Total amount
	men.			
5.	<p><u>First Aid Box</u></p> <p>Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.</p>	1 no.	LS @5000 Tk. Per box	5,000.00
6.	<p><u>Drinking Water Facilities</u></p> <p>Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.</p>	1 no.	LS @ Tk. 30,000	30,000.00

Sl. no.	Description of item	Quantity	Unit price	Total amount
7.	<p><u>Traffic Management</u></p> <p>Maintaining traffic management at worksite from time of commencement of contractor’s activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes providing necessary barricades, warning signs/lights, guide signs, flagmen, maintaining diversion roads by cutting, filling, constructing, etc. or by any other means) in accordance with the full satisfaction of the Engineering-in-charge.</p>	1 no.	LS @ Tk. 15,000	15,000.00
8.	<p><u>Personal Protection Equipment for Workers</u></p> <p>Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles</p>	LS	LS @ Tk 30,000	30,000.00
9.	<p><u>Motivation training</u></p> <p>Motivation training (twice: before and after construction start) of the Upazila Engineer ‘sand Contractor’s representatives on safety practice and as per direction of the E.I.C.</p>	1 no.	LS @ Tk. 10,000	10,000.00
10.	<p><u>Waste disposal facility</u></p> <p>Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1</p>	LS	@ Tk. 5000	5,000.00

Sl. no.	Description of item	Quantity	Unit price	Total amount
	no of inorganic waste disposal facility) and as per direction of E.I.C.			
11.	<p><u>Water Test (Drinking Water samples)</u></p> <p>Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.</p>	LS	@ Tk. 5000	5,000.00
12.	<p><u>Working labour shed:</u></p> <p>Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.</p>	1 no.	LS @ Tk. 30,000	30,000.00
13.	<p><u>Environmental management</u></p> <p>Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax &VAT). And as per direction of the E.I.C. [One person to be appointed for 13 roads]</p>	Each	@ Tk. 35000	35,000.00
	Total amount for this Road			266,595.16



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Khamar Hasnabad School-Burirhat, ID: 149615027**

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Kurigram

Upazila: Nageshwari

Union: Hasnabad

Name of Community/Local Area: Telipara, Mondol Para, Anondo Bazar, Hasnabad

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project includes the development of the Khamar Hasnabad School, Burirhat Road, having a total length of approximately 2.00 km. The existing road is unpaved and earthen throughout from Ch. 0+000 to 2+000. Existing structures include U-drains at Ch. 0+030, Ch. 0+400, Ch. 0+920 and Ch. 1+700, along with a culvert at Ch. 1+008. The proposed intervention includes full upgrading with Bituminous Carpeting over the entire alignment. Roadside protection works include palisading at Ch. 0+230–0+260 and Ch. 0+540–0+560, along with block palisading from Ch. 0+930–0+987, Ch. 0+960–0+987, Ch. 1+008–1+013 and Ch. 1+008–1+158. These interventions will improve pavement durability, drainage performance and protection of vulnerable embankment sections. The project footprint will remain largely within the existing road alignment in order to minimize potential environmental and social impacts. Appropriate road safety measures and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure the safety, sustainability, and resilience of the sub-project.

Estimated footprint / land area for this sub-project is 6,000 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 2000m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		Agricultural land, pond, and trees.
		R	Local homes, agricultural land, and pond
300-600	L		Agriculture land, local homes, and trees.
		R	Local homes, pond and trees.
600-900	L		Local home, agriculture land, trees
		R	Local home, trees, agriculture land etc.
900-1200	L		Water body, pond etc.

Chainage	(Left/Right)		Environmental and Social Impact
		R	Waterbody, pond etc.
1200-1500	L		Local homes, agricultural land.
		R	Local homes, agricultural land.
1500-1800	L		Local home, agriculture land, and trees.
		R	Local home, agriculture land, and mosque.
1800-2000	L		Local homes, primary school and trees.
		R	Local home, agriculture land etc.



Starting Point of Khamar Hasnabad School-Burirhat Road

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will

be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

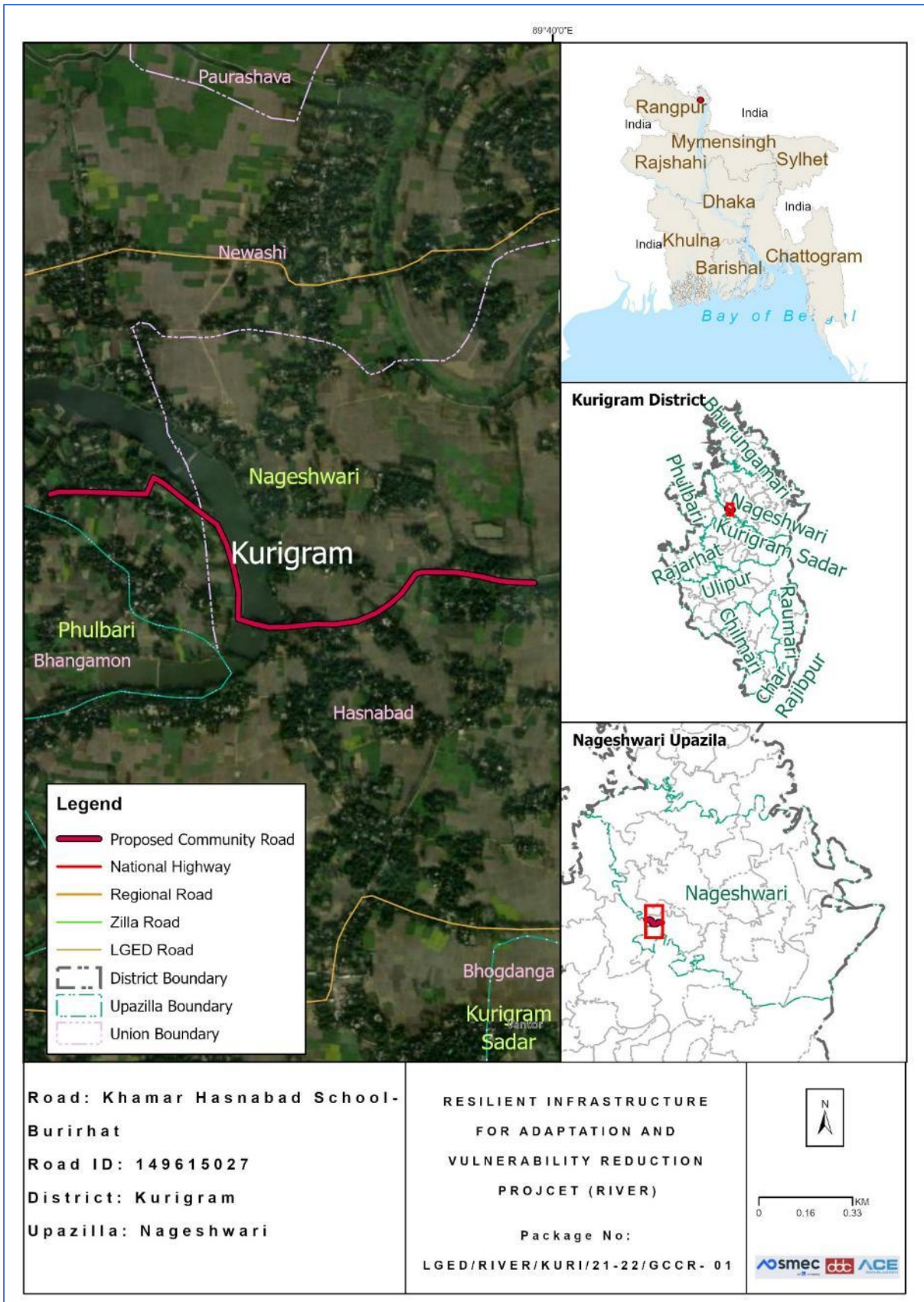
It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct influence area of the proposed sub-project. The 2 km stretch of this road passes through agricultural fields, local homes, and several natural features. The first 300 meters on the left side include agricultural land, ponds, and trees, while the right side contains local homes, agricultural land, and a pond. From 300 to 600 meters, agricultural land and local homes continue on both sides, with the right side also featuring ponds and trees. Moving to 600 to 1200 meters, local homes, agricultural land, and trees are visible on both sides. The area between 1200 to 1500 meters features local homes and agricultural land on both sides, with the left side also containing trees. From 1500 to 1800 meters, the left side includes local homes, agricultural land, and trees, while the right side has similar features along with a mosque. The road ends at 2000 meters, with local homes, a primary school, and trees on the left side and local homes and agricultural land on the right. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.



Location Map of the proposed Community Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **village road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Bituminous Carpeting (BC)**. According to the project design, the road will be upgraded with **Bituminous Carpeting (BC)** along the entire alignment from **Chainage 0 0m to Chainage 2000 m**.

Sub-project Location:

Important Features	
ID	149615027
District	Kurigram
Upazila	Nageshwari
Union	Hasnabad
Total Chainage	2000m
Proposed Chainage	2000m
Road Type	Village Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	25.92906 N, 89.666035 E
Road Ending Point Coordinates	25.931861 N 89.65093 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets): Please also explain any analysis on alternative location was conducted:

- i) The proposed Sub-project is located within Telipara, Mondol Para, Anondo Bazar, and Hasnabad.
- ii) No historical sites were found
- iii) Not required to relocate local community.
- iv) Some trees, vegetation and livelihood will be affected.
- v) Very low chance of loss of agricultural land.
- vi) Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

B.1: Environmental and Social feature of sub-project location

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmentally and socially sensitive establishments, including educational and religious institutions, are located within approximately 1 km of the project area. The first 300 meters on the left side include agricultural land, ponds, and trees, while the right side contains local homes, agricultural land, and a pond. From 300 to 600 meters, agricultural land and local homes continue on both sides, with the right side also featuring ponds and trees. Moving to 600 to 1200 meters, local homes, agricultural land, and trees are visible on both sides. The area between 1200 to 1500 meters features local homes and agricultural land on both sides, with the left side also containing trees. From 1500 to 1800 meters, the left side includes local homes, agricultural land, and trees, while the right side has similar features along with a mosque. The road ends at 2000 meters, with local homes, a primary school, and trees on the left side and local homes and agricultural land on the right. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.

Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures.

Noise:

The existing noise level in the project area is generally low. Noise mainly originates from the

daily activities and movement of local residents and vehicles. During the construction period, noise levels may temporarily increase due to the operation and transportation of construction equipment and materials. However, these impacts will **be** temporary and limited to the construction period.

Baseline soil quality:

The sub-project area in Kurigram is characterized by recent floodplain and char-land soils formed from active deposits of the Brahmaputra River and its distributaries, particularly the Dharla River and Teesta River. The soils are predominantly sandy loam, silty loam, and alluvial clay in texture, with localized char areas containing loose sandy deposits highly vulnerable to erosion and seasonal reworking. In lower floodplain areas, finer silty-clay soils occur, often supporting paddy cultivation and seasonal cropping. These soils are generally moderately fertile but are highly influenced by annual flooding, sediment deposition, waterlogging, and riverbank erosion. In erosion-prone and char areas, soil instability can be significant, making slope protection, embankment stabilization, and erosion-sensitive road design important considerations for rural infrastructure development.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area. People in the area primarily depend on shallow and deep tube wells for their daily domestic water needs. The average groundwater table is typically found at a depth of approximately 120 to 280 feet below ground level. Groundwater quality assessments indicate the presence of iron in tube-well water, and localized arsenic concerns have been reported in some areas, which may cause health and aesthetic concerns if consumed without treatment. Therefore, appropriate public health measures, including iron removal systems, regular water quality testing, and community awareness programs, are essential to ensure safe drinking water. Local people usually prefer deep tube-well water for drinking and other domestic purposes. There should have deep tube wells which pump water from the confined aquifer.

Groundwater quality: pH-5.5 to 8.4, DO-2.0 to 8.0 mg/l, TDS-30 to 350 mg/l, EC-30 to 700 μ s/cm, Fe-0.5 to 6.5 mg/l and As-Low to Nil (Field Study Report, March 2026)

Status of wildlife movement:

The area supports a variety of common local bird species, frequently observed in surrounding agricultural fields, homesteads, char lands, and wetland habitats. Notable species include ghugu, bok and Choroi (House Sparrow, *Passer domesticus*), along with herons, kingfishers and seasonal migratory water birds. These birds play a vital role in controlling insect populations, dispersing seeds, pollinating plants, and maintaining ecological balance within rural landscapes. In addition, the presence of wild mammals, such as Bon Biral (Jungle Cat, *Felis chaus*), snake and Fox (Bengal Fox, *Vulpes bengalensis*), reflects the typical rural biodiversity and ecological integrity of the area. These mammals function as natural predators, helping regulate populations of rodents and other small

animals, thereby contributing to agricultural pest control and ecosystem stability. Seasonal fish movement is also associated with the Brahmaputra, Dharla and Teesta floodplain system. Overall, the diversity of fish, birds, and mammals in the area indicates a functioning and interconnected ecosystem. Protecting these species through sustainable water management, habitat conservation, preservation of wetland connectivity, and environmentally responsible development is essential for maintaining biodiversity, ecological resilience, and long-term environmental sustainability in the locality.

State of forestation:

Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable):

Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:

Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.

Possible location of labor camps:

Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.

Requirement and type of raw materials (e.g. sand, stone, wood, etc.):

i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.

Identification of access road for transportation (Yes/No):

Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.

Location identification for raw material storage:

Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.):

Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):

Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.

Type and quantity of raw materials used (wood, bricks, cement, water, etc.):

Type: i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.

Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards:

No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.

Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

This road does not have a formal drainage system. However, ponds, water bodies, and ditches are natural drainage features present along the route. On the left side, ponds are

found at varying distances, and similar features exist on the right side as well, with water bodies observed at different intervals along the alignment.

Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).

Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:

Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)

Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles:

No

Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description)

No

Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description)

No.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.

Likely direct and indirect impacts on economic development in the project areas by the sub-project:

Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.

Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated.

Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

There are no protected areas in or around project sites, and no known areas of ecological interest.

Activities leading to landslides, slumps, slips and other mass movements in road cuts:

The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation)

No

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Khamar Hasnabad School-Burirhat Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of land / and other physical assets	<ul style="list-style-type: none"> No land acquisition is allowed in or nearby areas of the sub-project, or for any sub-project related activities. Therefore, no mitigation measures are suggested in this respect. If and whenever any land/physical assets related grievances are raised at any point of the subproject implementation, project GRCs will take due course of actions to resolve the issues or grievances. 	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Loss of livelihood	<ul style="list-style-type: none"> Under this subproject, there is no scope of negative impact on the livelihoods of adjacent communities or people. Contractors will be encouraged to engage local labors (both skilled and unskilled) as priority at their construction works, and women labor would get higher priority in recruitment. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> All of the project stakeholders should be consulted Separate community level consultation meeting with the potential affected HHs All the safeguard documents will be disclosed to all relevant stakeholders. People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of Community Roads for Kurigram District (GCCR-01)

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of right to access	<ul style="list-style-type: none"> Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. In case of unavoidable circumstances, alternative access will be provided. 	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	<ul style="list-style-type: none"> Transportation of construction materials to the site will be carried out by covering the materials as a whole. Store the materials in designated places, with proper fencing and coverings. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor's officials/employees will be provided. Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<ul style="list-style-type: none"> Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. No trees, shrubs will be removed or vegetation stripped without prior permission of the 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured.</p> <ul style="list-style-type: none"> • Construction of sanitary latrine with septic tank for both male and female workers and staffs; and ensure regular cleaning of those. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those. • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		crime and to be safe from access by students, children, animals, etc.		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • Existing utility services must be relocated or adjusted where they obstruct the works or pose a risk of damage, in close cooperation with the appropriate authority. • The contractor must ensure sound environment for the local residents near the sub project site. 	PIU & Contractor	Environmental Consultant of PIU
Construction	Noise from construction	<ul style="list-style-type: none"> • Construction activities mostly shall finish at day time 	Contractor	Environmental

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Activity	works	<p>within 05:00 PM, and must confirm proper measures for avoiding any disturbance.</p> <ul style="list-style-type: none"> • All Personal Protective Equipment (PPEs) must be available at sites before starting any kind of construction works. • Noise producing vehicles and equipment will be keep in maintenance regularly. • Since expensive engineering controls (e.g., acoustic curtains, noise barriers, etc.) may not be feasible in terms of availability and scope of the project works, noise reduction muffler or less expensive alternative options will be selected during the construction works. 		Consultant of PIU
Construction Activity	Dust	<ul style="list-style-type: none"> • Acceptable range of emission of CO, particulate matter [SPM (Suspended particulate matter), PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Safety Issues	<ul style="list-style-type: none"> • Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape. 	Contractor	Environmental Consultant of PIU
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex. 	Contractor	Environmental Consultant of PIU
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering the availability 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>of nearby resources and technical options, and potential risks of extracting water from the same sources used by other consumer groups especially during the critical period.</p> <ul style="list-style-type: none"> • Water from any installed tubewell or an existing surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works. • If ground or surface water is withdrawn for the use of construction works from outside of the other selected places, adequate approvals from the appropriate authority need to be taken before extraction or setting up bore wells. • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction works start. 		
Construction Activity	Increase in road accidents	<ul style="list-style-type: none"> • Maintain safety measures during the movement of heavy machinery and equipment. • Proper signage to be displayed at major junctions; and road diversions and closures to be informed well in advance to the local community. • Vehicular movement to be controlled near sensitive locations (e.g., schools, colleges, hospitals, etc.) 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Local community will be trained up on traffic management and awareness. 		
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> • Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> • A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance 	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same.</p>		
Construction Activity	<p>Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.</p>	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers. • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>imperviously paved.</p> <ul style="list-style-type: none"> • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules. 		
Construction Activity	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<ul style="list-style-type: none"> • Slope protection measures (proper compaction, palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road. • Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 	Contractor	Environmental and Social Development Consultant of PIU, PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical 	<ul style="list-style-type: none"> • All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. • Proper Signpost at any slippery areas will be ensured 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>shocks.</p> <ul style="list-style-type: none"> • Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis. 	<p>in construction site.</p> <ul style="list-style-type: none"> • Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. • This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, emergency response and evacuation procedure and personnel will be trained and drilled to test and ensure the coherence with the plan. • All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. • Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site.</p> <ul style="list-style-type: none"> • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used. 		
Construction Activity	Pollution of water bodies	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from 	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered.</p> <ul style="list-style-type: none"> • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. 		
Construction Activity	<p>Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge from latrines is to be undertaken 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this document.</p> <ul style="list-style-type: none"> The contractor must arrange the cancellation of all temporary services. 		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> Preventative maintenance schedule should be followed. Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time. 	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU. 	Contractor	Environmental Consultant of PIU
Operation &	Road Safety. Impacts include:	<ul style="list-style-type: none"> Road safety issues can be minimized in following 	Upazila Engineer	District Executive

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Maintenance	<ul style="list-style-type: none"> The increased vehicular movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers. Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries. 	<p>ways:</p> <ul style="list-style-type: none"> By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time. 	(UE)	Engineer, LGED
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl. no.	Description of item	Quantity	Unit price	Total amount
1.	<p><u>Grass Turfing</u></p> <p>Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)</p>	2400 Sq.m	@38.15 Tk. Per sqm	91,560.00
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	2000.0m	@ 2.56 BDT	5,120.00
3.	<p><u>Tree Plantation</u></p> <p>For each tree felled, 3 shall be planted as replacement.</p>	6	@ 500 BDT	9,000.00
4.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.</p>	2 nos.	@12822.86 per toilet	25,645.72
5.	<p><u>First Aid Box</u></p> <p>Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite</p>	1 no.	LS @5000 Tk. Per box	5,000.00

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of Community Roads for Kurigram District (GCCR-01)

Sl. no.	Description of item	Quantity	Unit price	Total amount
	and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.			
6.	<p><u>Drinking Water Facilities</u></p> <p>Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.</p>	1 no.	LS @ Tk. 30,000	30,000.00
7.	<p><u>Traffic Management</u></p> <p>Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes providing necessary barricades, warning signs/lights, guide signs, flagmen, maintaining diversion roads by cutting, filling, constructing, etc. or by any other means) in accordance with the full satisfaction of the Engineering-in-charge.</p>	1 no.	LS @ Tk. 15,000	15,000.00
8.	<p><u>Personal Protection Equipment for Workers</u></p> <p>Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best</p>	LS	LS @ Tk 30,000	30,000.00

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of Community Roads for Kurigram District (GCCR-01)

Sl. no.	Description of item	Quantity	Unit price	Total amount
	quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles			
9.	<u>Motivation training</u> Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.	1 no.	LS @ Tk. 10,000	10,000.00
10.	<u>Waste disposal facility</u> Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.	LS	@ Tk. 5000	5,000.00
11.	<u>Water Test (Drinking Water samples)</u> Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.	LS	@ Tk. 5000	5,000.00
12.	<u>Working labour shed:</u> Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.	1 no.	LS @ Tk. 30,000	30,000.00
13.	<u>Environmental management</u> Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax &VAT). And as per direction of the E.I.C. [One person to be appointed for 13 roads]	Each	@ Tk. 35000	35,000.00
	Total amount for this Road			296,325.72



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Ulipur Chadni Bazer more - Bazer Bolderer more Road, ID: 149945093**

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Kurigram

Upazila: Ulipur

Union: Bazra

Name of Community/Local Area: Chadni Bazra, Moddho Bazra, Char Bazra, Ulipur

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project includes the improvement of the Chadni Bazer More–Bazer Bolderer More Road, having a total length of approximately 0.975 km. The existing road is fully unpaved and earthen from Ch. 0+000 to 0+975. Existing structures include U-drains at Ch. 0+178–0+179, Ch. 0+502–0+504 and Ch. 0+706–0+708. The full road will be upgraded with Bituminous Carpeting. Additional drainage improvement is proposed through U-drains at Ch. 0+236–0+263, Ch. 0+310–0+366, Ch. 0+504–0+520 and Ch. 0+733–0+742, while palisading at Ch. 0+115–0+125 will stabilize a vulnerable edge section. These works will improve both drainage efficiency and road resilience. The project footprint will remain largely within the existing road alignment in order to minimize potential environmental and social impacts. Appropriate road safety measures and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure the safety, sustainability, and resilience of the sub-project.

Estimated footprint / land area for this sub-project is 2,925 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 975m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		Bazar area and chandi bazar government primary school.
		R	Bazar area.
300-600	L		Local house area.
		R	Local homes and agricultural land.
600-900	L		Char bazar high school and pond.
		R	Local house area.
900-975	L		Anchar ali store.

		R	Char bazar primary school.
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Starting Point of Ulipur Chadni Bazer more -Bazer Bolderer more Road

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction

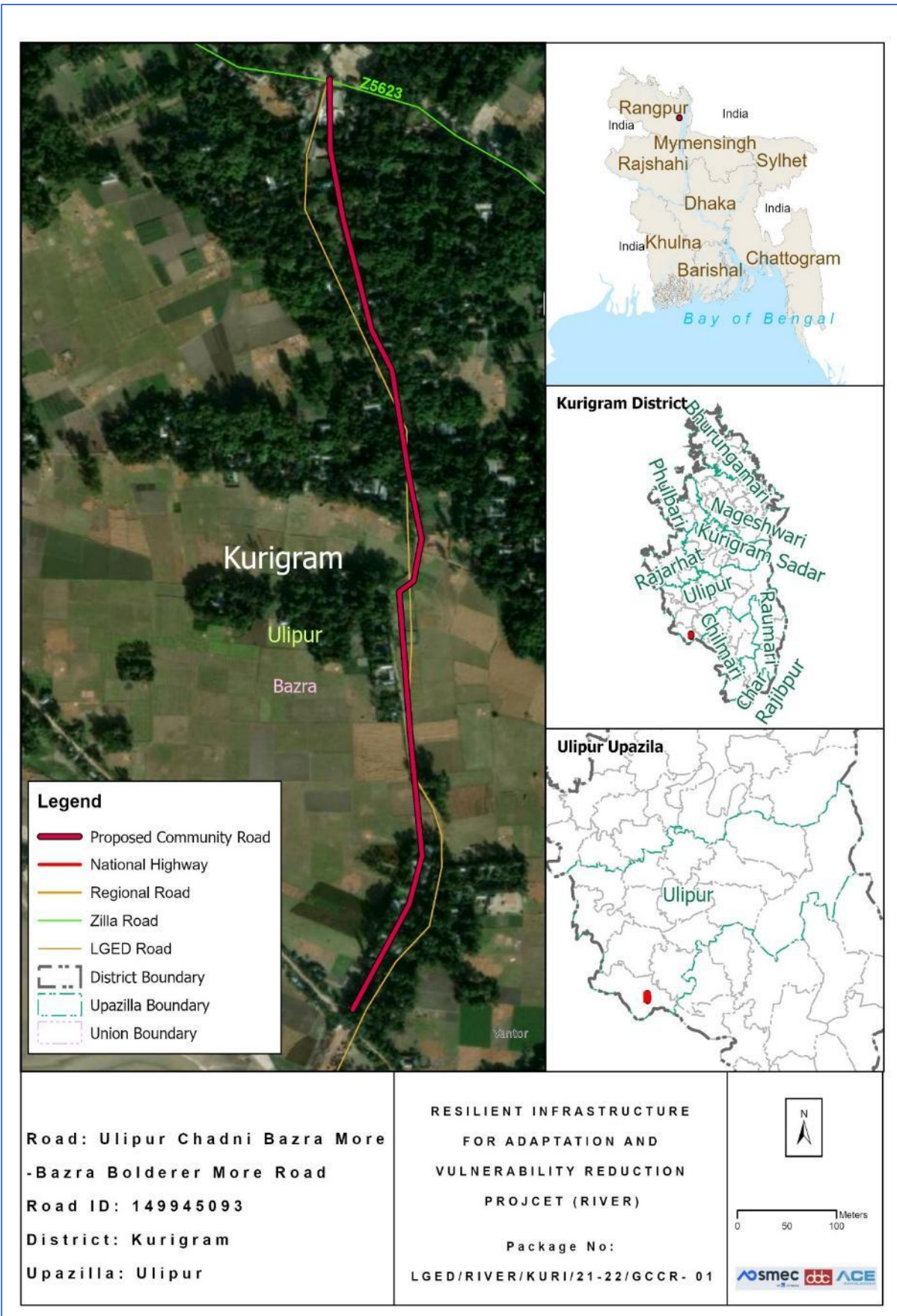
included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

This 975-meter road passes through both a marketplace and educational establishments. The first 300 meters on the left side includes the Chandi Bazar government primary school, while the right side also features the market area. From 300 to 600 meters, local housing dominates the left side, with agricultural land and homes present on the right side. Between 600 and 900 meters, Char Bazar High School and a pond can be found on the left side, with local house areas on the right. The final stretch, from 900 to 975 meters, contains an Anchar Ali store on the left and Char Bazar Primary School on the right. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.



Location Map of the proposed Community Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **village road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Bituminous Carpeting (BC)**. According to the project design, the road will be upgraded with **Bituminous Carpeting (BC)** along the entire alignment from **Chainage 0 0m to Chainage 975 m**.

Sub-project Location:

Important Features	
ID	149945093
District	Kurigram
Upazila	Ulipur
Union	Bazra
Total Chainage	975m
Proposed Chainage	975m
Road Type	Village Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	25.58509 N, 89.598538 E
Road Ending Point Coordinates	25.576882 N, 89.598747 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets): Please also explain any analysis on alternative location was conducted:

- i) The proposed Sub-project is located within Chadni Bazra, Moddho Bazra, Char Bazra, and Ulipur.
- ii) No historical sites were found
- iii) Not required to relocate local community.
- iv) Some trees, vegetation and livelihood will be affected.
- v) Very low chance of loss of agricultural land.
- vi) Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

B.1: Environmental and Social feature of sub-project location

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmentally and socially sensitive establishments, including educational and religious institutions, are located within approximately 1 km of the project area. The first 300 meters on the left side includes the Chandi Bazar government primary school, while the right side also features the market area. From 300 to 600 meters, local housing dominates the left side, with agricultural land and homes present on the right side. Between 600 and 900 meters, Char Bazar High School and a pond can be found on the left side, with local house areas on the right. The final stretch, from 900 to 975 meters, contains an Anchar Ali store on the left and Char Bazar Primary School on the right. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.

Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures.

Noise:

The existing noise level in the project area is generally low. Noise mainly originates from the daily activities and movement of local residents and vehicles. During the construction period, noise levels may temporarily increase due to the operation and transportation of construction equipment and materials. However, these impacts will be temporary and limited to the construction period.

Baseline soil quality:

The sub-project area in Kurigram is characterized by recent floodplain and char-land soils formed from active deposits of the Brahmaputra River and its distributaries, particularly the Dharla River and Teesta River. The soils are predominantly sandy loam, silty loam, and alluvial clay in texture, with localized char areas containing loose sandy deposits highly vulnerable to erosion and seasonal reworking. In lower floodplain areas, finer silty-clay soils occur, often supporting paddy cultivation and seasonal cropping. These soils are generally moderately fertile but are highly influenced by annual flooding, sediment deposition, waterlogging, and riverbank erosion. In erosion-prone and char areas, soil instability can be significant, making slope protection, embankment stabilization, and erosion-sensitive road design important considerations for rural infrastructure development.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area. People in the area primarily depend on shallow and deep tube wells for their daily domestic water needs. The average groundwater table is typically found at a depth of approximately 120 to 280 feet below ground level. Groundwater quality assessments indicate the presence of iron in tube-well water, and localized arsenic concerns have been reported in some areas, which may cause health and aesthetic concerns if consumed without treatment. Therefore, appropriate public health measures, including iron removal systems, regular water quality testing, and community awareness programs, are essential to ensure safe drinking water. Local people usually prefer deep tube-well water for drinking and other domestic purposes. There should have deep tube wells which pump water from the confined aquifer.

Groundwater quality: pH-5.5 to 8.4, DO-2.0 to 8.0 mg/l, TDS-30 to 350 mg/l, EC-30 to 700 μ s/cm, Fe-0.5 to 6.5 mg/l and As-Low to Nil (Field Study Report, March 2026)

Status of wildlife movement:

The area supports a variety of common local bird species, frequently observed in surrounding agricultural fields, homesteads, char lands, and wetland habitats. Notable species include ghugu, bok and Choroi (House Sparrow, *Passer domesticus*), along with herons, kingfishers and seasonal migratory water birds. These birds play a vital role in controlling insect populations, dispersing seeds, pollinating plants, and maintaining ecological balance within rural landscapes. In addition, the presence of wild mammals, such as Bon Biral (Jungle Cat, *Felis chaus*), snake and Fox (Bengal Fox, *Vulpes bengalensis*), reflects the typical rural biodiversity and ecological integrity of the area. These mammals function as natural predators, helping regulate populations of rodents and other small animals, thereby contributing to agricultural pest control and ecosystem stability. Seasonal fish movement is also associated with the Brahmaputra, Dharla and Teesta floodplain system. Overall, the diversity of fish, birds, and mammals in the area indicates a functioning and interconnected ecosystem. Protecting these species through sustainable water management, habitat conservation, preservation of wetland connectivity, and environmentally responsible development is essential for maintaining biodiversity,

ecological resilience, and long-term environmental sustainability in the locality.

State of forestation:

Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable):

Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:

Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.

Possible location of labor camps:

Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.

Requirement and type of raw materials (e.g. sand, stone, wood, etc.):

i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.

Identification of access road for transportation (Yes/No):

Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.

Location identification for raw material storage:

Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.):

Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):

Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.

Type and quantity of raw materials used (wood, bricks, cement, water, etc.):

Type: i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.

Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards:

No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.

Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

Along this 975-meter stretch, no formal drainage system has been identified. Natural drainage features, such as ponds and water bodies, are scattered along both sides. On the left side, ponds are located at different chainages, and the right side also features ponds and water bodies throughout the stretch.

Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

Low. Under the improvement of this intervention, the effect of destruction or damage of

lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).

Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:

Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)

Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles:

No

Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description)

No

Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description)

No.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.

Likely direct and indirect impacts on economic development in the project areas by the sub-project:

Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.

Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated.

Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

There are no protected areas in or around project sites, and no known areas of ecological interest.

Activities leading to landslides, slumps, slips and other mass movements in road cuts:

The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation)

No

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Ulipur Chadni Bazer more -Bazer Bolderer more Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> All of the project stakeholders should be consulted Separate community level consultation meeting with the potential affected HHs All the safeguard documents will be disclosed to all relevant stakeholders. People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	<ul style="list-style-type: none"> Transportation of construction materials to the site will be carried out by covering the materials as a whole. Store the materials in designated places, with proper fencing and coverings. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor's officials/employees will be provided. Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<p>the consumers.</p> <ul style="list-style-type: none"> • Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Construction of sanitary latrine with septic tank for both male and female workers and staffs; and ensure regular cleaning of those. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those.</p> <ul style="list-style-type: none"> • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc. 		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. 	PIU & Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • Existing utility services must be relocated or adjusted where they obstruct the works or pose a risk of damage, in close cooperation with the appropriate authority. • The contractor must ensure sound environment for the local residents near the sub project site. 		
Construction Activity	Dust	<ul style="list-style-type: none"> • Acceptable range of emission of CO, particulate matter [SPM (Suspended particulate matter), PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site. 	Contractor	Environmental Consultant of PIU
Construction Activity	Safety Issues	<ul style="list-style-type: none"> • Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape. 		
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex. 	Contractor	Environmental Consultant of PIU
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering the availability of nearby resources and technical options, and potential risks of extracting water from the same sources used by other consumer 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>groups especially during the critical period.</p> <ul style="list-style-type: none"> • Water from any installed tubewell or an existing surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works. • If ground or surface water is withdrawn for the use of construction works from outside of the other selected places, adequate approvals from the appropriate authority need to be taken before extraction or setting up bore wells. • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction works start. 		
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> • Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring sanitation for labor 	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>camps will be put in place.</p> <ul style="list-style-type: none"> • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation. 		
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> • A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>(wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers.</p> <ul style="list-style-type: none"> • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules. 		
Construction Activity	Slipping of soil masses, dust deposition, draining or spillage	<ul style="list-style-type: none"> • Slope protection measures (proper compaction, palisading or protection walls, etc.) will be taken 	Contractor	Environmental and Social Development Consultant

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	of chemicals/contaminants, etc. to nearby water bodies	<p>before starting work at any sensitive section of the road.</p> <ul style="list-style-type: none"> Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 		of PIU, PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis. 	<ul style="list-style-type: none"> All construction equipment will be properly inspected timely. The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. Proper Signpost at any slippery areas will be ensured in construction site. Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, emergency response and evacuation procedure 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>and personnel will be trained and drilled to test and ensure the coherence with the plan.</p> <ul style="list-style-type: none"> • All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. • Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be available at all Sites, on different locations within 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>the site.</p> <ul style="list-style-type: none"> • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used. 		
Construction Activity	Pollution of water bodies	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. 	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. 		
Construction Activity	<p>Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge from latrines is to be undertaken properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>document.</p> <ul style="list-style-type: none"> The contractor must arrange the cancellation of all temporary services. 		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> Preventative maintenance schedule should be followed. Solid organic wastes should be stored in bins and/or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time. 	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU. 	Contractor	Environmental Consultant of PIU
Operation & Maintenance	<p>Road Safety. Impacts include:</p> <ul style="list-style-type: none"> The increased vehicular movement and speed may trigger road safety issues 	<ul style="list-style-type: none"> Road safety issues can be minimized in following ways: By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. 	Upazila Engineer (UE)	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>like traffic accidents. The accidents may also be due to tiredness of drivers.</p> <ul style="list-style-type: none"> Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries. 	<ul style="list-style-type: none"> Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time. 		
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

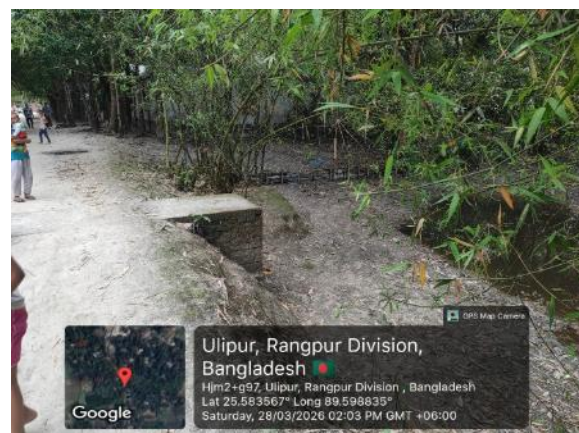
Cost of Environmental Enhancement Works in BOQ

Sl. no.	Description of item	Quantity	Unit price	Total amount
1.	<p><u>Grass Turfing</u></p> <p>Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)</p>	1170 Sq.m	@38.15 Tk. Per sqm	44,635.50
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	975.0m	@ 2.56 BDT	2,496.00
3.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.</p>	2 nos.	@12822.86 per toilet	25,645.72
4.	<p><u>First Aid Box</u></p> <p>Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout</p>	1 no.	LS @5000 Tk. Per box	5,000.00

Sl. no.	Description of item	Quantity	Unit price	Total amount
	the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.			
5.	<p><u>Drinking Water Facilities</u></p> <p>Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.</p>	1 no.	LS @ Tk. 30,000	30,000.00
6.	<p><u>Traffic Management</u></p> <p>Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes providing necessary barricades, warning signs/lights, guide signs, flagmen, maintaining diversion roads by cutting, filling, constructing, etc. or by any other means) in accordance with the full satisfaction of the Engineering-in-charge.</p>	1 no.	LS @ Tk. 15,000	15,000.00
7.	<p><u>Personal Protection Equipment for Workers</u></p> <p>Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles</p>	LS	LS @ Tk 30,000	30,000.00
8.	<p><u>Motivation training</u></p>	1 no.	LS @ Tk.	10,000.00

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of Community Roads for Kurigram District (GCCR-01)

Sl. no.	Description of item	Quantity	Unit price	Total amount
	Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.		10,000	
9.	<u>Waste disposal facility</u> Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.	LS	@ Tk. 5000	5,000.00
10.	<u>Water Test (Drinking Water samples)</u> Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.	LS	@ Tk. 5000	5,000.00
11.	<u>Working labour shed:</u> Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.	1 no.	LS @ Tk. 30,000	30,000.00
12.	<u>Environmental management</u> Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax &VAT). And as per direction of the E.I.C. <u>[One person to be appointed for 13 roads]</u>	Each	@ Tk. 35000	35,000.00
	Total amount for this Road			237,777.22



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Ulipur Bazra College More-Ichlipara Fulbabu Member Shop Road, ID: 149945094**

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Kurigram

Upazila: Ulipur

Union: Bazra

Name of Community/Local Area: Chadni Bazra, Bazra, Ulipur

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project includes the upgrading of the Bazra College More–Telipara Fulbabu Shop Road, with a total length of approximately 1.236 km. The existing alignment is fully earthen from Ch. 0+000 to 1+236. Existing roadside protection and drainage structures include palisading and U-drains at several locations. The proposed works include Bituminous Carpeting over the full road length and additional palisading at Ch. 0+197–0+289, Ch. 0+250–0+286, Ch. 0+660–0+670, Ch. 0+778–0+813 and Ch. 0+844–0+857. These measures are intended to improve surface condition and provide localized protection at unstable roadside sections. The project footprint will remain largely within the existing road alignment in order to minimize potential environmental and social impacts. Appropriate road safety measures and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure the safety, sustainability, and resilience of the sub-project.

Estimated footprint / land area for this sub-project is 3,708 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 1236m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		House and trees.
		R	Agriculture land and trees.
300-600	L		Agriculture land.
		R	Pond and trees.
600-900	L		Agriculture land.
		R	Agriculture land.
900-1200	L		Pond.
		R	Local house area

Chainage	(Left/Right)		Environmental and Social Impact
1200-1236	L		Shop
		R	House area and mosque.



Starting Point of Ulipur Bazra College More-Ichlipara Fulbabu Member Shop Road

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified

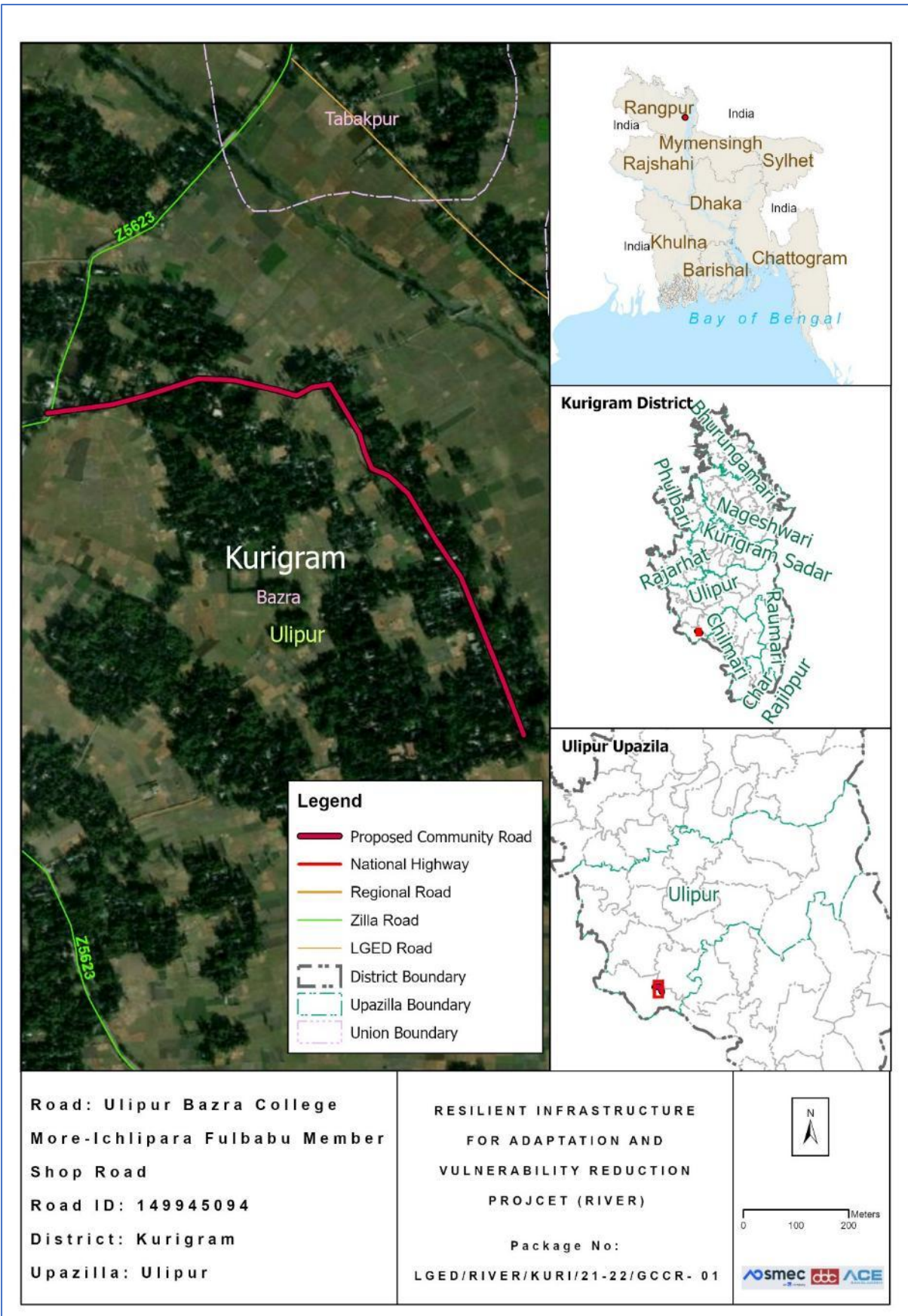
environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct influence area of the proposed sub-project. This 1.236 km road primarily passes through agricultural and residential areas. From 0 to 300 meters, the left side includes houses and trees, with agricultural land and trees on the right. Between 300 and 600 meters, the left side features agricultural land, while the right side contains a pond and trees. From 600 to 900 meters, the left side continues with agricultural land, and the right side remains agricultural as well. The next stretch from 900 to 1200 meters includes a pond on the left side and local housing on the right. The road ends between 1200 and 1236 meters, where there is a shop on the left side and residential areas along with a mosque on the right. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.



Location Map of the proposed Community Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **village road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Bituminous Carpeting (BC)**. According to the project design, the road will be upgraded with **Bituminous Carpeting (BC)** along the entire alignment from **Chainage 0 0m to Chainage 1236 m**.

Sub-project Location:

Important Features	
ID	149945094
District	Kurigram
Upazila	Ulipur
Union	Bazra
Total Chainage	1236m
Proposed Chainage	1236m
Road Type	Village Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	25.591444 N 89.60088 E
Road Ending Point Coordinates	25.586021 N 89.608966 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets): Please also explain any analysis on alternative location was conducted:

- i) The proposed Sub-project is located within Chadni Bazra, Bazra, and Ulipur.
- ii) No historical sites were found
- iii) Not required to relocate local community.
- iv) Some trees, vegetation and livelihood will be affected.
- v) Very low chance of loss of agricultural land.
- vi) Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

B.1: Environmental and Social feature of sub-project location

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmentally and socially sensitive establishments, including educational and religious institutions, are located within approximately 1 km of the project area. From 0 to 300 meters, the left side includes houses and trees, with agricultural land and trees on the right. Between 300 and 600 meters, the left side features agricultural land, while the right side contains a pond and trees. From 600 to 900 meters, the left side continues with agricultural land, and the right side remains agricultural as well. The next stretch from 900 to 1200 meters includes a pond on the left side and local housing on the right. The road ends between 1200 and 1236 meters, where there is a shop on the left side and residential areas along with a mosque on the right. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.

Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures.

Noise:

The existing noise level in the project area is generally low. Noise mainly originates from the daily activities and movement of local residents and vehicles. During the construction period, noise levels may temporarily increase due to the operation and transportation of construction equipment and materials. However, these impacts will be temporary and

limited to the construction period.

Baseline soil quality:

The sub-project area in Kurigram is characterized by recent floodplain and char-land soils formed from active deposits of the Brahmaputra River and its distributaries, particularly the Dharla River and Teesta River. The soils are predominantly sandy loam, silty loam, and alluvial clay in texture, with localized char areas containing loose sandy deposits highly vulnerable to erosion and seasonal reworking. In lower floodplain areas, finer silty-clay soils occur, often supporting paddy cultivation and seasonal cropping. These soils are generally moderately fertile but are highly influenced by annual flooding, sediment deposition, waterlogging, and riverbank erosion. In erosion-prone and char areas, soil instability can be significant, making slope protection, embankment stabilization, and erosion-sensitive road design important considerations for rural infrastructure development.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area. People in the area primarily depend on shallow and deep tube wells for their daily domestic water needs. The average groundwater table is typically found at a depth of approximately 120 to 280 feet below ground level. Groundwater quality assessments indicate the presence of iron in tube-well water, and localized arsenic concerns have been reported in some areas, which may cause health and aesthetic concerns if consumed without treatment. Therefore, appropriate public health measures, including iron removal systems, regular water quality testing, and community awareness programs, are essential to ensure safe drinking water. Local people usually prefer deep tube-well water for drinking and other domestic purposes. There should have deep tube wells which pump water from the confined aquifer.

Groundwater quality: pH-5.5 to 8.4, DO-2.0 to 8.0 mg/l, TDS-30 to 350 mg/l, EC-30 to 700 μ s/cm, Fe-0.5 to 6.5 mg/l and As-Low to Nil (Field Study Report, March 2026)

Status of wildlife movement:

The area supports a variety of common local bird species, frequently observed in surrounding agricultural fields, homesteads, char lands, and wetland habitats. Notable species include ghugu, bok and Choro (House Sparrow, *Passer domesticus*), along with herons, kingfishers and seasonal migratory water birds. These birds play a vital role in controlling insect populations, dispersing seeds, pollinating plants, and maintaining ecological balance within rural landscapes. In addition, the presence of wild mammals, such as Bon Biral (Jungle Cat, *Felis chaus*), snake and Fox (Bengal Fox, *Vulpes bengalensis*), reflects the typical rural biodiversity and ecological integrity of the area. These mammals function as natural predators, helping regulate populations of rodents and other small

animals, thereby contributing to agricultural pest control and ecosystem stability. Seasonal fish movement is also associated with the Brahmaputra, Dharla and Teesta floodplain system. Overall, the diversity of fish, birds, and mammals in the area indicates a functioning and interconnected ecosystem. Protecting these species through sustainable water management, habitat conservation, preservation of wetland connectivity, and environmentally responsible development is essential for maintaining biodiversity, ecological resilience, and long-term environmental sustainability in the locality.

State of forestation:

Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable):

Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:

Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.

Possible location of labor camps:

Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.

Requirement and type of raw materials (e.g. sand, stone, wood, etc.):

i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vii) steels viii) Bitumen are the most common type of road materials used in construction.

Identification of access road for transportation (Yes/No):

Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.

Location identification for raw material storage:

Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.):

Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):

Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.

Type and quantity of raw materials used (wood, bricks, cement, water, etc.):

Type: i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.

Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards:

No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.

Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

Natural drainage features such as ponds and water bodies are found along the alignment. On the left side, ponds are located at 300 meters, 600 meters, and 900 meters, while the

right side contains ponds and a mosque, with ponds observed at multiple intervals, particularly at 600 meters.

Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).

Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:

Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)

Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles:

No

Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description)

No

Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description)

No.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

<p>There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.</p>
<p>Likely direct and indirect impacts on economic development in the project areas by the sub-project:</p> <p>Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.</p>
<p>Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)</p> <p>No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated.</p>
<p>Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)</p> <p>There are no protected areas in or around project sites, and no known areas of ecological interest.</p>
<p>Activities leading to landslides, slumps, slips and other mass movements in road cuts:</p> <p>The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.</p>
<p>Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation)</p> <p>No</p>
<p>Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:</p> <p>Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.</p>

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Ulipur Bazra College More-Ichlipara Fulbabu Member Shop Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of livelihood	<ul style="list-style-type: none"> Under this subproject, there is no scope of negative impact on the livelihoods of adjacent communities or people. Contractors will be encouraged to engage local labors (both skilled and unskilled) as priority at their construction works, and women labor would get higher priority in recruitment. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> All of the project stakeholders should be consulted Separate community level consultation meeting with the potential affected HHs All the safeguard documents will be disclosed to all relevant stakeholders. People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Loss of right to access	<ul style="list-style-type: none"> Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. In case of unavoidable circumstances, alternative access will be provided. 	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system)	<ul style="list-style-type: none"> Transportation of construction materials to the site will be carried out by covering the materials as a whole. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	and pedestrians, potential accidents to workers/ local people, generating dust and noise)	<ul style="list-style-type: none"> • Store the materials in designated places, with proper fencing and coverings. 		
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> • Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor's officials/employees will be provided. • Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<ul style="list-style-type: none"> • Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Construction of sanitary latrine with septic tank for 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>both male and female workers and staffs; and ensure regular cleaning of those.</p> <ul style="list-style-type: none"> • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those. • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc. 		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of surface runoff. • Construction facilities including materials are to be 	PIU & Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow.</p> <ul style="list-style-type: none"> • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • Existing utility services must be relocated or adjusted where they obstruct the works or pose a risk of damage, in close cooperation with the appropriate authority. • The contractor must ensure sound environment for the local residents near the sub project site. 		
Construction Activity	Noise from construction works	<ul style="list-style-type: none"> • Construction activities mostly shall finish at day time within 05:00 PM, and must confirm proper measures for avoiding any disturbance. • All Personal Protective Equipment (PPEs) must be available at sites before starting any kind of construction works. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Noise producing vehicles and equipment will be kept in maintenance regularly. • Since expensive engineering controls (e.g., acoustic curtains, noise barriers, etc.) may not be feasible in terms of availability and scope of the project works, noise reduction muffler or less expensive alternative options will be selected during the construction works. 		
Construction Activity	Dust	<ul style="list-style-type: none"> • Acceptable range of emission of CO, particulate matter [SPM (Suspended particulate matter), PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site. 	Contractor	Environmental Consultant of PIU
Construction Activity	Safety Issues	<ul style="list-style-type: none"> • Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape. 		
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex. 	Contractor	Environmental Consultant of PIU
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering the availability of nearby resources and technical options, and potential risks of extracting water from the same sources used by other 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>consumer groups especially during the critical period.</p> <ul style="list-style-type: none"> • Water from any installed tubewell or an existing surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works. • If ground or surface water is withdrawn for the use of construction works from outside of the other selected places, adequate approvals from the appropriate authority need to be taken before extraction or setting up bore wells. • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction works start. 		
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> • Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. 	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation. 		
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> • A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on-site. • The construction debris material generated from 	Contractor	Environmental Consultant of PIU

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of Community Roads for Kurigram District (GCCR-01)

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers.</p> <ul style="list-style-type: none"> • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules. 		
Construction	Slipping of soil masses, dust	<ul style="list-style-type: none"> • Slope protection measures (proper compaction, 	Contractor	Environmental and Social

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Activity	deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<p>palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road.</p> <ul style="list-style-type: none"> Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 		Development Consultant of PIU, PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, 	<ul style="list-style-type: none"> All construction equipment will be properly inspected timely. The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. Proper Signpost at any slippery areas will be ensured in construction site. Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>heat stress, and dermatitis.</p>	<p>emergency response and evacuation procedure and personnel will be trained and drilled to test and ensure the coherence with the plan.</p> <ul style="list-style-type: none"> • All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. • Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>available at all Sites, on different locations within the site.</p> <ul style="list-style-type: none"> • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used. 		
Construction Activity	Pollution of water bodies	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage 	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>surface water runoff and minimize erosion.</p> <ul style="list-style-type: none"> • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. 		
Construction Activity	<p>Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge from latrines is to be undertaken properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re- 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>grassed as per specification that forms part of this document.</p> <ul style="list-style-type: none"> The contractor must arrange the cancellation of all temporary services. 		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> Preventative maintenance schedule should be followed. Solid organic wastes should be stored in bins and/or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time. 	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU. 	Contractor	Environmental Consultant of PIU
Operation & Maintenance	Road Safety. Impacts include: <ul style="list-style-type: none"> The increased vehicular 	<ul style="list-style-type: none"> Road safety issues can be minimized in following ways: 	Upazila Engineer (UE)	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers.</p> <ul style="list-style-type: none"> Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries. 	<ul style="list-style-type: none"> By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time. 		
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl. no.	Description of item	Quantity	Unit price	Total amount
1.	<p><u>Grass Turfing</u></p> <p>Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)</p>	1483.2 Sq.m	@38.15 Tk. Per sqm	56,584.08
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	1236.0m	@ 2.56 BDT	3,164.16
3.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.</p>	2 nos.	@12822.86 per toilet	25,645.72
4.	<p><u>First Aid Box</u></p> <p>Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout</p>	1 no.	LS @5000 Tk. Per box	5,000.00

Sl. no.	Description of item	Quantity	Unit price	Total amount
	the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.			
5.	<p><u>Drinking Water Facilities</u></p> <p>Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.</p>	1 no.	LS @ Tk. 30,000	30,000.00
6.	<p><u>Traffic Management</u></p> <p>Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes providing necessary barricades, warning signs/lights, guide signs, flagmen, maintaining diversion roads by cutting, filling, constructing, etc. or by any other means) in accordance with the full satisfaction of the Engineering-in-charge.</p>	1 no.	LS @ Tk. 15,000	15,000.00
7.	<p><u>Personal Protection Equipment for Workers</u></p> <p>Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles</p>	LS	LS @ Tk. 30,000	30,000.00
8.	<p><u>Motivation training</u></p>	1 no.	LS @ Tk.	10,000.00

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Sl. no.	Description of item	Quantity	Unit price	Total amount
	Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.		10,000	
9.	<u>Waste disposal facility</u> Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.	LS	@ Tk. 5000	5,000.00
10.	<u>Water Test (Drinking Water samples)</u> Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.	LS	@ Tk. 5000	5,000.00
11.	<u>Working labour shed:</u> Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.	1 no.	LS @ Tk. 30,000	30,000.00
12.	<u>Environmental management</u> Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax &VAT). And as per direction of the E.I.C. <u>[One person to be appointed for 13 roads]</u>	Each	@ Tk. 35000	35,000.00
	Total amount for this Road			250,393.96



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Sutirpar - Mollarchar road via New BOP camp Road, ID: 149795017**

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Kurigram

Upazila: Rowmari

Union: 4 No. Rowmari

Name of Community/Local Area: Sutir Para, Mollar Char, Rowmari

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project includes the development of the Sutirpar–Mollarchar Road via New BOP Camp, having a total length of approximately 1.83 km. The road is presently unpaved and earthen over its full length. A bridge exists from Ch. 0+584 to 0+630, while multiple palisading sections occur in the early chainages. The proposed intervention includes full upgrading with Bituminous Carpeting, while palisading will be strengthened at Ch. 0+103–0+128, Ch. 0+130–0+152, Ch. 0+163–0+187 and Ch. 0+321–0+342. These works will improve road connectivity while protecting weak embankment sections and maintaining access over the bridge. The project footprint will remain largely within the existing road alignment in order to minimize potential environmental and social impacts. Appropriate road safety measures and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure the safety, sustainability, and resilience of the sub-project.

Estimated footprint / land area for this sub-project is 5,490 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 1830m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
	L	R	
00-300	L		Local home, agriculture land, pond and trees.
		R	Local home, agriculture land, and pond.
300-600	L		Mosque, local home, agriculture land (370m)
		R	Local home and agriculture land.
600-900	L		Agriculture land.
		R	Agriculture land and homes.
900-1200	L		Agriculture land.
		R	Agriculture land and local homes.

Chainage	(Left/Right)		Environmental and Social Impact
1200-1500	L		Local homes, and agriculture land.
		R	Local home and agriculture land.
1500-1830	L		Local home, agriculture land.
		R	Local home, agriculture land, BOP Camp.



Starting Point of Sutirpar - Mollarchar road via New BOP camp Road

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

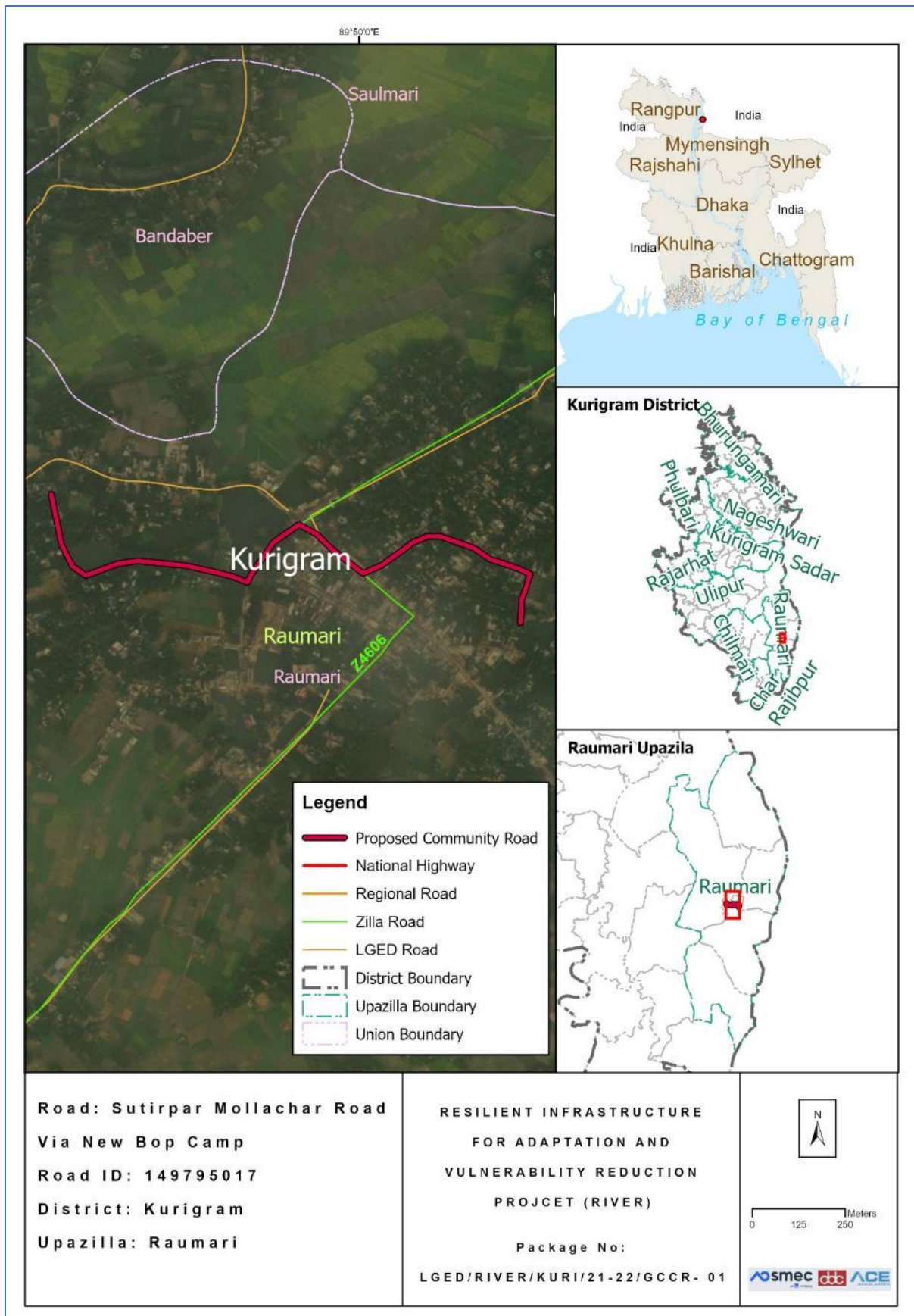
It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct influence area of the proposed sub-project. This 1.83 km road is a mix of local homes, agricultural land, and ponds, with the BOP Camp located towards the end. From 0 to 300 meters on the left, you'll find agricultural land, ponds, and local homes, with similar features on the right. Between 300 and 600 meters, the left side includes a mosque and local homes, while the right side is mostly agricultural land. From 600 to 1200 meters, both sides continue to feature agricultural land, with local homes scattered in some areas. The road ends at 1830 meters, where local homes and agricultural land are found on both sides, along with a BOP Camp located on the right. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.



Location Map of the proposed Community Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **village road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Bituminous Carpeting (BC)**. According to the project design, the road will be upgraded with **Bituminous Carpeting (BC)** along the entire alignment from **Chainage 0 0m to Chainage 1830 m**.

Sub-project Location:

Important Features	
ID	149795017
District	Kurigram
Upazila	Rowmari
Union	4 No. Rowmari
Total Chainage	1830m
Proposed Chainage	1830m
Road Type	Village Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	25.575 N, 89.837 E
Road Ending Point Coordinates	25.578 N, 89.826 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets): Please also explain any analysis on alternative location was conducted:

- i) The proposed Sub-project is located within Sutir Para, Mollar Char, and Rowmari.
- ii) No historical sites were found
- iii) Not required to relocate local community.
- iv) Some trees, vegetation and livelihood will be affected.
- v) Very low chance of loss of agricultural land.
- vi) Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

B.1: Environmental and Social feature of sub-project location

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmentally and socially sensitive establishments, including educational and religious institutions, are located within approximately 1 km of the project area. From 0 to 300 meters on the left, you'll find agricultural land, ponds, and local homes, with similar features on the right. Between 300 and 600 meters, the left side includes a mosque and local homes, while the right side is mostly agricultural land. From 600 to 1200 meters, both sides continue to feature agricultural land, with local homes scattered in some areas. The road ends at 1830 meters, where local homes and agricultural land are found on both sides, along with a BOP Camp located on the right. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.

Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures.

Noise:

The existing noise level in the project area is generally low. Noise mainly originates from the daily activities and movement of local residents and vehicles. During the construction period, noise levels may temporarily increase due to the operation and transportation of construction equipment and materials. However, these impacts will be temporary and limited to the construction period.

Baseline soil quality:

The sub-project area in Kurigram is characterized by recent floodplain and char-land soils formed from active deposits of the Brahmaputra River and its distributaries, particularly the Dharla River and Teesta River. The soils are predominantly sandy loam, silty loam, and alluvial clay in texture, with localized char areas containing loose sandy deposits highly vulnerable to erosion and seasonal reworking. In lower floodplain areas, finer silty-clay soils occur, often supporting paddy cultivation and seasonal cropping. These soils are generally moderately fertile but are highly influenced by annual flooding, sediment deposition, waterlogging, and riverbank erosion. In erosion-prone and char areas, soil instability can be significant, making slope protection, embankment stabilization, and erosion-sensitive road design important considerations for rural infrastructure development.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area. People in the area primarily depend on shallow and deep tube wells for their daily domestic water needs. The average groundwater table is typically found at a depth of approximately 120 to 280 feet below ground level. Groundwater quality assessments indicate the presence of iron in tube-well water, and localized arsenic concerns have been reported in some areas, which may cause health and aesthetic concerns if consumed without treatment. Therefore, appropriate public health measures, including iron removal systems, regular water quality testing, and community awareness programs, are essential to ensure safe drinking water. Local people usually prefer deep tube-well water for drinking and other domestic purposes. There should have deep tube wells which pump water from the confined aquifer.

Groundwater quality: pH-5.5 to 8.4, DO-2.0 to 8.0 mg/l, TDS-30 to 350 mg/l, EC-30 to 700 µs/cm, Fe-0.5 to 6.5 mg/l and As-Low to Nil (Field Study Report, March 2026)

Status of wildlife movement:

The area supports a variety of common local bird species, frequently observed in surrounding agricultural fields, homesteads, char lands, and wetland habitats. Notable species include ghugu, bok and Choroi (House Sparrow, *Passer domesticus*), along with herons, kingfishers and seasonal migratory water birds. These birds play a vital role in controlling insect populations, dispersing seeds, pollinating plants, and maintaining ecological balance within rural landscapes. In addition, the presence of wild mammals, such as Bon Biral (Jungle Cat, *Felis chaus*), snake and Fox (Bengal Fox, *Vulpes bengalensis*), reflects the typical rural biodiversity and ecological integrity of the area. These mammals function as natural predators, helping regulate populations of rodents and other small animals, thereby contributing to agricultural pest control and ecosystem stability. Seasonal fish movement is also associated with the Brahmaputra, Dharla and Teesta floodplain system. Overall, the diversity of fish, birds, and mammals in the area indicates a functioning and interconnected ecosystem. Protecting these species through sustainable water management, habitat conservation, preservation of wetland connectivity, and environmentally responsible development is essential for maintaining biodiversity,

ecological resilience, and long-term environmental sustainability in the locality.

State of forestation:

Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable):

Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:

Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.

Possible location of labor camps:

Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.

Requirement and type of raw materials (e.g. sand, stone, wood, etc.):

i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.

Identification of access road for transportation (Yes/No):

Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.

Location identification for raw material storage:

Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.):

Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):

Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.

Type and quantity of raw materials used (wood, bricks, cement, water, etc.):

Type: i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.

Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards:

No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.

Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

Natural drainage features such as ponds, ditches, and water bodies are located along both sides. Ponds are situated at regular intervals, including at 300 meters, 600 meters, and 900 meters on the left side. The right side contains ponds, ditches, and water bodies scattered throughout the route, particularly near 300 meters, 600 meters, and 1,200 meters.

Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

Low. Under the improvement of this intervention, the effect of destruction or damage of

<p>lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).</p>
<p>Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:</p> <p>Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.</p>
<p>Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)</p> <p>Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.</p>
<p>Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:</p> <p>No traffic movement impacts on light but low effects of noise and air pollution.</p>

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

<p>Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles:</p> <p>No</p>
<p>Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description)</p> <p>No</p>
<p>Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description)</p> <p>No.</p>
<p>Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)</p> <p>There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.</p>
<p>Likely direct and indirect impacts on economic development in the project areas by the sub-project:</p>

<p>Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.</p>
<p>Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)</p> <p>No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated.</p>
<p>Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)</p> <p>There are no protected areas in or around project sites, and no known areas of ecological interest.</p>
<p>Activities leading to landslides, slumps, slips and other mass movements in road cuts:</p> <p>The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.</p>
<p>Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation)</p> <p>No</p>
<p>Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:</p> <p>Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.</p>

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Sutirpar Mollachar Road Via New Bop Camp Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of land / and other physical assets	<ul style="list-style-type: none"> No land acquisition is allowed in or nearby areas of the sub-project, or for any sub-project related activities. Therefore, no mitigation measures are suggested in this respect. If and whenever any land/physical assets related grievances are raised at any point of the subproject implementation, project GRCs will take due course of actions to resolve the issues or grievances. 	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Loss of livelihood	<ul style="list-style-type: none"> Under this subproject, there is no scope of negative impact on the livelihoods of adjacent communities or people. Contractors will be encouraged to engage local labors (both skilled and unskilled) as priority at their construction works, and women labor would get higher priority in recruitment. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> All of the project stakeholders should be consulted Separate community level consultation meeting with the potential affected HHs All the safeguard documents will be disclosed to all relevant stakeholders. People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of right to access	<ul style="list-style-type: none"> Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. In case of unavoidable circumstances, alternative access will be provided. 	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	<ul style="list-style-type: none"> Transportation of construction materials to the site will be carried out by covering the materials as a whole. Store the materials in designated places, with proper fencing and coverings. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor's officials/employees will be provided. Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<ul style="list-style-type: none"> Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. No trees, shrubs will be removed or vegetation stripped without prior permission of the 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured.</p> <ul style="list-style-type: none"> • Construction of sanitary latrine with septic tank for both male and female workers and staffs; and ensure regular cleaning of those. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those. • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of 		

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>crime and to be safe from access by students, children, animals, etc.</p>		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • Existing utility services must be relocated or adjusted where they obstruct the works or pose a risk of damage, in close cooperation with the appropriate authority. • The contractor must ensure sound environment for the local residents near the sub project site. 	PIU & Contractor	Environmental Consultant of PIU
Construction	Noise from construction	<ul style="list-style-type: none"> • Construction activities mostly shall finish at day time 	Contractor	Environmental

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Activity	works	<p>within 05:00 PM, and must confirm proper measures for avoiding any disturbance.</p> <ul style="list-style-type: none"> • All Personal Protective Equipment (PPEs) must be available at sites before starting any kind of construction works. • Noise producing vehicles and equipment will be keep in maintenance regularly. • Since expensive engineering controls (e.g., acoustic curtains, noise barriers, etc.) may not be feasible in terms of availability and scope of the project works, noise reduction muffler or less expensive alternative options will be selected during the construction works. 		Consultant of PIU
Construction Activity	Dust	<ul style="list-style-type: none"> • Acceptable range of emission of CO, particulate matter [SPM (Suspended particulate matter), PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Safety Issues	<ul style="list-style-type: none"> • Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape. 	Contractor	Environmental Consultant of PIU
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex. 	Contractor	Environmental Consultant of PIU
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering the availability 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>of nearby resources and technical options, and potential risks of extracting water from the same sources used by other consumer groups especially during the critical period.</p> <ul style="list-style-type: none"> • Water from any installed tubewell or an existing surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works. • If ground or surface water is withdrawn for the use of construction works from outside of the other selected places, adequate approvals from the appropriate authority need to be taken before extraction or setting up bore wells. • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction works start. 		
Construction Activity	Increase in road accidents	<ul style="list-style-type: none"> • Maintain safety measures during the movement of heavy machinery and equipment. • Proper signage to be displayed at major junctions; and road diversions and closures to be informed well in advance to the local community. • Vehicular movement to be controlled near sensitive locations (e.g., schools, colleges, hospitals, etc.) 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> Local community will be trained up on traffic management and awareness. 		
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. Adequate facilities ensuring sanitation for labor camps will be put in place. Treated water will be made available at site for drinking purpose. Adequate accommodation arrangements for labor forces. Labor code of conduct is to be disclosed through consultation. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> A separate grievance mechanism for workers has to be established for the work package. Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. Appropriate notification or training to the workers about the scope and procedure of the grievance 	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same.</p>		
Construction Activity	<p>Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.</p>	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers. • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be 	Contractor	Environmental Consultant of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>imperviously paved.</p> <ul style="list-style-type: none"> • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules. 		
Construction Activity	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<ul style="list-style-type: none"> • Slope protection measures (proper compaction, palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road. • Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 	Contractor	Environmental and Social Development Consultant of PIU, PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical 	<ul style="list-style-type: none"> • All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. • Proper Signpost at any slippery areas will be ensured 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>shocks.</p> <ul style="list-style-type: none"> • Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis. 	<p>in construction site.</p> <ul style="list-style-type: none"> • Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. • This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, emergency response and evacuation procedure and personnel will be trained and drilled to test and ensure the coherence with the plan. • All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. • Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site.</p> <ul style="list-style-type: none"> • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used. 		
Construction Activity	Pollution of water bodies	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from 	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered.</p> <ul style="list-style-type: none"> • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. 		
Construction Activity	<p>Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge from latrines is to be undertaken 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this document.</p> <ul style="list-style-type: none"> The contractor must arrange the cancellation of all temporary services. 		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> Preventative maintenance schedule should be followed. Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time. 	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU. 	Contractor	Environmental Consultant of PIU
Operation &	Road Safety. Impacts include:	<ul style="list-style-type: none"> Road safety issues can be minimized in following 	Upazila Engineer	District Executive

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Maintenance	<ul style="list-style-type: none"> The increased vehicular movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers. Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries. 	<p>ways:</p> <ul style="list-style-type: none"> By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time. 	(UE)	Engineer, LGED
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl. no.	Description of item	Quantity	Unit price	Total amount
1.	<u>Grass Turfing</u> Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)	2196 Sq.m	@38.15 Tk. Per sqm	83,777.40
2.	<u>Dust suppression measures</u> Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C	1830.0m	@ 2.56 BDT	4,684.80
3.	<u>Tree Plantation</u> For each tree felled, 3 shall be planted as replacement.	5	@ 500 BDT	7,500.00
4.	<u>Water Supply and Sanitation</u> Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge. Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.	2 nos.	@12822.86 per toilet	25,645.72
5.	<u>First Aid Box</u> Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and	1 no.	LS @5000 Tk. Per box	5,000.00

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Sl. no.	Description of item	Quantity	Unit price	Total amount
	site office, and erect conspicuous notice boards directing where these are situated and providing all requisite er complete as per requirement and full satisfaction of Engineer-in-charge.			
6.	<p><u>Drinking Water Facilities</u></p> <p>Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.</p>	1 no.	LS @ Tk. 30,000	30,000.00
7.	<p><u>Traffic Management</u></p> <p>Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes pro</p>	1 no.	LS @ Tk. 15,000	15,000.00
8.	<p><u>Personal Protection Equipment for Workers</u></p> <p>Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles</p>	LS	LS @ Tk 30,000	30,000.00
9.	<p><u>Motivation training</u></p> <p>Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.</p>	1 no.	LS @ Tk. 10,000	10,000.00

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Sl. no.	Description of item	Quantity	Unit price	Total amount
10.	<p><u>Waste disposal facility</u></p> <p>Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.</p>	LS	@ Tk. 5000	5,000.00
11.	<p><u>Water Test (Drinking Water samples)</u></p> <p>Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.</p>	LS	@ Tk. 5000	5,000.00
12.	<p><u>Working labour shed:</u></p> <p>Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.</p>	1 no.	LS @ Tk. 30,000	30,000.00
13.	<p><u>Environmental management</u></p> <p>Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax & VAT). And as per direction of the E.I.C. [One person to be appointed for 13 roads]</p>	Each	@ Tk. 35000	35,000.00
Total amount for this Road				286,607.92



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Poschim Vatia Para H/O Baker Member to Purbo Vatia Para H/o Nasir Member Road, ID: 149095050**

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Kurigram

Upazila: Chilmari

Union: Raniganj

Name of Community/Local Area: Purbo Vatiya Para, Raniganj, Chilmari.

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project includes rehabilitation of the Pachim Vatia Para–Purbo Vatia Para Road, having a total length of approximately 0.90 km. The existing road consists of damaged Rehabilitated Uni block pavement throughout from Ch. 0+000 to 0+900. Existing structures include U-drains at Ch. 0+004, Ch. 0+156 and Ch. 0+335, a box culvert at Ch. 0+454–0+456, and a bridge at Ch. 0+571–0+582. The proposed intervention includes rehabilitation using Uni Block over the full alignment. These works will restore pavement quality, improve drainage function, and enhance the structural condition of the existing road. The project footprint will remain largely within the existing road alignment in order to minimize potential environmental and social impacts. Appropriate road safety measures and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure the safety, sustainability, and resilience of the sub-project.

Estimated footprint / land area for this sub-project is 2,700 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 900m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		Local home, agriculture land, and trees.
		R	Local home, agriculture land.
300-600	L		Houses, trees and agriculture.
		R	Houses, trees and agriculture.
600-900	L		East Vatiyapara mosque.
		R	East Vatiyapara Nashir member house.



Starting Point of Poschim Vatia Para H/O Baker Member to Purbo Vatia Para H/o Nasir Member Road

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the

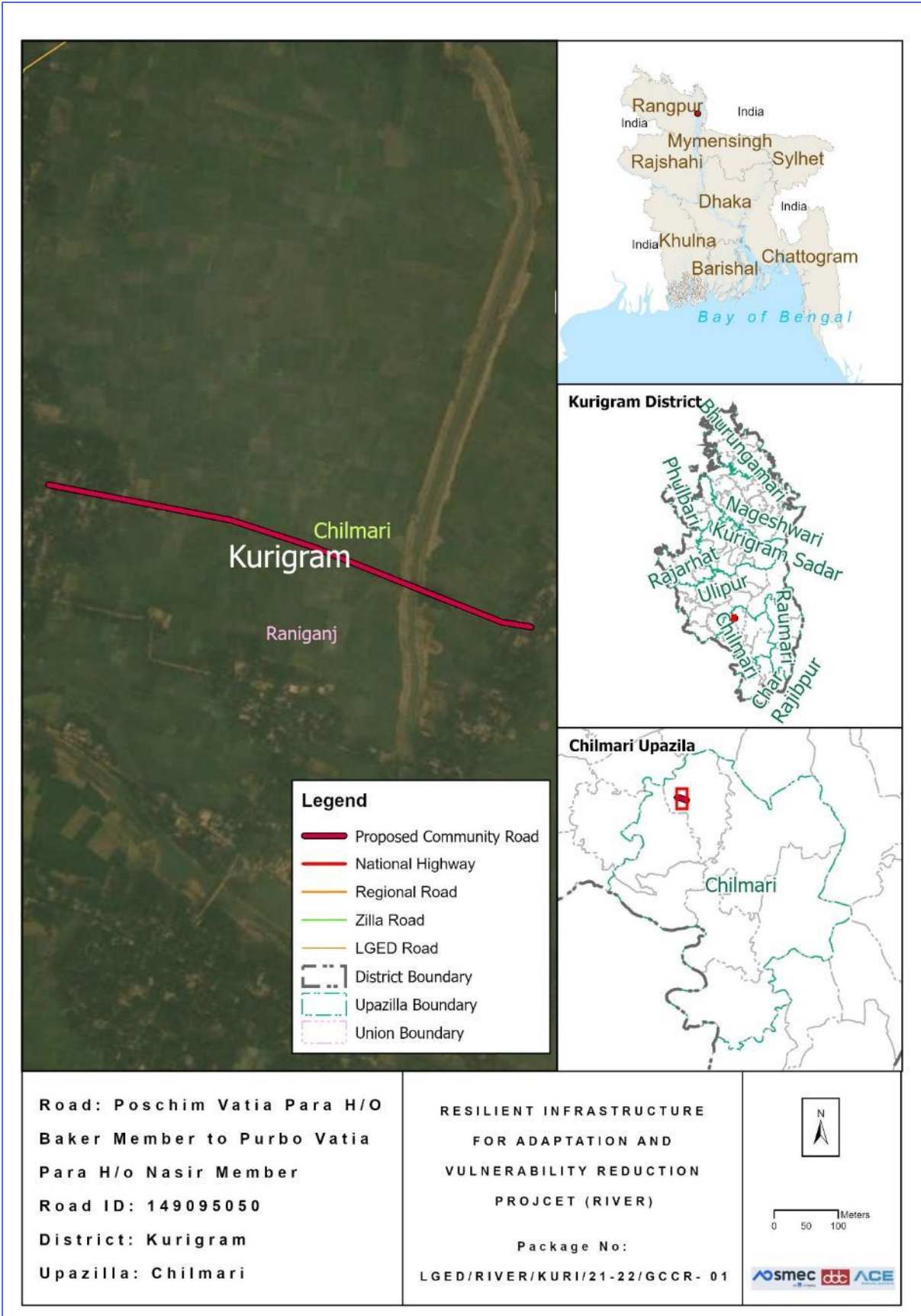
ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct influence area of the proposed sub-project. This 900-meter stretch runs through residential and agricultural areas. The first 300 meters on the left side include local homes, agricultural land, and trees, while the right side has similar features. Between 300 and 600 meters, houses and agricultural land continue on both sides, with the left side featuring the East Vatiyapara mosque. From 600 to 900 meters, the left side includes more houses, while the right side features the house of Nasir Member. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.



Location Map of the proposed Community Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **village road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Rehabilitation Uni Block**. According to the project design, the road will be upgraded with **Rehabilitation Uni Block** along the entire alignment from **Chainage 0 0m to Chainage 900 m**.

Sub-project Location:

Important Features	
ID	149095050
District	Kurigram
Upazila	Chilmari
Union	Raniganj
Total Chainage	900m
Proposed Chainage	900m
Road Type	Village Road
Proposed Intervention Type	Rehabilitation Uni Block
Road Starting Point Coordinates	25.621209 N, 89.670601 E
Road Ending Point Coordinates	25.62633 N, 89.684503 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets): Please also explain any analysis on alternative location was conducted:

- i) The proposed Sub-project is located within Purbo Vatiya Para, Raniganj, and Chilmari.
- ii) No historical sites were found
- iii) Not required to relocate local community.
- iv) Some trees, vegetation and livelihood will be affected.
- v) Very low chance of loss of agricultural land.
- vi) Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

B.1: Environmental and Social feature of sub-project location

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmentally and socially sensitive establishments, including educational and religious institutions, are located within approximately 1 km of the project area. The first 300 meters on the left side include local homes, agricultural land, and trees, while the right side has similar features. Between 300 and 600 meters, houses and agricultural land continue on both sides, with the left side featuring the East Vatiyapara mosque. From 600 to 900 meters, the left side includes more houses, while the right side features the house of Nasir Member. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.

Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures.

Noise:

The existing noise level in the project area is generally low. Noise mainly originates from the daily activities and movement of local residents and vehicles. During the construction period, noise levels may temporarily increase due to the operation and transportation of construction equipment and materials. However, these impacts will be temporary and limited to the construction period.

Baseline soil quality:

The sub-project area in Kurigram is characterized by recent floodplain and char-land soils formed from active deposits of the Brahmaputra River and its distributaries, particularly the Dharla River and Teesta River. The soils are predominantly sandy loam, silty loam, and alluvial clay in texture, with localized char areas containing loose sandy deposits highly vulnerable to erosion and seasonal reworking. In lower floodplain areas, finer silty-clay soils occur, often supporting paddy cultivation and seasonal cropping. These soils are generally moderately fertile but are highly influenced by annual flooding, sediment deposition, waterlogging, and riverbank erosion. In erosion-prone and char areas, soil instability can be significant, making slope protection, embankment stabilization, and erosion-sensitive road design important considerations for rural infrastructure development.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area. People in the area primarily depend on shallow and deep tube wells for their daily domestic water needs. The average groundwater table is typically found at a depth of approximately 120 to 280 feet below ground level. Groundwater quality assessments indicate the presence of iron in tube-well water, and localized arsenic concerns have been reported in some areas, which may cause health and aesthetic concerns if consumed without treatment. Therefore, appropriate public health measures, including iron removal systems, regular water quality testing, and community awareness programs, are essential to ensure safe drinking water. Local people usually prefer deep tube-well water for drinking and other domestic purposes. There should have deep tube wells which pump water from the confined aquifer.

Groundwater quality: pH-5.5 to 8.4, DO-2.0 to 8.0 mg/l, TDS-30 to 350 mg/l, EC-30 to 700 μ s/cm, Fe-0.5 to 6.5 mg/l and As-Low to Nil (Field Study Report, March 2026)

Status of wildlife movement:

The area supports a variety of common local bird species, frequently observed in surrounding agricultural fields, homesteads, char lands, and wetland habitats. Notable species include ghugu, bok and Choro (House Sparrow, *Passer domesticus*), along with herons, kingfishers and seasonal migratory water birds. These birds play a vital role in controlling insect populations, dispersing seeds, pollinating plants, and maintaining ecological balance within rural landscapes. In addition, the presence of wild mammals, such as Bon Biral (Jungle Cat, *Felis chaus*), snake and Fox (Bengal Fox, *Vulpes bengalensis*), reflects the typical rural biodiversity and ecological integrity of the area. These mammals function as natural predators, helping regulate populations of rodents and other small animals, thereby contributing to agricultural pest control and ecosystem stability. Seasonal fish movement is also associated with the Brahmaputra, Dharla and Teesta floodplain system. Overall, the diversity of fish, birds, and mammals in the area indicates a functioning and interconnected ecosystem. Protecting these species through sustainable water management, habitat conservation, preservation of wetland connectivity, and environmentally responsible development is essential for maintaining biodiversity, ecological resilience, and long-term environmental sustainability in the locality.

State of forestation:

Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable):

Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:

Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.

Possible location of labor camps:

Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.

Requirement and type of raw materials (e.g. sand, stone, wood, etc.):

i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.

Identification of access road for transportation (Yes/No):

Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.

Location identification for raw material storage:

Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.):

Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during

construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):

Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.

Type and quantity of raw materials used (wood, bricks, cement, water, etc.):

Type: i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.

Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards:

No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.

Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

Natural drainage features such as ponds and water bodies are located along both sides. The left side includes ponds at approximately 300 meters and 600 meters, while the right side has ponds and water bodies scattered along the alignment.

Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees,

earthworm, reptiles, birds etc.).
<p>Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:</p> <p>Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.</p>
<p>Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)</p> <p>Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.</p>
<p>Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:</p> <p>No traffic movement impacts on light but low effects of noise and air pollution.</p>

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

<p>Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles:</p> <p>No</p>
<p>Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description)</p> <p>No</p>
<p>Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description)</p> <p>No.</p>
<p>Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)</p> <p>There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.</p>
<p>Likely direct and indirect impacts on economic development in the project areas by the sub-project:</p> <p>Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces</p>

the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.

Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated.

Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

There are no protected areas in or around project sites, and no known areas of ecological interest.

Activities leading to landslides, slumps, slips and other mass movements in road cuts:

The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation)

No

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Poschim Vatia Para H/O Baker Member to Purbo Vatia Para H/o Nasir Member Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> All of the project stakeholders should be consulted Separate community level consultation meeting with the potential affected HHs All the safeguard documents will be disclosed to all relevant stakeholders. People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	<ul style="list-style-type: none"> Transportation of construction materials to the site will be carried out by covering the materials as a whole. Store the materials in designated places, with proper fencing and coverings. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor's officials/employees will be provided. Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<p>the consumers.</p> <ul style="list-style-type: none"> • Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Construction of sanitary latrine with septic tank for both male and female workers and staffs; and ensure regular cleaning of those. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those.</p> <ul style="list-style-type: none"> • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc. 		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. 	PIU & Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • Existing utility services must be relocated or adjusted where they obstruct the works or pose a risk of damage, in close cooperation with the appropriate authority. • The contractor must ensure sound environment for the local residents near the sub project site. 		
Construction Activity	Dust	<ul style="list-style-type: none"> • Acceptable range of emission of CO, particulate matter [SPM (Suspended particulate matter), PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site. 	Contractor	Environmental Consultant of PIU
Construction Activity	Safety Issues	<ul style="list-style-type: none"> • Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor’s log book at entrance) 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape. 		
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex. 	Contractor	Environmental Consultant of PIU
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering the availability of nearby resources and technical options, and potential risks of extracting water from the same sources used by other 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>consumer groups especially during the critical period.</p> <ul style="list-style-type: none"> • Water from any installed tubewell or an existing surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works. • If ground or surface water is withdrawn for the use of construction works from outside of the other selected places, adequate approvals from the appropriate authority need to be taken before extraction or setting up bore wells. • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction works start. 		
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> • Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. 	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation. 		
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> • A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on-site. • The construction debris material generated from 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers.</p> <ul style="list-style-type: none"> • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules. 		
Construction	Slipping of soil masses, dust	<ul style="list-style-type: none"> • Slope protection measures (proper compaction, 	Contractor	Environmental and Social

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Activity	deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<p>palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road.</p> <ul style="list-style-type: none"> Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 		Development Consultant of PIU, PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, 	<ul style="list-style-type: none"> All construction equipment will be properly inspected timely. The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. Proper Signpost at any slippery areas will be ensured in construction site. Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>heat stress, and dermatitis.</p>	<p>emergency response and evacuation procedure and personnel will be trained and drilled to test and ensure the coherence with the plan.</p> <ul style="list-style-type: none"> • All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. • Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>available at all Sites, on different locations within the site.</p> <ul style="list-style-type: none"> • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used. 		
Construction Activity	Pollution of water bodies	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage 	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>surface water runoff and minimize erosion.</p> <ul style="list-style-type: none"> • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. 		
Construction Activity	<p>Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge from latrines is to be undertaken properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re- 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>grassed as per specification that forms part of this document.</p> <ul style="list-style-type: none"> The contractor must arrange the cancellation of all temporary services. 		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> Preventative maintenance schedule should be followed. Solid organic wastes should be stored in bins and/or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time. 	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU. 	Contractor	Environmental Consultant of PIU
Operation & Maintenance	Road Safety. Impacts include: <ul style="list-style-type: none"> The increased vehicular 	<ul style="list-style-type: none"> Road safety issues can be minimized in following ways: 	Upazila Engineer (UE)	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers.</p> <ul style="list-style-type: none"> Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries. 	<ul style="list-style-type: none"> By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time. 		
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl. no.	Description of item	Quantity	Unit price	Total amount
1.	<p><u>Grass Turfing</u></p> <p>Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)</p>	1080 Sq.m	@38.15 Tk. Per sqm	41,202.00
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	900.0m	@ 2.56 BDT	2,304.00
3.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.</p>	2 nos.	@12822.86 per toilet	25,645.72
4.	<p><u>First Aid Box</u></p> <p>Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the</p>	1 no.	LS @5000 Tk. Per box	5,000.00

Sl. no.	Description of item	Quantity	Unit price	Total amount
	working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.			
5.	<p><u>Drinking Water Facilities</u></p> <p>Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.</p>	1 no.	LS @ Tk. 30,000	30,000.00
6.	<p><u>Traffic Management</u></p> <p>Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this incl</p>	1 no.	LS @ Tk. 15,000	15,000.00
7.	<p><u>Personal Protection Equipment for Workers</u></p> <p>Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles</p>	LS	LS @ Tk 30,000	30,000.00
8.	<p><u>Motivation training</u></p> <p>Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.</p>	1 no.	LS @ Tk. 10,000	10,000.00

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Sl. no.	Description of item	Quantity	Unit price	Total amount
9.	<p><u>Waste disposal facility</u></p> <p>Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.</p>	LS	@ Tk. 5000	5,000.00
10.	<p><u>Water Test (Drinking Water samples)</u></p> <p>Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.</p>	LS	@ Tk. 5000	5,000.00
11.	<p><u>Working labour shed:</u></p> <p>Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.</p>	1 no.	LS @ Tk. 30,000	30,000.00
12.	<p><u>Environmental management</u></p> <p>Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax &VAT). And as per direction of the E.I.C. [One person to be appointed for 13 roads]</p>	Each	@ Tk. 35000	35,000.00
Total amount for this Road				234,151.72



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Fakir Para Pucca Road - North Side Dompur More Road, ID: 149095115**

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Kurigram

Upazila: Chilmari

Union: Thana Hat

Name of Community/Local Area: Fokir para, Uttar Mas Para, Thana Hat

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project includes the development of the Fakir Para Pucca Road–North Side Dompur More Road, having a total length of approximately 1.012 km. The road is currently unpaved and earthen throughout. Existing structures include box culverts, a U-drain, a bridge, and existing palisading. The project includes Bituminous Carpeting from Ch. 0+000 to 1+012 and additional palisading at Ch. 0+377–0+399, Ch. 0+700–0+715, Ch. 0+798–0+813, Ch. 0+850–0+897 and Ch. 0+980–1+012. These works will improve surface condition and strengthen roadside stability. The project footprint will remain largely within the existing road alignment in order to minimize potential environmental and social impacts. Appropriate road safety measures and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure the safety, sustainability, and resilience of the sub-project.

Estimated footprint / land area for this sub-project is 3,036 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 1012m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
	L	R	
00-300	L		Agriculture land, house area and pond.
		R	Pond and agriculture land.
300-600	L		House area and pond.
		R	Agriculture land, house area and pond.
600-900	L		Waterbody, trees and pond.
		R	Trees and house area.
900-1012	L		Agriculture land, house area and pond.
		R	Houses and trees.



Starting Point of Fakir Para Pucca Road - North Side Dompur More Road

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the

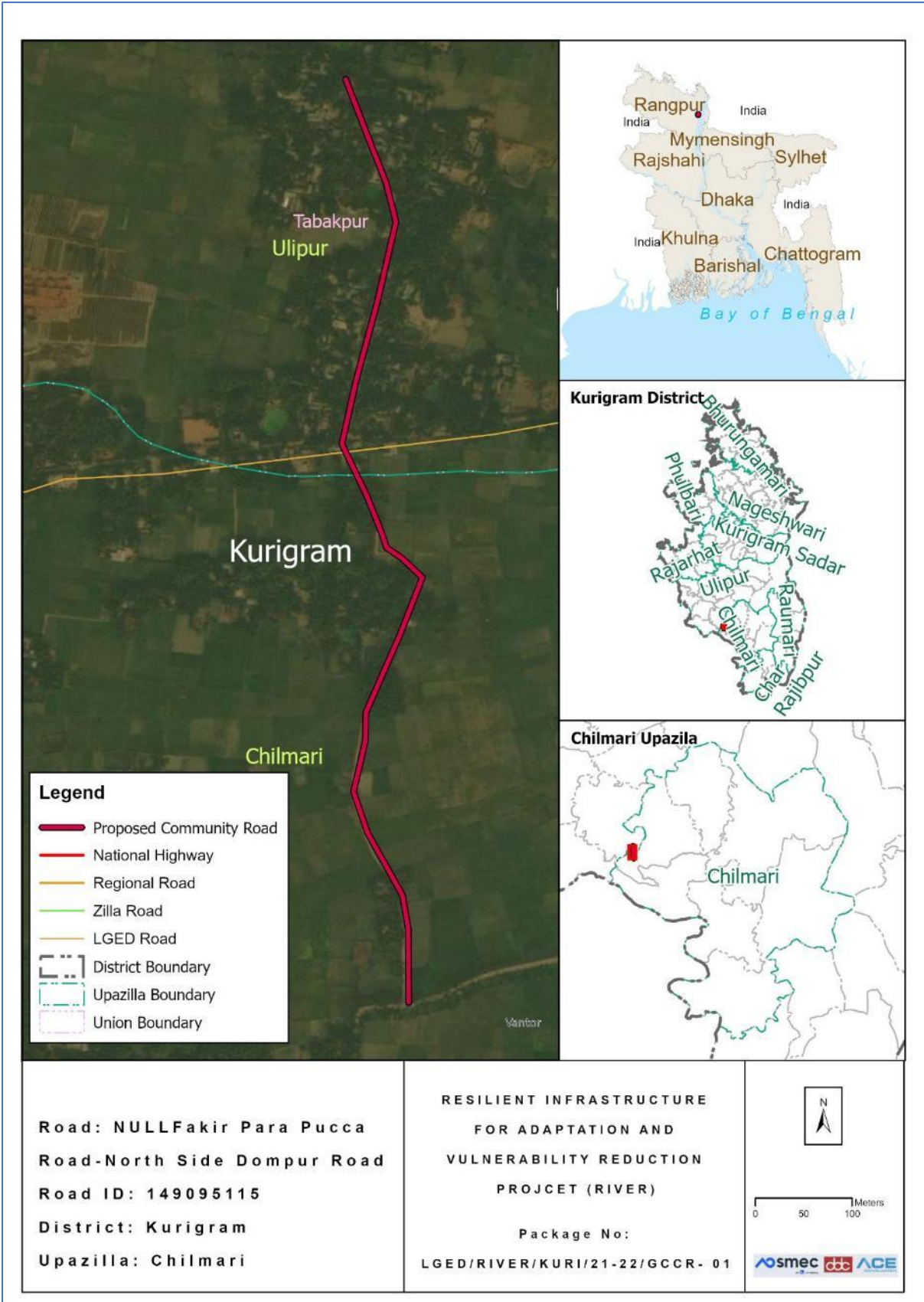
ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct influence area of the proposed sub-project. This 1.012 km road consists of agricultural land, residential areas, and ponds. The first 300 meters on the left side include agricultural land, house areas, and a pond, while the right side has a pond and agricultural land. From 300 to 600 meters, both sides feature house areas and ponds, with agricultural land on the left side. Between 600 and 900 meters, the left side features water bodies, trees, and ponds, while the right side contains trees and residential areas. The final stretch from 900 to 1012 meters includes agricultural land, residential areas, and ponds on the left, with houses and trees on the right. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.



Location Map of the proposed Community Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **village road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Bituminous Carpeting (BC)**. According to the project design, the road will be upgraded with **Bituminous Carpeting (BC)** along the entire alignment from **Chainage 0 0m to Chainage 1012 m**.

Sub-project Location:

Important Features	
ID	149095115
District	Kurigram
Upazila	Chilmari
Union	Thana Hat
Total Chainage	1012m
Proposed Chainage	1012m
Road Type	Village Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	25.5796956 N, 89.6403157 E
Road Ending Point Coordinates	25.588235 N, 89.644576 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets): Please also explain any analysis on alternative location was conducted:

- i) The proposed Sub-project is located within Fokir para, Uttar Mas Para, and Thana Hat
- ii) No historical sites were found
- iii) Not required to relocate local community.
- iv) Some trees, vegetation and livelihood will be affected.
- v) Very low chance of loss of agricultural land.
- vi) Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

B.1: Environmental and Social feature of sub-project location

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmentally and socially sensitive establishments, including educational and religious institutions, are located within approximately 1 km of the project area. The first 300 meters on the left side include agricultural land, house areas, and a pond, while the right side has a pond and agricultural land. From 300 to 600 meters, both sides feature house areas and ponds, with agricultural land on the left side. Between 600 and 900 meters, the left side features water bodies, trees, and ponds, while the right side contains trees and residential areas. The final stretch from 900 to 1012 meters includes agricultural land, residential areas, and ponds on the left, with houses and trees on the right. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.

Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures.

Noise:

The existing noise level in the project area is generally low. Noise mainly originates from the daily activities and movement of local residents and vehicles. During the construction period, noise levels may temporarily increase due to the operation and transportation of construction equipment and materials. However, these impacts will be temporary and limited to the construction period.

Baseline soil quality:

The sub-project area in Kurigram is characterized by recent floodplain and char-land soils formed from active deposits of the Brahmaputra River and its distributaries, particularly the Dharla River and Teesta River. The soils are predominantly sandy loam, silty loam, and alluvial clay in texture, with localized char areas containing loose sandy deposits highly vulnerable to erosion and seasonal reworking. In lower floodplain areas, finer silty-clay soils occur, often supporting paddy cultivation and seasonal cropping. These soils are generally moderately fertile but are highly influenced by annual flooding, sediment deposition, waterlogging, and riverbank erosion. In erosion-prone and char areas, soil instability can be significant, making slope protection, embankment stabilization, and erosion-sensitive road design important considerations for rural infrastructure development.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area. People in the area primarily depend on shallow and deep tube wells for their daily domestic water needs. The average groundwater table is typically found at a depth of approximately 120 to 280 feet below ground level. Groundwater quality assessments indicate the presence of iron in tube-well water, and localized arsenic concerns have been reported in some areas, which may cause health and aesthetic concerns if consumed without treatment. Therefore, appropriate public health measures, including iron removal systems, regular water quality testing, and community awareness programs, are essential to ensure safe drinking water. Local people usually prefer deep tube-well water for drinking and other domestic purposes. There should have deep tube wells which pump water from the confined aquifer.

Groundwater quality: pH-5.5 to 8.4, DO-2.0 to 8.0 mg/l, TDS-30 to 350 mg/l, EC-30 to 700 μ s/cm, Fe-0.5 to 6.5 mg/l and As-Low to Nil (Field Study Report, March 2026)

Status of wildlife movement:

The area supports a variety of common local bird species, frequently observed in surrounding agricultural fields, homesteads, char lands, and wetland habitats. Notable species include ghugu, bok and Choroi (House Sparrow, *Passer domesticus*), along with herons, kingfishers and seasonal migratory water birds. These birds play a vital role in controlling insect populations, dispersing seeds, pollinating plants, and maintaining ecological balance within rural landscapes. In addition, the presence of wild mammals, such as Bon Biral (Jungle Cat, *Felis chaus*), snake and Fox (Bengal Fox, *Vulpes bengalensis*), reflects the typical rural biodiversity and ecological integrity of the area. These mammals function as natural predators, helping regulate populations of rodents and other small animals, thereby contributing to agricultural pest control and ecosystem stability. Seasonal fish movement is also associated with the Brahmaputra, Dharla and Teesta floodplain system. Overall, the diversity of fish, birds, and mammals in the area indicates a functioning and interconnected ecosystem. Protecting these species through sustainable water management, habitat conservation, preservation of wetland connectivity, and environmentally responsible development is essential for maintaining biodiversity,

ecological resilience, and long-term environmental sustainability in the locality.

State of forestation:

Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable):

Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:

Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.

Possible location of labor camps:

Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.

Requirement and type of raw materials (e.g. sand, stone, wood, etc.):

i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.

Identification of access road for transportation (Yes/No):

Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.

Location identification for raw material storage:

Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.):

Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):

Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.

Type and quantity of raw materials used (wood, bricks, cement, water, etc.):

Type: i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.

Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards:

No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.

Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

No formal drainage system has been identified along this 1.012 km stretch. Natural drainage features such as ponds, water bodies, and trees are located at various points along the road. Ponds are situated at multiple intervals on the left side, including at 300 meters, 600 meters, and 900 meters. The right side features ponds, water bodies, and trees at various points.

Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

<p>Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).</p>
<p>Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:</p> <p>Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.</p>
<p>Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)</p> <p>Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.</p>
<p>Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:</p> <p>No traffic movement impacts on light but low effects of noise and air pollution.</p>

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

<p>Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles:</p> <p>No</p>
<p>Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description)</p> <p>No</p>
<p>Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description)</p> <p>No.</p>
<p>Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)</p> <p>There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.</p>
<p>Likely direct and indirect impacts on economic development in the project areas by the sub-project:</p>

Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.

Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated.

Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

There are no protected areas in or around project sites, and no known areas of ecological interest.

Activities leading to landslides, slumps, slips and other mass movements in road cuts:

The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation)

No

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Fakir Para Pucca Road - North Side Dompur More Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> All of the project stakeholders should be consulted Separate community level consultation meeting with the potential affected HHs All the safeguard documents will be disclosed to all relevant stakeholders. People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	<ul style="list-style-type: none"> Transportation of construction materials to the site will be carried out by covering the materials as a whole. Store the materials in designated places, with proper fencing and coverings. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor's officials/employees will be provided. Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<p>the consumers.</p> <ul style="list-style-type: none"> • Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Construction of sanitary latrine with septic tank for both male and female workers and staffs; and ensure regular cleaning of those. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those.</p> <ul style="list-style-type: none"> • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc. 		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. 	PIU & Contractor	Environmental Consultant of PIU

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of Community Roads for Kurigram District (GCCR-01)

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • Existing utility services must be relocated or adjusted where they obstruct the works or pose a risk of damage, in close cooperation with the appropriate authority. • The contractor must ensure sound environment for the local residents near the sub project site. 		
Construction Activity	Dust	<ul style="list-style-type: none"> • Acceptable range of emission of CO, particulate matter [SPM (Suspended particulate matter), PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site. 	Contractor	Environmental Consultant of PIU
Construction Activity	Safety Issues	<ul style="list-style-type: none"> • Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape. 		
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex. 	Contractor	Environmental Consultant of PIU
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering the availability of nearby resources and technical options, and potential risks of extracting water from the same sources used by other 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>consumer groups especially during the critical period.</p> <ul style="list-style-type: none"> • Water from any installed tubewell or an existing surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works. • If ground or surface water is withdrawn for the use of construction works from outside of the other selected places, adequate approvals from the appropriate authority need to be taken before extraction or setting up bore wells. • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction works start. 		
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> • Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. 	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation. 		
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> • A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on-site. • The construction debris material generated from 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers.</p> <ul style="list-style-type: none"> • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules. 		
Construction	Slipping of soil masses, dust	<ul style="list-style-type: none"> • Slope protection measures (proper compaction, 	Contractor	Environmental and Social

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Activity	deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<p>palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road.</p> <ul style="list-style-type: none"> Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 		Development Consultant of PIU, PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, 	<ul style="list-style-type: none"> All construction equipment will be properly inspected timely. The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. Proper Signpost at any slippery areas will be ensured in construction site. Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>heat stress, and dermatitis.</p>	<p>emergency response and evacuation procedure and personnel will be trained and drilled to test and ensure the coherence with the plan.</p> <ul style="list-style-type: none"> • All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. • Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>available at all Sites, on different locations within the site.</p> <ul style="list-style-type: none"> • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used. 		
Construction Activity	Pollution of water bodies	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage 	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>surface water runoff and minimize erosion.</p> <ul style="list-style-type: none"> • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. 		
Construction Activity	<p>Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge from latrines is to be undertaken properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re- 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>grassed as per specification that forms part of this document.</p> <ul style="list-style-type: none"> The contractor must arrange the cancellation of all temporary services. 		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> Preventative maintenance schedule should be followed. Solid organic wastes should be stored in bins and/or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time. 	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU. 	Contractor	Environmental Consultant of PIU
Operation & Maintenance	Road Safety. Impacts include: <ul style="list-style-type: none"> The increased vehicular 	<ul style="list-style-type: none"> Road safety issues can be minimized in following ways: 	Upazila Engineer (UE)	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers.</p> <ul style="list-style-type: none"> Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries. 	<ul style="list-style-type: none"> By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time. 		
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl. no.	Description of item	Quantity	Unit price	Total amount
1.	<p><u>Grass Turfing</u></p> <p>Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)</p>	1214.4 Sq.m	@38.15 Tk. Per sqm	46,329.36
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	1012.0m	@ 2.56 BDT	2,590.72
3.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.</p>	2 nos.	@12822.86 per toilet	25,645.72
4.	<p><u>First Aid Box</u></p> <p>Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the</p>	1 no.	LS @5000 Tk. Per box	5,000.00

Sl. no.	Description of item	Quantity	Unit price	Total amount
	working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.			
5.	<p><u>Drinking Water Facilities</u></p> <p>Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.</p>	1 no.	LS @ Tk. 30,000	30,000.00
6.	<p><u>Traffic Management</u></p> <p>Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this in</p>	1 no.	LS @ Tk. 15,000	15,000.00
7.	<p><u>Personal Protection Equipment for Workers</u></p> <p>Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles</p>	LS	LS @ Tk. 30,000	30,000.00
8.	<p><u>Motivation training</u></p> <p>Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.</p>	1 no.	LS @ Tk. 10,000	10,000.00

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Sl. no.	Description of item	Quantity	Unit price	Total amount
9.	<p><u>Waste disposal facility</u></p> <p>Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.</p>	LS	@ Tk. 5000	5,000.00
10.	<p><u>Water Test (Drinking Water samples)</u></p> <p>Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.</p>	LS	@ Tk. 5000	5,000.00
11.	<p><u>Working labour shed:</u></p> <p>Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.</p>	1 no.	LS @ Tk. 30,000	30,000.00
12.	<p><u>Environmental management</u></p> <p>Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax & VAT). And as per direction of the E.I.C. [One person to be appointed for 13 roads]</p>	Each	@ Tk. 35000	35,000.00
Total amount for this Road				239,565.8



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Sarker Para Mosque H/O Kazim Uddin Sarkar-H/O Jalil Mia Road Via H/O Bozlor Rashid OC, ID: 149095114**

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Kurigram

Upazila: Chilmari

Union: Romna

Name of Community/Local Area: Shorkar Para, Romna, Chilmari.

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project includes the improvement of the Sarker Para Mosque–H/O Jalil Road, having a total length of approximately 0.994 km. The existing road consists of damaged HBB pavement over the full alignment. Existing structures include two bridges at Ch. 0+407–0+420 and Ch. 0+780–0+783, U-drains at Ch. 0+500 and Ch. 0+769, and existing palisading. The proposed intervention includes upgrading the full road with Bituminous Carpeting and strengthening palisading at Ch. 0+085–0+095, Ch. 0+348–0+382 and Ch. 0+783–0+802. These works will improve pavement quality, drainage, and roadside protection. The project footprint will remain largely within the existing road alignment in order to minimize potential environmental and social impacts. Appropriate road safety measures and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure the safety, sustainability, and resilience of the sub-project.

Estimated footprint / land area for this sub-project is 2,982 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 994m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		Houses and trees area.
		R	House, Shop and trees.
300-600	L		Pond and agriculture land.
		R	Houses and agriculture land.
600-900	L		Houses and trees.
		R	House area, madrasah and pond.
900-994	L		Mohsin House and trees.
		R	Shop and pond area.



**Starting Point of Sarker Para Mosque H/O Kazim Uddin Sarkar-H/O Jalil Mia Road Via H/O
Bozlor Rashid OC**

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passve their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

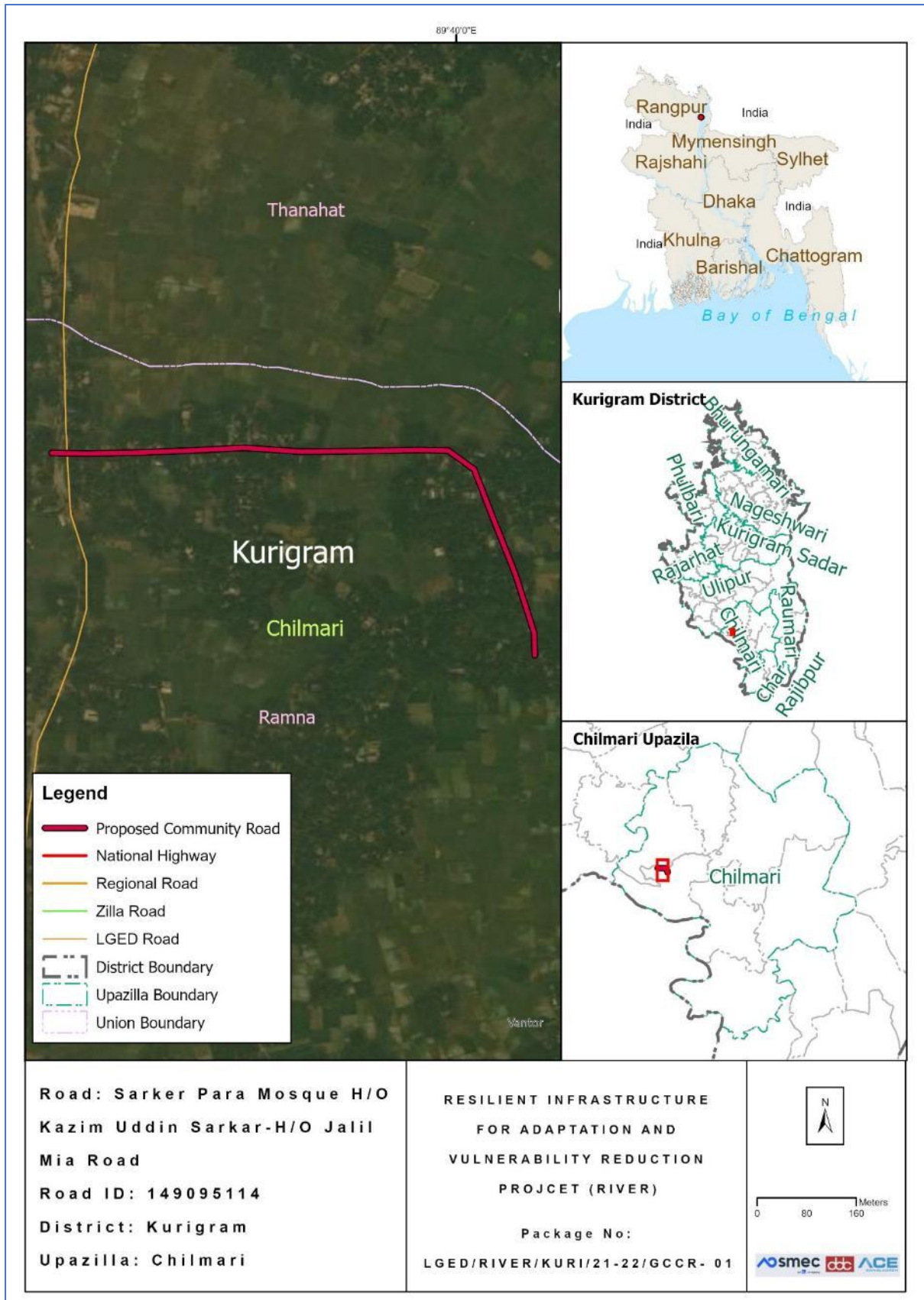
It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct influence area of the proposed sub-project. This 0.994 km road features a mix of residential areas and community facilities. The first 300 meters on the left side include houses and trees, with shops and trees on the right side. Between 300 and 600 meters, the left side has a pond and agricultural land, while the right side includes houses and agricultural land. From 600 to 900 meters, there are houses and trees on the left side, while the right side has a Madrasah and a pond. The final stretch from 900 to 994 meters contains Mohsin House and trees on the left, with shops and ponds on the right. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.



Location Map of the proposed Community Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **village road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Bituminous Carpeting (BC)**. According to the project design, the road will be upgraded with **Bituminous Carpeting (BC)** along the entire alignment from **Chainage 0 0m to Chainage 994 m**.

Sub-project Location:

Important Features	
ID	149095114
District	Kurigram
Upazila	Chilmari
Union	Romna
Total Chainage	994m
Proposed Chainage	994m
Road Type	Village Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	25.572798 N, 89.660774 E
Road Ending Point Coordinates	25.569926 N, 89.667595 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets): Please also explain any analysis on alternative location was conducted:

- i) The proposed Sub-project is located within Shorkar Para, Romna, and Chilmari.
- ii) No historical sites were found
- iii) Not required to relocate local community.
- iv) Some trees, vegetation and livelihood will be affected.
- v) Very low chance of loss of agricultural land.
- vi) Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

B.1: Environmental and Social feature of sub-project location

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmentally and socially sensitive establishments, including educational and religious institutions, are located within approximately 1 km of the project area. The first 300 meters on the left side include houses and trees, with shops and trees on the right side. Between 300 and 600 meters, the left side has a pond and agricultural land, while the right side includes houses and agricultural land. From 600 to 900 meters, there are houses and trees on the left side, while the right side has a Madrasah and a pond. The final stretch from 900 to 994 meters contains Mohsin House and trees on the left, with shops and ponds on the right. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.

Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures.

Noise:

The existing noise level in the project area is generally low. Noise mainly originates from the daily activities and movement of local residents and vehicles. During the construction period, noise levels may temporarily increase due to the operation and transportation of construction equipment and materials. However, these impacts will be temporary and limited to the construction period.

Baseline soil quality:

The sub-project area in Kurigram is characterized by recent floodplain and char-land soils formed from active deposits of the Brahmaputra River and its distributaries, particularly the Dharla River and Teesta River. The soils are predominantly sandy loam, silty loam, and alluvial clay in texture, with localized char areas containing loose sandy deposits highly vulnerable to erosion and seasonal reworking. In lower floodplain areas, finer silty-clay soils occur, often supporting paddy cultivation and seasonal cropping. These soils are generally moderately fertile but are highly influenced by annual flooding, sediment deposition, waterlogging, and riverbank erosion. In erosion-prone and char areas, soil instability can be significant, making slope protection, embankment stabilization, and erosion-sensitive road design important considerations for rural infrastructure development.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area. People in the area primarily depend on shallow and deep tube wells for their daily domestic water needs. The average groundwater table is typically found at a depth of approximately 120 to 280 feet below ground level. Groundwater quality assessments indicate the presence of iron in tube-well water, and localized arsenic concerns have been reported in some areas, which may cause health and aesthetic concerns if consumed without treatment. Therefore, appropriate public health measures, including iron removal systems, regular water quality testing, and community awareness programs, are essential to ensure safe drinking water. Local people usually prefer deep tube-well water for drinking and other domestic purposes. There should have deep tube wells which pump water from the confined aquifer.

Groundwater quality: pH-5.5 to 8.4, DO-2.0 to 8.0 mg/l, TDS-30 to 350 mg/l, EC-30 to 700 μ s/cm, Fe-0.5 to 6.5 mg/l and As-Low to Nil (Field Study Report, March 2026)

Status of wildlife movement:

The area supports a variety of common local bird species, frequently observed in surrounding agricultural fields, homesteads, char lands, and wetland habitats. Notable species include ghugu, bok and Choroi (House Sparrow, *Passer domesticus*), along with herons, kingfishers and seasonal migratory water birds. These birds play a vital role in controlling insect populations, dispersing seeds, pollinating plants, and maintaining ecological balance within rural landscapes. In addition, the presence of wild mammals, such as Bon Biral (Jungle Cat, *Felis chaus*), snake and Fox (Bengal Fox, *Vulpes bengalensis*), reflects the typical rural biodiversity and ecological integrity of the area. These mammals function as natural predators, helping regulate populations of rodents and other small animals, thereby contributing to agricultural pest control and ecosystem stability. Seasonal fish movement is also associated with the Brahmaputra, Dharla and Teesta floodplain system. Overall, the diversity of fish, birds, and mammals in the area indicates a functioning and interconnected ecosystem. Protecting these species through sustainable water management, habitat conservation, preservation of wetland connectivity, and environmentally responsible development is essential for maintaining biodiversity,

ecological resilience, and long-term environmental sustainability in the locality.

State of forestation:

Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable):

Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:

Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.

Possible location of labor camps:

Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.

Requirement and type of raw materials (e.g. sand, stone, wood, etc.):

i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.

Identification of access road for transportation (Yes/No):

Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.

Location identification for raw material storage:

Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.):

Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):

Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.

Type and quantity of raw materials used (wood, bricks, cement, water, etc.):

Type: i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.

Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards:

No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.

Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

This 0.994 km road does not feature an identified drainage system, but natural drainage features such as ponds and water bodies are present along both sides. On the left side, ponds are found at approximately 300 meters, 600 meters, and 900 meters, while the right side includes ponds and other water features at various intervals, including at 600 meters.

Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

Low. Under the improvement of this intervention, the effect of destruction or damage of

lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).

Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:

Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)

Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles:

No

Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description)

No

Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description)

No.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.

Likely direct and indirect impacts on economic development in the project areas by the sub-project:

Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.

Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated.

Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

There are no protected areas in or around project sites, and no known areas of ecological interest.

Activities leading to landslides, slumps, slips and other mass movements in road cuts:

The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation)

No

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Sarker Para Mosque H/O Kazim Uddin Sarkar-H/O Jalil Mia Road Via H/O Bozlur Rashid OC

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> All of the project stakeholders should be consulted Separate community level consultation meeting with the potential affected HHs All the safeguard documents will be disclosed to all relevant stakeholders. People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	<ul style="list-style-type: none"> Transportation of construction materials to the site will be carried out by covering the materials as a whole. Store the materials in designated places, with proper fencing and coverings. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor's officials/employees will be provided. Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		consumers.		
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<ul style="list-style-type: none"> • Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Construction of sanitary latrine with septic tank for both male and female workers and staffs; and ensure regular cleaning of those. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those.</p> <ul style="list-style-type: none"> • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc. 		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural 	PIU & Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>disturbance to existing slop and natural drainage.</p> <ul style="list-style-type: none"> • Existing utility services must be relocated or adjusted where they obstruct the works or pose a risk of damage, in close cooperation with the appropriate authority. • The contractor must ensure sound environment for the local residents near the sub project site. 		
Construction Activity	Dust	<ul style="list-style-type: none"> • Acceptable range of emission of CO, particulate matter [SPM (Suspended particulate matter), PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site. 	Contractor	Environmental Consultant of PIU
Construction Activity	Safety Issues	<ul style="list-style-type: none"> • Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) • Before works start Contractor must provide proper 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>training and guidance on health and safety issues to the labors and associated staff.</p> <ul style="list-style-type: none"> • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape. 		
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex. 	Contractor	Environmental Consultant of PIU
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering the availability of nearby resources and technical options, and potential risks of extracting water from the same sources used by other consumer groups especially during the critical period. • Water from any installed tubewell or an existing 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works.</p> <ul style="list-style-type: none"> • If ground or surface water is withdrawn for the use of construction works from outside of the other selected places, adequate approvals from the appropriate authority need to be taken before extraction or setting up bore wells. • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction works start. 		
Construction Activity	Increase in road accidents	<ul style="list-style-type: none"> • Maintain safety measures during the movement of heavy machinery and equipment. • Proper signage to be displayed at major junctions; and road diversions and closures to be informed well in advance to the local community. • Vehicular movement to be controlled near sensitive locations (e.g., schools, colleges, hospitals, etc.) • Local community will be trained up on traffic management and awareness. 	Contractor	Environmental Consultant of PIU
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> • Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and 	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>children as well as illegal drug trade. Written records of this awareness building session shall be kept on site.</p> <ul style="list-style-type: none"> • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation. 		
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> • A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction	Waste Management:	<ul style="list-style-type: none"> • Preparation of a waste management plan covering 	Contractor	Environmental

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Activity	Improper management and handling of hazardous and non-hazardous waste during construction.	<p>the following aspects:</p> <ul style="list-style-type: none"> • Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers. • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to 		Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment.</p> <ul style="list-style-type: none"> • Applicability of the Hazardous Waste Management Rules. 		
Construction Activity	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<ul style="list-style-type: none"> • Slope protection measures (proper compaction, palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road. • Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 	Contractor	Environmental and Social Development Consultant of PIU, PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. • Exposure to health events during 	<ul style="list-style-type: none"> • All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. • Proper Signpost at any slippery areas will be ensured in construction site. • Fire extinguishers will be located at identified fire points around the site. The extinguishers must be 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.</p>	<p>appropriate to the nature of the potential fire.</p> <ul style="list-style-type: none"> • This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, emergency response and evacuation procedure and personnel will be trained and drilled to test and ensure the coherence with the plan. • All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. • Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel involved during the construction phase in order to 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site.</p> <ul style="list-style-type: none"> • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used. 		
Construction Activity	Pollution of water bodies	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from 	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered.</p> <ul style="list-style-type: none"> • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. 		
Construction Activity	<p>Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge from latrines is to be 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>undertaken properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this document.</p> <ul style="list-style-type: none"> The contractor must arrange the cancellation of all temporary services. 		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> Preventative maintenance schedule should be followed. Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time. 	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU. 	Contractor	Environmental Consultant of PIU
Operation &	Road Safety. Impacts include:	<ul style="list-style-type: none"> Road safety issues can be minimized in following 	Upazila Engineer	District Executive

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Maintenance	<ul style="list-style-type: none"> The increased vehicular movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers. Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries. 	<p>ways:</p> <ul style="list-style-type: none"> By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time. 	(UE)	Engineer, LGED
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl. no.	Description of item	Quantity	Unit price	Total amount
1.	<p><u>Grass Turfing</u></p> <p>Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)</p>	1192.8 Sq.m	@38.15 Tk. Per sqm	45,505.32
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	994.0m	@ 2.56 BDT	2,544.64
3.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.</p>	2 nos.	@12822.86 per toilet	25,645.72
4.	<p><u>First Aid Box</u></p> <p>Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the</p>	1 no.	LS @5000 Tk. Per box	5,000.00

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
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Sl. no.	Description of item	Quantity	Unit price	Total amount
	working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.			
5.	<p><u>Drinking Water Facilities</u></p> <p>Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.</p>	1 no.	LS @ Tk. 30,000	30,000.00
6.	<p><u>Traffic Management</u></p> <p>Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this in</p>	1 no.	LS @ Tk. 15,000	15,000.00
7.	<p><u>Personal Protection Equipment for Workers</u></p> <p>Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles</p>	LS	LS @ Tk. 30,000	30,000.00
8.	<p><u>Motivation training</u></p> <p>Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.</p>	1 no.	LS @ Tk. 10,000	10,000.00

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
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Sl. no.	Description of item	Quantity	Unit price	Total amount
9.	<p><u>Waste disposal facility</u></p> <p>Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.</p>	LS	@ Tk. 5000	5,000.00
10.	<p><u>Water Test (Drinking Water samples)</u></p> <p>Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.</p>	LS	@ Tk. 5000	5,000.00
11.	<p><u>Working labour shed:</u></p> <p>Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.</p>	1 no.	LS @ Tk. 30,000	30,000.00
12.	<p><u>Environmental management</u></p> <p>Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax & VAT). And as per direction of the E.I.C. [One person to be appointed for 13 roads]</p>	Each	@ Tk. 35000	35,000.00
Total amount for this Road				246,195.68



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **R & H Road Amtola More-Miloni Bazar Road, ID: 149065079**

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Kurigram

Upazila: Bhurungamari

Union: Boldia

Name of Community/Local Area: Sonbanda, Parsuramer kuti, Boldia.

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project includes the development of the R&H Road, Amtola–Miloni Bazar Road, with a total length of approximately 1.25 km. The existing road is fully earthen and includes culverts at Ch. 0+270, Ch. 0+620 and Ch. 1+190, along with a U-drain at Ch. 0+960. The proposed intervention includes Bituminous Carpeting throughout, B/W palisading at four vulnerable locations, and a box culvert at Ch. 0+960. These works will improve connectivity, drainage capacity and embankment stability. The project footprint will remain largely within the existing road alignment in order to minimize potential environmental and social impacts. Appropriate road safety measures and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure the safety, sustainability, and resilience of the sub-project.

Estimated footprint / land area for this sub-project is 3,750 sqm.

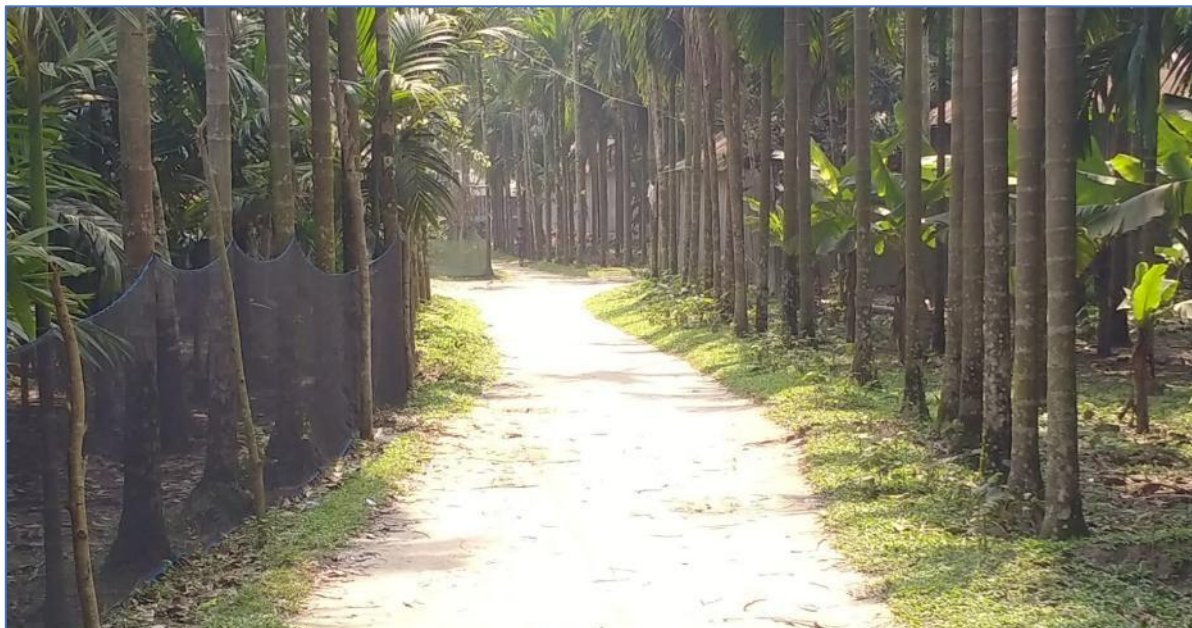
Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 1250m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		Chainage: 00- Shop area, amtola more, chainage: 275 m house area, 290m houses, 300m houses.
		R	Chainage: 00- Shp area amtola more, 290 m house area.
300-600	L		500m- House area, 590m house area.
		R	500m- House area, 590m house area.
600-900	L		House area 750m.
		R	House area 750m.
900-1200	L		House area 1120m, and Houses 1150m.
		R	House area 1120m.

1200-1250	L	Shop 1200m, Milani Bazar area.
	R	Milani Bazar area shop. 1200m.



Starting Point of R & H Road Amtola More- Miloni Bazar Road

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

It has been revealed that this project’s scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified

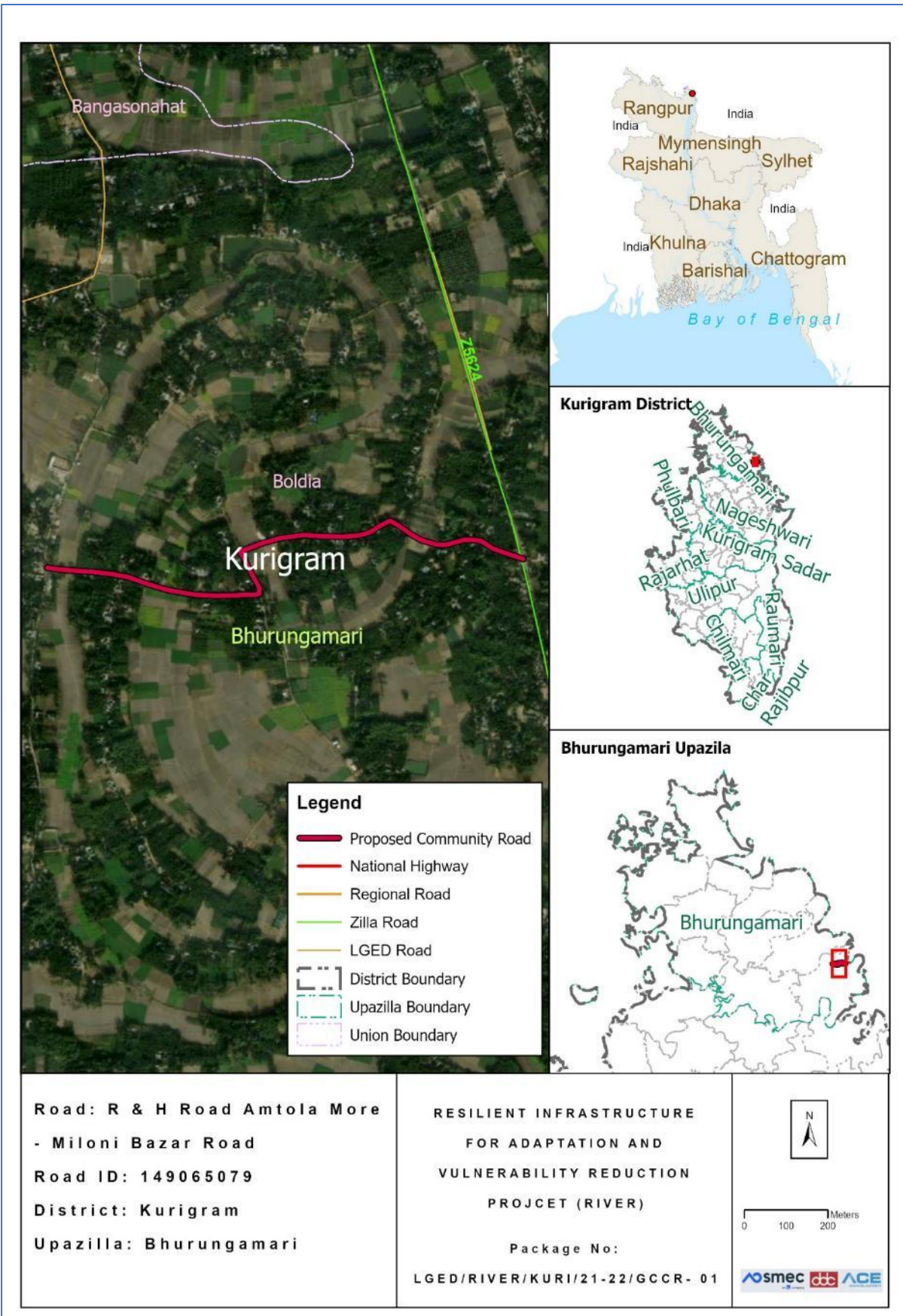
environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct influence area of the proposed sub-project. Spanning 1.25 km, this road is mostly residential with some commercial areas. The first 300 meters on the left side includes a shop area at Amtola More, with houses along the stretch up to 300 meters. The right side also features shops and residential houses. From 300 to 600 meters, both sides continue with house areas. Between 600 and 900 meters, houses are scattered along the road, and by 900 to 1200 meters, the road is lined with houses, and Milani Bazar comes into view. The final segment from 1200 to 1250 meters has shops along Milani Bazar on both sides. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.



Location Map of the proposed Community Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **village road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Bituminous Carpeting (BC)**. According to the project design, the road will be upgraded with **Bituminous Carpeting (BC)** along the entire alignment from **Chainage 0 0m to Chainage 1250 m**.

Sub-project Location:

Important Features	
ID	149065079
District	Kurigram
Upazila	Bhurungamari
Union	Boldia
Total Chainage	1205m
Proposed Chainage	1205m
Road Type	Village Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	26.08258175 N 89.77970878 E
Road Ending Point Coordinates	26.08234608 N 89.76950928 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets): Please also explain any analysis on alternative location was conducted:

- i) The proposed Sub-project is located within Sonbanda, Parsuramer kuti, and Boldia.
- ii) No historical sites were found
- iii) Not required to relocate local community.
- iv) Some trees, vegetation and livelihood will be affected.
- v) Very low chance of loss of agricultural land.
- vi) Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

B.1: Environmental and Social feature of sub-project location

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmentally and socially sensitive establishments, including educational and religious institutions, are located within approximately 1 km of the project area. The first 300 meters on the left side includes a shop area at Amtola More, with houses along the stretch up to 300 meters. The right side also features shops and residential houses. From 300 to 600 meters, both sides continue with house areas. Between 600 and 900 meters, houses are scattered along the road, and by 900 to 1200 meters, the road is lined with houses, and Milani Bazar comes into view. The final segment from 1200 to 1250 meters has shops along Milani Bazar on both sides. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.

Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures.

Noise:

The existing noise level in the project area is generally low. Noise mainly originates from the daily activities and movement of local residents and vehicles. During the construction period, noise levels may temporarily increase due to the operation and transportation of construction equipment and materials. However, these impacts will be temporary and limited to the construction period.

Baseline soil quality:

The sub-project area in Kurigram is characterized by recent floodplain and char-land soils formed from active deposits of the Brahmaputra River and its distributaries, particularly the Dharla River and Teesta River. The soils are predominantly sandy loam, silty loam, and alluvial clay in texture, with localized char areas containing loose sandy deposits highly vulnerable to erosion and seasonal reworking. In lower floodplain areas, finer silty-clay soils occur, often supporting paddy cultivation and seasonal cropping. These soils are generally moderately fertile but are highly influenced by annual flooding, sediment deposition, waterlogging, and riverbank erosion. In erosion-prone and char areas, soil instability can be significant, making slope protection, embankment stabilization, and erosion-sensitive road design important considerations for rural infrastructure development.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area. People in the area primarily depend on shallow and deep tube wells for their daily domestic water needs. The average groundwater table is typically found at a depth of approximately 120 to 280 feet below ground level. Groundwater quality assessments indicate the presence of iron in tube-well water, and localized arsenic concerns have been reported in some areas, which may cause health and aesthetic concerns if consumed without treatment. Therefore, appropriate public health measures, including iron removal systems, regular water quality testing, and community awareness programs, are essential to ensure safe drinking water. Local people usually prefer deep tube-well water for drinking and other domestic purposes. There should have deep tube wells which pump water from the confined aquifer.

Groundwater quality: pH-5.5 to 8.4, DO-2.0 to 8.0 mg/l, TDS-30 to 350 mg/l, EC-30 to 700 μ s/cm, Fe-0.5 to 6.5 mg/l and As-Low to Nil (Field Study Report, March 2026)

Status of wildlife movement:

The area supports a variety of common local bird species, frequently observed in surrounding agricultural fields, homesteads, char lands, and wetland habitats. Notable species include ghugu, bok and Choroi (House Sparrow, *Passer domesticus*), along with herons, kingfishers and seasonal migratory water birds. These birds play a vital role in controlling insect populations, dispersing seeds, pollinating plants, and maintaining ecological balance within rural landscapes. In addition, the presence of wild mammals, such as Bon Biral (Jungle Cat, *Felis chaus*), snake and Fox (Bengal Fox, *Vulpes bengalensis*), reflects the typical rural biodiversity and ecological integrity of the area. These mammals function as natural predators, helping regulate populations of rodents and other small animals, thereby contributing to agricultural pest control and ecosystem stability. Seasonal fish movement is also associated with the Brahmaputra, Dharla and Teesta floodplain system. Overall, the diversity of fish, birds, and mammals in the area indicates a functioning and interconnected ecosystem. Protecting these species through sustainable water management, habitat conservation, preservation of wetland connectivity, and environmentally responsible development is essential for maintaining biodiversity,

ecological resilience, and long-term environmental sustainability in the locality.

State of forestation:

Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable):

Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:

Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.

Possible location of labor camps:

Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.

Requirement and type of raw materials (e.g. sand, stone, wood, etc.):

i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.

Identification of access road for transportation (Yes/No):

Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.

Location identification for raw material storage:

Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.):

Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):

Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.

Type and quantity of raw materials used (wood, bricks, cement, water, etc.):

Type: i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.

Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards:

No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.

Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

Ponds are located at various intervals on the left side, including at chainages 300 meters, 600 meters, and 900 meters. The right side contains water bodies scattered along the stretch, contributing to the natural drainage of the area.

Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such

occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).

Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:

Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)

Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles:

No

Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description)

No

Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description)

No.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.

Likely direct and indirect impacts on economic development in the project areas by the sub-project:

Construction or implementation of a road project substantially contributes to the

development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.

Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated.

Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

There are no protected areas in or around project sites, and no known areas of ecological interest.

Activities leading to landslides, slumps, slips and other mass movements in road cuts:

The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation)

No

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: R & H Road Amtola More- Miloni Bazar Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of livelihood	<ul style="list-style-type: none"> Under this subproject, there is no scope of negative impact on the livelihoods of adjacent communities or people. Contractors will be encouraged to engage local labors (both skilled and unskilled) as priority at their construction works, and women labor would get higher priority in recruitment. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> All of the project stakeholders should be consulted Separate community level consultation meeting with the potential affected HHs All the safeguard documents will be disclosed to all relevant stakeholders. People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Loss of right to access	<ul style="list-style-type: none"> Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. In case of unavoidable circumstances, alternative access will be provided. 	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic	<ul style="list-style-type: none"> Transportation of construction materials to the site will be carried out by covering the materials as a whole. Store the materials in designated places, with proper 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	fencing and coverings.		
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> • Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor’s officials/employees will be provided. • Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<ul style="list-style-type: none"> • Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Construction of sanitary latrine with septic tank for both male and female workers and staffs; and ensure regular 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>cleaning of those.</p> <ul style="list-style-type: none"> • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those. • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc. 		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind or surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water 	PIU & Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>flow.</p> <ul style="list-style-type: none"> • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • Existing utility services must be relocated or adjusted where they obstruct the works or pose a risk of damage, in close cooperation with the appropriate authority. • The contractor must ensure sound environment for the local residents near the sub project site. 		
Construction Activity	Noise from construction works	<ul style="list-style-type: none"> • Construction activities mostly shall finish at day time within 05:00 PM, and must confirm proper measures for avoiding any disturbance. • All Personal Protective Equipment (PPEs) must be available at sites before starting any kind of construction works. • Noise producing vehicles and equipment will be keep in maintenance regularly. • Since expensive engineering controls (e.g., acoustic curtains, noise barriers, etc.) may not be feasible in terms 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>of availability and scope of the project works, noise reduction muffler or less expensive alternative options will be selected during the construction works.</p>		
Construction Activity	Dust	<ul style="list-style-type: none"> • Acceptable range of emission of CO, particulate matter [SPM (Suspended particulate matter), PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site. 	Contractor	Environmental Consultant of PIU
Construction Activity	Safety Issues	<ul style="list-style-type: none"> • Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Every construction materials storage site will be well fenced by Tin and safety caution tape. 		
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex. 	Contractor	Environmental Consultant of PIU
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering the availability of nearby resources and technical options, and potential risks of extracting water from the same sources used by other consumer groups especially during the critical period. • Water from any installed tubewell or an existing surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works. • If ground or surface water is withdrawn for the use of construction works from outside of the other selected places, adequate approvals from the appropriate 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>authority need to be taken before extraction or setting up bore wells.</p> <ul style="list-style-type: none"> Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. Local community must be consulted before any construction works start. 		
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. Adequate facilities ensuring sanitation for labor camps will be put in place. Treated water will be made available at site for drinking purpose. Adequate accommodation arrangements for labor forces. Labor code of conduct is to be disclosed through consultation. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> A separate grievance mechanism for workers has to be established for the work package. Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction 	Contractor	Social Development Specialist and Gender Specialist

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>sites; and will be checked and redressed in weekly manner.</p> <ul style="list-style-type: none"> • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same. 		of PIU
Construction Activity	<p>Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.</p>	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers. • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules. 		
Construction Activity	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<ul style="list-style-type: none"> • Slope protection measures (proper compaction, palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road. • Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 	Contractor	Environmental and Social Development Consultant of PIU, PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and 	<ul style="list-style-type: none"> • All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>vehicles, and electrical shocks.</p> <ul style="list-style-type: none"> Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis. 	<ul style="list-style-type: none"> Proper Signpost at any slippery areas will be ensured in construction site. Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, emergency response and evacuation procedure and personnel will be trained and drilled to test and ensure the coherence with the plan. All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. Awareness training will be given to all personnel involved during the construction phase in order to highlight the 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site.</p> <ul style="list-style-type: none"> • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used. 		
Construction Activity	Pollution of water bodies	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered. 	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. 		
Construction Activity	Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage: <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge from latrines is to be undertaken properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re- 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>grassed as per specification that forms part of this document.</p> <ul style="list-style-type: none"> The contractor must arrange the cancellation of all temporary services. 		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> Preventative maintenance schedule should be followed. Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time. 	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU. 	Contractor	Environmental Consultant of PIU
Operation & Maintenance	<p>Road Safety. Impacts include:</p> <ul style="list-style-type: none"> The increased vehicular movement and speed may trigger road safety 	<ul style="list-style-type: none"> Road safety issues can be minimized in following ways: By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. 	Upazila Engineer (UE)	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>issues like traffic accidents. The accidents may also be due to tiredness of drivers.</p> <ul style="list-style-type: none"> Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries. 	<p>Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding.</p> <ul style="list-style-type: none"> All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time. 		
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl. no.	Description of item	Quantity	Unit price	Total amount
1.	<p><u>Grass Turfing</u></p> <p>Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)</p>	1500 Sq.m	@38.15 Tk. Per sqm	57,225.00
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	1250.0m	@ 2.56 BDT	3,200.00
3.	<p><u>Tree Plantation</u></p> <p>For each tree felled, 3 shall be planted as replacement.</p>	2	@ 500 BDT	3,000.00
4.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.</p>	2 nos.	@12822.86 per toilet	25,645.72
5.	<p><u>First Aid Box</u></p> <p>Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and</p>	1 no.	LS @5000 Tk. Per box	5,000.00

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Sl. no.	Description of item	Quantity	Unit price	Total amount
	site office, and erect conspicuous notice boards directing where these are situated and providing all requisite equipment complete as per requirement and full satisfaction of Engineer-in-charge.			
6.	<p><u>Drinking Water Facilities</u></p> <p>Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.</p>	1 no.	LS @ Tk. 30,000	30,000.00
7.	<p><u>Traffic Management</u></p> <p>Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes</p>	1 no.	LS @ Tk. 15,000	15,000.00
8.	<p><u>Personal Protection Equipment for Workers</u></p> <p>Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles</p>	LS	LS @ Tk. 30,000	30,000.00
9.	<p><u>Motivation training</u></p> <p>Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.</p>	1 no.	LS @ Tk. 10,000	10,000.00

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Sl. no.	Description of item	Quantity	Unit price	Total amount
10.	<p><u>Waste disposal facility</u></p> <p>Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.</p>	LS	@ Tk. 5000	5,000.00
11.	<p><u>Water Test (Drinking Water samples)</u></p> <p>Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.</p>	LS	@ Tk. 5000	5,000.00
12.	<p><u>Working labour shed:</u></p> <p>Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.</p>	1 no.	LS @ Tk. 30,000	30,000.00
13.	<p><u>Environmental management</u></p> <p>Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax & VAT). And as per direction of the E.I.C. [One person to be appointed for 13 roads]</p>	Each	@ Tk. 35000	35,000.00
Total amount for this Road				254,070.72



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Pandit Para Nurul Ulom Girls; Madrasha-Mina Bazar via Ruhul amin Beparer House Road, ID: 149065075**

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Kurigram

Upazila: Bhurungamari

Union: Boldia

Name of Community/Local Area: Uttar Boldia, Parsuramer Kuti, Boldia.

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project includes the improvement of the Pandit Para Nurul Ulom Girls Madrasha–Mina Bazar Road, having a total length of approximately 1.90 km. The existing road consists of mixed pavement, including RCC, HBB and unpaved earthen sections, with damaged portions in several chainages. Existing drainage includes a U-drain at Ch. 0+530. The proposed intervention includes upgrading the full alignment with Bituminous Carpeting, a box culvert at Ch. 0+530, and B/W palisading at Ch. 1+050–1+068. These interventions will improve continuity of pavement, drainage function and localized slope stability. The project footprint will remain largely within the existing road alignment in order to minimize potential environmental and social impacts. Appropriate road safety measures and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure the safety, sustainability, and resilience of the sub-project.

Estimated footprint / land area for this sub-project is 5,700 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 1900m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		Ch.:10m Pandit para Nurul Alam Girls Nurani & Hafikia Madrasah, Ch.: 90m- Houses, Ch.:100m- Houses, Ch.:300m- House area.
		R	Ch.:100m- houses, Ch.: 120m- house area, Ch.: 300m- house area.
300-600	L		Ch.: 455m- House area.
		R	Ch.: 455m- House area.
600-900	L		Ch.: 765m- House area, and Ch.:835m- House area.
		R	Ch.: 700m- house area, Ch.:840m- house area.

Chainage	(Left/Right)		Environmental and Social Impact
900-1200	L		Ch.:985m-house area, Ch.:1070m-house area.
		R	Ch.:905m-house area, Ch.:985m-house area, Ch.:1080m- house area.
1200-1500	L		Ch.:1220m-house area, Ch.:1260m-house area.
		R	Ch.:1215m-house area, Ch.:1260m-house area.
1500-1800	L		Ch.:1505m-house area, Ch.:1610m-house area, Ch.:1630m-house area, Ch.:1790m-house area.
		R	Ch.:1540m-house area, Ch.:1625m-house area, Ch.:1780m-house area, Ch.:1800m-house area.
1800-1900	L		Ch.:1805m-house area
		R	Ch.:1817m-house area



Starting Point of Pandit Para Nurul Ulom Girl;s Madrasa-Mina Bazar via Ruhul amin Beparer House Road

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional

vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

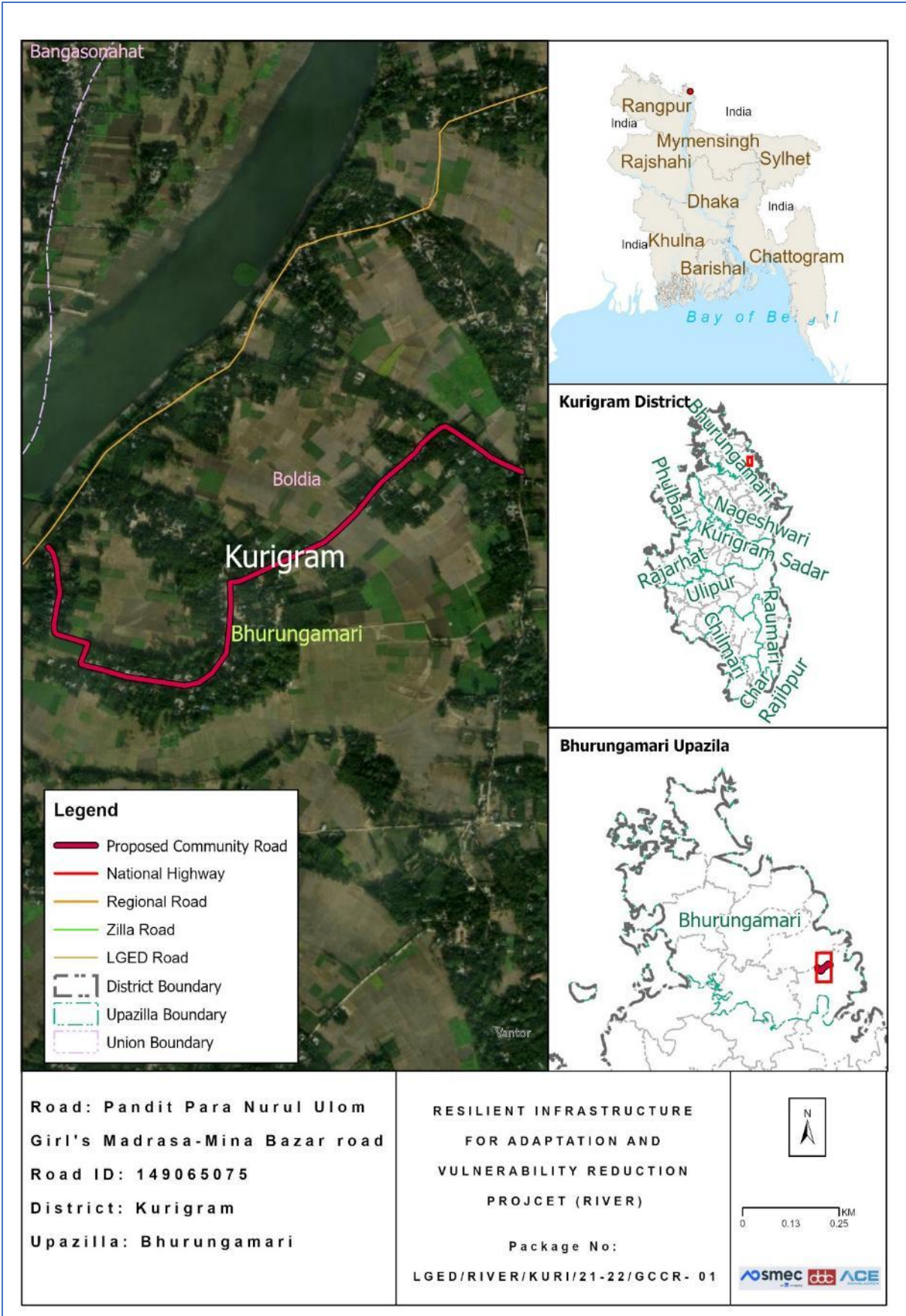
It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct influence area of the proposed sub-project. This 1.9 km road runs through residential areas and a Madrasah. The first 300 meters on the left side include the Pandit Para Nurul Alam Girls Madrasah, houses, and residential areas. The right side is similar, with local homes. From 300 to 600 meters, house areas are present on both sides, while between 600 and 1200 meters, houses continue to dominate. The final 900 meters feature houses along both sides, and local homes are scattered at different chainages up to the road's end. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.



Location Map of the proposed Community Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **village road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Bituminous Carpeting (BC)**. According to the project design, the road will be upgraded with **Bituminous Carpeting (BC)** along the entire alignment from **Chainage 0 0m to Chainage 1900 m**.

Sub-project Location:

Important Features	
ID	149065075
District	Kurigram
Upazila	Bhurugamari
Union	Boldia
Total Chainage	1900m
Proposed Chainage	1900m
Road Type	Village Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	26.07956176 N 89.76915825 E
Road Ending Point Coordinates	26.07778995 N 89.75815547 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets): Please also explain any analysis on alternative location was conducted:

- i) The proposed Sub-project is located within Uttar Boldia, Parsuramer Kuti, Boldia.
- ii) No historical sites were found
- iii) Not required to relocate local community.
- iv) Some trees, vegetation and livelihood will be affected.
- v) Very low chance of loss of agricultural land.
- vi) Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

B.1: Environmental and Social feature of sub-project location

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmentally and socially sensitive establishments, including educational and religious institutions, are located within approximately 1 km of the project area. The first 300 meters on the left side include the Pandit Para Nurul Alam Girls Madrasah, houses, and residential areas. The right side is similar, with local homes. From 300 to 600 meters, house areas are present on both sides, while between 600 and 1200 meters, houses continue to dominate. The final 900 meters feature houses along both sides, and local homes are scattered at different chainages up to the road's end. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.

Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures.

Noise:

The existing noise level in the project area is generally low. Noise mainly originates from the daily activities and movement of local residents and vehicles. During the construction period, noise levels may temporarily increase due to the operation and transportation of construction equipment and materials. However, these impacts will be temporary and limited to the construction period.

Baseline soil quality:

The sub-project area in Kurigram is characterized by recent floodplain and char-land soils formed from active deposits of the Brahmaputra River and its distributaries, particularly the Dharla River and Teesta River. The soils are predominantly sandy loam, silty loam, and alluvial clay in texture, with localized char areas containing loose sandy deposits highly vulnerable to erosion and seasonal reworking. In lower floodplain areas, finer silty-clay soils occur, often supporting paddy cultivation and seasonal cropping. These soils are generally moderately fertile but are highly influenced by annual flooding, sediment deposition, waterlogging, and riverbank erosion. In erosion-prone and char areas, soil instability can be significant, making slope protection, embankment stabilization, and erosion-sensitive road design important considerations for rural infrastructure development.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area. People in the area primarily depend on shallow and deep tube wells for their daily domestic water needs. The average groundwater table is typically found at a depth of approximately 120 to 280 feet below ground level. Groundwater quality assessments indicate the presence of iron in tube-well water, and localized arsenic concerns have been reported in some areas, which may cause health and aesthetic concerns if consumed without treatment. Therefore, appropriate public health measures, including iron removal systems, regular water quality testing, and community awareness programs, are essential to ensure safe drinking water. Local people usually prefer deep tube-well water for drinking and other domestic purposes. There should have deep tube wells which pump water from the confined aquifer.

Groundwater quality: pH-5.5 to 8.4, DO-2.0 to 8.0 mg/l, TDS-30 to 350 mg/l, EC-30 to 700 μ s/cm, Fe-0.5 to 6.5 mg/l and As-Low to Nil (Field Study Report, March 2026)

Status of wildlife movement:

The area supports a variety of common local bird species, frequently observed in surrounding agricultural fields, homesteads, char lands, and wetland habitats. Notable species include ghugu, bok and Choro (House Sparrow, *Passer domesticus*), along with herons, kingfishers and seasonal migratory water birds. These birds play a vital role in controlling insect populations, dispersing seeds, pollinating plants, and maintaining ecological balance within rural landscapes. In addition, the presence of wild mammals, such as Bon Biral (Jungle Cat, *Felis chaus*), snake and Fox (Bengal Fox, *Vulpes bengalensis*), reflects the typical rural biodiversity and ecological integrity of the area. These mammals function as natural predators, helping regulate populations of rodents and other small animals, thereby contributing to agricultural pest control and ecosystem stability. Seasonal fish movement is also associated with the Brahmaputra, Dharla and Teesta floodplain system. Overall, the diversity of fish, birds, and mammals in the area indicates a functioning and interconnected ecosystem. Protecting these species through sustainable water management, habitat conservation, preservation of wetland connectivity, and environmentally responsible development is essential for maintaining biodiversity, ecological resilience, and long-term environmental sustainability in the locality.

State of forestation:

Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable):

Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:

Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.

Possible location of labor camps:

Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.

Requirement and type of raw materials (e.g. sand, stone, wood, etc.):

i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.

Identification of access road for transportation (Yes/No):

Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.

Location identification for raw material storage:

Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.):

Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during

construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):

Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.

Type and quantity of raw materials used (wood, bricks, cement, water, etc.):

Type: i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.

Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards:

No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.

Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

Natural drainage features such as ponds and water bodies are located at regular intervals along the alignment. Ponds are situated on both the left and right sides at multiple chainages, including at 300 meters, 600 meters, and 900 meters.

Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees,

earthworm, reptiles, birds etc.).

Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:

Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)

Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles:

No

Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description)

No

Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description)

No.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.

Likely direct and indirect impacts on economic development in the project areas by the sub-project:

Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces

the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.

Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated.

Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

There are no protected areas in or around project sites, and no known areas of ecological interest.

Activities leading to landslides, slumps, slips and other mass movements in road cuts:

The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation)

No

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Pandit Para Nurul Ulom Girl;s Madrasa-Mina Bazar via Ruhul amin Beparer House Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of land / and other physical assets	<ul style="list-style-type: none"> No land acquisition is allowed in or nearby areas of the sub-project, or for any sub-project related activities. Therefore, no mitigation measures are suggested in this respect. If and whenever any land/physical assets related grievances are raised at any point of the subproject implementation, project GRCs will take due course of actions to resolve the issues or grievances. 	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Loss of livelihood	<ul style="list-style-type: none"> Under this subproject, there is no scope of negative impact on the livelihoods of adjacent communities or people. Contractors will be encouraged to engage local labors (both skilled and unskilled) as priority at their construction works, and women labor would get higher priority in recruitment. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> All of the project stakeholders should be consulted Separate community level consultation meeting with the potential affected HHs All the safeguard documents will be disclosed to all relevant stakeholders. People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Loss of right to access	<ul style="list-style-type: none"> Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. In case of unavoidable circumstances, alternative access will be provided. 	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	<ul style="list-style-type: none"> Transportation of construction materials to the site will be carried out by covering the materials as a whole. Store the materials in designated places, with proper fencing and coverings. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor's officials/employees will be provided. Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<ul style="list-style-type: none"> Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured.</p> <ul style="list-style-type: none"> • Construction of sanitary latrine with septic tank for both male and female workers and staffs; and ensure regular cleaning of those. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those. • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		crime and to be safe from access by students, children, animals, etc.		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind or surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • Existing utility services must be relocated or adjusted where they obstruct the works or pose a risk of damage, in close cooperation with the appropriate authority. • The contractor must ensure sound environment for the local residents near the sub project site. 	PIU & Contractor	Environmental Consultant of PIU
Construction	Noise from construction	<ul style="list-style-type: none"> • Construction activities mostly shall finish at day time 	Contractor	Environmental

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Activity	works	<p>within 05:00 PM, and must confirm proper measures for avoiding any disturbance.</p> <ul style="list-style-type: none"> • All Personal Protective Equipment (PPEs) must be available at sites before starting any kind of construction works. • Noise producing vehicles and equipment will be kept in maintenance regularly. • Since expensive engineering controls (e.g., acoustic curtains, noise barriers, etc.) may not be feasible in terms of availability and scope of the project works, noise reduction muffler or less expensive alternative options will be selected during the construction works. 		Consultant of PIU
Construction Activity	Dust	<ul style="list-style-type: none"> • Acceptable range of emission of CO, particulate matter [SPM (Suspended particulate matter), PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water hoses manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site. 	Contractor	Environmental Consultant of PIU
Construction Activity	Safety Issues	<ul style="list-style-type: none"> • Unauthorized entry is completely prohibited in construction site and take necessary measures for 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance)</p> <ul style="list-style-type: none"> • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape. 		
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex. 	Contractor	Environmental Consultant of PIU
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering the availability of nearby resources and technical options, and potential risks of extracting water from the same 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>sources used by other consumer groups especially during the critical period.</p> <ul style="list-style-type: none"> • Water from any installed tubewell or an existing surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works. • If ground or surface water is withdrawn for the use of construction works from outside of the other selected places, adequate approvals from the appropriate authority need to be taken before extraction or setting up bore wells. • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction works start. 		
Construction Activity	Increase in road accidents	<ul style="list-style-type: none"> • Maintain safety measures during the movement of heavy machinery and equipment. • Proper signage to be displayed at major junctions; and road diversions and closures to be informed well in advance to the local community. • Vehicular movement to be controlled near sensitive locations (e.g., schools, colleges, hospitals, etc.) • Local community will be trained up on traffic management and awareness. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> • Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> • A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will 	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		be oriented about the same.		
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers. • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment.</p> <ul style="list-style-type: none"> • Applicability of the Hazardous Waste Management Rules. 		
Construction Activity	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<ul style="list-style-type: none"> • Slope protection measures (proper compaction, palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road. • Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 	Contractor	Environmental and Social Development Consultant of PIU, PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. • Exposure to health events during 	<ul style="list-style-type: none"> • All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. • Proper Signpost at any slippery areas will be ensured in construction site. • Fire extinguishers will be located at identified fire points around the site. The extinguishers must be 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis.</p>	<p>appropriate to the nature of the potential fire.</p> <ul style="list-style-type: none"> • This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, emergency response and evacuation procedure and personnel will be trained and drilled to test and ensure the coherence with the plan. • All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. • Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>awareness training shall be kept on site.</p> <ul style="list-style-type: none"> • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used. 		
Construction Activity	Pollution of water bodies	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from surface water bodies and areas prone to surface runoff. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. 	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. 		
Construction Activity	<p>Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge from latrines is to be undertaken properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this document. • The contractor must arrange the cancellation of all 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of Community Roads for Kurigram District (GCCR-01)

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		temporary services.		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> Preventative maintenance schedule should be followed. Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time. 	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU. 	Contractor	Environmental Consultant of PIU
Operation & Maintenance	Road Safety. Impacts include: <ul style="list-style-type: none"> The increased vehicular movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers. 	<ul style="list-style-type: none"> Road safety issues can be minimized in following ways: By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely 	Upazila Engineer (UE)	District Executive Engineer, LGED

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of Community Roads for Kurigram District (GCCR-01)

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<ul style="list-style-type: none"> Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries. 	<p>accidents due to over speeding.</p> <ul style="list-style-type: none"> All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time. 		
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl. no.	Description of item	Quantity	Unit price	Total amount
1.	<p><u>Grass Turfing</u></p> <p>Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)</p>	2280 Sq.m	@38.15 Tk. Per sqm	86,982.00
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	1900.0m	@ 2.56 BDT	4,864.00
3.	<p><u>Tree Plantation</u></p> <p>For each tree felled, 3 shall be planted as replacement.</p>	6	@ 500 BDT	9,000.00
4.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.</p>	2 nos.	@12822.86 per toilet	25,645.72
5.	<p><u>First Aid Box</u></p> <p>Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and</p>	1 no.	LS @5000 Tk. Per box	5,000.00

Sl. no.	Description of item	Quantity	Unit price	Total amount
	site office, and erect conspicuous notice boards directing where these are situated and providing all requisite equipment complete as per requirement and full satisfaction of Engineer-in-charge.			
6.	<p><u>Drinking Water Facilities</u></p> <p>Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.</p>	1 no.	LS @ Tk. 30,000	30,000.00
7.	<p><u>Traffic Management</u></p> <p>Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes</p>	1 no.	LS @ Tk. 15,000	15,000.00
8.	<p><u>Personal Protection Equipment for Workers</u></p> <p>Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles</p>	LS	LS @ Tk 30,000	30,000.00
9.	<p><u>Motivation training</u></p> <p>Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's</p>	1 no.	LS @ Tk. 10,000	10,000.00

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of Community Roads for Kurigram District (GCCR-01)

Sl. no.	Description of item	Quantity	Unit price	Total amount
	representatives on safety practice and as per direction of the E.I.C.			
10.	<p><u>Waste disposal facility</u></p> <p>Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.</p>	LS	@ Tk. 5000	5,000.00
11.	<p><u>Water Test (Drinking Water samples)</u></p> <p>Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.</p>	LS	@ Tk. 5000	5,000.00
12.	<p><u>Working labour shed:</u></p> <p>Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.</p>	1 no.	LS @ Tk. 30,000	30,000.00
13.	<p><u>Environmental management</u></p> <p>Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax &VAT). And as per direction of the E.I.C. [One person to be appointed for 13 roads]</p>	Each	@ Tk. 35000	35,000.00
	Total amount for this Road			291,491.72



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Kurigram Anantapur GC. Road H/O Asswari Kumar Road, ID: 149524010**

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Kurigram

Upazila: Kurigram Sadar

Union: Mogolbasha

Name of Community/Local Area: Gariyal Para, Majhgram, Bhatlar Par, Bebaripara.

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project includes the development of the Kurigram, Anantapur GC Road H/O Asswari Kumar, having a total length of approximately 0.80 km. The road is currently unpaved and earthen throughout. Existing features include a culvert at Ch. 0+435 and several palisading sections. The proposed works include Bituminous Carpeting over the full alignment, culvert retention at Ch. 0+435, and additional palisading at Ch. 0+214–0+241, Ch. 0+329–0+354, Ch. 0+390–0+435, Ch. 0+593–0+615 and Ch. 0+620–0+652. These interventions will improve access and protect weak roadside sections. The project footprint will remain largely within the existing road alignment in order to minimize potential environmental and social impacts. Appropriate road safety measures and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure the safety, sustainability, and resilience of the sub-project.

Estimated footprint / land area for this sub-project is 2,400 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 800m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		Agriculture land, madrasah 20m, pond area.
		R	Local house area, mosque 15m, pond.
300-600	L		Local home, waterbody, trees, shop, mosque 5m.
		R	Agriculture land, local residences, trees.
600-800	L		Waterbody, local houses.
		R	Local home and Government primary school 15m.



Starting Point of Kurigram Anantopur GC. Road H/O Asswari Kumar Road

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the

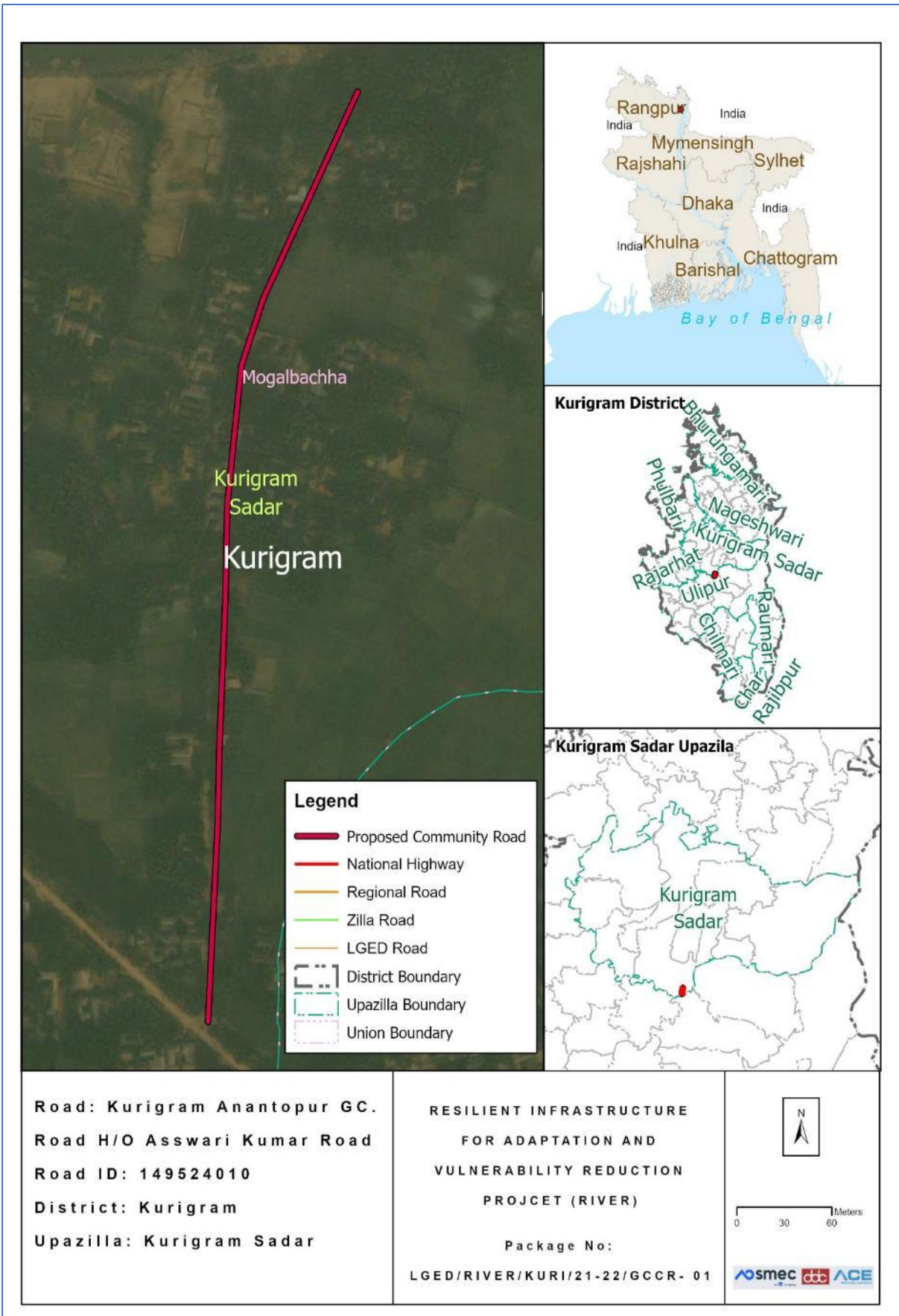
ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct influence area of the proposed sub-project. This 0.8 km road includes agricultural land, water bodies, and residential areas. The first 300 meters on the left side contain agricultural land, a Madrasah, and a pond area, while the right side includes local homes, a mosque, and a pond. Between 300 and 600 meters, the left side features local homes, water bodies, and trees, while the right side contains agricultural land, local residences, and trees. From 600 to 800 meters, the left side has water bodies and local houses, with the right side including a primary school and local homes. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.



Location Map of the proposed Community Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **village road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Bituminous Carpeting (BC)**. According to the project design, the road will be upgraded with **Bituminous Carpeting (BC)** along the entire alignment from **Chainage 0 0m to Chainage 800 m**.

Sub-project Location:

Important Features	
ID	149524010
District	Kurigram
Upazila	Kurigram Sadar
Union	Mogolbasha
Total Chainage	800m
Proposed Chainage	800m
Road Type	Village Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	25.75252 N, 89.67441 E
Road Ending Point Coordinates	25.77215 N, 89.68236 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets): Please also explain any analysis on alternative location was conducted:

- i) The proposed Sub-project is located within Gariyal Para, Majhgram, Bhatlar Par, and Beparipara.
- ii) No historical sites were found
- iii) Not required to relocate local community.
- iv) Some trees, vegetation and livelihood will be affected.
- v) Very low chance of loss of agricultural land.
- vi) Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

B.1: Environmental and Social feature of sub-project location

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmentally and socially sensitive establishments, including educational and religious institutions, are located within approximately 1 km of the project area. The first 300 meters on the left side contain agricultural land, a Madrasah, and a pond area, while the right side includes local homes, a mosque, and a pond. Between 300 and 600 meters, the left side features local homes, water bodies, and trees, while the right side contains agricultural land, local residences, and trees. From 600 to 800 meters, the left side has water bodies and local houses, with the right side including a primary school and local homes. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.

Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures.

Noise:

The existing noise level in the project area is generally low. Noise mainly originates from the daily activities and movement of local residents and vehicles. During the construction period, noise levels may temporarily increase due to the operation and transportation of construction equipment and materials. However, these impacts will be temporary and limited to the construction period.

Baseline soil quality:

The sub-project area in Kurigram is characterized by recent floodplain and char-land soils formed from active deposits of the Brahmaputra River and its distributaries, particularly the Dharla River and Teesta River. The soils are predominantly sandy loam, silty loam, and alluvial clay in texture, with localized char areas containing loose sandy deposits highly vulnerable to erosion and seasonal reworking. In lower floodplain areas, finer silty-clay soils occur, often supporting paddy cultivation and seasonal cropping. These soils are generally moderately fertile but are highly influenced by annual flooding, sediment deposition, waterlogging, and riverbank erosion. In erosion-prone and char areas, soil instability can be significant, making slope protection, embankment stabilization, and erosion-sensitive road design important considerations for rural infrastructure development.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area. People in the area primarily depend on shallow and deep tube wells for their daily domestic water needs. The average groundwater table is typically found at a depth of approximately 120 to 280 feet below ground level. Groundwater quality assessments indicate the presence of iron in tube-well water, and localized arsenic concerns have been reported in some areas, which may cause health and aesthetic concerns if consumed without treatment. Therefore, appropriate public health measures, including iron removal systems, regular water quality testing, and community awareness programs, are essential to ensure safe drinking water. Local people usually prefer deep tube-well water for drinking and other domestic purposes. There should have deep tube wells which pump water from the confined aquifer.

Groundwater quality: pH-5.5 to 8.4, DO-2.0 to 8.0 mg/l, TDS-30 to 350 mg/l, EC-30 to 700 µs/cm, Fe-0.5 to 6.5 mg/l and As-Low to Nil (Field Study Report, March 2026)

Status of wildlife movement:

The area supports a variety of common local bird species, frequently observed in surrounding agricultural fields, homesteads, char lands, and wetland habitats. Notable species include ghugu, bok and Choroi (House Sparrow, *Passer domesticus*), along with herons, kingfishers and seasonal migratory water birds. These birds play a vital role in controlling insect populations, dispersing seeds, pollinating plants, and maintaining ecological balance within rural landscapes. In addition, the presence of wild mammals, such as Bon Biral (Jungle Cat, *Felis chaus*), snake and Fox (Bengal Fox, *Vulpes bengalensis*), reflects the typical rural biodiversity and ecological integrity of the area. These mammals function as natural predators, helping regulate populations of rodents and other small animals, thereby contributing to agricultural pest control and ecosystem stability. Seasonal fish movement is also associated with the Brahmaputra, Dharla and Teesta floodplain system. Overall, the diversity of fish, birds, and mammals in the area indicates a functioning and interconnected ecosystem. Protecting these species through sustainable water management, habitat conservation, preservation of wetland connectivity, and environmentally responsible development is essential for maintaining biodiversity,

ecological resilience, and long-term environmental sustainability in the locality.

State of forestation:

Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable):

Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:

Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.

Possible location of labor camps:

Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.

Requirement and type of raw materials (e.g. sand, stone, wood, etc.):

i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.

Identification of access road for transportation (Yes/No):

Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.

Location identification for raw material storage:

Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.):

Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):

Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.

Type and quantity of raw materials used (wood, bricks, cement, water, etc.):

Type: i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.

Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards:

No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.

Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

On the left side, ponds and water bodies are found at chainages 300 meters and 600 meters. The right side features ponds and other natural drainage features at various intervals along the road.

Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such

occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).

Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:

Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)

Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles:

No

Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description)

No

Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description)

No.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.

Likely direct and indirect impacts on economic development in the project areas by the sub-project:

Construction or implementation of a road project substantially contributes to the

development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.

Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated.

Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

There are no protected areas in or around project sites, and no known areas of ecological interest.

Activities leading to landslides, slumps, slips and other mass movements in road cuts:

The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation)

No

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Kurigram Anantopur GC. Road H/O Asswari Kumar Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> All of the project stakeholders should be consulted Separate community level consultation meeting with the potential affected HHs All the safeguard documents will be disclosed to all relevant stakeholders. People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	<ul style="list-style-type: none"> Transportation of construction materials to the site will be carried out by covering the materials as a whole. Store the materials in designated places, with proper fencing and coverings. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor's officials/employees will be provided. Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<p>consumers.</p> <ul style="list-style-type: none"> • Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Construction of sanitary latrine with septic tank for both male and female workers and staffs; and ensure regular cleaning of those. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>caps or clothes/jute sacks, etc. for avoiding any accidental events from those.</p> <ul style="list-style-type: none"> • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc. 		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind or surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • Existing utility services must be relocated or adjusted 	PIU & Contractor	Environmental Consultant of PIU

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of Community Roads for Kurigram District (GCCR-01)

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>where they obstruct the works or pose a risk of damage, in close cooperation with the appropriate authority.</p> <ul style="list-style-type: none"> The contractor must ensure sound environment for the local residents near the sub project site. 		
Construction Activity	Dust	<ul style="list-style-type: none"> Acceptable range of emission of CO, particulate matter [SPM (Suspended particulate matter), PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. Construction materials should be covered properly while carrying in vehicles to the site. 	Contractor	Environmental Consultant of PIU
Construction Activity	Safety Issues	<ul style="list-style-type: none"> Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. Records of every training must be kept at site. All kinds of Child labour are completely prohibited in 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>every site.</p> <ul style="list-style-type: none"> • Every construction materials storage site will be well fenced by Tin and safety caution tape. 		
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex. 	Contractor	Environmental Consultant of PIU
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering the availability of nearby resources and technical options, and potential risks of extracting water from the same sources used by other consumer groups especially during the critical period. • Water from any installed tubewell or an existing surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works. • If ground or surface water is withdrawn for the use of construction works from outside of the other selected 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of Community Roads for Kurigram District (GCCR-01)

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>places, adequate approvals from the appropriate authority need to be taken before extraction or setting up bore wells.</p> <ul style="list-style-type: none"> • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction works start. 		
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> • Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> • A separate grievance mechanism for workers has to be established for the work package. 	Contractor	Social Development

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same. 		Specialist and Gender Specialist of PIU
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers. • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>waste/ debris should be disposed off at waste disposal areas and/ or at the site.</p> <ul style="list-style-type: none"> • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules. 		
Construction Activity	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<ul style="list-style-type: none"> • Slope protection measures (proper compaction, palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road. • Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 	Contractor	Environmental and Social Development Consultant of PIU, PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in 	<ul style="list-style-type: none"> • All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>electrical installation, mobile plant and vehicles, and electrical shocks.</p> <ul style="list-style-type: none"> Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis. 	<p>conditions underfoot; signposted and with adequate lighting.</p> <ul style="list-style-type: none"> Proper Signpost at any slippery areas will be ensured in construction site. Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, emergency response and evacuation procedure and personnel will be trained and drilled to test and ensure the coherence with the plan. All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>provided that are suitable and can do the works.</p> <ul style="list-style-type: none"> • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used. 		
Construction Activity	Pollution of water bodies	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) 	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. 		
Construction Activity	<p>Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local 	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	community.	<p>from latrines is to be undertaken properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this document.</p> <ul style="list-style-type: none"> The contractor must arrange the cancellation of all temporary services. 		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> Preventative maintenance schedule should be followed. Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time. 	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU. 	Contractor	Environmental Consultant of PIU
Operation & Maintenance	Road Safety. Impacts include: <ul style="list-style-type: none"> The increased vehicular 	<ul style="list-style-type: none"> Road safety issues can be minimized in following ways: By enforcing speed limits and imposing penalties on the 	Upazila Engineer (UE)	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers.</p> <ul style="list-style-type: none"> Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries. 	<p>traffic violators will ensure the road safety.</p> <ul style="list-style-type: none"> Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time. 		
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl. no.	Description of item	Quantity	Unit price	Total amount
1.	<p><u>Grass Turfing</u></p> <p>Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)</p>	960 Sq.m	@38.15 Tk. Per sqm	36,624.00
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	800.0m	@ 2.56 BDT	2,048.00
3.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.</p>	2 nos.	@12822.86 per toilet	25,645.72
4.	<p><u>First Aid Box</u></p> <p>Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government</p>	1 no.	LS @5000 Tk. Per box	5,000.00

Sl. no.	Description of item	Quantity	Unit price	Total amount
	medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.			
5.	<p><u>Drinking Water Facilities</u></p> <p>Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.</p>	1 no.	LS @ Tk. 30,000	30,000.00
6.	<p><u>Traffic Management</u></p> <p>Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes providing necessary barricades, warning signs/lights, guide signs, flagmen, maintaining diversion roads by cutting, filling, constructing, etc. or by any other means) in accordance with the full satisfaction of the Engineering-in-charge.</p>	1 no.	LS @ Tk. 15,000	15,000.00
7.	<p><u>Personal Protection Equipment for Workers</u></p> <p>Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles</p>	LS	LS @ Tk 30,000	30,000.00

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Sl. no.	Description of item	Quantity	Unit price	Total amount
8.	<p><u>Motivation training</u></p> <p>Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.</p>	1 no.	LS @ Tk. 10,000	10,000.00
9.	<p><u>Waste disposal facility</u></p> <p>Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.</p>	LS	@ Tk. 5000	5,000.00
10.	<p><u>Water Test (Drinking Water samples)</u></p> <p>Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.</p>	LS	@ Tk. 5000	5,000.00
11.	<p><u>Working labour shed:</u></p> <p>Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.</p>	1 no.	LS @ Tk. 30,000	30,000.00
12.	<p><u>Environmental management</u></p> <p>Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax & VAT). And as per direction of the E.I.C. [One person to be appointed for 13 roads]</p>	Each	@ Tk. 35000	35,000.00
Total amount for this Road				229,317.72



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **Sukhdeb Mouza-Ranjitswar Mouza Shom Nerajan Road, ID: 149774017**

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Kurigram

Upazila: Rajarhat

Union: Biddananda

Name of Community/Local Area: Sukhdeb

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project includes the development of the Sukhdeb Mouza–Ranjitswar Mouza Road, having a total length of approximately 0.60 km. The existing road is earthen throughout and contains slab culverts at Ch. 0+271 and Ch. 0+327, and a pipe culvert at Ch. 0+386. The proposed intervention includes upgrading the full road with Bituminous Carpeting, replacing or improving cross-drainage structures with box culverts at Ch. 0+127, Ch. 0+271, Ch. 0+327 and Ch. 0+386, and providing palisading at Ch. 0+012–0+035, Ch. 0+039–0+057, Ch. 0+259–0+271 and Ch. 0+400–0+428. These works will strengthen both drainage and roadside stability. The project footprint will remain largely within the existing road alignment in order to minimize potential environmental and social impacts. Appropriate road safety measures and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure the safety, sustainability, and resilience of the sub-project.

Estimated footprint / land area for this sub-project is 1,800 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 600m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		Agriculture land, Shpps, Biddananda College, Ditches, Pond
		R	Pond, Agricultural Land, Settlement
300-600	L		Agricultural Land, Settlement, Ditches, Sukhdeb Community Clinic, Mosque
		R	Agriculture land, Settlement, Ditches, Pond



Starting Point of Sukhdeb Mouza-Ranjitswar Mouza Shom Nerajan Road

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the

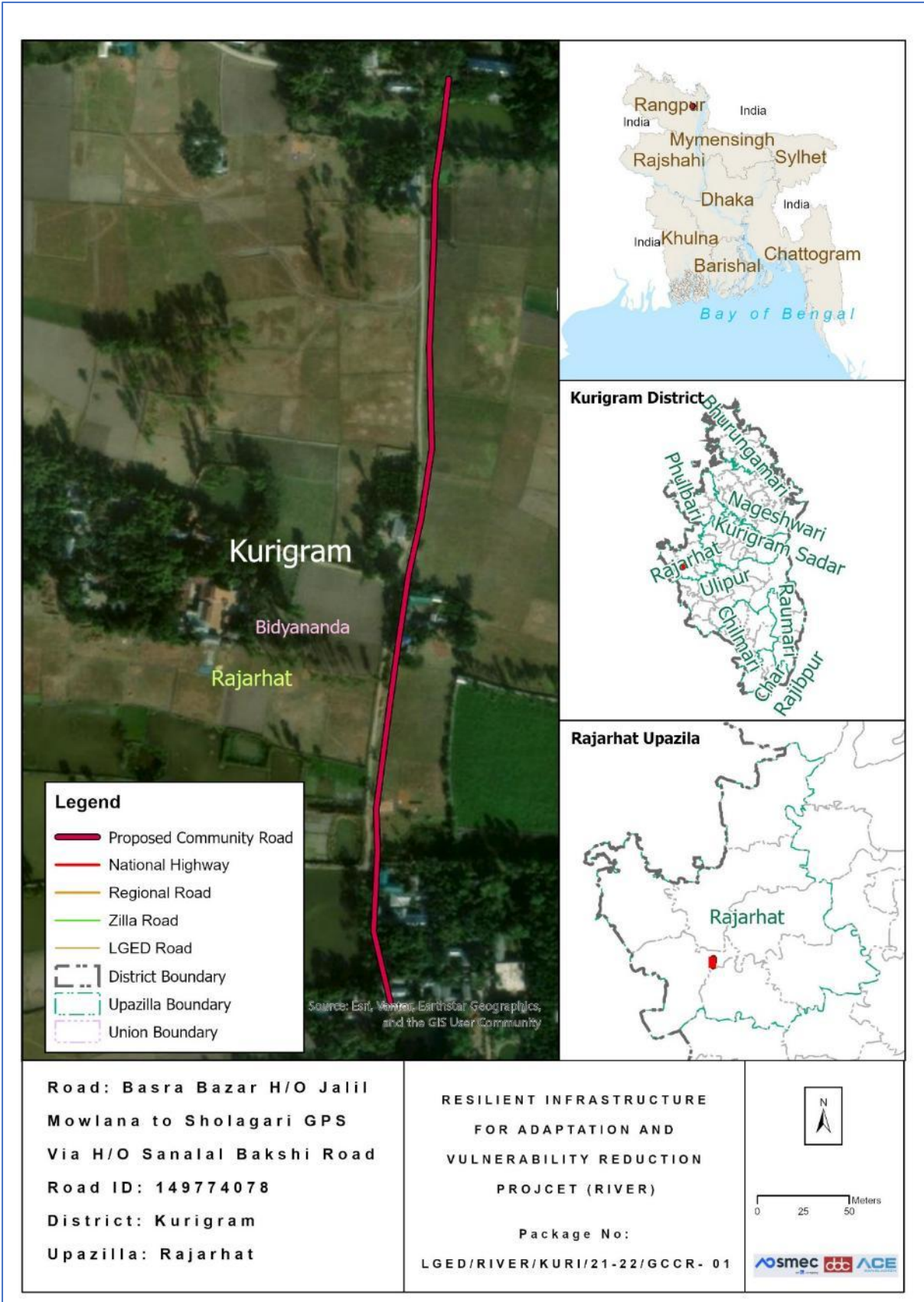
ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct influence area of the proposed sub-project. This 0.6 km stretch features agricultural land, ponds, and settlements. From 0 to 300 meters on the left side, there are agricultural land, shops, and Biddananda College, along with ditches and a pond. The right side is marked by ponds, agricultural land, and settlements. Between 300 and 600 meters, the left side has agricultural land, settlements, and ditches, with the Sukhdeb Community Clinic and a mosque present. The right-side features agricultural land, settlements, ditches, and a pond. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.



Location Map of the proposed Community Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **village road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Bituminous Carpeting (BC)**. According to the project design, the road will be upgraded with **Bituminous Carpeting (BC)** along the entire alignment from **Chainage 0 0m to Chainage 600 m**.

Sub-project Location:

Important Features	
ID	149774017
District	Kurigram
Upazila	Rajarhat
Union	Biddananda
Total Chainage	600m
Proposed Chainage	600m
Road Type	Village Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	25.760423 N, 89.52834 E
Road Ending Point Coordinates	25.755927 N, 89.52802 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets): Please also explain any analysis on alternative location was conducted:

- i) The proposed Sub-project is located within Sukhdeb.
- ii) No historical sites were found
- iii) Not required to relocate local community.
- iv) Some trees, vegetation and livelihood will be affected.
- v) Very low chance of loss of agricultural land.
- vi) Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

B.1: Environmental and Social feature of sub-project location

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmentally and socially sensitive establishments, including educational and religious institutions, are located within approximately 1 km of the project area. From 0 to 300 meters on the left side, there are agricultural land, shops, and Biddananda College, along with ditches and a pond. The right side is marked by ponds, agricultural land, and settlements. Between 300 and 600 meters, the left side has agricultural land, settlements, and ditches, with the Sukhdeb Community Clinic and a mosque present. The right side features agricultural land, settlements, ditches, and a pond. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.

Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures.

Noise:

The existing noise level in the project area is generally low. Noise mainly originates from the daily activities and movement of local residents and vehicles. During the construction period, noise levels may temporarily increase due to the operation and transportation of construction equipment and materials. However, these impacts will be temporary and limited to the construction period.

Baseline soil quality:

The sub-project area in Kurigram is characterized by recent floodplain and char-land soils formed from active deposits of the Brahmaputra River and its distributaries, particularly the Dharla River and Teesta River. The soils are predominantly sandy loam, silty loam, and alluvial clay in texture, with localized char areas containing loose sandy deposits highly vulnerable to erosion and seasonal reworking. In lower floodplain areas, finer silty-clay soils occur, often supporting paddy cultivation and seasonal cropping. These soils are generally moderately fertile but are highly influenced by annual flooding, sediment deposition, waterlogging, and riverbank erosion. In erosion-prone and char areas, soil instability can be significant, making slope protection, embankment stabilization, and erosion-sensitive road design important considerations for rural infrastructure development.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area. People in the area primarily depend on shallow and deep tube wells for their daily domestic water needs. The average groundwater table is typically found at a depth of approximately 120 to 280 feet below ground level. Groundwater quality assessments indicate the presence of iron in tube-well water, and localized arsenic concerns have been reported in some areas, which may cause health and aesthetic concerns if consumed without treatment. Therefore, appropriate public health measures, including iron removal systems, regular water quality testing, and community awareness programs, are essential to ensure safe drinking water. Local people usually prefer deep tube-well water for drinking and other domestic purposes. There should have deep tube wells which pump water from the confined aquifer.

Groundwater quality: pH-5.5 to 8.4, DO-2.0 to 8.0 mg/l, TDS-30 to 350 mg/l, EC-30 to 700 μ s/cm, Fe-0.5 to 6.5 mg/l and As-Low to Nil (Field Study Report, March 2026)

Status of wildlife movement:

The area supports a variety of common local bird species, frequently observed in surrounding agricultural fields, homesteads, char lands, and wetland habitats. Notable species include ghugu, bok and Choro (House Sparrow, *Passer domesticus*), along with herons, kingfishers and seasonal migratory water birds. These birds play a vital role in controlling insect populations, dispersing seeds, pollinating plants, and maintaining ecological balance within rural landscapes. In addition, the presence of wild mammals, such as Bon Biral (Jungle Cat, *Felis chaus*), snake and Fox (Bengal Fox, *Vulpes bengalensis*), reflects the typical rural biodiversity and ecological integrity of the area. These mammals function as natural predators, helping regulate populations of rodents and other small animals, thereby contributing to agricultural pest control and ecosystem stability. Seasonal fish movement is also associated with the Brahmaputra, Dharla and Teesta floodplain system. Overall, the diversity of fish, birds, and mammals in the area indicates a functioning and interconnected ecosystem. Protecting these species through sustainable water management, habitat conservation, preservation of wetland connectivity, and environmentally responsible development is essential for maintaining biodiversity, ecological resilience, and long-term environmental sustainability in the locality.

State of forestation:

Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable):

Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:

Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.

Possible location of labor camps:

Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.

Requirement and type of raw materials (e.g. sand, stone, wood, etc.):

i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.

Identification of access road for transportation (Yes/No):

Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.

Location identification for raw material storage:

Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.):

Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during

construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):

Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.

Type and quantity of raw materials used (wood, bricks, cement, water, etc.):

Type: i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.

Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards:

No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.

Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

Natural drainage features such as ponds and water bodies are located along both sides. Ponds and ditches are present at around 300 meters and 600 meters on the left side, while the right side contains ponds and agricultural land at various intervals, including 300 meters and 600 meters.

Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such

<p>occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).</p>
<p>Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:</p> <p>Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.</p>
<p>Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)</p> <p>Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.</p>
<p>Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:</p> <p>No traffic movement impacts on light but low effects of noise and air pollution.</p>

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

<p>Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles:</p> <p>No</p>
<p>Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description)</p> <p>No</p>
<p>Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description)</p> <p>No.</p>
<p>Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)</p> <p>There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.</p>
<p>Likely direct and indirect impacts on economic development in the project areas by the sub-project:</p> <p>Construction or implementation of a road project substantially contributes to the</p>

development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.

Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated.

Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

There are no protected areas in or around project sites, and no known areas of ecological interest.

Activities leading to landslides, slumps, slips and other mass movements in road cuts:

The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation)

No

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: Sukhdeb Mouza-Ranjitswar Mouza Shom Nerajan Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> All of the project stakeholders should be consulted Separate community level consultation meeting with the potential affected HHs All the safeguard documents will be disclosed to all relevant stakeholders. People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	<ul style="list-style-type: none"> Transportation of construction materials to the site will be carried out by covering the materials as a whole. Store the materials in designated places, with proper fencing and coverings. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor's officials/employees will be provided. Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<p>consumers.</p> <ul style="list-style-type: none"> • Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Construction of sanitary latrine with septic tank for both male and female workers and staffs; and ensure regular cleaning of those. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>caps or clothes/jute sacks, etc. for avoiding any accidental events from those.</p> <ul style="list-style-type: none"> • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc. 		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind or surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be restored as before. • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • Existing utility services must be relocated or adjusted 	PIU & Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>where they obstruct the works or pose a risk of damage, in close cooperation with the appropriate authority.</p> <ul style="list-style-type: none"> The contractor must ensure sound environment for the local residents near the sub project site. 		
Construction Activity	Dust	<ul style="list-style-type: none"> Acceptable range of emission of CO, particulate matter [SPM (Suspended particulate matter), PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. Construction materials should be covered properly while carrying in vehicles to the site. 	Contractor	Environmental Consultant of PIU
Construction Activity	Safety Issues	<ul style="list-style-type: none"> Unauthorized entry is completely prohibited in construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance) Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. Records of every training must be kept at site. All kinds of Child labour are completely prohibited in 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>every site.</p> <ul style="list-style-type: none"> • Every construction materials storage site will be well fenced by Tin and safety caution tape. 		
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex. 	Contractor	Environmental Consultant of PIU
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering the availability of nearby resources and technical options, and potential risks of extracting water from the same sources used by other consumer groups especially during the critical period. • Water from any installed tubewell or an existing surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works. • If ground or surface water is withdrawn for the use of construction works from outside of the other selected 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>places, adequate approvals from the appropriate authority need to be taken before extraction or setting up bore wells.</p> <ul style="list-style-type: none"> • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction works start. 		
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> • Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling. • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> • A separate grievance mechanism for workers has to be established for the work package. 	Contractor	Social Development

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same. 		Specialist and Gender Specialist of PIU
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on-site. • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers. • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>waste/ debris should be disposed off at waste disposal areas and/ or at the site.</p> <ul style="list-style-type: none"> • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management Rules. 		
Construction Activity	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<ul style="list-style-type: none"> • Slope protection measures (proper compaction, palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road. • Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 	Contractor	Environmental and Social Development Consultant of PIU, PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> • The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in 	<ul style="list-style-type: none"> • All construction equipment will be properly inspected timely. • The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. • Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>electrical installation, mobile plant and vehicles, and electrical shocks.</p> <ul style="list-style-type: none"> Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm vibration, temporary or permanent hearing loss, heat stress, and dermatitis. 	<p>conditions underfoot; signposted and with adequate lighting.</p> <ul style="list-style-type: none"> Proper Signpost at any slippery areas will be ensured in construction site. Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable emergency situations, organizational roles and authorities' responsibilities and expertise, emergency response and evacuation procedure and personnel will be trained and drilled to test and ensure the coherence with the plan. All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>provided that are suitable and can do the works.</p> <ul style="list-style-type: none"> • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used. 		
Construction Activity	Pollution of water bodies	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) 	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • The material stockpile sites shall be far away from surface water bodies and areas prone to surface run-off. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage surface water runoff and minimize erosion. • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. 		
Construction Activity	<p>Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local 	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	community.	<p>from latrines is to be undertaken properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms part of this document.</p> <ul style="list-style-type: none"> The contractor must arrange the cancellation of all temporary services. 		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> Preventative maintenance schedule should be followed. Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time. 	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU. 	Contractor	Environmental Consultant of PIU
Operation & Maintenance	Road Safety. Impacts include: <ul style="list-style-type: none"> The increased vehicular 	<ul style="list-style-type: none"> Road safety issues can be minimized in following ways: By enforcing speed limits and imposing penalties on the 	Upazila Engineer (UE)	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>movement and speed may trigger road safety issues like traffic accidents. The accidents may also be due to tiredness of drivers.</p> <ul style="list-style-type: none"> Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries. 	<p>traffic violators will ensure the road safety.</p> <ul style="list-style-type: none"> Traffic signs will be provided to facilitate road users about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding. All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time. 		
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl. no.	Description of item	Quantity	Unit price	Total amount
1.	<p><u>Grass Turfing</u></p> <p>Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)</p>	720 Sq.m	@38.15 Tk. Per sqm	27,468.00
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	600.0m	@ 2.56 BDT	1,536.00
3.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.</p>	2 nos.	@12822.86 per toilet	25,645.72
4.	<p><u>First Aid Box</u></p> <p>Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the</p>	1 no.	LS @5000 Tk. Per box	5,000.00

Sl. no.	Description of item	Quantity	Unit price	Total amount
	working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.			
5.	<p><u>Drinking Water Facilities</u></p> <p>Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.</p>	1 no.	LS @ Tk. 30,000	30,000.00
6.	<p><u>Traffic Management</u></p> <p>Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this in</p>	1 no.	LS @ Tk. 15,000	15,000.00
7.	<p><u>Personal Protection Equipment for Workers</u></p> <p>Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles</p>	LS	LS @ Tk 30,000	30,000.00
8.	<p><u>Motivation training</u></p> <p>Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.</p>	1 no.	LS @ Tk. 10,000	10,000.00

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
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Sl. no.	Description of item	Quantity	Unit price	Total amount
9.	<p><u>Waste disposal facility</u></p> <p>Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.</p>	LS	@ Tk. 5000	5,000.00
10.	<p><u>Water Test (Drinking Water samples)</u></p> <p>Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.</p>	LS	@ Tk. 5000	5,000.00
11.	<p><u>Working labour shed:</u></p> <p>Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.</p>	1 no.	LS @ Tk. 30,000	30,000.00
12.	<p><u>Environmental management</u></p> <p>Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax &VAT). And as per direction of the E.I.C. [One person to be appointed for 13 roads]</p>	Each	@ Tk. 35000	35,000.00
Total amount for this Road				219,649.72



Existing Surroundings of the Sub-Project

Name of Sub-Project: Improvement of Community Road for **New Jorgach - BWDB Embankment at kharkharia Road, ID: 149094004**

Implementing Agency/Agencies: Local Government Engineering Department (LGED)

District: Kurigram

Upazila: Chilmari

Union: Ramna

Name of Community/Local Area: Ramna

Description of proposed sub-project activities (incl. type of activities, footprint area, natural resources required, etc.): The proposed sub-project includes the development of the New Jorgach–BWDB Embankment at Kharkharia Road, having a total length of approximately 0.79 km. The existing road is fully unpaved and earthen. Existing structures include a U-drain at Ch. 0+432 and a bridge at Ch. 0+450. The proposed intervention includes upgrading the full alignment with Bituminous Carpeting while maintaining the drainage and bridge structures. These works will improve road connectivity, surface condition and resilience while preserving drainage continuity. The project footprint will remain largely within the existing road alignment in order to minimize potential environmental and social impacts. Appropriate road safety measures and Environmental and Social Mitigation measures have been incorporated into the project design and cost estimates to ensure the safety, sustainability, and resilience of the sub-project.

Estimated footprint / land area for this sub-project is 2,370 sqm.

Important Environmental and Social Features near site:

Detail Chainage Length of the sub-project: 00m to 790m. Detail Environmental features within 100m of the both sides from the centre line were collected @300m longitudinal intervals. The findings of the survey for the aforementioned road can be seen in the table below:

Table: Detailed Chainage length of the Sub-Project

Chainage	(Left/Right)		Environmental and Social Impact
00-300	L		Agriculture land, Settlement
		R	Settlement
300-600	L		Settlement, Pond
		R	Agriculture land, Settlement
600-790	L		Settlement, Trees
		R	Settlement, Trees



Starting Point of New Jorgach - BWDB Embankment at kharkharia Road

Overall Comments

D&SC conducted consultation meeting with community regarding the sub-project activities. Local people of the subproject area are very much optimistic about the success of the project and are also eager to participate in the project activities. The local individuals were participated in participatory public consultation meeting. Local communities have no objection to construction this sub-project. The community also appreciated the initiative for having easily accessible and passive their emergency situation. The proposed sub-project is not located within any remarkable environmentally sensitive area and will not cause any severe effect to the environmental setting of the area thus not going to create intimidation to important environmental features. No drainage congestion/water logging have been observed in the road area. But, some local trees like betel nut, rain tree etc., or additional vegetation may need to clear out due to construction activities, with appropriate offsetting measures to be taken. No agricultural productive soil will be used for the purpose. Earth will be compacted for stabilization. The inputs will be mainly at construction phase and limited within project boundary. Moreover, mitigation measures will be taken according to the ESMP for minimizing the air, dust and noise pollution.

It has been revealed that this project's scope of works does not intend to overtake their area of lodgment and funding entity has no intention to do so. Moreover, other issue has also been brought to their attention that drainage system and cross drains, culverts have also been included into the evaluation of this project since runoff from higher grounds are also a concerning matter during rainy season. The proposed Sub-project area for the construction included flat areas and moderate hillock village road is not located within any identified

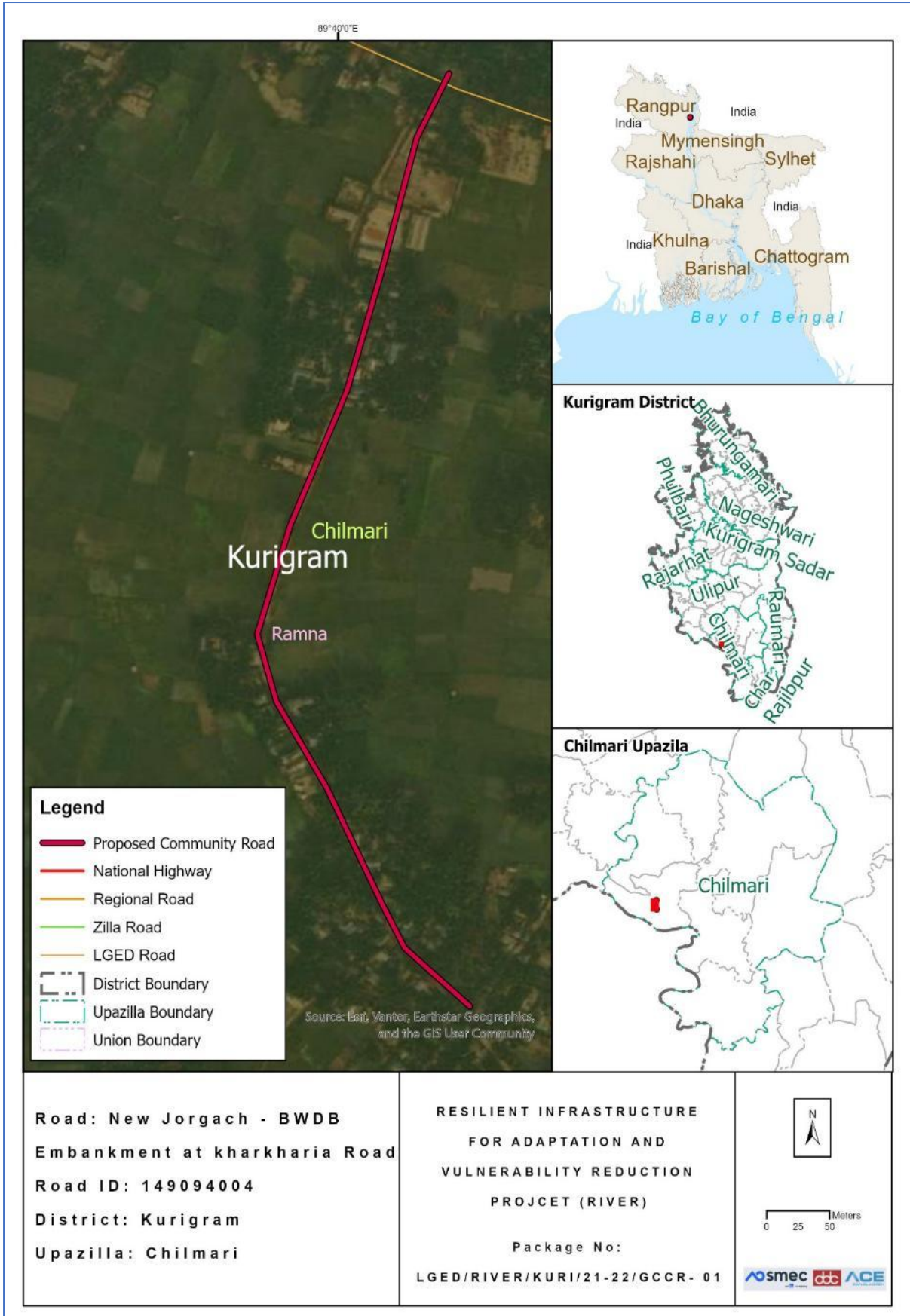
environmentally sensitive area, and therefore, does not seem to cause any adverse impact on the important environmental features. No significant impact is expected on the ecosystem and biodiversity, no agricultural land/ activities or fish farming will be disturbed, due to the construction of the sub projects.

Types of waste to be generated during construction and operation phase:

During construction period solid waste will be generated due to construction activities. The types of wastes are brick pit, unused sand, wood, gravels, bitumen etc. Negligible amount of plastic, fuel etc. in equipment yards. Human wastes might be deposited in labor camp.

Sensitive environmental, cultural, archaeological, religious sites near (within 1km) of site including elephant migration routes and remaining forests:

No historical or archaeological sites were identified within the direct influence area of the proposed sub-project. This 0.79 km road runs through agricultural land and settlements. The first 300 meters on the left side contain agricultural land and settlements, while the right side only features settlements. Between 300 and 600 meters, the left side includes settlements and a pond, with the right side containing agricultural land and settlements. From 600 to 790 meters, both sides feature settlements and trees. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.



Location Map of the proposed Community Road

Completed environmental and social screening forms are given below:

Section A: Sub-Project Overview

Description of sub-project/component interventions:

The sub-project is classified as a **village road**. Based on the field survey, this sub-project involves the rehabilitation of damaged sections through **Bituminous Carpeting (BC)**. According to the project design, the road will be upgraded with **Bituminous Carpeting (BC)** along the entire alignment from **Chainage 0 0m to Chainage 790 m**.

Sub-project Location:

Important Features	
ID	149094004
District	Kurigram
Upazila	Chilmari
Union	Ramna
Total Chainage	790m
Proposed Chainage	790m
Road Type	Village Road
Proposed Intervention Type	Bituminous Carpeting (BC)
Road Starting Point Coordinates	25.55643203 N, 89.66742934 E
Road Ending Point Coordinates	25.54998026 N, 89.66762847 E

Land ownership

Land is owned by Government.

Expected construction period: 12 (twelve months approx.)

Description of project intervention area and project influence area with schematic diagram (where relevant, indicate distance to sensitive environmental areas such as elephant corridors, water bodies, etc. and historical or socio cultural assets): Please also explain any analysis on alternative location was conducted:

- i) The proposed Sub-project is located within Ramna.
- ii) No historical sites were found
- iii) Not required to relocate local community.
- iv) Some trees, vegetation and livelihood will be affected.
- v) Very low chance of loss of agricultural land.
- vi) Some Household Boundary made of bamboo and tin may need adjustments.

Section B: Environmental and Social Screening

B.1: Environmental and Social feature of sub-project location

Description of cultural properties (if applicable, including distance from site):

Sensitive environmental, cultural, archaeological, religious sites near (within the catchment area) of site including elephant migration routes and remaining forests:

Several environmentally and socially sensitive establishments, including educational and religious institutions, are located within approximately 1 km of the project area. The first 300 meters on the left side contain agricultural land and settlements, while the right side only features settlements. Between 300 and 600 meters, the left side includes settlements and a pond, with the right side containing agricultural land and settlements. From 600 to 790 meters, both sides feature settlements and trees. Nevertheless, appropriate precautionary and environmental management measures will be implemented during the construction phase to ensure the protection of these sensitive locations.

Location of environmental and Social important and sensitive areas:

There are no environmentally important or sensitive areas found in the areas, except some matured vegetation around the site. Several mosques, school and human settlement were found during the survey. It will not be affected by the construction works, as the activities will be carried out within the existing subproject boundary and necessary preventive and mitigation measures will be followed during the entire construction period.

Baseline air quality and noise levels:

Dust:

Ambient air quality data for the project area was not readily available; however, the overall air quality appears to be good due to the rural environment and the presence of surrounding vegetation and agricultural land. A small amount of dust is generated by the movement of vehicles such as motorcycles, auto-rickshaws, tempos, trolleys, van-garis, and bicycles along the existing road surface, which contributes slightly to local air pollution.

Construction activities during the dry season and the transportation of large quantities of construction materials may create additional dust and increase the concentration of vehicle-related pollutants. This may temporarily affect people who live and work near the project site. However, these impacts are expected to be negative but short-term, site-specific within a relatively small area, and reversible or preventable through appropriate mitigation measures.

Noise:

The existing noise level in the project area is generally low. Noise mainly originates from the daily activities and movement of local residents and vehicles. During the construction period, noise levels may temporarily increase due to the operation and transportation of construction equipment and materials. However, these impacts will be temporary and limited to the construction period.

Baseline soil quality:

The sub-project area in Kurigram is characterized by recent floodplain and char-land soils

formed from active deposits of the Brahmaputra River and its distributaries, particularly the Dharla River and Teesta River. The soils are predominantly sandy loam, silty loam, and alluvial clay in texture, with localized char areas containing loose sandy deposits highly vulnerable to erosion and seasonal reworking. In lower floodplain areas, finer silty-clay soils occur, often supporting paddy cultivation and seasonal cropping. These soils are generally moderately fertile but are highly influenced by annual flooding, sediment deposition, waterlogging, and riverbank erosion. In erosion-prone and char areas, soil instability can be significant, making slope protection, embankment stabilization, and erosion-sensitive road design important considerations for rural infrastructure development.

Baseline surface water and groundwater quality (FE, TDS, fecal coliform, pH):

Groundwater is the main source of potable water in the sub-project area. People in the area primarily depend on shallow and deep tube wells for their daily domestic water needs. The average groundwater table is typically found at a depth of approximately 120 to 280 feet below ground level. Groundwater quality assessments indicate the presence of iron in tube-well water, and localized arsenic concerns have been reported in some areas, which may cause health and aesthetic concerns if consumed without treatment. Therefore, appropriate public health measures, including iron removal systems, regular water quality testing, and community awareness programs, are essential to ensure safe drinking water. Local people usually prefer deep tube-well water for drinking and other domestic purposes. There should have deep tube wells which pump water from the confined aquifer.

Groundwater quality: pH-5.5 to 8.4, DO-2.0 to 8.0 mg/l, TDS-30 to 350 mg/l, EC-30 to 700 μ s/cm, Fe-0.5 to 6.5 mg/l and As-Low to Nil (Field Study Report, March 2026)

Status of wildlife movement:

The area supports a variety of common local bird species, frequently observed in surrounding agricultural fields, homesteads, char lands, and wetland habitats. Notable species include ghugu, bok and Choro (House Sparrow, *Passer domesticus*), along with herons, kingfishers and seasonal migratory water birds. These birds play a vital role in controlling insect populations, dispersing seeds, pollinating plants, and maintaining ecological balance within rural landscapes. In addition, the presence of wild mammals, such as Bon Biral (Jungle Cat, *Felis chaus*), snake and Fox (Bengal Fox, *Vulpes bengalensis*), reflects the typical rural biodiversity and ecological integrity of the area. These mammals function as natural predators, helping regulate populations of rodents and other small animals, thereby contributing to agricultural pest control and ecosystem stability. Seasonal fish movement is also associated with the Brahmaputra, Dharla and Teesta floodplain system. Overall, the diversity of fish, birds, and mammals in the area indicates a functioning and interconnected ecosystem. Protecting these species through sustainable water management, habitat conservation, preservation of wetland connectivity, and environmentally responsible development is essential for maintaining biodiversity, ecological resilience, and long-term environmental sustainability in the locality.

State of forestation:

Patches of vegetation containing large and matured trees across the road side of the proposed subproject area are located within 200m radial distance.

B.2: Pre construction Phase

Information on Ancillary Facilities (e.g. status of access road or any other facility required for sub-project to be viable):

Concerning ancillary facilities, the access road for the sub-project is proper in order for the equipment vehicles to arrive at the proposed location. Nonetheless, heavy four wheelers will not be a suitable option, this may cause more dust in the air also, the route has narrow curves.

Requirement of accommodation or service amenities (toilet, water supply, electricity) to support the workforce during construction:

Toilet and water supply facilities will be ensured by the contractor in the vicinity of the construction area for all the components of the sub-project, electric connection will be established with the accommodation facility due for the workforce.

Possible location of labor camps:

Labor camp can be established along the road since there are available open private lands. However, this will have to be done with the consent of land owner under a mutual agreement, with the supervision of the Engineer in charge.

Requirement and type of raw materials (e.g. sand, stone, wood, etc.):

i) Bricks ii) Sand iii) cement iv) Gravel v) water vi) Aggregates vi) steels vii) Bitumen are the most common type of road materials used in construction.

Identification of access road for transportation (Yes/No):

Yes. The paved road can offer space adjacent labor camp to facilitate material unloading. However, considerations need to be taken account for avoiding disturbance at points where mosque, graveyard, primary school and high school is located. The pickup trucks as material transportation vehicles can enter the access road. Manual head load from unloading point to different locations can be done.

Location identification for raw material storage:

Adjacent to labor camp or different location is available. However, this will need placement on open fields and should be consulted with local committee.

Possible composition and quantities of wastes (Solids wastes, demolition materials, sludge from old latrines, etc.):

Earth/ mud, plastics, brick chips, cement dusts, dust from bricks, steel wires, during

construction which can be identified as solid wastes. Also, sludge will be produced from labor camp latrines and kitchen waste mostly composing of organic matters as fiber, starch, carbohydrates and proteins. 10% of the kitchen waste may be classified as plastics or non-biodegradables. Solid waste may amount to 20 kg daily and sludge may amount to 5 kg per day.

B.3: Construction Phase

Type and quantity of waste generated (e.g. Solids wastes, liquid wastes, etc.):

Residual waste from the labor camps will be generated. Equipment maintenance/vehicles on-site and scrap material will occur during construction work which are mostly solid wastes. Leftover oils or spills from machinery can be a high probability generating liquid waste. Waste from civil works. And the quantity will be tentatively 350 kg.

Type and quantity of raw materials used (wood, bricks, cement, water, etc.):

Type: i) Bricks, ii) Sand iii) cement iv) aggregates v) water vi) concretes vii) Bitumen are the most common type of road materials used in construction.

Approx. area (in square meters) of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards:

No such vegetation is present in the right of way. Specific soil amount is not needed for the project. The current condition explains that there is no aggregated soil on the right of way.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

The possibility is Medium, for stagnant water bodies to occur. Because water usage will be higher during the construction period. By default, this area has no water logging troubles due to being natural channels. Moreover, no possibilities of stagnation of water in long run. So, local communities have stated that they do not have severe troubles with mosquitos or other disease vectors.

Disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)

Ponds are situated at various intervals, including around 300 meters and 600 meters on the left side, while the right side also contains water bodies and ponds at scattered chainages.

Destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)

Low. Under the improvement of this intervention, the effect of destruction or damage of lives, endangered species or ecosystem is very low. In the site area not observed such occurrence of lives that's life cycle and or movement areas disturbed (i.e. Insects - Ant, bees, earthworm, reptiles, birds etc.).

Activities that can lead to landslides, slumps, slips and other mass movements in road cuts:

Scope of work leading to low scale effects of landslide. The impacts are negative but short-term and site-specific. It can be managed through mitigation measures.

Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with description)

Low, Potential erosion may occur when moderately to highly sloping terrains are disturbed for the improvement of sub-project. The impacts are negative but short term, site specific within a relatively small area and adjustable by mitigation measures.

Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:

No traffic movement impacts on light but low effects of noise and air pollution.

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

B.4: Operation Phase

Activities leading to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles:

No

Chance of long-term or semi-permanent destruction of soils: (High/Medium/Low with description)

No

Possibility of odor and water, soil quality impacts from SWM and FSM disposal system: (High/Medium/Low with description)

No.

Possibility of stagnant water bodies in borrow pits, quarries, etc., encouraging for mosquito breeding and other disease vectors: (High/Medium/Low with explanation)

There is no possibility of stagnant water bodies remained for encouraging mosquito breeding and other disease vectors, during the operation phase.

Likely direct and indirect impacts on economic development in the project areas by the sub-project:

Construction or implementation of a road project substantially contributes to the development of the project areas. It surely improves the communication network, reduces the transport time, increases the trade and business in/around the areas, and ensures

<p>access to better living conditions with amenities, better educational and job opportunities and health facilities. Thus, the direct and indirect impacts on economic development in the project areas would be enormous by this sub-project.</p>
<p>Extent of disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands, marshes): (High/Medium/Low with description)</p> <p>No existing drainage channels or surface water bodies found in the project area, therefore, no such effect can be anticipated.</p>
<p>Extent of destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development: (High/Medium/Low with description)</p> <p>There are no protected areas in or around project sites, and no known areas of ecological interest.</p>
<p>Activities leading to landslides, slumps, slips and other mass movements in road cuts:</p> <p>The entire sub-project component area is nearly flat, thus no such type of impacts is anticipated.</p>
<p>Erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains: (High/Medium/Low with explanation)</p> <p>No</p>
<p>Describe possible traffic movement impacts on (unwanted) light, noise and air pollution:</p> <p>Improved road communication will definitely increase the traffic/ vehicular movement, which must increase the light and noise pollution, but air pollution effect will not be increased significantly, as the proposed BC road will reduce the pollution generated from dust on the muddy road, especially during the dry season and if the vehicles are maintained in good conditions.</p>

High = Likely to cause long-term impacts or over large area (>1sqkm); Medium = Likely to cause temporary damage or over moderate area (0.5 to 1sqkm); Low = Likely to cause little, short-term damage and over small area (<0.5sqkm)

Environmental and Social Management Plan (ESMP) of this Sub project (site specific)

ESMP for Proposed Community Road: New Jorgach - BWDB Embankment at kharkharia Road

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Pre-Construction Stage	Stakeholders Engagement	<ul style="list-style-type: none"> All of the project stakeholders should be consulted Separate community level consultation meeting with the potential affected HHs All the safeguard documents will be disclosed to all relevant stakeholders. People living in nearby communities will be involved with the GRM system and representatively included in the project GRCs. 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Loss of right to access	<ul style="list-style-type: none"> Project to ensure thorough analysis of alternatives that access enjoyed by the community remains intact. In case of unavoidable circumstances, alternative access will be provided. 	PIU	Social Development Specialist and Gender Specialist of PIU
Pre-Construction Stage	Transportation and Storage of Construction materials (disturbance to traffic system and pedestrians, potential accidents to workers/ local people, generating dust and noise)	<ul style="list-style-type: none"> Transportation of construction materials to the site will be carried out by covering the materials as a whole. Store the materials in designated places, with proper fencing and coverings. 	Contractor	Environmental Consultant of PIU
Pre-Construction Stage	Sanitation and water supply	<ul style="list-style-type: none"> Sanitation facilities (male and female toilets, wash-basins, etc.) for workers and constructor's officials/employees will be provided. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Potable water supply will be ensured for every workers/employees in the site. Water sample will be checked at local DPHE laboratory to ensure the portability, and water should be filtered through appropriate filtering system, before supplying to the consumers. 		
Pre-Construction Stage	Site Selection for workers camps, stack yards & implementing interventions: Generation of ESHS issues.	<ul style="list-style-type: none"> • Workers camp, site office and stack yard should be located at a site favorable for the workers and proposed by the contractor & approved by the Environmental Specialist of D&SC. • No trees, shrubs will be removed or vegetation stripped without prior permission of the Environmental Consultants. If any tree is required to remove for an unavoidable circumstance, 3 (three) numbers of trees will be planted for each tree removed and budgetary allocation for taking care of those trees for 12 months has to be ensured. • Construction of sanitary latrine with septic tank for both male and female workers and staffs; and ensure regular cleaning of those. • Provision of waste bins/ cans, where appropriate, • Litter is to be collected daily. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site pre-approved by Environmental Specialist of D&SC. 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Camp and working areas are to be kept clean and tidy at all times. • Stack materials will be covered with tarpaulins/ polythene in the yard and end parts of the reinforced steel bar/ iron rod will be properly covered with safety caps or clothes/jute sacks, etc. for avoiding any accidental events from those. • Hazardous materials, including oil, paints, etc. will be stored on a bunded area or wooden platform with polythene lying over it. • Proper fencing around the storage area and working site in order to get secured, to minimize the risk of crime and to be safe from access by students, children, animals, etc. 		
Pre-Construction Stage	Site Preparation: Soil Erosion; Alteration of natural drainage; removal/relocation of utility services	<ul style="list-style-type: none"> • All Sites must avoid the low land near the water bodies or natural flow path to avoid the flash flood or any kind of surface runoff. • Construction facilities including materials are to be placed at least 10m distance from any water body in order to minimize the impacts on water bodies and natural water flow. • Tubewell location wherever required to install, within the construction site is not near to any kinds of latrine and soaks well which could be contaminated by those. • After completing the development, the site shall be 	PIU & Contractor	Environmental Consultant of PIU

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Environmental & Social Assessment and Management Report of Community Roads for Kurigram District (GCCR-01)

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>restored as before.</p> <ul style="list-style-type: none"> • This site is in the local community, so continuous need-based discussion with the local community to avoid any conflicts will be taking place. • Sub project intervention must avoid natural disturbance to existing slop and natural drainage. • Existing utility services must be relocated or adjusted where they obstruct the works or pose a risk of damage, in close cooperation with the appropriate authority. • The contractor must ensure sound environment for the local residents near the sub project site. 		
Construction Activity	Dust	<ul style="list-style-type: none"> • Acceptable range of emission of CO, particulate matter [SPM (Suspended particulate matter), PM2.5, 10] and Hydrocarbons must be maintained through good construction work practices. • Dust generation must be limited as a result of clearing, leveling and site grading operations with using water florescent manually and through water pipes. • Dust generation due to vehicle movement on connecting road shall be controlled by watering the path at limited level. • Construction materials should be covered properly while carrying in vehicles to the site. 	Contractor	Environmental Consultant of PIU
Construction	Safety Issues	<ul style="list-style-type: none"> • Unauthorized entry is completely prohibited in 	Contractor	Environmental

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
Activity		<p>construction site and take necessary measures for preventing this problem (e.g., employing guards at site office and stack yards, and maintaining a visitor's log book at entrance)</p> <ul style="list-style-type: none"> • Before works start Contractor must provide proper training and guidance on health and safety issues to the labors and associated staff. • Records of every training must be kept at site. • All kinds of Child labour are completely prohibited in every site. • Every construction materials storage site will be well fenced by Tin and safety caution tape. 		Consultant of PIU
Construction Activity	Traffic Management	<ul style="list-style-type: none"> • Because of the sensitivity of the proposed project site in relation to traffic management, contractor must produce a detail Traffic Management Plan (TMP), incorporating all forms of alternative routes, schedule, work plan, emergency arrangement, etc. in the TMP. • Contractors will maintain proper route for traffic management which is to be consulted with and confirmed by the district Executive Engineer. • Local traffic police department should be contacted, if traffic problem becomes more complex. 	Contractor	Environmental Consultant of PIU
Construction Activity	Conflicts with existing users due to the scarcity of resource base.	<ul style="list-style-type: none"> • Water sources (e.g., ground or surface water) for construction works will be determined in consultation with the local DPHE office, considering 	PIU & Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>the availability of nearby resources and technical options, and potential risks of extracting water from the same sources used by other consumer groups especially during the critical period.</p> <ul style="list-style-type: none"> • Water from any installed tubewell or an existing surface water bodies within the nearby places will be used for construction works, if the available water quality satisfies the required standards for construction works. • If ground or surface water is withdrawn for the use of construction works from outside of the other selected places, adequate approvals from the appropriate authority need to be taken before extraction or setting up bore wells. • Any type of consent letter or agreement for withdrawing water from either surface or underground sources will be kept on site. • Local community must be consulted before any construction works start. 		
Construction Activity	Labor Base Camp: Conflicts with the local residents	<ul style="list-style-type: none"> • Awareness building session will be undertaken about prevention of child abuse, child marriage, GBV, sexual harassment, trafficking of women and children as well as illegal drug trade. Written records of this awareness building session shall be kept on site. • Work force should be prohibited from disturbing the 	Contractor	Social Development Specialist and Gender Specialist of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>flora, fauna including hunting of animals, wildlife hunting, poaching and tree felling.</p> <ul style="list-style-type: none"> • Adequate facilities ensuring sanitation for labor camps will be put in place. • Treated water will be made available at site for drinking purpose. • Adequate accommodation arrangements for labor forces. • Labor code of conduct is to be disclosed through consultation. 		
Construction Activity	Labour related issues and grievances	<ul style="list-style-type: none"> • A separate grievance mechanism for workers has to be established for the work package. • Complaints box (preferably for anonymous reporting) /grievance register will be provided to each construction sites; and will be checked and redressed in weekly manner. • Appropriate notification or training to the workers about the scope and procedure of the grievance system will be provided at the starting of the work. All new workers recruited at different times/phases will be oriented about the same. 	Contractor	Social Development Specialist and Gender Specialist of PIU
Construction Activity	Waste Management: Improper management and handling of hazardous and non-hazardous waste during construction.	<ul style="list-style-type: none"> • Preparation of a waste management plan covering the following aspects: • Waste from the temporary accommodation facilities for labor • Waste from equipment maintenance/vehicles on- 	Contractor	Environmental Consultant of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>site.</p> <ul style="list-style-type: none"> • The construction debris material generated from the erection of structures and demolition works (wherever applicable), and related construction activities will be collected and stored separately in a stack yard and sold to local recyclers. • Ring slab septic tank will be installed before starting construction works in order to provide a better sanitation facility to the workers and staffs. • Working areas are kept clean and tidy at all times. • Construction site is to be checked for spills of substances i.e. chemical, oil, etc. • Bins and/ or skips should be emptied regularly and waste/ debris should be disposed off at waste disposal areas and/ or at the site. • Hazardous waste viz. waste oil etc. will be collected and stored in the paved and bounded area and subsequently sold to authorized recyclers. • Refueling areas and other fluid transfer areas will be imperviously paved. • Workers will be trained on the correct transfer and handling of fuels and chemicals and the response to spills (incl. equipment deployment) and the site will be provided with portable spill containment and cleanup equipment. • Applicability of the Hazardous Waste Management 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		Rules.		
Construction Activity	Slipping of soil masses, dust deposition, draining or spillage of chemicals/contaminants, etc. to nearby water bodies	<ul style="list-style-type: none"> Slope protection measures (proper compaction, palisading or protection walls, etc.) will be taken before starting work at any sensitive section of the road. Dust suppression measures and material storage and handling procedure have to be undertaken with proper care and vigilance to avoid or minimize the impacts. 	Contractor	Environmental and Social Development Consultant of PIU, PSC
Construction Activity	<p>Health & Safety Risks:</p> <ul style="list-style-type: none"> The potential for exposure to safety events such as tripping, working at height activities, fire from hot works, smoking, failure in electrical installation, mobile plant and vehicles, and electrical shocks. Exposure to health events during construction activities such as manual handling and musculoskeletal disorders, hand-arm 	<ul style="list-style-type: none"> All construction equipment will be properly inspected timely. The risk assessment will be prepared and communicated prior to the commencement of work for all types of work activities on site. Provide walkways that are clearly designated as a walkway; all walkways shall be provided with good conditions underfoot; signposted and with adequate lighting. Proper Signpost at any slippery areas will be ensured in construction site. Fire extinguishers will be located at identified fire points around the site. The extinguishers must be appropriate to the nature of the potential fire. This sub project will have Proper communicative emergency response plan (ERP) with all parties, the ERP to consider such things as specific foreseeable 	Contractor	Environmental Consultant as well as Social Development and Gender Specialists of PIU

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>vibration, temporary or permanent hearing loss, heat stress, and dermatitis.</p>	<p>emergency situations, organizational roles and authorities' responsibilities and expertise, emergency response and evacuation procedure and personnel will be trained and drilled to test and ensure the coherence with the plan.</p> <ul style="list-style-type: none"> • All people of construction site will be concerned about the safety and maintenance of Electrical equipment; works will be carried out on live systems. • Provision to first aid box containing adhesive bandages, antibiotic ointment, antiseptic wipes, aspirin, non-latex gloves, scissors, thermometer, etc. in sub-project sites will be ensured. Proper Emergency evacuation response plan will exist in sub-project area. • All safety equipment will be available in sub-project site (safety, size, power, efficiency, ergonomics, cost, user acceptability etc.), the lowest vibration tools will be provided that are suitable and can do the works. • Awareness training will be given to all personnel involved during the construction phase in order to highlight the heat related illnesses of working in hot conditions such as heat cramps, heat exhaustion, heat stroke, and dehydration. Written records of this awareness training shall be kept on site. 		

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<ul style="list-style-type: none"> • Adequate quantities of drinking water will be available at all Sites, on different locations within the site. • Provision to maintain proper PPE wherever necessary and to ensure that there are satisfactory washing and changing facilities. • Provision to ensure all workers exposed to a risk are aware of the possible dangers and also given thorough training on how to protect themselves and there should be effective supervision to ensure that the correct methods are being used. 		
Construction Activity	Pollution of water bodies	<ul style="list-style-type: none"> • Ensure monitoring of nearby surface and underground water bodies for signs of contamination. Parameters include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results are to be compared with Bangladesh Environmental Quality Standards of DoE. • The earthwork sites where exposed land surface is vulnerable to runoff shall be consolidated and/or covered (e.g., pond, canal, ditch's side will be protected by palisading, etc.) • The material stockpile sites shall be far away from surface water bodies and areas prone to surface runoff. Loose materials shall be bagged and covered. • Channels, earth bunds, netting, tarpaulin and or sand bag barriers shall be used on site to manage 	Contractor	Environmental Consultant of PIU/D&SC.

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>surface water runoff and minimize erosion.</p> <ul style="list-style-type: none"> • The overall slope of the work areas and stack yards shall be kept to a minimum to reduce the erosive potential of surface water flows elsewhere. • All precautions to store chemicals/oil/fuel properly so that no chance of spill. • Workers must specify waste dump locations to avoid littering which in turn might negatively affect surface and ground water. 		
Construction Activity	<p>Demobilization of structures, facilities and equipment used during the project implementation period (including site clearance after the construction). The impacts are similar to those listed in construction stage:</p> <ul style="list-style-type: none"> • Pollution from waste materials. • Health & Safety risks to workers and local community. 	<ul style="list-style-type: none"> • Provision to proper measures of mitigation and monitoring to minimize or reduce the environmental and social impacts during demobilization, which are anticipated to be similar to those identified for the construction phase. Some of the measures include: (i)remove all spoils wreckage, rubbish, or temporary structures (such as buildings, shelters, and latrines) which are no longer required; (ii) ensure that all affected structures rehabilitated/compensated; (iii) the area that previously housed the construction camp is to be checked for spills of substances such as oil, paint, etc. and these shall be cleaned up. Disposal of faecal sludge from latrines is to be undertaken properly, if management on site becomes problematic; (iv) all imported materials are to be removed and the area shall be re-vegetated/re-grassed as per specification that forms 	Contractor	Environmental Consultant of PIU/D&SC, district XEN.

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Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
		<p>part of this document.</p> <ul style="list-style-type: none"> The contractor must arrange the cancellation of all temporary services. 		
Construction activity	Odours and pollution caused by leaking latrines and faecal sludge, and solid wastes impacting surrounding water bodies, flora and fauna	<ul style="list-style-type: none"> Preventative maintenance schedule should be followed. Solid organic wastes should be stored in bins and/ or skips and emptied regularly at a designated waste disposal area away from the camp site. If no designated site is available within the reach, a dug-hole at a nearby place can be used with periodic filling with soil layer for preventing pollution and generating nutrient rich compost soil over time. 	Contractor	Environmental Consultant of PIU, Union Parishad Member
Pre-Construction and Construction	Rigorous Monitoring and Report Preparation and Submission	<ul style="list-style-type: none"> The Contractor shall appoint (i) ES Manager (ii) Env. Officer, (iii) Social Officer (iv) Community Organizer and (v) H&S Officer for strict management and monitoring of all ES related works at each site and the budget for this engagement shall be borne from the Contractor's management budget. Contractor shall submit regular monthly monitoring report to the D&SC and PIU as per reporting standard set by the ES Consultants of D&SC/PIU. 	Contractor	Environmental Consultant of PIU
Operation & Maintenance	<p>Road Safety. Impacts include:</p> <ul style="list-style-type: none"> The increased vehicular movement and speed may trigger road safety issues like traffic accidents. The 	<ul style="list-style-type: none"> Road safety issues can be minimized in following ways: By enforcing speed limits and imposing penalties on the traffic violators will ensure the road safety. Traffic signs will be provided to facilitate road users 	Upazila Engineer (UE)	District Executive Engineer, LGED

Project Stage	Potential Environmental & Social Impacts/Issues	Proposed Mitigation Measures	Institutional Responsibilities	Supervision Responsibility
	<p>accidents may also be due to tiredness of drivers.</p> <ul style="list-style-type: none"> Widened road, lack of road safety signage or speed-breakers at crossings/strategic locations and sidewalks, and reckless driving may cause road accidents or traffic injuries. 	<p>about speed limits, rest/parking areas, no-horn areas, etc. Warning messages will also be displayed at appropriate locations to aware drivers about likely accidents due to over speeding.</p> <ul style="list-style-type: none"> All the lanes, median, sharp bends will be reflectorized to facilitate travelers in the night time. 		
Operation & Maintenance	Noise and vibration disturbances to fauna, and Traffic Safety.	<ul style="list-style-type: none"> Provision to maintain noise and vibration from the operation and maintenance of machinery and equipment by proper monitoring and measures. Provision to take necessary lighting, caution for the works and necessary maintenance should be done in day light. 	UE	District Executive Engineer, LGED
Operation & Maintenance	Pollution of water bodies	<ul style="list-style-type: none"> Third party monitoring should be ensured for nearby surface and underground water bodies for signs of contamination. Parameter include: pH, TDS, TSS, Coliforms, Pb, Cd and Hg. Test results to be compared with Bangladesh Environmental Quality Standards of DoE 	PIU	PSC / UP representative

Cost of Environmental and Social Enhancement Works in BOQ

In consideration to the above-mentioned environmental impacts and their mitigation measures for this sub-project, the following items are included in the BOQ of this sub-project.

Cost of Environmental Enhancement Works in BOQ

Sl. no.	Description of item	Quantity	Unit price	Total amount
1.	<p><u>Grass Turfing</u></p> <p>Turfing on embankment top and slope & any critical place with good quality turf supplied by the contractor of not less than 225mm square in dimension including placing and watering till grass is fully grown, etc. all complete as per direction of E.I.C. (Payment to be made only when grass is fully grown)</p>	948 Sq.m	@38.15 Tk. Per sqm	36,166.20
2.	<p><u>Dust suppression measures</u></p> <p>Dust suppression measures like water sprinkling on aggregates/unpaved roads, in and around the work site and as per direction of E-I-C</p>	790.0m	@ 2.56 BDT	2,022.40
3.	<p><u>Water Supply and Sanitation</u></p> <p>Providing and maintaining adequate portable water supply, sanitation, cleanliness facilities at camp site and work site to the entire satisfaction of Engineer-in-charge.</p> <p>Temporary Toilet: Construction of temporary toilets in work site/ rest area complete as per design and specifications and approved by the Engineer-in-Charge. There should be 1 camp in each site. In each camp, there should be 1 no of toilet for women and 1 no of toilet for men.</p>	2 nos.	@12822.86 per toilet	25,645.72
4.	<p><u>First Aid Box</u></p> <p>Supplying, equipping and maintaining adequate first-aid box throughout the working period at worksite and site office, and erect conspicuous notice boards directing where these are situated and providing all requisite emergency medical first aid kits, including complying with the government</p>	1 no.	LS @5000 Tk. Per box	5,000.00

Sl. no.	Description of item	Quantity	Unit price	Total amount
	medical or labour requirements at all times, and provide, equip and maintain necessary dressing kits throughout the working period for attending minor injuries, etc. all complete as per requirement and full satisfaction of Engineer-in-charge.			
5.	<p><u>Drinking Water Facilities</u></p> <p>Providing continuous adequate drinking water supply at worksite and site office as well by installing necessary tube-well/s where applicable or any other means depending on local situation, also providing essential arrangement for storing drinking water by supplying portable best quality water tank equivalent to Gazi/Padma of adequate capacity depending on the number of users, including supplying 1 (one) no. best quality water filter of minimum capacity 30 liters with necessary kits, etc. all complete as per satisfaction and direction of the Engineer-in-charge.</p>	1 no.	LS @ Tk. 30,000	30,000.00
6.	<p><u>Traffic Management</u></p> <p>Maintaining traffic management at worksite from time of commencement of contractor's activities to time of completion activities, including ensuring that the road is safe for users, providing a safe working area for those involved in work on trafficked network and minimizing any disruption to smooth flow of traffic (this includes providing necessary barricades, warning signs/lights, guide signs, flagmen, maintaining diversion roads by cutting, filling, constructing, etc. or by any other means) in accordance with the full satisfaction of the Engineering-in-charge.</p>	1 no.	LS @ Tk. 15,000	15,000.00
7.	<p><u>Personal Protection Equipment for Workers</u></p> <p>Providing and maintaining appropriate (safe design, fit and comfort) personal protection equipment (PPE) to ensure the highest possible protection for employees in establishing and maintaining a safe and healthful working environment at workplace, including demonstrating, providing training on proper understanding and development of skill in the use of PPE, including supplying (i) best quality safety jacket, (ii) suitable hand protection gloves, (iii) appropriate foot protection shoes, (iv) best quality safety helmets, face shields, ear muffs etc. (v) suitable eye protection goggles</p>	LS	LS @ Tk 30,000	30,000.00

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Sl. no.	Description of item	Quantity	Unit price	Total amount
8.	<p><u>Motivation training</u></p> <p>Motivation training (twice: before and after construction start) of the Upazila Engineer 'sand Contractor's representatives on safety practice and as per direction of the E.I.C.</p>	1 no.	LS @ Tk. 10,000	10,000.00
9.	<p><u>Waste disposal facility</u></p> <p>Temporary camp site waste disposal facility improvement 2 nos. (1 no of organic waste and 1 no of inorganic waste disposal facility) and as per direction of E.I.C.</p>	LS	@ Tk. 5000	5,000.00
10.	<p><u>Water Test (Drinking Water samples)</u></p> <p>Water samples are to be collected periodically (half yearly) from the tube well at labor shed area for laboratory analysis of different parameters such as pH, arsenic, iron, chloride, hardness, total dissolved solids, nitrate, nitrite, coliform, electrical conductivity etc. all complete as per direction of E.I.C. (including the cost of actual fees for testing from reputed laboratory and report) as desired by E.I.C.</p>	LS	@ Tk. 5000	5,000.00
11.	<p><u>Working labour shed:</u></p> <p>Construction of Labor shed (Size: 30'x20') with C.I sheet Roofing, Tarza fencing and brick soling floor as per requirement and direction of the E-I-C.</p>	1 no.	LS @ Tk. 30,000	30,000.00
12.	<p><u>Environmental management</u></p> <p>Environmental management costs of the Environment & Social/ Safeguard Personnel for Environmental and Social Management and Monitoring during construction and operation phase for their salary & transport (Net payment excluding Tax &VAT). And as per direction of the E.I.C. [One person to be appointed for 13 roads]</p>	Each	@ Tk. 35000	35,000.00
Total amount for this Road				228,834.32

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Existing Surroundings of the Sub-Project

ANNEXURE 2: ATTENDANCE OF CONSULTATION MEETING

ANNEXURE 2: ATTENDANCE OF CONSULTATION MEETING

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Local Government Engineering Department (LGED)
Public Consultation with Stakeholders

Name of Community Road: Basra Bazar H/O Jalil Maulana to Date: 28.03.2026
Road ID: 14977478, Sholagarci GPS via H/O Saralal Bakshi Road.

Place of Consultation:
Village: Sholagarci Ward No.: 08 Union: Nazim Khan Upazila: Rajshahi
District: Kurigram.

Public Consultation Participants List

Sl. No.	Name	Male/ Female	Age	Occupation	Village/Address	Mobile No.	Signature
১.	মো. মজিবুল হক	পুরুষ	৫০	২য় স্টেশন মাস্টার	বনাজিঙ্গুর		মজিবুল
২.	মো. আ. হান্নান	৥	৪৮	বসবাস	আলাঙ্গাজী		হান্নান
৩.	মো. আলমাস	৥	৪২	৥	৥		আলমাস
৪.	মো. আলিমুল্লাহ	৥	৪০	৥	৥		আলিম
৫.	মো. নূর আলম	৥	৫০	৥	৥		নূর আলম
৬.	মো. জুব্বার আলী	৥	৬০	৥	৥		জুব্বার
৭.	মো. আনিস আলী	৥	৬২	চাকুরী	৥		Ashraf
৮.	মো. আনিসুল হক	৥	২২	ছাত্র	রাতিগ্রাম		আনিস
৯.	মো. নূর আমিন	৥	৫৮	কৃষি	আলাঙ্গাজী		নূর আমিন
১০.	মো. মঞ্জু মিস্ত্রী	৥	৫৮	৥	রাতিগ্রাম		মঞ্জু
১১.	মো. আনিস বেগম	মহিলা	৬৫	গৃহিণী	আলাঙ্গাজী		আনিস
১২.	মো. আনিস বেগম	৥	৬৬	চাকুরী	৥		আনিস
১৩.	মো. মুনীর হোসেন	৥	৫০	গৃহিণী	আলাঙ্গাজী		মুনীর

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: Khamar hasnabad school - Burinhat Date: 01-04-26

Phone No: 149615027

Place of Consultation: Khamar hasnabad school - Burinhat.

Village: হালুয়াপাড়া Ward No.: 03/04 Union: হাসনাবাদ/নরসিংপুরী Upazila: নাগেশ্বরী

District: Kurigram.

Public Consultation Participants List

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
১	শ্রী: নরেশ্বরী হোসেন	Male	54	চাষুরী	তুলসীপাড়া		[Signature]
২	শ্রী: নবীকর হোসেন	Male	58	কৃষি	হালুয়াপাড়া		[Signature]
৩	শ্রী: রাজু হোসেন	Male	45	কৃষি	আনন্দ বজা		[Signature]
৪	শ্রী: আব্দুল হুদু	Male	62	কৃষি	আনন্দ বজা		[Signature]
৫	শ্রী: হাবু	Male	56	কৃষি	বুড়ি বোকা		[Signature]
৬	শ্রী: জাহান BSC	Male	55	চাষুরী	আনন্দ বজা		[Signature]
৭	শ্রী: জিলান BSC	Male	60	কৃষি	আনন্দ বজা		[Signature]
৮	শ্রী: মুদা হুদু হোসেন	Male	46	কৃষি	হালুয়াপাড়া		[Signature]
৯	শ্রী: মুনতাজ হুদু	Female	47	কৃষি	হালুয়াপাড়া		[Signature]
১০	শ্রী: মুনতাজ হুদু	Female	62	কৃষি	হালুয়াপাড়া		[Signature]
১১	শ্রী: বিক্রম হুদু হোসেন	Male	40	কৃষি	হালুয়াপাড়া		[Signature]
১২	শ্রী: মুনতাজ হুদু হোসেন	Female	36	কৃষি	হালুয়াপাড়া		[Signature]
১৩	শ্রী: হুদা হুদু হা:	Male	40	কৃষি	হালুয়াপাড়া		[Signature]
১৪	শ্রী: জাহান হুদু হা:	Male	52	কৃষি	হালুয়াপাড়া		[Signature]
১৫	শ্রী: মোহাম্মদ হুদু হা:	Male	48	কৃষি	হালুয়াপাড়া		[Signature]

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: Ulipur Chadni Bazra morce-Bazra Date: 28/03/2026
 Road ID: 149945093 Boldercer morce Road

Place of Consultation:

Village: Chadni Bazra Ward No.: 07 Union: Bazra Upazila: Ulipur

District: Kurigram

Public Consultation Participants List

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
01	শ্রী: শাহজাদুল হক	পুরুষ	৪৮	কৃষক	চাঁদনি বজরা		[Signature]
02	শ্রী: মাহিনুর ইসলাম	পুরুষ	৫৮	চাকরি	চাঁদনি বজরা		[Signature]
03	শ্রী: আব্দুল আলেক	পুরুষ	৫০	শ্রী: লেখক	চাঁদনি বজরা		[Signature]
04	শ্রী: ছফু মিঞা	ঐ	৫২	কৃষি	অবু বজরা		[Signature]
05	শ্রী: আবু সালেহ	ঐ	৪০	কৃষক	চাঁদনি বজরা		[Signature]
06	শ্রী: মোসাদ্দিক হোসেন	ঐ	৫০	কৃষি	ঐ		[Signature]
07	শ্রী: মোহাম্মদ হামিদ	ঐ	৫৫	শ্রী: লেখক	ঐ		[Signature]
08	শ্রী: মোহাম্মদ হামিদ	ঐ	৪৫	কৃষি	ঐ		[Signature]
09	শ্রী: মোহাম্মদ হামিদ	ঐ	৭০	আধিকারী	চাঁদনি বজরা		[Signature]
10	শ্রী: মোহাম্মদ হামিদ	ঐ	৫০	চাকরি	ঐ		[Signature]
11	শ্রী: মোহাম্মদ হামিদ	ঐ	৫৪	কৃষক	চাঁদনি বজরা		[Signature]
12	শ্রী: মোহাম্মদ হামিদ	ঐ	৭০	কৃষি	ঐ		[Signature]
13	শ্রী: মোহাম্মদ হামিদ	ঐ	২৭	ঐ	চাঁদনি বজরা		[Signature]
14	শ্রী: মোহাম্মদ হামিদ	ঐ	৬৫	ঐ	চাঁদনি বজরা		[Signature]
15	শ্রী: মোহাম্মদ হামিদ	ঐ	৬৫	ঐ	ঐ		[Signature]
16	শ্রী: মোহাম্মদ হামিদ	ঐ	৬৭	চাকরি	ঐ		[Signature]
17	শ্রী: মোহাম্মদ হামিদ	ঐ	৫০	কৃষি	ঐ		[Signature]
18	শ্রী: মোহাম্মদ হামিদ	ঐ	৪৫	ঐ	ঐ		[Signature]
19	শ্রী: মোহাম্মদ হামিদ	ঐ	৬২	ঐ	ঐ		[Signature]
20	শ্রী: মোহাম্মদ হামিদ	ঐ	৪০	ঐ	ঐ		[Signature]

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: Ulipur Bazaar collage more Telipara Date: 28/03/2026
Fulbabu member shop Road
 Road ID: 14994509.4

Place of Consultation:

Village: Chadni Bazaar Ward No.: 07 Union: Bazaar Upazila: Ulipur
 District: Kurigram

Public Consultation Participants List

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
1	শ্রীমতী দেবী	Female	৫০	সেয়ার	চাঁদনী বাজার		[Signature]
2	শ্রী: কামাল হোসেন	Male	০৫	শ্রমিক	ক		[Signature]
3	শ্রী: সুজা বেগম	Female	৫০	শ্রমিক	ক		[Signature]
4	শ্রী: আব্দুল হান্নান	Male	৫২	শ্রমিক	ক		[Signature]
5	শ্রী: জাহাঙ্গীর আলম	Male	৭০	ক	ক		[Signature]
6	শ্রী: কামাল হোসেন	Male	৬৫	চাকরি	ক		[Signature]
7	শ্রী: আব্দুল হান্নান	Male	২৭	ছাত্র	ক		[Signature]
8	শ্রী: হাইদার হোসেন	Male	৪২	কৃষিক	ক		[Signature]
9	শ্রী: ইনিয়াস আলী	Male	২৫	ক	ক		[Signature]
10	শ্রী: আব্দুল হান্নান	Male	২০	ছাত্র	ক		[Signature]
11	শ্রী: আব্দুল হান্নান	Male	৬৫	চাকরি	ক		[Signature]
12	শ্রী: হাইদার হোসেন	Male	২৪	ছাত্র	ক		[Signature]
13	শ্রী: হাইদার হোসেন	Male	৬২	শ্রমিক	ক		[Signature]
14	শ্রী: হাইদার হোসেন	Male	৪২	ক	ক		[Signature]
15	শ্রী: হাইদার হোসেন	Male	৫২	ক	ক		[Signature]
16	শ্রী: হাইদার হোসেন	Male	৬০	শ্রমিক	ক		[Signature]
17	শ্রী: হাইদার হোসেন	Male	২০	ক	ক		[Signature]
18	শ্রী: হাইদার হোসেন	Male	১৫	ছাত্র	ক		[Signature]
19	শ্রী: হাইদার হোসেন	Male	৫০	শ্রমিক	ক		[Signature]
20	শ্রী: হাইদার হোসেন	Male	৬০	চাকরি	ক		[Signature]

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: Suthepar Malsarcher Road via New BOP Date: 28-03-2026

Road ID: 140905017

Place of Consultation:

Village: Suthepar

Ward No.: 01

Union: 4 No Rawmari Upazila: Rawmari

District: ~~Rangpur~~

Kurigram

Public Consultation Participants List

Sl. No.	Name	Male/ Female	Age	Occupation	Village/Address	Mobile No.	Signature
১	সুভাষ চন্দ্র	পু.	৬০	কৃষি	সুভাষ বাগ		সুভাষ চন্দ্র
২	মোহন শাহান	"	২০	ছাত্র	"		মোহন শাহান
৩	সুভাষ	মহিলা	৩৮	গৃহিণী	"		সুভাষ
৪	সুভাষ	পু.	২৮	ছাত্র	"		সুভাষ
৫	সুভাষ	পু.	২৬	ছাত্র	"		সুভাষ
৬	সুভাষ	"	২৬	ছাত্র	"		সুভাষ
৭	সুভাষ	"	২০	ছাত্র	"		সুভাষ
৮	শ্রী: সুভাষ চন্দ্র	"	৫২	বসু	সুভাষ চন্দ্র		শ্রী: সুভাষ চন্দ্র
৯	শ্রী: সুভাষ চন্দ্র	"	৩৫	কর্মী	"		শ্রী: সুভাষ চন্দ্র
১০	" সুভাষ চন্দ্র	"	৬৫	কৃষি	"		সুভাষ চন্দ্র
১১	" শ্রী: সুভাষ চন্দ্র	পু.	৬০	"	"		শ্রী: সুভাষ চন্দ্র
১২	শ্রী: সুভাষ চন্দ্র	পু.	৬২	"	সুভাষ চন্দ্র		শ্রী: সুভাষ চন্দ্র
১৩	শ্রী: সুভাষ চন্দ্র	মহিলা	৫৫	গৃহিণী	"		শ্রী: সুভাষ চন্দ্র

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: Fakir Para Pucca road-north side
 domPorc more road Date: 31/03/2020
 Road ID: 45093115

Place of Consultation:

Village: Fakir Para Ward No.: 09 Union: শানা ইউনিয়ন Upazila: চাঁদপুর
 District: Kurigram

Public Consultation Participants List

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
01	শ্রী: নূর	পুরুষ	60	কৃষি	ফকিরপাড়া		নূরুল
02	শ্রী: সত্যেন্দ্র কুমার	u	80	কৃষক	u		সত্যেন্দ্র
03	শ্রী: শ্রীধর শর্মা	u	60	কৃষি	u		শ্রীধর
04	শ্রী: আফিজুল হক	u	50	কৃষি	u		আফিজুল
05	শ্রী: আব্দুল হামিদ	u	25	ছাত্র	u		আব্দুল হামিদ
06	শ্রী: হুমায়ুন হোসেন	u	20	u	u		হুমায়ুন
07	শ্রী: মাহমুদ	u	65	কৃষি	u		মাহমুদ
08	শ্রী: সাদিকুল হোসেন	u	56	কৃষক	u		সাদিকুল
09	শ্রী: হুমায়ুন কবীর	u	62	কৃষি	u		হুমায়ুন
10	শ্রী: সাদিকুল হোসেন	u	22	ছাত্র	উত্তর ফকিরপাড়া		সাদিকুল
11	শ্রী: মাহমুদ হোসেন	u	20	u	u		মাহমুদ
12	শ্রী: সাদিকুল	u	18	u	u		সাদিকুল
13	শ্রী: বাবুল হোসেন	u	55	চাকরি	u		বাবুল
14	শ্রী: হুমায়ুন কবীর	u	58	কৃষি	u		হুমায়ুন

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: Sarker Para mosque-H/O kazim uddin Date: 31/03/2024
 Road ID 149095114 Sarker-H/O Talil mia road via H/O bozluur Rashid oc

Place of Consultation:

Village সরকার পাড়া Ward No.: 03 Union: সার্কর উপজা: চিলমাঠা
 District Kurigram

Public Consultation Participants List

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
01	শ্রী: রনি	M/F	28		সরকার পাড়া		রনি
02	শ্রী: বিক্রম হোসেন	u	22	ছাত্র	u		বিক্রম
03	শ্রী: বজল মিয়া	u	80	স্বা: লেখক	u		বজল
04	শ্রী: মোহাম্মদ হোসেন	u	25	ছাত্র	u		মোহাম্মদ হোসেন
05	শ্রী: নওশাহ হোসেন	u	20	ছাত্র	u		নওশাহ
06	শ্রী: মোহাম্মদ	u	60	কৃষি	u		মোহাম্মদ
07	শ্রী: শাকিল	u	62	কৃষি	u		শাকিল
08	শ্রী: মোহাম্মদ হোসেন	u	69	কৃষি	u		মোহাম্মদ হোসেন
09	শ্রী: মোহাম্মদ হোসেন	u	80	কৃষি	u		মোহাম্মদ হোসেন
10	শ্রী: নজিব খান	u	68	কৃষি	সরকার পাড়া		নজিব

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: R&H Road Amtola more- Miloni Bazar Road

Date: 02-04-2026

Road ID: 149065079

Place of Consultation: Starting point of the Road/Miloni Bazar

Village: Sonbanda

Ward No.: 01,02

Union: Boldia

Upazila: Bhurungamari

District: Kurigram

Public Consultation Participants List

Sl. No.	Name	Male/ Female	Age	Occupation	Village/Address	Mobile No.	Signature
1.	Md. Sakur Ali	Male	47	Business	Sonbanda		
2.	Juel Mia	Male	42	Business	Sonbanda		
3.	Jojoral	Male	50	Teacher	Sonbanda		
4.	Md. Abu Sayeed	Male	50	Farmer	Sonbanda		
5.	Md. Mahbur Rahman	Male	44	Business	Parsuramer Kuti		
6.	Rabi Alam	Male	50	Farmer	Sonbanda		
7.	Abdul Hakim	Male	60	Farmer	Sonbanda		
8.	Tariku Rahman	Male	17	Student	Sonbanda		
9.	Md. Rakibul Islam	Male	17	Student	Sonbanda		
10.	Mehedi Hasan	Male	27	Job	Parsuramer Kuti		
11.	Md. Sobel Rama	Male	29	Student	Sonbanda		
12.	Abdur Razzak	Male	38	Business	Parsuramer Kuti		
13.	Md. Belal Hosen	Male	50	Business	Parsuramer Kuti		
14.	Shree Narayan Chandra Das	Male	28	Business	Parsuramer Kuti		
15.	Abdur Barez	Male	54	Business	Sonbanda		
16.	Rebiul Islam	Male	26	Business	Sonbanda		

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: Pandit Parra Nurul Uloom girls Madrasah - Mina Bazaar Via Ruhul Amin Beparere House Road. Date: 02-04-2026

Road ID: 149065075

Place of Consultation: Starting point of the Road.

Village: Uttar Boldia Ward No.: 01,06 Union: Boldia

Upazila: Bhurungamari

District: Kurigram

Public Consultation Participants List

Sl. No.	Name	Male/ Female	Age	Occupation	Village/Address	Mobile No.	Signature
1.	Mr. Dadel Hosseini	Male	52	Business	Uttar Boldia		
2.	Mr. Safikul Islam	Male	60	Business	Pansurames Kutli		
3.	Rowson Ali	Male	40	B-Doctor	Pansurames Kutli		
4.	Islamul Haque	Male	42	Farmer	Uttar Boldia		
5.	Niamul Islam	Male	40	Merchant	Pansurames Kutli		
6.	Ripon Mia	Male	26	Business	Uttar Boldia		
7.	Mr. Hasim Ali	Male	27	Farmer	Uttar Boldia		
8.	Samsul Huda	Male	75	Farmer	Pansurames Kutli		
9.	Lutfur Rahman	Male	45	Farmer	Pansurames Kutli		
10.	Badsa Mia	Male	25	Farmer	Pansurames Kutli		

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
 Local Government Engineering Department (LGED)
 Public Consultation with Stakeholders

Name of Community Road: Kurigram Anantapur G.C.Rd H/O Asswari Kumar Date: 25-03-26
 Road ID: 149529010
 Place of Consultation: Kurigram Anantapur G.C.Rd H/O Asswari Kumar
 Village: Chair Sithi Ward No.: 06 Union: Mogolbasha Upazila: Kurigram Sadar.
 District: Kurigram.

Public Consultation Participants List

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
	আব্দুল	Male	32	কৃষি	আব্দুল গাও		আব্দুল
	শ্রী: মনু মিয়া	"	45	"	সাইফুল গাও		শ্রী: মনু মিয়া
	শ্রী: মিলন	"	37	"	"		মিলন
	শ্রী: বিদ্যাভূষণ	"	42	"	আব্দুল গাও		বিদ্যাভূষণ
	শ্রী: হাবিব	"	35	"	আব্দুল গাও		হাবিব
	শ্রী: মোহাম্মদ	"	45	"	আব্দুল গাও		মোহাম্মদ
	শ্রী: হুমায়ূন	"	56	"	আব্দুল গাও		শ্রী: হুমায়ূন
	শ্রী: আমজাদুল	"	21	"	আব্দুল গাও		আমজাদুল
	শ্রী: মজিবুল	"	24	"	আব্দুল গাও		মজিবুল
	শ্রী: মাসুদ	"	55	"	আব্দুল গাও		মাসুদ
	শ্রী: হুসাইন	"	65	"	আব্দুল গাও		হুসাইন
	শ্রী: ইব্রাহিম	"	38	"	"		ইব্রাহিম
	শ্রী: সালেহুল	"	35	"	"		সালেহুল
	শ্রী: আলী	"	38	সি.পি.	আব্দুল গাও		আলী
	শ্রী: মাসুদ	"	55	সি.পি.	আব্দুল গাও		মাসুদ
	শ্রী: মাসুদ	"	60	সি.পি.	আব্দুল গাও		মাসুদ
	শ্রী: মাসুদ	"	65	সি.পি.	আব্দুল গাও		মাসুদ
	শ্রী: মাসুদ	"	85	সি.পি.	আব্দুল গাও		মাসুদ
	শ্রী: মাসুদ	"	38	কৃষি	আব্দুল গাও		মাসুদ
	শ্রী: মাসুদ	"	40	"	আব্দুল গাও		মাসুদ
	শ্রী: মাসুদ	"	32	LGED	আব্দুল গাও		মাসুদ

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project

Local Government Engineering Department (LGED)

Public Consultation with Stakeholders

Name of Community Road: Sukhdeb Mouza - Ranjitswar Mouza
 Road ID: 149779017. Show nerrayan.

Date: 28.03.2026

Place of Consultation:

Village: Sukhdeb. Ward No.: 06

Union: Biddenanda. Upazila: Rajarchat.

District: Kurigram.

Public Consultation Participants List

Sl. No.	Name	Male/ Female	Age	Occupation	Village/Address	Mobile No.	Signature
১.	শ্রী: মনিরুজ্জামান	পুরুষ	৩৫	শ্রাবণ	শ্রীপুর		মনির
২.	মাকিনা খিলা	♀	২০	ছাত্র	শ্রীপুর		Makina
৩.	বেলাল হুসাইন	♂	৩৮	শ্রাবণ	"		Belal
৪.	ফাহিম খিলা	♂	২৩	কৃষি	"		Fahim
৫.	মাজু খিলা	♂	৪০	কৃষি	"		Maju
৬.	মাহমুদ আহমদ	♂	২৬	কৃষি	"		Mahmud
৭.	ফাহিম খিলা	♂	৫০	শ্রাবণ	বাগিচা পাড়া		Fahim
৮.	নজরুল ইসলাম	♂	৪৮	কৃষি	"		Nazrul
৯.	শাহিনুর রহমান	♂	২৫	শ্রাবণ	শ্রীপুর		Shahinur
১০.	আবু জুবায়ের	♂	৪৬	শ্রাবণ	"		Abu Jubayer
১১.	মোহাম্মদ আহমদ	♂	৪৫	কৃষি	"		Mohammad
১২.	মহম্মদুল হক	♂	৩২	শ্রাবণ	"		Mohammadul Haque

Resilient Infrastructure for Adaptation and Vulnerability Reduction (RIVER) Project
Local Government Engineering Department (LGED)
Public Consultation with Stakeholders

Name of Community Road: New Jorjraach-BWDB Embankment of Kharkharica Road Date: 23/04/2020
Road ID: 145094004
Place of Consultation:
Village: Romna Ward No.: 05 Union: Romna Upazila: Chitmaru
District: Kurigram

Public Consultation Participants List

Sl. No.	Name	Male/Female	Age	Occupation	Village/Address	Mobile No.	Signature
01	শ্রী: রফিকুল	Male	36	স্বাক্ষর	রমনা		[Signature]
02	শ্রী: রিপন	u	42	কামা	u		[Signature]
03	শ্রী: আব্দুল আজিজ	u	38	কামা	u		[Signature]
04	শ্রী: খুশন	u	37	u	u		[Signature]
05	শ্রী: নাজম	u	32	u	u		[Signature]
06	শ্রী: শরফ	u	30	u	u		[Signature]
07	শ্রী: আব্দুল আজিজ	u	51	u	u		[Signature]
08	শ্রী: রাসুল মিয়া	u	60	u	u		[Signature]
09	শ্রী: নাজমুল হুদা	u	35	চাকরি	u		[Signature]