Project Administration Manual

Project Number: 44142
Loan Number: 
September 2015

Proposed Loan for Additional Financing
People’s Republic of Bangladesh: Subregional Transport Project Preparatory Facility
# Contents

## ABBREVIATIONS

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Attachment A: Design and Monitoring Framework
Attachment B: Railway Projects, Road Projects, Selection criteria for projects
Attachment C: Procurement Plan
Attachment D: TOR for Feasibility Study and Detailed Design Consultants (Roads)
Attachment E: TOR for Feasibility Study and Detailed Design Consultants (Railways)
Attachment F: TOR for Individual Consultants for safeguards implementation (Roads)
Project Administration Manual Purpose and Process

1. The project administration manual (PAM) describes the essential administrative and management requirements to implement the project on time, within budget, and in accordance with Government and Asian Development Bank (ADB) policies and procedures. The PAM should include references to all available templates and instructions either through linkages to relevant URLs or directly incorporated in the PAM.

2. The Roads and Highways Department (RHD) and the Bangladesh Railway (BR) are wholly responsible for the implementation of ADB financed projects, as agreed jointly between the borrower and ADB, and in accordance with Government and ADB’s policies and procedures. ADB staff is responsible to support implementation including compliance by RHD and BR of their obligations and responsibilities for project implementation in accordance with ADB’s policies and procedures.

3. At Loan Negotiations the borrower and ADB shall agree to the PAM and ensure consistency with the loan agreement. Such agreement shall be reflected in the minutes of the Loan Negotiations. In the event of any discrepancy or contradiction between the PAM and the loan agreement, the provisions of the loan agreement shall prevail.

4. After ADB Board approval of the project's report and recommendations of the President (RRP) changes in implementation arrangements are subject to agreement and approval pursuant to relevant Government and ADB administrative procedures (including the Project Administration Instructions) and upon such approval they will be subsequently incorporated in the PAM.
**Abbreviations**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
</tr>
<tr>
<td>ADF</td>
<td>Asian Development Fund</td>
</tr>
<tr>
<td>AFS</td>
<td>audited financial statements</td>
</tr>
<tr>
<td>DMF</td>
<td>design and monitoring framework</td>
</tr>
<tr>
<td>EIA</td>
<td>environmental impact assessment</td>
</tr>
<tr>
<td>EMP</td>
<td>environmental management plan</td>
</tr>
<tr>
<td>IEE</td>
<td>initial environmental examination</td>
</tr>
<tr>
<td>IPP</td>
<td>indigenous people plan</td>
</tr>
<tr>
<td>NGOs</td>
<td>nongovernment organizations</td>
</tr>
<tr>
<td>PAI</td>
<td>project administration instructions</td>
</tr>
<tr>
<td>PAM</td>
<td>project administration manual</td>
</tr>
<tr>
<td>PIU</td>
<td>project implementation unit</td>
</tr>
<tr>
<td>QCBS</td>
<td>quality- and cost based selection</td>
</tr>
<tr>
<td>RRP</td>
<td>report and recommendation of the President to the Board</td>
</tr>
<tr>
<td>SOE</td>
<td>statement of expenditure</td>
</tr>
<tr>
<td>SPS</td>
<td>Safeguard Policy Statement</td>
</tr>
<tr>
<td>SPRSS</td>
<td>summary poverty reduction and social strategy</td>
</tr>
<tr>
<td>TOR</td>
<td>terms of reference</td>
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</table>
I. PROJECT DESCRIPTION

1. The proposed additional financing to the technical assistance loan (the TA Loan) will continue to provide the Facility to prepare a series of regional cooperation and integration (RCI) transport projects readily available for implementation in the transport subsectors, with focus on roads and railways. The Facility would enhance capacity in RCI transport project preparation through provision of feasibility studies, detailed design and implementation support to regional transport projects. The focus will be provided on priority transport corridors identified in the South Asia Association for Regional Cooperation (SAARC) Regional Multimodal Transport Study (SRMTS) and those linking with BIMSTEC countries such as Asian Highway Network and Trans-Asia Rail Network.

2. **Impact and Outcome.** The impact will be increased subregional connectivity and trade, aligned with the Sixth Five-Year Plan (2011-2015). The outcome will be improved efficiency in implementing regional cooperation and integration (RCI) transport projects and facilitating cross-border traffic in Bangladesh.

3. The impact and outcome statements are unchanged from the original project.

4. **Outputs.** The outputs will be (i) feasibility studies and detailed design of RCI transport projects; and (ii) implementation support for RCI transport projects to facilitate government approvals, safeguard implementation, and procurement.

5. A list of the road projects and railway projects as well as the selection criteria for other projects, if required, is in Attachment B.

II. IMPLEMENTATION PLAN

A. Project Readiness Activities

<table>
<thead>
<tr>
<th>Loan Processing</th>
<th>Project Implementation (Consultants)</th>
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<tr>
<td>ADB Actions</td>
<td>Government Actions</td>
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<tr>
<td>May 2015</td>
<td>Loan Fact-Finding</td>
</tr>
<tr>
<td>Jun 2015</td>
<td>Management Review Meeting</td>
</tr>
<tr>
<td>Jul 2015</td>
<td>Loan negotiations</td>
</tr>
<tr>
<td>Aug 2015</td>
<td>Shortlisting</td>
</tr>
<tr>
<td>Sep 2015</td>
<td>ADB Board Approval</td>
</tr>
<tr>
<td>Oct 2015</td>
<td>Signing</td>
</tr>
<tr>
<td>Nov 2015</td>
<td>Submit Legal Opinion</td>
</tr>
<tr>
<td>Dec 2015</td>
<td>Effectiveness</td>
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### B. Overall Project Implementation Plan

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>A. Loan Processing</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Loan Processing and Approval by ADB</td>
<td></td>
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</tr>
<tr>
<td>Loan Effectiveness</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>B. RHD Component - Consulting Services</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Consultant recruitment</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Preparation of FS, DD and Bid Documents</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Support during bidding for ensuing projects</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>C. BR Component - Consulting Services</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1. Consultant recruitment</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>2. Preparation of FS, DD and Bid Documents</td>
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<tr>
<td>3. Support during bidding for ensuing projects</td>
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</table>

Source: Asian Development Bank
### III. PROJECT MANAGEMENT ARRANGEMENTS

#### A. Project Implementation Organizations – Roles and Responsibilities

<table>
<thead>
<tr>
<th>Project implementation organizations</th>
<th>Management Roles and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Executing agency (RHD Component)</td>
<td>Roads and Highways Department</td>
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<tr>
<td></td>
<td>    day-to-day project management</td>
</tr>
<tr>
<td></td>
<td>    consultant recruitment and management</td>
</tr>
<tr>
<td></td>
<td>    withdrawal applications</td>
</tr>
<tr>
<td></td>
<td>    project progress reports</td>
</tr>
<tr>
<td></td>
<td>    maintaining project accounts and complete loan financial records</td>
</tr>
<tr>
<td>• Executing agency (BR Component)</td>
<td>Bangladesh Railway</td>
</tr>
<tr>
<td></td>
<td>    day-to-day project management</td>
</tr>
<tr>
<td></td>
<td>    consultant recruitment and management</td>
</tr>
<tr>
<td></td>
<td>    withdrawal applications</td>
</tr>
<tr>
<td></td>
<td>    project progress reports</td>
</tr>
<tr>
<td></td>
<td>    maintaining project accounts and complete loan financial records</td>
</tr>
<tr>
<td>• ADB</td>
<td></td>
</tr>
<tr>
<td></td>
<td>    monitor and review overall implementation of the project in consultation with the executing agencies including: the project implementation schedule; actions required in terms of safeguard implementation if applicable; timeliness of budgetary allocations and counterpart funding; project expenditures; progress with disbursement; statement of expenditure when applicable; compliance with particular loan covenants; and the likelihood of attaining the project’s immediate development objectives.</td>
</tr>
</tbody>
</table>
B. Key Persons Involved in Implementation

**Executing Agency**

Roads and Highways Department

Mr. M. Feroz Iqbal  
Chief Engineer  
Fax No. +88 02 8879199  
Sarak Bhaban, Tejgaon  
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Mr. Md. Ali Masud Haider  
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Rail Bhaban, Dhaka, 1000  

Mr. S. K. Chakraborty  
General Manager/Project Director  
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E-Mail: mgpc@railway.gov.bd

**ADB**

Bangladesh Resident Mission

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Director  
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Mission Leader

Markus Roesner  
Principal Transport Specialist  
Telephone No. +632-6324980  
Email address: mroesner@adb.org
C. Project Organization Structure

6. The flow chart below shows the reporting lines in the internal structures of key Ministries, organizations and agencies involved in implementation:
IV. COSTS AND FINANCING

7. The overall facility is estimated to cost $63.59 million (Table 1).

Table 1: Project Investment Plan
($ million)

<table>
<thead>
<tr>
<th>Item</th>
<th>Current Amount</th>
<th>Additional Financing</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>Amounta</td>
<td>Amountb</td>
<td>Amount</td>
</tr>
<tr>
<td>A. Base Costc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Consulting Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Roads and Highways Department component</td>
<td>9.74</td>
<td>4.50</td>
<td>14.24</td>
</tr>
<tr>
<td>b. Bangladesh Railway component</td>
<td>10.89</td>
<td>23.50</td>
<td>34.39</td>
</tr>
<tr>
<td>2. Project managementd</td>
<td>1.30</td>
<td>1.50</td>
<td>2.80</td>
</tr>
<tr>
<td>3. Taxes and duties</td>
<td>3.29</td>
<td>4.30</td>
<td>7.59</td>
</tr>
<tr>
<td>Subtotal (A)</td>
<td>25.22</td>
<td>33.80</td>
<td>59.02</td>
</tr>
<tr>
<td>B. Contingenciese</td>
<td>2.07</td>
<td>1.70</td>
<td>3.77</td>
</tr>
<tr>
<td>C. Financing Charges During Implementationf</td>
<td>0.30</td>
<td>0.50</td>
<td>0.80</td>
</tr>
<tr>
<td>Total (A+B+C)</td>
<td>27.59</td>
<td>36.00</td>
<td>63.59</td>
</tr>
</tbody>
</table>

a Refers to the original amount. Includes taxes and duties of $3.28 million financed from government resources.
b Includes taxes and duties of $4.30 million to be financed from government resources.
c In mid-2015 prices.
d Including (i) office accommodation of project implementation unit, (ii) remuneration and per diem of counterpart staff, and (iii) other miscellaneous costs.
e Contingencies computed at about 6% for consulting services.
f Includes interest. Interest during construction for the Asian Development Bank loan has been computed at 2.0%.
g In the additional financing component for Bangladesh Railway, $4.5 million is for an ongoing contract through variation and $19.0 million is for a new consultancy contract.
Sources: Asian Development Bank, Bangladesh Railway, and Roads and Highways Department estimates.

8. The government has requested a loan in various currencies equivalent to SDR21,537,000 ($30 million equivalent) from ADB’s Special Funds resources to help finance the facility. The loan will have a 25-year term, including a grace period of 5 years, an interest rate of 2.0% per annum during the grace period and thereafter, and such other terms and conditions set forth in the draft loan agreement.

9. The financing plan is in Table 2.

Table 2: Financing Plan

<table>
<thead>
<tr>
<th>Source</th>
<th>Current Amount</th>
<th>Additional Financing</th>
<th>Total</th>
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<tr>
<td>Asian Development Bank Special Funds resources (loan)</td>
<td>23.00</td>
<td>30.00</td>
<td>53.00</td>
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<tr>
<td>Government</td>
<td>4.59</td>
<td>6.00</td>
<td>10.59</td>
</tr>
<tr>
<td>Total</td>
<td>27.59</td>
<td>36.00</td>
<td>63.59</td>
</tr>
</tbody>
</table>

a Refers to the original loan amount of ADB. 2010. Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People’s Republic of Bangladesh for the Subregional Transport Project Preparatory Facility. Manila (TA Loan 2688-BAN).
Sources: Asian Development Bank estimates.
A. Cost Estimate by Expenditure Category and by Financier

<table>
<thead>
<tr>
<th>Component</th>
<th>Total</th>
<th>Government</th>
<th>ADB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$ million</td>
<td>[%]</td>
<td>$ million</td>
</tr>
<tr>
<td>A. Consulting Services</td>
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<td></td>
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</tr>
<tr>
<td>1. Bangladesh Railway component</td>
<td>23.50</td>
<td>0.0%</td>
<td>0.00</td>
</tr>
<tr>
<td>2. Roads and Highways Department component</td>
<td>4.50</td>
<td>0.0%</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>Total Goods and services</strong></td>
<td><strong>28.00</strong></td>
<td><strong>0.0%</strong></td>
<td><strong>0.00</strong></td>
</tr>
<tr>
<td>B. Project Management Cost</td>
<td>1.50</td>
<td>100.0%</td>
<td>1.50</td>
</tr>
<tr>
<td>C. Taxes and duties</td>
<td>4.30</td>
<td>100.0%</td>
<td>4.30</td>
</tr>
<tr>
<td>D. Interest during implementation</td>
<td>0.50</td>
<td>0.0%</td>
<td>0.00</td>
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<tr>
<td>E. Contingencies</td>
<td>1.70</td>
<td>11.8%</td>
<td>0.20</td>
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<td><strong>Total (A+B+C+D+E)</strong></td>
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<td><strong>16.7%</strong></td>
<td><strong>6.00</strong></td>
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B. Cost Estimate by Expenditure Category and Year

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<tr>
<th>Component</th>
<th>Total</th>
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<th>2017</th>
<th>2018</th>
<th>2019</th>
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<tr>
<td></td>
<td>$ million</td>
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<tr>
<td>A. Consulting Services</td>
<td></td>
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<td></td>
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<tr>
<td>1. Bangladesh Railway component</td>
<td>23.50</td>
<td>4.50</td>
<td>9.50</td>
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<td>2.00</td>
</tr>
<tr>
<td>2. Roads and Highways Department component</td>
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<td>0.50</td>
<td>1.50</td>
<td>2.00</td>
<td>0.50</td>
</tr>
<tr>
<td><strong>Total Goods and services</strong></td>
<td><strong>28.00</strong></td>
<td><strong>5.00</strong></td>
<td><strong>11.00</strong></td>
<td><strong>9.50</strong></td>
<td><strong>2.50</strong></td>
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<tr>
<td>B. Project Management Cost</td>
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<td>0.30</td>
<td>0.40</td>
<td>0.40</td>
<td>0.40</td>
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<tr>
<td>C. Taxes and duties</td>
<td>4.30</td>
<td>1.00</td>
<td>1.30</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>D. Interest during implementation</td>
<td>0.50</td>
<td>0.10</td>
<td>0.10</td>
<td>0.15</td>
<td>0.15</td>
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<tr>
<td>E. Contingencies</td>
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<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>1.70</td>
</tr>
<tr>
<td><strong>Total (A+B+C+D+E)</strong></td>
<td><strong>36.00</strong></td>
<td><strong>6.40</strong></td>
<td><strong>12.80</strong></td>
<td><strong>11.05</strong></td>
<td><strong>5.75</strong></td>
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### D. Allocation and Withdrawal of Loan Proceeds

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<tr>
<th>Number</th>
<th>Item</th>
<th>Amount Allocated for ADB Financing ($ million equivalent)</th>
<th>Basis for Withdrawal from the Loan Account</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Category Subcategory</td>
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</tr>
<tr>
<td>1</td>
<td>Consulting Services</td>
<td>28.00</td>
<td></td>
</tr>
<tr>
<td>1A</td>
<td>Component A (RHD)</td>
<td>4.50</td>
<td>100% of total expenditure claimed*</td>
</tr>
<tr>
<td>1B</td>
<td>Component B (BR)</td>
<td>23.50</td>
<td>100% of total expenditure claimed*</td>
</tr>
<tr>
<td>2</td>
<td>Interest Charge</td>
<td>0.50</td>
<td>100 % of amounts due</td>
</tr>
<tr>
<td>3</td>
<td>Unallocated</td>
<td>1.50</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>30.00</td>
<td></td>
</tr>
</tbody>
</table>

* Exclusive of taxes and duties imposed within the territory of the Borrower.
E. Fund Flow Diagram

9. The following diagram shows the disbursement fund flow:

![Fund Flow Diagram]

V. FINANCIAL MANAGEMENT

A. Financial Management Assessment

10. An updated financial management assessment (FMA) was conducted in accordance with ADB’s Guidelines for the Financial Management and Analysis of Projects2 (the Guidelines) and ADB’s Financial Due Diligence, A Methodology Note3 for RHD and BR. The FMA focuses on fund flows, staffing, accounting policies and procedures, internal controls, financial reporting and monitoring, and internal and external audits. The FMA is based on lessons learnt during the implementation of ongoing and previous projects implemented by RHD and BR, and lessons from project implementation experience in the sector and Bangladesh in general.

11. Both RHD and BR have significant experience in managing funds for projects including those of the Asian Development Bank (ADB), and have the organization structure in place to implement these projects. No significant procurement issues were faced during the implementation of the ongoing project. Audited project financial statements (APFS) indicated an unqualified audit opinion, although were submitted with a slight delay. There have not been any significant issues with the withdrawal applications submitted by either implementing agency. Although internal audit function is weak, appropriate accounting, reporting and internal control mechanisms are in place. The overall financial management capacity is adequate but , given the country risk rating, the project risk is considered Moderate.

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3 ADB. 2009. Financial Due Diligence, A Methodology Note. Manila
1. **Roads and Highways Department**

12. The accounting function of RHD is performed by the Audit and Accounts Unit under the Management Services Wing which reports to the Chief Engineer of RHD. One director and two accounts officers are deputed from the Comptroller and Auditor General's (C&AG) Office. RHD has the necessary accounting policies, procedures and chart of accounts for the proper recording of project financial transactions, including the allocation of expenditures in accordance with the respective disbursement categories and sources of funds. It has most of the controls in place for the preparation and proper approval of transactions. It also retains all accounting and supporting documents in a secure place. They are properly catalogued to allow authorized users easy access and retrieval of documents.

13. RHD submits monthly, quarterly and annual reports to the Controller General of Accounts (CGA). The reporting is on cash basis with report of the expenditures of each division submitted to CGA who collates the accounts for RHD. The Director, Audit and Accounts of RHD also collates RHD’s accounts and reconciles it with CGA’s account so that the output is consistent. The reporting by the divisions is submitted on a disc which is entered into RHD’s CMS system which helps to collate the data. Project accounts are done manually on Excel spreadsheets and are not part of the CMS. The financial reports for projects are prepared monthly, quarterly and annually with a comparison of actual expenditure against budget. One accounts officer from CGA needs to be deputed to RHD for each ADB project for payments.

14. RHD has an internal audit function which is the responsibility of one of the Accounts Officers under the Director of Audit and Accounts. Although three (3) officers are sanctioned, currently there are only 2 officers. Due to the limited staff, hardly any internal audit is carried out on the operations or projects during or after implementation.

15. Project accounts are audited annually by the government’s audit authority, Foreign Aided Project Audit Directorate (FAPAD). The audit is conducted in accordance with International Standards of Auditing. FAPAD has generally conducted the audit in time as required under the donors’ loan agreements. This is usually performed 6 months after the end of the financial year. The audit is in effect mainly a financial (not technical) audit and the opinion is limited to funds received and expenditure incurred by the project authority.

16. RHD has significant experience in implementing externally financed projects and has the organization structure in place to implement these projects. RHD assigns well qualified and experienced accounts officers who are familiar with ADB procedures and would be able to support and train the accounts officers in the project implementation units. Areas for possible enhancement include streamlining cheque clearance mechanism and strengthening internal audit capacity. These are ongoing activities and will be enhanced during implementation of follow-on investment projects.

2. **Bangladesh Railway**

17. BR’s Accounts and Finance Department is headed by Additional Director General (Finance) or ADG (Finance). The Joint Director General/Finance (JDG/F) reports to the ADG (Finance) and is responsible for BR level budgeting, financial management, accounts and inspection, costing and regulation. Also reporting directly to ADG (Finance) are three Financial Advisor & Chief Accounts Officers (FA&CAO) who head the East Zone, West Zone and Projects. Projects are implemented by a project management unit headed by the Project Director, who is responsible for keeping all relevant records. The accounting responsibility of the projects lies with the office of the Financial Advisor and Chief Accounts Officer (Project), whose
office is located in Dhaka. BR has sound accounting policies and procedures that allow for proper recording of project financial transactions including the allocation of expenditures in accordance with the respective components, disbursement categories, and sources of funds. Controls are in place for the proper preparation and approval of transactions. It has put in place various delegated authorities for review and approval of transactions. Cost allocations to the various funding sources are made accurately and in accordance with established agreements using separate project codes for each funding source. BR has document retention rules in place that ensure documents are retained for various number of years depending on the importance of the transaction, with retention periods varying from 3 yrs to permanent retention periods.

18. BR primarily follows cash basis of accounting, though some financial statements are also prepared based on commercial principles. For the purposes of reporting to donors and GoB and to meet audit requirements, Project Directors are required to prepare the annual Financial Statements and Notes in accordance with Gob financial regulations and principles of International Accounting Standards. They are also required to make monthly progress reports of their respective projects. BR’s financial statements include Current Accounts, Monthly Accounts, Annual Financial Appropriation Accounts and Finance Accounts prepared on cash basis. Apart from these, BR also prepares a part of profit and loss accounts based on commercial principles.

19. There is currently no internal audit unit or audit committee in BR. However, the BR Code for the Accounts Department stipulates sufficient internal control measures that are designed to supplement the external audits conducted by C&AG for the revenue accounts and GoB funded projects, and the Foreign Aided Project Audit Directorate (FAPAD) for the donor funded projects. BR has an internal audit function, regular and targeted internal checks and inspections could be carried out and this would significantly improve the control environment in BR.

20. FAPAD performs the audit of all donor funded development projects, including investments and technical assistance that are undertaken by BR. The audit responsibility of FAPAD is firstly to meet the audit requirement of the National Parliament, and secondly, as provided by their respective loan agreements, to meet the audit requirements of the development partners and to issue audit certificates within the schedule stipulated in the loan agreements.

21. The FA&CAO, the deputy FA&CAO and Accounts Officers are all skilled and professionally qualified and holding degrees or Master degrees. Areas for possible enhancement include computerization of the systems and strengthening internal audit capacity. Enhancement is ongoing under the Railway Sector Investment Program.

22. Financial management risks should be considered and updated throughout the life of the Facility. Risk mitigation measures should also be updated accordingly.

B. Disbursement

23. The Loan proceeds will be disbursed in accordance with ADB’s Loan Disbursement Handbook (2015, as amended from time to time), and detailed arrangements agreed upon between the Government and ADB.

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24. The direct payment procedures will be adopted for RHD and BR.

25. RHD and BR each will be responsible for (i) preparing disbursement projections, (ii) requesting budgetary allocations for counterpart funds, (iii) collecting supporting documents, and (iv) preparing and sending withdrawal applications to ADB.

26. Before the submission of the first withdrawal application, the borrower should submit to ADB sufficient evidence of the authority of the person(s) who will sign the withdrawal applications on behalf of the borrower, together with the authenticated specimen signatures of each authorized person. The minimum value per withdrawal application is US$100,000. Individual payments below this amount should be paid by the borrower and subsequently claimed to ADB through reimbursement, unless otherwise accepted by ADB.

C. Accounting and Audit

27. RHD and BR will maintain, or cause to be maintained, separate books and records by funding source for all expenditures incurred on the project. Both RHD and BR will prepare project financial statements in accordance with the government’s accounting laws and regulations which are consistent with international accounting principles and practices. Project financial statements shall include at a minimum, a statement of receipts and payments with accompanying notes and schedules. These shall be prepared to ensure maximum alignment to international accounting standards and Government of Bangladesh Financial Regulations. Consolidated financial statements may be prepared for Loan-2688 and the proposed additional financing.

28. RHD and BR will cause the project financial statements to be audited in accordance with International Standards on Auditing and with the Government’s audit regulations, by an independent auditor acceptable to ADB. The audited project financial statements will be submitted in the English language to ADB within six months of the end of the fiscal year by RHD and BR. The annual audit report for the project financial statements will include audit opinions which cover (i) whether the project financial statements present a true and fair view or are presented fairly, in all material respects, in accordance with the applicable financial reporting framework; and (ii) whether loan proceeds were used only for the purposes of the project or not. A management letter shall also be provided.

29. The Office of Director, Audit and Accounts, in RHD and Financial Advisor & Chief Accounts Officers (FA&CAO/Project) in BR will coordinate all accounts and ensure compliance with ADB’s audit and accounting requirements, which will be followed up in regular reviews by ADB.

30. Government, RHD and BR have been made aware of ADB’s approach on delayed submission, and the requirements for satisfactory and acceptable quality of the audited

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5 ADB approach on delayed submission of audited project financial statements:
- When audited project financial statements are not received by the due date, ADB will write to the executing agency advising that (i) the audit documents are overdue; and (ii) if they are not received within the next six months, requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters will not be processed.
- When audited project financial statements have not been received within 6 months after the due date, ADB will withhold processing of requests for new contract awards and disbursement such as new replenishment of imprest accounts, processing of new reimbursement, and issuance of new commitment letters. ADB will (i) inform the executing agency of ADB’s actions; and (ii) advise that the loan may be suspended if the audit documents are not received within the next six months.
- When audited project financial statements have not been received within 12 months after the due date, ADB may suspend the loan.
accounts. ADB reserves the right to require a change in the auditor (in a manner consistent with the constitution of the borrower), or for additional support to be provided to the auditor, if the audits required are not conducted in a manner satisfactory to ADB, or if the audits are substantially delayed. ADB reserves the right to verify the project's financial accounts to confirm that the share of ADB's financing is used in accordance with ADB's policies and procedures.

31. Public disclosure of the project financial statements, including the audit report on the project financial statements, will be guided by ADB's Public Communications Policy (2011). After review, ADB will disclose the project financial statements for the project and the opinion of the auditors on the financial statements within 30 days of the date of their receipt by posting them on ADB's website. The management letter will not be disclosed.

VI. CONSULTING SERVICES

A. Advance Contracting and Retroactive Financing

32. All advance contracting and retroactive financing will be undertaken in conformity with ADB's Procurement Guidelines (2015, as amended from time to time) (ADB's Procurement Guidelines) and ADB's Guidelines on the Use of Consultants (2013, as amended from time to time) (ADB's Guidelines on the Use of Consultants). The issuance of invitations to bid under advance contracting and retroactive financing will be subject to ADB approval. The borrower, RHD and BR have been advised that approval of advance contracting does not commit ADB to finance the project. Advance contracting and retroactive financing includes recruitment of consultants.

33. The proposed additional financing will also finance a contract variation to an ongoing consultant contract to carry out additional design work that became necessary during implementation of the ongoing loan due to changes in the technical specifications and employer's requirements. The contract variation refers only to such geographical sections of the railway lines which were part of the original scope of works of the consultants. For these sections, it is proposed to scale up the ongoing contract amount of $12.0 million for additional tasks of $4.5 million under the rail component.

B. Procurement of Consulting Services

34. All consultants will be recruited according to ADB's Guidelines on the Use of Consultants. The terms of reference for all consulting services are detailed in Sections D, E and F.

35. Consulting firms will be engaged using the quality- and cost-based selection (QCBS) method with a standard quality to cost ratio of 90:10. A higher ratio of quality is adopted due to the scope covering nation-wide transport network for RHD and BR, requiring high-level project

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coordination and management capacity. Capacity development also requires innovativeness in change management in the organization.

C. Procurement Plan

36. The procurement plan is in Attachment C and describes all procurement of consulting services for the Facility.

D. Consultant's Terms of Reference

37. The consultant's terms of reference are provided in the following:

Attachment D: Feasibility Study and Detailed Design Consultants (Railways)
Attachment E: Feasibility Study and Detailed Design Consultant (Roads)
Attachment F: Individual Consultants for safeguards implementation (Roads)

VII. SAFEGUARDS AND SOCIAL DIMENSIONS

38. The Facility is expected to ensure development of environmentally and socially viable follow-on investment projects. Projects under follow-on loans will be prepared in compliance with ADB's Safeguard Policy Statement (2009) and government guidelines, regulations, and policies. The Facility is not expected to have any adverse social and environmental consequences due to the nature of project preparation. Social and environmental impacts relating to follow-on loans will be assessed and mitigated in accordance with ADB's Safeguard Policy Statement (2009) and government guidelines, regulations, and policies.

39. The Facility is not expected to have any impact in gender and social dimensions. Projects under follow-on loans will be prepared in compliance with ADB's Guidelines for Incorporation of Social Dimensions in Bank Operations (1994), and ADB's Handbook on Social Analysis (2007). Gender, consultation and participation, labor, HIV/AIDs, and other social risks relating to follow-on loans will be assessed and mitigation plan will be prepared to address those issues.

40. Pursuant to ADB's Safeguard Policy Statement (2009) (SPS), 10 ADB funds may not be applied to the activities described on the ADB Prohibited Investment Activities List set forth at Appendix 5 of the SPS.

VIII. PERFORMANCE MONITORING, EVALUATION, REPORTING AND COMMUNICATION

A. Project Design and Monitoring Framework

41. The Design and Monitoring Framework is in Attachment A.

B. Monitoring

42. Project Performance Monitoring. The achievement of the project performance targets will be assessed following the design and monitoring framework. RHD and BR, respectively, will establish a project performance management system. Indicators to be monitored include (i) the

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number of cross-border traffic before and after the follow-on investment loans; (i) project implementation period and (ii) the number of RCI transport projects before and after the Project; and (i) the number of investment loans, (ii) the number of bid documents ready for tender, and (iii) the extent of due diligence of social and environmental safeguard measures completed at ensuing loan fact-finding mission stage, during the project implementation. Progress will be monitored and reported monthly by the consultants. These reports will provide information necessary to update ADB's project performance reporting system.\footnote{ADB's project performance reporting system is available at: http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool}

43. **Compliance Monitoring.** Regular monitoring of TA Consultants' outputs to ensure policies compliance will be conducted through the Bangladesh Resident Mission and SATC. As necessary, special loan administration missions and a midterm review mission will be fielded to ensure policy compliance. RHD and BR will monitor project implementation in accordance with the schedule and time-bound milestones, and keep ADB informed of any significant deviations that may result in not achieving the milestones.

44. **Safeguards Monitoring.** Regular safeguards monitoring of TA Consultants' outputs to ensure that ADB's *Safeguard Policy Statement* (2009) are met will be conducted through the Bangladesh Resident Mission and SATC. As necessary, special loan administration missions and a midterm review mission will be fielded to ensure safeguard policy compliance. RHD and BR will monitor project implementation in accordance with the schedule and time-bound milestones, and keep ADB informed of any significant deviations that may result in not achieving the milestones.

45. **Gender and Social Dimensions Monitoring.** Regular gender and social dimensions monitoring of TA Consultants' outputs to ensure ADB's Gender and other social related policies are met will be conducted through the Bangladesh Resident Mission and SATC. As necessary, special loan administration missions and a midterm review mission will be fielded to ensure compliance of Gender and other social related policies. RHD and BR will monitor project implementation in accordance with the schedule and time-bound milestones, and keep ADB informed of any significant deviations that may result in not achieving the milestones.

C. **Evaluation**

46. A project inception mission will be fielded soon after the loan agreement for the Facility is declared effective; thereafter, regular reviews will follow at least annually. As necessary, special loan administration missions and a midterm review mission will be fielded, under which any changes in scope or implementation arrangement may be required to ensure achievement of project objectives. RHD and BR will monitor project implementation in accordance with the schedule and time-bound milestones, and keep ADB informed of any significant deviations that may result in the milestones not being met. Within 6 months of physical completion of the Facility, RHD and BR will submit a project completion report to ADB.\footnote{ADB's project performance reporting system is available at: http://www.adb.org/Documents/Slideshows/PPMS/default.asp?p=evaltool}

D. **Reporting**

47. The RHD and BR will provide ADB with (i) quarterly progress reports in a format consistent with ADB's project performance reporting system; (ii) consolidated annual reports including (a) progress achieved by output as measured through the indicator's performance targets, (b) key implementation issues and solutions; (c) updated procurement plan and (d) updated implementation plan for next 12 months; and (iii) a project completion report within 6 months of completion of the Facility. To ensure projects continue to be both viable and
sustainable, project accounts and the executing agency AFSs, together with the associated auditor's report, should be adequately reviewed.

E. Stakeholder Communication Strategy

48. While conducting poverty and social assessment, the TA consultants will conduct field visits and direct consultations/interactions with stakeholders using participatory approaches at the local and line Ministry levels. If there are any gaps emerging from the communication needs assessment, the TA consultants will have to formulate, in discussion with internal stakeholders and key decision-makers, a communications strategy for the Facility.

IX. ANTICORRUPTION POLICY

49. ADB reserves the right to investigate, directly or through its agents, any violations of the Anticorruption Policy relating to the Project. All contracts financed by ADB shall include provisions specifying the right of ADB to audit and examine the records and accounts of the executing agency and all Project contractors, suppliers, consultants and other service providers. Individuals/entities on ADB's anticorruption debarment list are ineligible to participate in ADB-financed activity and may not be awarded any contracts under the Project. To support these efforts, relevant provisions are included in the loan agreement, regulations and the bidding documents for the Project. In particular, all contracts financed by ADB in connection with the Project shall include provisions specifying the right of ADB to audit and examine the records and accounts of RHD and BR, and consultants and other service providers, as they relate to the Project. The Government will also allow and assist ADB representatives' carrying out random spot checks on the work in progress and the utilization of funds for the Project.

X. ACCOUNTABILITY MECHANISM

50. People who are, or may in the future be, adversely affected by the project may address complaints to ADB, or request the review of ADB's compliance under the Accountability Mechanism.

51. The executing agencies and consultants will undertake studies in line with ADB safeguard policies and requirements, which will ensure greater accountability, including consultation concerning environment, resettlement and social aspects.

XI. RECORD OF PAM CHANGES

52. All revisions/updates during course of implementation should be recorded and retained under this Section to provide a chronological history of changes to implemented arrangements recorded in this PAM.

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14 ADB's Integrity Office web site is available at: [http://www.adb.org/integrity/unit.asp](http://www.adb.org/integrity/unit.asp)
### REVISED DESIGN AND MONITORING FRAMEWORK

**Impact the project is aligned with**

- **Current project**: Increased subregional trade
- **Overall project**: Increased subregional connectivity and trade (Sixth Five-Year Plan: 2011–2015)\(^{a}\)

<table>
<thead>
<tr>
<th>Results Chain</th>
<th>Performance Indicators with Targets and Baselines</th>
<th>Data Sources and Reporting Mechanisms</th>
<th>Risks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Outcome</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Current project</strong></td>
<td></td>
<td></td>
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<tr>
<td>Improved efficiency in implementing RCI transport projects and facilitating cross-border traffic in Bangladesh</td>
<td>By 2025 <strong>Current project</strong> Implementation delays reduced by at least 1 year for ensuing projects (design completion in 2–3 years after loan approval for conventional projects in Bangladesh) Increased number (at least 1) of RCI transport projects</td>
<td>Project performance reports Government investment program and ADB country programming</td>
<td>Delays in actions from the executing agency and relevant stakeholders to enhance readiness during processing of ensuing projects Delays in sector reform implementation</td>
</tr>
<tr>
<td><strong>Overall project</strong></td>
<td>Overall project Unchanged</td>
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<td><strong>Outputs</strong></td>
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<td><strong>Output 1</strong></td>
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<tr>
<td><strong>Current project</strong></td>
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<td></td>
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<tr>
<td>Feasibility studies, if required, and detailed design of RCI transport projects</td>
<td>By 2021 <strong>Current project</strong> Minimum of two subprojects prepared by subsector</td>
<td>ADB missions Consultants’ progress reports</td>
<td>Slow mobilization of consultants Poor performance of consultants and contractors Slow progress of safeguard implementation because of limited capacity and interagency coordination</td>
</tr>
<tr>
<td><strong>Overall project</strong></td>
<td>Overall project Unchanged</td>
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<td></td>
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<td><strong>Output 2</strong></td>
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<tr>
<td><strong>Current project</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation support for RCI transport projects</td>
<td>By 2021 <strong>Current project</strong> Bidding documents ready for tender before loan effectiveness</td>
<td>ADB missions Consultants’ progress reports</td>
<td></td>
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<tr>
<td><strong>Overall project</strong></td>
<td>Overall project Unchanged</td>
<td></td>
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<tr>
<td>Results Chain</td>
<td>Performance Indicators with Targets and Baselines</td>
<td>Data Sources and Reporting Mechanisms</td>
<td>Risks</td>
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<tr>
<td>---------------</td>
<td>---------------------------------------------------</td>
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<tr>
<td><strong>Output 3</strong></td>
<td><strong>Current project</strong></td>
<td>ADB missions</td>
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<tr>
<td><strong>Current project</strong></td>
<td>Office of Comptroller and Auditor General satisfied with full utilization of allocated budget.</td>
<td>Consultants’ progress reports</td>
<td></td>
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<tr>
<td><strong>Overall project</strong></td>
<td>None. Output 3 is provided by supervision consultants recruited under ADB’s South Asia Subregional Economic Cooperation Road Connectivity Project</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Key Activities with Milestones (Overall Project)

1. **Feasibility studies and detailed design of RCI transport projects**, by 2018
   1.1 Prepare preliminary design for selected projects and recommend alternative designs (unchanged).
   1.2 Prepare preliminary cost estimates (unchanged).
   1.3 Undertake economic and financial analyses and evaluations, including sustainability assessment (unchanged).
   1.4 Prepare safeguard-related documents such as resettlement plans, environmental impact assessment reports, and indigenous peoples development plans as required (unchanged).
   1.5 Undertake assessment of financial management, financial analysis, and procurement capacity of project executing agencies, as required (unchanged).
   1.6 Prepare detailed design incorporating requirements identified during feasibility studies (unchanged).
   1.7 Finalize the bid documents, including engineering specification, bills of quantities, and evaluation and qualification criteria (unchanged).
   1.8 Provide procurement assistance to project executing agencies (during preconstruction stage) (unchanged).

### Inputs

**Loan**

- **ADB**
  - $23 million equivalent (current)
  - $30 million equivalent (additional financing)
  - $53 million equivalent (overall)

**Government**

- $4.59 million equivalent (current)
- $6.00 million equivalent (additional financing)
- $10.59 million equivalent (overall)
**Key Activities with Milestones (Overall Project)**

2. **Implementation support for RCI transport projects**  
   (before construction), by 2019

2.1 Provide advice to project executing agencies, project sponsors’ consultants, and NGOs on ADB’s policies, procedures, and best practices, helping them implement plans as required (unchanged).

2.2 Help project executing agencies establish units to implement plans relating to resettlement, social aspects, and environment, including addressing climate change issues (unchanged).

2.3 Provide training to government officials and NGOs (unchanged).

2.4 Facilitate coordination and lines of communication between ADB and government agencies, line departments, and organizations or individuals involved with resettlement aspects of projects (unchanged).

2.5 Monitor project management to ensure effective coordination and implementation of safeguard-related plans, including climate change-related activities (unchanged).

**Assumptions for Partner Financing**

**Current project**

None

**Overall project**

Unchanged

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ADB = Asian Development Bank, km = kilometer, NGO = nongovernment organization, RCI = regional cooperation and integration.


b ADB. 2012. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Administration of Loan and Technical Assistance Grant to the People’s Republic of Bangladesh for the South Asia Subregional Economic Cooperation Road Connectivity Project*. Manila (Loan 2949-BAN).  
# List of Road and Railway Projects, Selection Criteria

## A. Road Projects

<table>
<thead>
<tr>
<th>Description</th>
<th>Length (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhanga-Bhatiapara-Kalna-Lohagara-Narail-Jessore-Benapole Road</td>
<td>135</td>
</tr>
<tr>
<td>Rangpur-Banglabandha Road</td>
<td>172</td>
</tr>
<tr>
<td>Bonpara-Irshwardi-Pakshy-Kushtia-Jhinaidah Road</td>
<td>105</td>
</tr>
<tr>
<td>Khepupara-Paira Port Road</td>
<td>10</td>
</tr>
<tr>
<td>Sylhet-Charkhai-Sheola-Sutarkandi Road</td>
<td>46</td>
</tr>
<tr>
<td>Chittagong Port Access Road</td>
<td>14</td>
</tr>
<tr>
<td>Nabinagar-Paturia Road</td>
<td>58</td>
</tr>
<tr>
<td>Paglapir (Rangpur)-Dalia-Borokatha Road</td>
<td>60</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>600</strong></td>
</tr>
</tbody>
</table>

## B. Railway Projects

<table>
<thead>
<tr>
<th>Description</th>
<th>Length (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dhaka-Chittagong Dual Gauge Conversion</td>
<td></td>
</tr>
<tr>
<td> Tongi – Bhairab Bazar – Akhaurat</td>
<td>97</td>
</tr>
<tr>
<td> Laksam – Chinki Astana – Chittagong</td>
<td>129</td>
</tr>
<tr>
<td> Chittagong Port Access: Fozudarhat – Chittagong Port Yard</td>
<td>12</td>
</tr>
<tr>
<td> Remodelling of Chittagong Port Yard and Container Terminal</td>
<td>50</td>
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<tr>
<td>Chittagong-Dohazari-Cox’s Bazar</td>
<td></td>
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<tr>
<td> Chittagong – Dhoazari</td>
<td>47</td>
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<tr>
<td> Chokoria – Matarbari – Moheshkhali Power Plants and future port</td>
<td>TBC</td>
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<tr>
<td>Broad Gauge Rolling Stock Maintenance Workshop, Fuelling Facilities</td>
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</tr>
<tr>
<td>and Depots in Chittagong</td>
<td></td>
</tr>
<tr>
<td>Dhhirasram Inland Container Depot including access lines</td>
<td>ca. 10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>295</strong></td>
</tr>
</tbody>
</table>

## C. Selection Criteria for Studies under the Facility

1. Unless modified or amended in the loan agreement, the Facility will utilize the following subproject selection criteria to be included.

2. A subproject will be eligible for studies under the Facility if:

   (a) It has significance for regional cooperation and integration (RCI) or have subregional implications;

   (b) It is organizationally and technically feasible;

   (c) It is *prima facie* economically and financially viable and sustainable;

   (d) It is environmentally and socially responsible;

   (f) It is consistent and prepared in accordance with the Borrower’s relevant sector strategy, master plans or medium term development plan; and

   (g) It is consistent with ADB’s Country Strategy Program or Country Strategy.
PROCUREMENT PLAN

Basic Data

<table>
<thead>
<tr>
<th>Project Name:</th>
<th>Additional Financing to the Subregional Transport Project Preparatory Facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Number:</td>
<td>44142-015</td>
</tr>
<tr>
<td>Approval Number:</td>
<td></td>
</tr>
<tr>
<td>Country:</td>
<td>Bangladesh</td>
</tr>
<tr>
<td>Executing Agency:</td>
<td>Bangladesh Railway (BR), Roads and Highways Department</td>
</tr>
<tr>
<td>Project Procurement Classification:</td>
<td>Category B</td>
</tr>
<tr>
<td>Implementing Agency:</td>
<td>N/A</td>
</tr>
<tr>
<td>Project Financing Amount:</td>
<td>US$ 36,000,000</td>
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<tr>
<td>ADB Financing:</td>
<td>US$ 30,000,000</td>
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<td>Cofinancing (ADB Administered):</td>
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</tr>
<tr>
<td>Non-ADB Financing:</td>
<td>US$ 6,000,000</td>
</tr>
<tr>
<td>Project Procurement Risk:</td>
<td>Low</td>
</tr>
<tr>
<td>Project Closing Date:</td>
<td>21 June 2018</td>
</tr>
<tr>
<td>Date of First Procurement Plan:</td>
<td>25 June 2015</td>
</tr>
<tr>
<td>Date of this Procurement Plan:</td>
<td>25 June 2015</td>
</tr>
</tbody>
</table>

A. Methods, Thresholds, Review and 18-Month Procurement Plan

1. Procurement and Consulting Methods and Thresholds

1. Except as the Asian Development Bank (ADB) may otherwise agree, the following process thresholds shall apply to procurement of goods and works.

<table>
<thead>
<tr>
<th>Consulting Services Method</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality- and Cost-Based Selection for Consulting Firm</td>
<td>90:10 Quality to Cost Share</td>
</tr>
<tr>
<td>Individual Consultants Selection for Individual Consultant</td>
<td></td>
</tr>
</tbody>
</table>

2. Goods and Works Contracts Estimated to Cost $1 Million or More

2. The following table lists goods and works contracts for which the procurement activity is either ongoing or expected to commence within the next 18 months.

<table>
<thead>
<tr>
<th>Package Number</th>
<th>General Description</th>
<th>Estimated Value</th>
<th>Procurement Method</th>
<th>Review (Prior/Post)</th>
<th>Bidding Procedure</th>
<th>Advertisement Date (quarter/year)</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

3. Consulting Services Contracts Estimated to Cost $100,000 or More

3. The following table lists consulting services contracts for which the recruitment activity is either ongoing or expected to commence within the next 18 months.

<table>
<thead>
<tr>
<th>Package Number</th>
<th>General Description</th>
<th>Estimated Value</th>
<th>Recruitment Method</th>
<th>Review (Prior/Post)</th>
<th>Advertisement Date (quarter/year)</th>
<th>Type of Proposal</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-1</td>
<td>Feasibility Studies, Detailed Design and support during bidding, rail component</td>
<td>21,250,000.00</td>
<td>QCBS</td>
<td>Prior</td>
<td>Q3 / 2015</td>
<td>FTP</td>
<td>Assignment: International Quality-Cost Ratio: 90:10 Estimated value includes taxes.</td>
</tr>
</tbody>
</table>
4. Goods and Works Contracts Estimated to Cost Less than $1 Million and Consulting Services Contracts Less than $100,000 (Smaller Value Contracts)

4. The following table lists smaller-value goods, works and consulting services contracts for which the activity is either ongoing or expected to commence within the next 18 months.

### Goods and Works

<table>
<thead>
<tr>
<th>Package Number</th>
<th>General Description</th>
<th>Estimated Value</th>
<th>Number of Contracts</th>
<th>Procurement Method</th>
<th>Review (Prior/Post)</th>
<th>Advertisement Date (quarter/year)</th>
<th>Type of Proposal</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-2</td>
<td>Feasibility Studies, Detailed Design and support during bidding, road component</td>
<td>6,000,000.00</td>
<td></td>
<td>CCBS</td>
<td>Prior</td>
<td>Q3 / 2015</td>
<td>FTP</td>
<td>Assignment: International Quality-Cost Ratio: 90:10 Estimated value includes taxes.</td>
</tr>
</tbody>
</table>

### Consulting Services

<table>
<thead>
<tr>
<th>Package Number</th>
<th>General Description</th>
<th>Estimated Value</th>
<th>Number of Contracts</th>
<th>Procurement Method</th>
<th>Review (Prior/Post)</th>
<th>Advertisement Date (quarter/year)</th>
<th>Type of Proposal</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-3</td>
<td>Social/Resettlement/Gender Expert</td>
<td>20,000.00</td>
<td>1</td>
<td>ICS</td>
<td>Prior</td>
<td>Q1 / 2016</td>
<td>Assignment: National Expertise: Social/Resettlement/Gender</td>
<td></td>
</tr>
<tr>
<td>C-4</td>
<td>Environment Expert</td>
<td>15,000.00</td>
<td>1</td>
<td>ICS</td>
<td>Prior</td>
<td>Q1 / 2016</td>
<td>Assignment: National Expertise: Environment</td>
<td></td>
</tr>
</tbody>
</table>

B. Indicative List of Packages Required Under the Project

5. The following table provides an indicative list of goods, works and consulting services contracts over the life of the project, other than those mentioned in previous sections (i.e., those expected beyond the current period).

### Goods and Works

<table>
<thead>
<tr>
<th>Package Number</th>
<th>General Description</th>
<th>Estimated Value (cumulative)</th>
<th>Estimated Number of Contracts</th>
<th>Procurement Method</th>
<th>Review (Prior/Post)</th>
<th>Bidding Procedure</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Consulting Services

<table>
<thead>
<tr>
<th>Package Number</th>
<th>General Description</th>
<th>Estimated Value (cumulative)</th>
<th>Estimated Number of Contracts</th>
<th>Recruitment Method</th>
<th>Review (Prior/Post)</th>
<th>Type of Proposal</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Terms of Reference (TOR) for Technical Assistance for Dhaka-Chittagong-Cox's Bazar Rail Project Preparatory Facility

A. BACKGROUND

1. Dhaka-Chittagong Railway line is considered as the most important corridor of Bangladesh Railway (BR). The main earning of BR comes from the internal transportation of containers through this corridor. This corridor is also important in respect of passenger transport. The section is a part of a major Sub-regional Corridor such as South Asian Association for Regional Cooperation (SAARC), South Asia Subregional Economic Cooperation (SASEC), Bay of Bengal Initiative for Multi-Sectoral technical and Economic Cooperation (BIMSTEC) etc. and the Trans-Asian Railway network.

2. As the economy of Bangladesh has been growing by more than 6% in recent years, rising demand for domestic and regional Railway traffic cannot be satisfied with the existing limited infrastructure. The Dhaka-Tongi section is already Dual Gauge (DG) double track. Ashuganj-Akhaura Block Hut, Laksam-Chinki Astana and Chinki Astana-Chittagong are already Meter Gauge (MG) double track. The Tongi-Bhairab Bazar and Bhairab Bazar-Ashuganj, Akhaura Block Hut to Akhaura MD sections are being double tracked at present. The Akhaura-Laksam section will be double tracked to DG standards by 2019 and thus the entire Dhaka-Chittagong rail corridor will be double tracked. All new embankments, bridges and culverts have been constructed to modified BG Main Line (BGML) standard with the view to gauge unification.

3. Bangladesh Government has decided to convert the entire Dhaka-Chittagong railway corridor into DG for capacity enhancement of the corridor and unification of gauge. Out of 320.79 route km of Dhaka-Chittagong corridor, Dhaka-Tongi (22.94 km) section has DG double track line and Akhaura-Laksam (71.24 km) section will be DG double tracked by 2019.

4. Rest 225.85 route km MG double tracked line of Dhaka-Chittagong corridor needed to be converted into DG as follows:
   - Tongi-Bhairab Bazar-Akhaura (97.01)
   - Laksam-Chinki Astana-Chittagong (128.84)

5. Moreover, Fouzdarhat-Chittagong Port Yard (CGPY) MG single tracked section (11.28 km), which connects Chittagong Port with Dhaka-Chittagong corridor, needs to be converted into DG double tracked section to increase container transportation.

6. CCGP also needed to be remodeled and converted into DG and increase container handling capacity. Container staking yard and other facilities are to be developed in the port yard to minimize the container handling, loading/unloading & transportation time. Business opportunities are to be explored to increase earning of BR from container services by providing door to door services, offering various promotions etc.

7. Government of Bangladesh has taken a project to construct single line DG rail link from Dohazari to Cox’s Bazar via Ramu and Ramu to Gundum near Myanmar Border. Existing Chittagong-Dohazari railway track (47.04 km) is a single MG track which needs to be converted into DG to allow BG trains upto Cox’s Bazar & Gundum.
8. The capacity of Dhaka ICD is only 90000 TEUs which is not possible to increase. So, construction of another ICD at Dhirasram and new rail link with ICD from both Pubail and Dhirasram railway stations are essential to achieve the full benefit of double track in Dhaka-Chittagong corridor. A feasibility study for construction of ICD at Dhirasram was conducted in 2004 under the Ministry of Shipping which needs to be updated. The new ICD will be well connected with the main roadways through the State Highway bypass linking Dhaka-Mymensingh-Bangabandhu Bridge and highways with Brahmanbaria in the East and Eastern Bypass provides direct links between North and Southern Dhaka and to the Eastern areas. It is assumed that all the infrastructure of ICD & rail link will be constructed by BR and operation & maintenance would be concessioning/leasing out to the private party for smooth, efficient and effective operation of the ICD.

9. Government of Bangladesh has taken a project to a new construct rail link with Cox’s Bazar and Myanmar Border Point Gundum. Government of Bangladesh has also decided to establish a power generation Hub based on coal-fired Power Plants in Cox’s Bazar district at Moheshkhali (6000 MW) & Matarbari (3000 MW). Ministry of Power, Energy and Mineral Resources has requested Ministry of Railways to construct railway link with those two proposed power plants which may be from Chokoria, a proposed station between Dohazari-Cox’s Bazar section. A study is essential before taking an investment project for the new railway connectivity to the proposed power generation Hub.

10. Presently Dhaka-Chittagong railway corridor is MG. So, all existing rolling stock maintenance sheds, sick lines, wash pits, watering facilities, workshops and depots are for MG rolling stocks. For operation of Broad Gauge (BG) trains maintenance facilities for BG rolling stock have to be established. Sheds, sick lines, wash pits, watering and fuelling facilities have to be provided along with railway gauge conversion projects either by remodeling of existing facilities or new construction. To ensure periodical maintenance of BG rolling stocks, BG Carriage and Wagon (C&W) Workshop and BG Loco workshop and depots have to be established either by remodeling of existing facilities into dual gauge or new construction at Chittagong. Fueling arrangement for BG locomotives are also to be established.

11. Above projects have been identified for potential investment under ADB fund. These along with other modes of transport will contribute to development of national, regional eventual international economy and trade. Realizing the need for sub-regional and regional connectivity, ADB has come forward for Technical Assistance Project under ADB loan.

B. OBJECTIVES

12. The objective of the TOR is to complete all necessary preparatory tasks for the readiness of the following projects for implementation:

(i) Conversion of Tongi-Bhairab Bazar-Akhaura MG double track into DG double track by phasing in Dhaka-Chittagong Corridor.

(ii) Conversion of Laksam-Chinki Astana-Chittagong MG double track into DG double track by phasing in Dhaka-Chittagong Corridor.

(iii) Construction of a new DG line and conversion of existing MG line into DG in Fouzderhat-CGPY section, remodeling of CGPY Yard and rail container terminal at Chittagong Port.

(iv) Conversion of existing Chittagong-Dohazari MG track into DG track.

(v) Construction of a new ICD including ancillary works and new rail link with the ICD from Pubail and Dhirasram railway stations including access for Private Sector investments.
(vi) Construction of new single line DG rail link with Moheshkhali and Matarbari proposed power plants.

(vii) Establish carriage & wagon and loco workshop, fuelling facilities and depot for BG rolling stocks at Chittagong.

13. Mainly Consultant shall perform but not limited to the following tasks for the above mentioned work components:

   (i) Feasibility study along with social and environmental study:
       - Collect all necessary information of existing, ongoing and future planned development works of government and private sector in & around the project site. To review all related documents available. To examine all existing infrastructure and facilities. To consult all relevant agencies/stakeholders.
       - Define alignment & layouts, scope of work, technical aspects & design parameter.
       - Define phasing of construction, resolve interfacing issues, train operation & signaling system during track conversion work and prepare detailed work schedule.
       - Identify rolling stock maintenance requirements. Assess new demand of rolling stock based on traffic forecast and prepare Rolling stock demand analysis report.
       - Carry out topographical survey, option analysis, geo-technical investigation, traffic survey & forecast, technical viability, economical & financial analysis, land market survey, social and environmental study.
       - Prepare Feasibility study report which will contain main report with all technical details along with drawings, cost estimate, Resettlement Plan (RP), Land Acquisition Plan (LAP), Environment Management Plan (EMP), Hydrological & Morphological report and other required documents.

   (ii) Detailed design:
       - Conduct detailed investigation, update social & environmental findings.
       - Prepare detailed design report along with detailed design drawings and layouts.
       - Update IRR, RP, EMP, LAP and other relevant documents based on detailed design.
       - Prepare Bid Documents with detailed specifications & BOQ, detailed cost estimate as per BOQ and detailed Bid evaluation Criteria.

   (iii) Tendering services:
       - Provide tendering services for the tenders.

C. PROJECT MANAGEMENT, DESIGN COORDINATION AND QUALITY ASSURANCE

14. The Consultant shall be responsible for project management and overall coordination and integration of the entrusted feasibility study and design works in close cooperation with BR. The responsibilities also include standardization of design, quality management and quality assurance for all stages in the design process and compliance of the works with all applicable codes, rules and processes of the Government of Bangladesh, Bangladesh Railways and ADB. The specific responsibilities for project management, design coordination and quality assurance are as follows but not limited to:
(i) **Project management and coordination.** The Consultant shall prepare detailed task schedule during inception and follow the schedule; follow-up on internal and external deliverables and approvals; closely monitor and coordinate survey & investigations to be conducted by third parties and verify their reports.

(ii) **Establish design standards and approval procedures.** The Consultant shall review and where necessary, revise or supplement in close cooperation with BR design criteria, standard designs and drawings, cost estimate, standard specifications, codes etc. applicable for all the projects. Consultant shall understand the approval process within BR, the Government and ADB and take necessary action accordingly. Consultant shall immediately inform BR if any agreed or approved scope of work/findings/issue/design/drawings/ specification/cost estimate etc. needed to be changed with proper justification.

(iii) **Quality control and quality assurance.** Establish and enforce quality control and quality assurance system for all design steps and deliverables.

D. **SCOPE OF CONSULTANCY SERVICE**

15. The brief scope of Consultancy services is to conduct Feasibility Study, Safeguard study, Detailed Design & Tendering Services for the following components:

(i) Conversion of Tongi-Bhairab Bazar-Akhaura MG double track into DG double track by phasing in Dhaka-Chittagong Corridor.

(ii) Conversion of Laksam-Chinki Astana-Chittagong MG double track into DG double track by phasing in Dhaka-Chittagong Corridor.

(iii) Construction of a new DG line and conversion of existing MG line into DG in Fouzderhat-CGYPY section, remodeling of CGPY Yard and rail container terminal at Chittagong Port.

(iv) Conversion of existing Chittagong-Dohazari MG track into DG track.

(v) Construction of a new ICD including ancillary works and construct rail link with the ICD from Pubail and Dhirasram railway stations including access for Private Sector investments.

(vi) Construction of new single line DG rail link with Moheshkhali and Matarbari proposed power plants.

(vii) Establish carriage & wagon and loco workshop, fuelling facilities and depot for BG rolling stocks at Chittagong.

16. In addition, the Consultant will also have to prepare project documents and arrange foreign study tour program for the Client.

1. **Feasibility Study**

17. Referring to Section 2, the Consultant will undertake detailed feasibility study. Component wise additional specific terms of references are given in section 5. The terms of reference for the general feasibility study include but are not limited to:

   a. **Technical Feasibility**

   - Collect and review of all available relevant studies, reports, materials, documents and information in connection with the components/projects mentioned in Section 4.
• Collect all necessary information of existing, ongoing and future planned development works of government and private sector in & around the project site and consult all relevant agencies/stakeholders. Take all findings into consideration in the study.

• Examine all existing infrastructure, operational facilities, rolling stock maintenance facilities, line capacity and business opportunities and make specific recommendations to improve those.

• Finalize detailed scope of work, technical aspects & design parameter of all the components/projects of Section-4 in consultation with BR.

• Assess the need and justifications of the proposed components/projects under Section-4. Assess probable effects upon project implementation including direct and indirect effects. Assess benefits of the proposed project, not only in terms of financial or economical, but also in terms of safety, environmental impacts, transportation and travel costs, poverty reduction, enhancement of trade and commercial activities likely to be created as an outcome of all the components.

• Identify the various technical solutions and various options for implementing all the components involving construction of track and bridges including signaling facilities and operational facilities such as stations yards, maintenance sheds etc. with a view to identify the most suitable solution. Carryout survey and necessary investigations covering surrounding areas of each option for option analysis and to finalize the most suitable solution.

• Carry out detailed topographical survey. The topographic works have to be performed in relation to the required accuracy using Satellite base Survey equipment (DGPS, Data Logger & Total Station) that can be used for a detailed design and construction.

• Prepare topographic maps at suitable scale following international standards which would give a good definition of all the necessary details for a good approximation concerning earthwork quantities avoiding further problems during construction.

• Finalization of alignment and layouts duly considering the topography, land formation, commercial aspects, economical and safeguard considerations, existing infrastructures of the area, ongoing and future development plan and schemes of both the Government of Bangladesh and Private sectors in the area. Drafts are to be consulted and presented to BR before finalization. Finalize 'Construction Right of Way (CROW)' in the final alignment.

• Conduct traffic census on existing roads crossing railway line (both authorized and un-authorized) and re-categorize the types and location of level crossing gates as required based on traffic forecast. Recommend upgradation and closure of existing level crossing gates, authorization of level crossing gates, new level crossing gates to improve safety at level crossings and measures to prevent illegal trespassing of the track.
• Identify the locations of level crossing gates required grade separation between railway and road by either overpass or underpass based on traffic forecast.

• Examine existing signaling & interlocking system and telecommunication system. Identify the scope of work to establish Computer based signaling & Interlocking system and optical fiber based telecommunication system and Centralized train control (CTC) system in all the components/projects.

• Finalize the phasing of construction considering work plan, interfacing, railway operation and signaling issues. Consultant shall make specific recommendation to resolve interfacing issues.

• Regular train operation must not be interrupted during the project construction period and accordingly safety measures are to be considered on the latest technical point of view.

• Develop an operation concept plan during and after construction of all the proposed projects.

• Finalize procurement packages and frame suitable investment projects covering all the components mentioned in section-4. Consultant may suggest for inclusion of additional component which might be essential to achieve the full benefit of all the components.

• Conduct mathematical hydrodynamic modeling study for major bridges having waterway 100m and above to establish hydrological parameters for fixation of the location of bridge, formation level of the railway track identifying the highest flood level, catchments area at bridge openings, identify scour & erosion in the vicinity of major bridges and river banks and design river training works and protection works.

• Conduct an in-depth study covering the surrounding area for fixation of formation level of the proposed structures, recommend proper drainage system identifying the out fall of the drainage system.

• Examine existing MG rolling stock day to day maintenance facilities in Dhaka-Chittagong-CGPY corridor and assess scope of works to establish BG rolling stock maintenance preferably by converting all facilities into DG. Identify new rolling stock maintenance facilities requirements for all new construction lines.

• Examine the age profile of existing rolling stock fleet and assess demand of rolling stock considering replacement of old ones. Estimate additional new rolling stock requirements with types based on traffic forecast for all the components.

• Prepare Rolling stock demand analysis report on rolling stock requirement for both MG & BG considering replacement of old aged rolling stocks and new demand to be created due to the projects mentioned in Section 4.

• Assess operation and maintenance (O&M) personnel and other resources/facilities requirement for operation and maintenance works for all components.

• The study should also include conceptual engineering design and layout plan for all necessary railway tracks, stations and yards, signaling and telecom, bridges, culverts, over pass/fly over/underpass, level crossing gates, other structure, residential and functional buildings, cuts and other facilities. Prepare cost estimates for proposed project, showing foreign and local currencies, and tax and duty elements etc.

• Prepare Feasibility study report which will contain main report with detailed scope of work, all technical aspects, drawings/layouts, cost estimate and Resettlement Plan (RP), Land Acquisition
Plan (LAP), Environment Management Plan (EMP), Operational plan, Hydrological & Morphological report and other required documents.

b. Economic and Financial Feasibility

18. Economic and Financial analysis for the project is to be prepared in accordance with ADB’s Guidelines for the Economic Analysis of Projects for considering the project viable. Provide all analysis and calculations of costs and benefits of the project to the executing agency. Prepare sensitivity and risk analysis in relation to changes in key parameters.

19. Assess benefits of the proposed rail line, not only in terms of financial or economical, but also in terms of safety, environmental impacts, time savings, savings of transportation and travel costs, poverty reduction, increase of life standard and enhancement of trade and commercial activities likely to be created as an outcome of the proposed projects mentioned in Section 4.

c. Social Assessment and Analysis

- Conduct 20% poverty & social assessment taking into account socioeconomic and poverty status of the project area of influence. The baseline socio-economic survey (SES) is to be designed to capture information on the PAPs their resources, employment, and vulnerability. The survey data will lead to the development of management information system (MIS) that will help consultation process and assist in planning and implementation.

- A benchmark video recording of the physical situation of the dwellings and belongings as well as community assets before the commencement of SES will be conducted.

- Safeguards and non-safeguards social issues relevant to the project’s objectives, scope and operational characteristics, and specify verifiable social development outcomes of the project.

- Identify and estimate the likely socioeconomic and poverty reduction impacts of the project.

- Assess local demand for the proposed investments, employment opportunities, child labor, HIV/AIDS and human trafficking, affordability, gender and other social risks that would result from the project and include measures to mitigate social impacts, if any. This will be in accordance with ADB’s Guidelines for Incorporation of Social Dimensions in Bank Operation (1994), ADB’s Safeguard Policy Statement (2009), ADB’s Handbook on Social Analysis (2012) and Poverty Handbook (2006) or other latest publishing.

- Prepare a ‘HIV/AIDS Prevention Action Plan’ which will focus on general exposure risks of particular community groups, and those who would work in and around the project facility.

- Propose design features and measures for inclusion in the follow-on investments (including the need for any technical assistance) to address gender, labor, HIV, trafficking, and other social parameter identified in the analysis above.

- Stakeholder consultation with key stakeholder groups, in terms of social and economic characteristics (gender, ethnic and indigenous minorities; socioeconomic vulnerability, etc.) who would be directly and indirectly affected by the project’s objectives and scope, design alternatives, likely positive and negative impacts, possible measure to mitigate adverse impacts and other information that would be of use to the stakeholders. Consultant shall keep the records of such stakeholder consultations.
With the participation of stakeholders, identify and analyze the reasons behind the vulnerability of at-risk groups, including their exposure to risks. Suggest participatory development strategies for key stakeholders to apply when designing and implementing the project.

Prepare project specific ‘gender action plan’ for gender development in and around the project location of all the projects. Identify project design elements (policy or implementation) in which women can participate in and thus benefit from the project.

d. Land acquisition Plan
20. Conversion of Dhaka-Chittagong MG railway corridor into DG, conversion of Chittagong-Dohazari MG railway corridor into DG, conversion of existing MG line into DG and construction of a new DG line in Fouzderhat-CGPY section and remodeling of CGPY will generally use existing railway land. Some small quantity of land acquisition may require to ease the curve, to allow double DG instead of MG, and to allow c/c clearance in bridges. On the other hand, construction of a new ICD including rail link and construction of single line DG rail link with the proposed Moheshkhali and Matarbari power plants will require fresh acquisition. Consultant shall try to keep the quantum of land acquisition as less as possible and try to avoid by adopting advance techniques if it is cost effective.

21. Consultant shall do the following but not limited to:

- Collect Land Acquisition Plan of existing BR land; certified latest Khatians; latest approved Mauza Map, Gazettes and other records from DC offices and consult BR’s estate office records for identify the ownership of lands within the finalized Construction Right of Way (CROW). In case of anomaly DC's offices record are to be followed. Based on these documents, establish the land ownership in the finalized CROW. Within total land uses for the CROW, identify BR owned land, private land to be newly acquired and land to be required from government khas/other government agencies (if any).

- Carry out 100% census and prepare detailed data base of all Project Affected People (PAPs), their affected assets, inventory of losses, identify categories for impact and eligibility of affected people for the loss of structure, trees, crops etc as per government laws and regulations of Bangladesh related to Land Acquisition.

- Prepare district wise Land Acquisition Plan (LAP) based on latest gazette Mauza Maps with estimated cost and detailed plot schedule. The latest gazette Mauza maps are to be digitalized showing the proposed alignment including acquisition and requisition boundaries, plot number, labels of mauza, upazila and districts homesteads, angle at change of direction of alignment, and other physical features with appropriate legends for incorporation in the study report. The mauza map will constitute a basis for calculation of land acquisition and requisition areas of the affected plots at the pre-project condition. The Plot schedule will contain the following information:

Upazila:
Mauza:
JL No.:

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Plot No.</th>
<th>Khatian No.</th>
<th>Total Area of Plot Acre</th>
<th>Type of Land (as per record)</th>
<th>Area to be Acquired (Acre)</th>
<th>Full/Partial (of plot to be acquired)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
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Total:
• Prepare complete Land Acquisition Proposals for land acquisition of private land and land requisition of government khas/other government agencies’ land. Land Acquisition Proposals are to be ready to be submitted to the approving authority as per “Acquisition and Requisition of Immovable Property Ordinance 1982” and “Immovable Property Acquisition Manual 1997” or latest manuals, laws and regulations of Bangladesh related to Land Acquisition (if required).

• Keep liaison with respective agencies for obtaining necessary clearance towards acquisition of land. Assist arranging meeting of different statutory committee as well as other committee formed by GOB from time to time in the matter of land acquisition.

• Assist Project Director in Land Acquisition process specially during feasibility of DC office, issuing of notice under section 3, Joint verification and handing over land to BR (if required).

• Perform other tasks as given from time to time by the client in the matter of Land Acquisition

  e. Resettlement Plan (RP)

22. Consultant shall do the following but not limited to:

• Based on ROW fixed by topographical survey and Land Acquisition Plan, conduct 100% census to define categories for impact and eligibility of affected people for compensation and number of titled and non-titled Entitled Persons (EPs).

• Prepare a matrix of entitlements covering compensation and other assistance for all types of impacts to fully replace lost assets, income, and livelihood in compliance with the ADB's Safeguard Policy Statement (2009) or other latest publishing.

• Carry out detailed land market survey. Assess the replacement value for lands, all types of structure, other assets, crops, and trees and discuss in detail the valuation methodology used. Identify additional top-up compensation for land, structure etc are to be paid to the Titled EPs as per replacement Value. Specific measures are to be taken for severely affected poor people, ethnic minorities, Women headed families or other vulnerable households.

• Prepare a detailed database covering EP based detailed information such as family members, their earnings & expenditure, type wise detailed inventory of assets and loss, replacement value of loss, entitlement of EP for compensations, willingness to participate in income restoration program and interested training etc. as per entitlement Matrix.

• Prepare detailed cost estimate for implementation of Resettlement Plan where cost involving Land Acquisition is to be paid by DC office; entitlement wise cost estimate for implementation of Resettlement Plan; cost estimate for implementation of Income restoration Program and cost estimate of NGOs/Agencies are to be mentioned separately.

• Prepare a Resettlement Plan (RP) based on 100% census in accordance with ADB’s Safeguard Policy Statement (2009) or other latest publishing and Loan Agreement covering all of the above and acceptable to the Government and ADB which covers a complete enumeration of all Project Affected People (PAPs), their affected assets etc.

• Prepare detailed resettlement implementation schedule and phasing in accordance with phasing of construction work. Prepare TOR and cost estimate for NGOs/Agencies for RP & ILRP implementation. Prepare TOR and cost estimate for External Monitoring NGOs/Agencies.

  f. Indigenous People
• Prepare an indigenous people’s plan (IPP) in accordance with ADB’s Safeguard Policy Statement (2009) or other latest publishing, if any indigenous people, such as tribes or settlers, as per ADB’s definition, are likely to be affected significantly by the project.

• Provide on the job training and knowledge transfer to the executing agency and Government personnel to implement the IPP.

• Assist the executing agency to (i) prepare an IPP implementation schedule, (ii) establish safeguard units, and (iii) recruit NGO/Agency for IPP implementation.

g. Environmental Considerations

The project will have to be screened for its environmental impacts compliance with the requirements of the GOB and ADB’s policy/guidelines/laws/regulations. DOE and ADB will review the screening/ Initial Environmental Examination (IEE)/ Environment Impact Assessment (EIA) Reports and Environment Management Plan (EMP), as applicable, prepared for proposed projects.

Consultants shall do the following but not limited to:


• Review the conventions, treaties and protocols signed by the Bangladesh Govt. and environmental issues such as Ramsor convention of 1971 relating to wet land conservation, Rio convention of 1992 on biological diversity, Kyoto Protocol to the United Nations Framework Convention on Climate Change, Kyoto, 1997, etc.

• Identify category of the projects based on GOB and ADB’s policy/guidelines/laws/regulations.

• Prepare a table i.e. a simple summary matrix with all the necessary government clearance/permission needs and the ADB safeguards that may apply to the project. This will be a checklist which may be useful to understand the requirements for environmental clearance from both the GOB and the Bank’s end.

• Conduct systematic stakeholder analysis to (a) identify the individual or stakeholder groups relevant to the project and to environmental issues, (b) include expert opinion and inputs, and (c) determine the nature and scope of consultation with each type of stakeholders, (d) determine the tools to be used in contacting and consulting each type of the relevant stakeholders.

• Carry out consultations with communities that are likely to be affected, NGOs, selected Government Agencies and other stakeholders to (a) collect baseline information, (b) obtain a better understanding of the potential impacts and (c) appreciate the perspectives/concerns of the stakeholders. Consultation with the stakeholders shall not be treated as a project information dissemination session, but be used to improve the plan and design of the project.

• Carry out study on the existing environment in the area of influence of project road links/corridors taking into account the geographical location, climate, physiographic, geology, soils, land
environment air environment water environment, fisheries and aquatic biology, ecological resources and populations.

- Carry out Environmental Assessment in the project area during and after implementation of the project. The non-significant impacts and potentially significant impacts shall be identified and listed properly. Due consideration shall be given to possible impacts on Land Environment, Water Environment, Air Environment and Ecological Resources.

- Prepare an Environmental Assessment and Screening Framework for the project. Based on the application of these frameworks at subproject levels, prepare mitigation measures in the form of an Environmental Management Plan (EMP) and action plans, if required, to protect any cultural properties on the selected corridors and/or links included in the project. The EMP shall cover all measures to be taken to mitigate the assessed environmental impacts during the project design and implementation period.

- The EMP shall also contain a Disaster Management and prevention of accident plan that has to be followed during the project implementation and guideline for preparing disaster management & prevention of accident plan by the operator.

- Prepare an Environmental Monitoring Plan for the project. The monitoring plan should include all process tasks (e.g. Environmental Screening ESA, stakeholder consultations, etc.) leading to formulation of environmental action plans, and the processes that will used to implement them.

- Based on a review of Environmental safeguard provisions in standard bidding documents used by BR & ADB, recommend appropriate changes in conditions of contract clearly identifying environmental responsibilities of the contractor and pay items in bill of quantity to ensure compliance with the Environmental Safeguard Policies & Environmental Management Plan (EMP), in line with sound international practice.

- Prepare Environmental clearance proposal ready to be submitted to DOE. The Consultant will assist in having necessary approvals and clearances for the project from DOE and all relevant government agencies.

- Provide on the job training and knowledge transfer to executing agency personnel for managing and monitoring Environmental Management Plan (EMP) and Environmental Monitoring Plans (EMoP).

h. Arrange Study Tour

23. The Consultant will arrange foreign study tour program for 10 days for at least 20 senior officials of Bangladesh Railway and other government agencies related to the project on railway track construction, maintenance and operation in developed countries.

2. Detailed Design and Cost Estimate

24. The Consultant will undertake detailed field surveys, investigations and all of the services which are required to prepare detailed engineering design, drawings, layouts, specifications, bidding documents with Bill of Quantities (BOQ) etc. for all the proposed components/projects. The Consultant shall use the modified BGML (IRS 2008), standard schedule of Dimension of BR, way & works manual of BR, safety manuals of BR and applicable typical drawings for embankments, passenger facilities, yards and bridge superstructure.
25. The tasks shall include but not limited to the following:

- Conduct additional field survey and soil, hydrological, seismic, geometric features, type and condition of drainage structures and foundation investigations required for detailed design along the selected alignment.

- Conduct hydrological and Morphological studies have to be conducted for major bridges having spanned more than 100 meter and separate reports have to be submitted to the Client.

- Detailed engineering design have to be done in accordance with the design codes/guidelines/manuals of neighboring countries, BR and International codes based on the findings of investigations and feasibility study, recommendations of safeguard policy study and universal design for elder & disable people. All Bridges, culverts and sub-structures have to be designed in accordance with modified BGML loading (IRS 2008, 25 ton axle load) considering double stacking of containers, future electric traction lines and oversized consignments.

- Detailed design for the railway project shall be based on the updated conceptual design of the Feasibility Study and results from additional investigations conducted. Detailed alignment design and layout plan shall be prepared for the proposed route alignment selected in the Feasibility Study.

- Detailed design and drawings has to include universal access for elder & disable people such as access to the station building, parking area and platforms by ramps. Detailed design and drawings should also include gender sensitive design in all station buildings, such as separate ticket counters, waiting areas/rooms, prayer room and toilets for women etc.

- Prepare Key Map for all stations proposed in the project showing all existing, proposed dismantling works and proposed new structures and station yard layout.

- Prepare detailed technical specifications for each work item, taking into account relevant proven specifications in use in this country and elsewhere for similar works.

- The consultant shall also be required to take into consideration of the findings and recommendations of Social and Environmental studies carried out by separate consultants during preparation of detailed design & cost estimates.

- Safeguard related documents such as RP, EIA and LAP, indigenous people plan etc. shall have to be updated based on the detailed design. Facilitate effective coordination and lines of communication between ADB and relevant government agencies and line departments, organizations, and individuals implementing safeguard aspects, including obtaining government clearances.

- Re-assess benefits & capital costs of the proposed projects and update the Economical and financial analysis based on revised cost & benefits and other findings of detailed design.

- Detailed design of upgradation & new construction of level crossing gates re-categorized (both authorized and un-authorized) in the feasibility study to ensure safety. Detailed design of road flyover/overpass/underpass, pedestrian bridges etc as recommended in the feasibility study.

- Detailed design for establishment of Computer based Interlocking (CBI) signaling system and optical fiber based telecommunication system in all the components/projects as identified in the feasibility study.
• Detailed design of establishment of Centralized train control (CTC) system in the entire Dhaka-Chittagong-CGPY and Chittagong-Cox's Bazar corridor.

• Prepare the detailed work plan/schedule covering phasing of construction considering work plan, interfacing issues, railway operation issues and signaling issues.

• Prepare detailed design of existing and double line as DG. The loading standards of bridge/culverts on the existing track have to be examined and detailed design for required up-gradation, if required.

• Prepare detailed operational plan for construction and after construction period. Prepare maintenance plan. Finalize operation and maintenance (O&M) personnel and other resources/facilities requirement for operation and maintenance works for all components.

• Prepare Engineering Design, drawings and layout plan for railway embankment, tracks, stations and yards, signaling and telecom, bridges, culverts, over pass/fly over/underpass, level crossing gates, protection works, other structure, residential and functional buildings, drainage, sanitation, electrical works, rolling stock maintenance facilities such as wash pits, sick lines, sheds, watering facilities and passenger amenities, operational and other facilities.

• Prepare detailed design for establishment of BG rolling stock depots, carriage & wagon workshop, loco workshop and fuelling facilities at Chittagong including all infrastructure and allied facilities either by conversion of existing MG facilities into DG or new construction as identified in the feasibility study.

b. Project Preparation

• Prepare Umbrella DPP covering all the components divided into suitable projects based on findings of feasibility study, detailed design and detailed cost estimate following GOB guideline for DPP preparation.

• Prepare appropriate projects and contract packages following ADB’s and GOB’s Guidelines for Procurement.

• Prepare RDPPs based on agreed contract price (if required).

• Provide support for approval of DPP/RDPPs.

c. Cost Estimate, Bill of Quantities (BOQ) and Bid Documents

• Prepare detailed cost estimate of each of the project based on detailed design and detailed BOQ. The Consultant shall consider the findings and recommendations of Social and Environmental studies and reflect those in necessary clauses in tender documents and cost for implementation EMP (if any) are to be included in detailed cost estimate and BOQ.

• Prepare separate BOQ and bid documents of construction works as phased by the consultant based on detailed engineering design and detailed cost estimates following ADB's and GOB’s Guidelines for Procurement.

• Prepare unit rate analysis report for each items included in cost estimate along with all background/breakup calculation.
• The cost estimate should be detailed broken down in local and foreign currencies. Local currency costs are again to be broken down to works and CD-VAT components.

• Prepare detailed scope of station wise civil, signalling and telecom works, level crossing gate wise works and bridge wise works and their cost estimates to include in DPP and to monitor the construction works.

3. **Tendering Services**

26. Consultant shall provide tendering services. The tasks shall include the following but not limited to:

• The consultant will provide support services during the tendering period which will involve responding to questions from bidders and the issuing of addenda when required.

• Tendering services will also include the holding of a pre-bid meeting and site visit, and the public opening of tenders - they specifically exclude the costs for pre-qualifying bidders which remain the responsibility the client.

• The consultant will develop a project-specific bid evaluation criteria consistent with the ADB’s guidelines and procedures which will be used by the evaluation committee in evaluating the submitted tenders. The evaluation committee will consist of an integrated team of technical specialists from BR and the consultant.

• Any non-compliance or deviation from the bidding documents, as issued will be noted, and where appropriate, clarification from bidders will be requested. Upon completion of the bid evaluation, the consultant shall assist the evaluation committee to issue a Bid Evaluation Report with recommendations for award of the contract(s).

• The consultant will assist BR in preparing and carrying out any necessary technical and contractual negotiations with the selected tenderer. This assistance will include the verification of performance bonds and guarantees.

• The Consultant will assist BR in finalizing the contract(s).

E. **COMPONENT WISE SPECIFIC TERMS OF REFERENCES**

1. **Gauge Conversion Works**

27. The following four components are similar in nature:

(i) Conversion of Tongi-Bhairab Bazar-Akhaura MG double track into DG double track by phasing.

(ii) Conversion of Laksam-Chinki Astana-Chittagong MG double track into DG double track by phasing.

(iii) Construction of a new DG line and conversion of existing MG line into DG in Fouzderhat-CGPY section, remodeling of CGPY Yard and rail container terminal at Chittagong Port.

(iv) Conversion of existing Chittagong-Dohazari MG track into DG track.

28. The specific TOR for these components/projects are as follows but not limited to:

• Examine all existing railway track, bridge/culverts, signaling and telecommunication system, station yards and other operational bottlenecks. Provide recommendations for conversion of the existing
MG section into DG and phasing of construction of DG double line in all above sections to facilitate Trans-Asian Railway (TAR) and regional DG railway Traffic as well as national traffic keeping normal train operation unhampered.

- The down track of Tongi-Bhairab and Laksam-Chinki Astana sections have been newly constructed for accommodate DG in future. However, the consultant has to examine the situation of all earthworks, bridges, culverts, other structures etc. and assess additional works for gauge conversion. This has to include a detailed survey on the situation of the existing structures and phasing plan & strategies for the construction.

- Prepare action plan for soft soil treatment (if required) and strengthening/reconstruction of bridges and structures as well as to handle the traffic during construction period.

- Examine structure, life and present load bearing capacity of existing Major bridges and check the prospect to strengthen the Major bridges to allow modified BGML loading (IRS 2008). Prepare detailed design and work plan to strengthen or new construction of existing Major bridges keeping train operation uninterrupted.

- Identify the locations and quantity of work to raise formation level of existing railway lines as required.

- Provide specific recommendations and action plans to improvement of business opportunities such as increase train operation capacity, introduce door to door container transportation services, container handling & transportation time reduction etc.

- Forecast the future national, regional and international railway freight and passenger traffic demand considering establishment of TAR, transit, SAARC, SASEC & BIMSTEC corridors; development plans of GOB, neighboring countries and private sector; improvement of operational facilities such as computer based interlocked signalling system, intermediate block signaling, CTC of entire Dhaka-Chittagong-CGPY & Dhaka-Cox’s Bazar corridor; increase of line capacity and improvement of business opportunities etc.

- Examine existing MG rolling stock day to day maintenance facilities in Dhaka-Chittagong-CGPY corridor and assess scope of works to establish BG rolling stock maintenance preferably by converting all facilities into DG. Prepare detailed work plan avoiding disorder to regular maintenance of rolling stocks.

- Develop operation plan including signaling system for the proposed railway gauge conversion projects.

- Recommend and design facilities to increase line capacity and increase share of container transportation by BR.

- Provide specific recommendations to utilize the Dhaka-Chittagong railway corridor to enhance trade, tourism and other commercial activities in the country.

2. **Construction of a new ICD including ancillary works and new rail link with the ICD from Pubail and Dhirasram railway stations:**

- Review and update the findings of feasibility study report, specially the traffic forecast of container transportation and the modal share of BR, contemplated by the Feasibility Study (FS) consultants, taking into account the current and future development of trade, the development of future rail link, the role of container transport facilities between Dhaka-Chittagong corridor & other parts of the country, role of other mode of transport such as water and road including potential limitation of these modes, future change in the transport network and share of rail transport.
• On the basis of reviewed findings consultants have to clarify various concrete options taking into account of various risks such as risk of mismatching the timing of investments, sub-optimal design of ICD, time & cost overrun etc. The consultants will also consider the possibility of phasing of construction and provide financial consequences of construction phasing, if required as per reviewed findings.

• The consultant shall take into consideration the views/recommendations of private operators and recommendation of the consultant to be engaged for concessioning/leasing out of smooth, efficient and effective operation of the ICD during preparation of detailed design & cost estimates.

• Conduct an in-depth study covering the surrounding area for fixation of formation level of the proposed ICD and identifying the out fall of the drainage system.

• Prepare detailed design, drawing and layout plan of all infrastructures including all facilities in the proposed ICD such as all functional & residential buildings, heavy pavement, rail line, drainage system, water distribution system, sanitation system, electrical works, security system, signaling system, loco shed, inspection pit, wash pit & other facilities as required.

• Prepare detailed design, drawing and layout plan of railway lines, bridge/culverts, level crossing gates, station yards, CBI signaling system, optical fiber telecom system, and all other facilities as required to connect ICD with Pubile and Dhirasram railway stations and within in the IDC;

• Prepare detailed design, drawing and layout plan for construction of fly over/overpass at Dhirasram & Saltgola to allow uninterrupted railway and road vehicle movement.

• All design, preparation of detailed drawing and investigation services shall take into consideration of the present road and rail-born traffic, and also future traffic likely to generate due to implementation of the project.

• Provide specific recommendations and action plans to improvement of business opportunities such as increase train operation capacity, introduce door to door container transportation services, container handling & transportation time reduction etc.

• Prepare bid document for concessioning/leasing out of smooth, efficient and effective operation of the ICD.

• Consultant shall keep liaison with PPP office and other government & private agencies to finalize the scope of work and detailed design of the ICD and railway links to ICD.

3. Construction of single line DG rail link with proposed Moheshkhali and Matarbari power plants:

• Review the findings of feasibility study report of the proposed Moheshkhali and Matarbari power plants and review the traffic demand, taking into account the current and future development plans of GOB & private sector in the area, development of trade, development of future rail link, role of other mode of transport such as water and road including potential limitation of these modes, future change in the transport network and share of rail transport in the area.

• The consultant shall keep liaison with power plan authorities and take into consideration the demand/views/recommendations of them.
- Assess the need and justifications of the proposed component and assess probable outputs of the project implementation including direct and indirect effects. Assess benefits of the proposed project, not only in terms of financial or economical, but also in terms of safety, environmental impacts, less transportation costs, poverty reduction, enhancement of trade and commercial activities likely to be created as an outcome of the project.

- Identify the various alignment options, suitable location of take-off point from Dohazari-Cox's Bazar corridor (probably from Chakaria), location of new stations. Identify technical solutions for implementing the project involving construction of new DG single track including level crossing gates, bridges, CBI signaling, CTC system, optical fiber telecom system, passenger facilities and operational facilities. Carryout survey and necessary investigations covering surrounding area of each option for option analysis and to finalize the most suitable solution.

- Finalization of alignment and layouts duly considering the topography, land formation, commercial aspects, economical and safeguard considerations, existing infrastructures of the area, ongoing and future development plan and schemes of both the Government of Bangladesh and Private sectors in the area. Drafts are to be consult and presented to BR and power plant authorities before finalization.

- Provide specific recommendations to utilize the proposed rail link to enhance trade, tourism and other commercial activities in the area.

  4. Establish carriage & wagon and loco workshop, fuelling facilities and depot for BG rolling stocks at Chittagong:

- Examine the existing MG rolling stock depot, fueling facilities and maintenance facilities at carriage & wagon workshop and loco workshop. Review all ongoing and planned development in and around the areas of projects mentioned in Section 4.

- Collect and review all available study reports, documents and information on rolling stock maintenance improvement.

- Assess the requirements for depot, fueling facilities and maintenance of BG rolling stocks and identify scope of work.

- The consultant shall keep liaison with the concern officials of Bangladesh Railway to finalize the scope of work.

- Based on traffic forecast demand of rolling stock will be identified and based on that requirement maintenance facilities are to recommend.

- Prepare detailed design for establishment of BG rolling stock depots, carriage & wagon workshop, loco workshop and fuelling facilities at Chittagong including all infrastructure and allied facilities either by conversion of existing MG facilities into DG or new construction as identified in the feasibility study.

- Prepare O&M personnel, operation & maintenance plans etc.

- Prepare DPP for the project and RP, EIA, LAP etc. as required and provide support for approval.

**F. INDICATIVE TIME**

29. There is no clear phasing of tasks. Feasibility study, detailed design and preparation of bid document & DPPs will run in parallel. Total duration of consultancy services is **36 months.**
G. REPORTING REQUIREMENTS

30. The Consultant shall prepare reports in English and submit required copies of report along with soft copy in PDF format for each report to the Project Director of BR. Moreover, consultant will supply copies of any report as instructed by the Project Director.

31. Consultant will consult with PD office before finalization of any document. Important decisions such as finalizing of design parameter, fixing alignment, fixing scope of work, phasing or scoping projects are to be presented before BR officials to finalize them. Each draft of feasibility study report and detailed design report are to be presented before BR officials to finalize them.

1. Inception Report (15 hard copies with CD/DVD)

32. Inception Report to be submitted within 30 days of mobilization. This will focus on the Consultant arrangements and work program for fulfilling the tasks and responsibilities of the project.

2. Interim Report (25 hard copies with CD/DVD)

33. Interim Report will focus on identify the scope of works, phasing of construction works, scoping of investment projects, finalization of design parameter and other requirements.

3. Draft Feasibility Study Report with soft copy (25 hard copies with CD/DVD for each draft)

34. The Feasibility Report shall contain all the findings of studies. It shall include geo-technical aspects, hydrological aspects and plan/profile in suitable scale of the embankment, conceptual design, Lay-out drawings, preliminary cost estimate, economic and financial analysis, environmental and social impact assessments, separate hydrological/morphological study for bridges having span more than 100 meter, RP, IPP, EMP, EMoP, rolling stock demand analysis, land acquisition proposals and environment clearance proposals etc.

4. Final Feasibility Study Report (40 hard copies with CD/DVD)

35. Final Feasibility Report to be submitted within 1 month of receipt of comments from the Client on Draft Feasibility Study Report. The Client with provide their comments within 15 days of receipt of the report.

5. Draft Detailed Design Report (10 hard copies with CD/DVD for each draft submission)

36. The Draft Final Report shall encompass updated feasibility Study analysis & recommendations; Environmental, Social and Resettlement assessment & recommendations; all survey details & analysis; Detailed Design, Drawings and Specifications, Detailed Cost Estimates, Bill of Quantities and phase wise draft Bid Documents.

6. Final Bid Document with BOQ (30 hard copies with CD/DVD for each phase with CD/DVD in PDF format)


37. Incorporating the comments of the Government and other Agencies, within one month of the receipt of such comments. Soft copy detailed drawings to be submitted to Project Director office both in Auto CAD and PDF format.

9. Various Proposals:

38. Land acquisition proposals: 15 hard copies with CD/DVD for each districts - ready to be submitted to approving authorities.

39. Environment clearance proposals: 10 hard copies with CD/DVD for each project - ready to be submitted to approving authorities.

10. Background Documents: 5 hard copies along with CD/DVDs

40. Both at the draft and the final stage of the each report, annexes, unit rate analysis, detailed calculations of cost estimate, BOQ and IRR calculation (in Excel format), survey reports and subsidiary reports such as resettlement report, land market survey report and environmental report related to each feasibility study will be submitted to Project Director separately in 5 hard copies along with CD/DVDs of all data.

41. The following final documents are to be submitted to Project Director 5 hard copies along with CD/DVDs separately.

   (a) Geo-Technical Investigation Report.
   (b) Hydrological/Morphological study of bridges of more than 100m span.
   (c) Rolling stock demand analysis report.
   (d) Unit Rate analysis Report in Excel format.
   (e) Land Marked Survey Report.
   (f) Detailed background calculation of cost estimate/BOQ (item wise in excel format).
   (g) Detailed background calculation of EIRR and FIRR (in excel format).
   (h) Topographical Survey Report.
   (i) Background papers to identify ownership of land within the ROW such as Mauza maps, Khatians, Gazettes etc.

H. DATA, LOCAL SERVICES AND FACILITIES TO BE PROVIDED BY THE CLIENT

42. BR will provide the Consultant with all available data, study, reports related to the project.

43. BR will provide all counterpart staff necessary for the successful completion of the project. A Project Monitoring Unit (PMU) will be established under the Project Director. PMU will supervise and coordinate the consultancy services.

44. The Consultant shall include in their cost estimate, the cost for office and residential accommodation, vehicles and communications, office furniture, equipment and consumables, and the entire professional and support staff and any other items required to carry out the activities.

I. PROFESSIONAL STAFF INPUT

45. International Consultant: 331 person month

National Consultants: 972 person month
BAN: Additional Financing to Subregional Transport Project Preparatory Facility

Terms of Reference for Consultancy Services for Feasibility Study and Detailed Design

A. Objective, Scope, and Detailed Tasks of the Assignment

1. **Objective.** The main objective is to prepare the subregional road projects ready for investment and implementation. All project roads were selected by the government with the expectation of significant implication to subregional cooperation and integration.

2. **Scope.** The scope includes preparing the feasibility study, the detailed engineering design, and the bidding documents for upgrading about 600 km of national highways, regional highways and zilla roads (the project roads) to the standard as would be recommended by the feasibility study (4 lanes, 6 lanes, etc.), keeping a minimum provision of four-lane highways with Slow Moving Vehicular Traffic (SMVT) lane on both sides. The project roads are as shown in Table 1. The consultants will also provide supports to the procurement of civil works upon the government’s request and provide supports to ADB missions for loan processing.

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<tr>
<th>No.</th>
<th>Description</th>
<th>Length* (km)</th>
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<tbody>
<tr>
<td>1</td>
<td>Bhanga-Bhatiapara-Kalna-Lohagara-Narail-Jessore-Benapole Road</td>
<td>135</td>
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<tr>
<td>2</td>
<td>Rangpur-Banglabandha Road</td>
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<td>3</td>
<td>Bonpara-Irshwardi-Pakshy-Kushia-Jhinaidah Road</td>
<td>105</td>
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<tr>
<td>4</td>
<td>Khepupara-Paira Port Road</td>
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<tr>
<td>5</td>
<td>Sylhet-Charkhai-Sheola-Sutarkandi Road</td>
<td>46</td>
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<tr>
<td>6</td>
<td>Chittagong Port Access Road</td>
<td>14</td>
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<tr>
<td>7</td>
<td>Nabinagar-Paturia Road</td>
<td>58</td>
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<tr>
<td>8</td>
<td>Paglapir (Rangpur)-Dalia-Borokatha Road</td>
<td>60</td>
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<td></td>
<td><strong>Total</strong></td>
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</table>

*The road length is based on an estimation of chainage length. There might be minor discrepancy with the actual road length.

3. **Implementation Arrangements.** The Ministry of Road Transport and Bridge (MORTB) is the sponsoring ministry, and the Roads and Highways Department (RHD) is the executing agency (the client). The sponsoring ministry will establish a steering committee to assess the consultant’s performance from time to time. In addition, the RHD will assign its technical units (i.e., Technical Services Wing, Bridge Management Wing, Planning and Maintenance Wing etc.) to review the consultant’s reports and provide technical guidance as required. RHD will also establish a Project Implementation Unit (PIU) to implement the project. The PIU will coordinate and communicate the review comments to the consultant and will provide necessary guidance time to time.

4. **Detailed Tasks.** For each project roads, the consultant will carry out the following tasks.

**Task 1. Inventory, Condition, and Traffic Survey**

(i) Develop a geographic information system (GIS)-based road database with the capacity of managing road inventory data (road, bridge, drainage, structures, and other facilities), condition data, and traffic data. The database should record the road inventory as sections of 100m or less. For recording the road inventory data, RHD Pavement Inventory Survey Manual 2005 may be followed.

(ii) Prepare a survey plan for the client approval to collect the inventory, condition, and traffic data of project roads. The plan should clarify the location and
duration of each survey activities and the schedule of conducting the survey on all project roads.

(iii) Conduct digital video survey of project roads. The digital video should be chainage-referenced and geo-referenced for ease of review. The video should focus on the pavement condition, and clearly show the width of existing roads, the right-of-way, and both side establishment.

(iv) Collect inventory data from the video and if necessary from site investigation, and enter the data into the database. The inventory data should include at least geometric features, pavement surface, drainage type and capacity, structures, roadside furniture, and other related facilities.

(v) Collect condition data of project roads, including pavement condition, roughness, drainage, structure, roadside furniture, and other related facilities, and enter the results into the database.

(vi) Conduct traffic survey of project roads for the purpose of economic analysis and detailed engineering design, and enter the results into the database. The survey should at least include classified traffic counts, intersection volume count, origin-destination, and axle-load spectrum.

(vii) Use the survey results, and other literature to forecast the future traffic for a period until 20 years (with a target of 2041) after the completion of construction for each project road.

(viii) Categorize the roads into homogeneous sections, and estimate the residue life of homogeneous sections.

Task 2. Engineering Study and Design

(i) Investigate the suitability of local construction materials, and where necessary, identify the location of new quarry and borrow pit, and assess the quality and quantity of materials and hauling distances.

(ii) Study and propose technical solutions and alternatives for improving the project roads, including geometric alignment, pavement strengthening, rehabilitation, and/or widening of bridges. The solutions should consider the traffic forecasts, avoid land acquisition and involuntary resettlement wherever possible, and incorporate necessary enhancement for coastal roads.

(iii) Consult with stakeholders regarding engineering design, and address the findings of consultation into the design as appropriate.

(iv) Prepare cost estimates for proposed improvements of each project roads, separating foreign exchange, local currency, and tax and duty components.

(v) Propose contract packages, taking into account (a) the location of the project roads, size of contracts, and other project-specific factors, (b) the capacity and experience of client in managing similar contracts, (c) the development of domestic contracting and manufacturing industries. ADB's Procurement Guidelines will be followed.

(vi) Review the past practices and lessons of performance-based road maintenance in the country.

(vii) Upon the approval of recommendations of feasibility study, carry out engineering surveys for the purpose of detailed engineering design to enable the estimation of construction quantities with an accuracy of ±10%. The surveys should include, but are not limited to topography, geotechnical, material, hydrology, drainage and structure.

(viii) Prepare practical and cost-effective geometric design (horizontal, vertical, and intersection, etc.) for road and structure on the basis of traffic forecast,
pavement structural assessment, axle-load, road safety, environmental assessment, and other relevant factors.

(ix) Prepare designs based on the typical pavement sections, applying sound engineering practices and giving due regard to environmental aspects as indicated in the IEE or EIA report. The government’s and ADB’s environmental regulations policies should be followed.

(x) Study the hydrological regime in detail, based on an analysis of rainfall and flood records, supplemented by filed investigations. The hydrological data analysis should be done using a mathematical modelling approach with appropriate software. Use the findings to establish the adequacy and economics of road embankment levels, culverts, and side drainages, and to design roadbed and slope protection for the drainage, structures and bridges.

(xi) Assess cross drainage requirements and accordingly propose the construction of new structure (such as bridges, culverts, and causeways) or the improvement of inadequate structure. Prepare the detailed engineering design for the new structures or improvement of inadequate structures.

(xii) Design axle load control facilities (including the station and equipment) for the project roads following RHD’s policies and guidance. Prepare the technical specialization and cost estimate for axle load control facilities as part of the detailed engineering design and bidding documents.

(xiii) Determine the most cost-effective improvement option for pavement structure. Where new pavements are required, the pavement structure design will follow an internationally recognized procedure to ensure a design life of 10 years, with provision for overlays during or at the end of design life to extend the life to 20 years.

(xiv) Prepare engineering drawings, including road plans (1:2,000 scale), longitudinal profiles (scales: 1:2,000 horizontal and 1:200 vertical), cross-sections, structure plans, and other requirements of the government.

(xv) Review and finalize the contract packages as proposed in the feasibility study, in consultation with the client, ADB, and other relevant stakeholders.

(xvi) Prepare project implementation schedules showing the planned physical and financial progress for each contract package. The schedule should be prepared on the basis of a review of recent ADB-financed road projects in the country, and the schedule should also reflect seasonal climatic impacts to the works.

(xvii) Prepare bills of quantities, and make engineer’s estimates of the costs for relocation of existing utility services and civil works. The cost estimates should be broken down into foreign (direct and indirect), local currency, and tax and duty components.

(xviii) Prepare engineering technical specifications for each work item, taking into account relevant specifications being used in the country or elsewhere for similar works.

(xix) Prepare an overall implementation schedule for each project roads, including the preconstruction activities, such as land acquisition, resettlement, environment clearance, and procurement, construction activities, construction supervision, and monitoring and evaluation activities.

**Task 3. Road Safety Audit**

(i) Collect and review relevant literature about road safety in the country. Review the relevant road safety consultation in Task 5: Poverty and Social Assessment. Meet stakeholders to obtain further information and understand the project background.
(ii) Conduct field visit to the entire length of the project road to assess the current situation of road safety and the potential impacts of the project on road safety.

(iii) During the feasibility study stage, conduct road safety audits for stage 1: planning and feasibility and stage 2: preliminary design, in accordance with ADB’s Road Safety Audit for Road Project: An Operation Tool Kit or similar procedure acceptable to the client. The road safety audit should cover all items in the checklists, and include any other necessary and relevant aspects.

(iv) Prepare relevant chapters and appendices of feasibility study report to present the analyses, findings, and recommendations as described in item (i) to (iii).

(v) During the detailed engineering design stage, conduct road safety audits for stage 3: detailed design, in accordance with ADB’s Road Safety Audit for Road Project: An Operation Tool Kit or similar procedure acceptable to the client. The road safety audit should cover all items in the checklists, and include any other necessary and relevant aspects.

(vi) Provide recommendations to address road safety issues of the operation and maintenance period, and include the recommendations as appropriate into the provision of performance-based maintenance in the bidding documents.

(vii) Review the draft bidding documents of each package and confirm all recommendations of road safety audits are incorporated properly.

**Task 4. Economic and Financial Assessment**

(i) Prepare an economic analysis of the proposed road improvements using the highway development and management model (HDM, version 4) and/or other more appropriate models for subregional connectivity projects. The economic analysis should follow ADB’s guidelines for the economic analysis of projects.

(ii) Calculate the economic internal rate of return (EIRR) for each project road. Undertake sensitivity analysis on the risk factor basis for various scenarios such as changes to the capacity costs, operation and maintenance costs, traffic volume, and construction period, etc.

(iii) Estimate the required budget for appropriate operation and maintenance of each project roads. Assess the financial sustainability by comparing the required budget with the current budget allocation, and make recommendations as appropriate.

(iv) Prepare relevant chapters and appendixes of the feasibility study report on economic and financial assessment.

(v) Develop a monitoring and evaluation framework in accordance with ADB’s Guidelines for Preparing a Design and Monitoring Framework. Include in the framework appropriate indicators with baseline data and targets.

**Task 5. Poverty and Social Assessment**

(i) Carry out a poverty & social assessment (PSA) that focuses on the determinants of poverty and social characteristics of mobility and transport use in the project area of influence.

(ii) Identify beneficiaries and stakeholders. Identify key beneficiaries and assess local demand for the proposed road investments. Identify project-related interests of key stakeholders, likely barriers to their participation in and benefits from the project resources, and suggest possible strategies for addressing their concerns.

(iii) Assess the existing social characteristics of mobility and transport use. Provide a gender-segregated baseline on the existing primary patterns of transport use, which include but are not limited to: the characteristics of use/ownership of
transport modes; use of non-motorized transport (NMT) and by which groups; perceptions and satisfaction of public (collective) transport modes; monthly transport expenditure (public/private); ability and willingness to pay for transport services; links between transport and livelihood; key origin-destination patterns of transport users; average travel time to essential services (disaggregate: hospitals, higher education, administrative services, markets, jobs). Assess how social characteristics such as age, ethnicity, religion, disability, and income affect mobility and use of transport services.

(iv) Identify the constraints and needs of the poor and excluded. Identify the direct and indirect impact channels through which the poor and vulnerable will benefit from the project and how these groups are supported through the project designs. With the participation of stakeholders, identify and analyze the reasons behind the vulnerability of at risk groups, including their exposure to risks. Identify potential proactive measures, in terms of additional components and design options, which will make it easy for the poor and vulnerable to benefit from the project.

(v) Prepare a gender analysis and when relevant propose a gender action plan. Assess the general socio-characteristics of women: source of income; decision-making power over household budget; time spent in household chores and child-rearing activities; work outside the household. Assess the different needs and demands of women for transport. Provide baseline on the existing primary patterns of transport use (see item iii above) and include in addition perceived safety on public transport, including incidence of harassment; use of NMT; employment away from the vicinity of their home. Through consultation with the technical experts and the executing agency, assess the feasibility to include women, elderly and children friendly designs features in the project as and other activities (i.e. targeted awareness campaigns) that would make the project more responsive to women’s needs.

(vi) Conduct an assessment of the risk of spread of HIV/AIDS and other communicable diseases due to the project. Assess the existing prevalence and awareness of HIV/AIDS and provide suggestions for measures to be incorporated in the project to mitigate this risk.

(vii) Conduct an assessment on the risk of human trafficking. Assess the existing incidence of human trafficking in the project area and map any government or NGO programs and initiatives that address this issue. Identify possible entry points for project to use social mobilization programs to raise awareness about the dangers of trafficking (awareness programs around construction camps; introduction of good behavior codes for construction contractors; services and information to vulnerable people at key points such as bus stops and border crossing points).

(viii) Conduct assessment of road safety practices. Identify existing practices detrimental to road safety (use of the Right of Way, unwillingness to wear seatbelts, helmets, etc.). Identify groups who may be most at risk. Propose measures to increase safety awareness and traffic education campaigns, including building-up on existing programs conducted by government agencies or NGOs.

(ix) Ensure participatory process. Ensure proper consultations and participation through public consultation meeting in the major settlements along the corridor; focus group discussions with key stakeholder groups and one-on-one interviews. Ensure the representation of women and include relevant community-based groups and civil society organizations in the participatory
process. Ensure proper documentation of the consultation process. Through the PSA, assess how participants’ concerns can be integrated into the project design. Propose follow-up participatory measures for implementation activities.

(x) The PSA data will be based on (a) sample surveys collected during public consultation meetings and focus group discussions; (b) feedback from discussions during public consultation meetings, focus groups and one-on-one interviews, and (c) secondary data. The PSA will be in accordance with ADB’s Technical Note on Social Analysis in Transport Project,\(^1\) Guidelines for the Incorporation of Social Dimensions in ADB Operations and Hand book on Poverty and Social Analysis.

(xi) The PSA should provide baseline data that in coordination with the economic analysis should be used for the design of a time-bound benefit monitoring and evaluation program, including monitoring indicators, to assess the project benefits to local communities before and after the construction of project. Further suggestions for additional baseline data should be included. The program should address not only the economic benefits but also poverty reduction impacts and other social benefits such as stability of the region and integration with other parts of the country.

**Task 6. Resettlement and Indigenous People Planning**

(i) For each project road, carry out a screening of involuntary resettlement and indigenous peoples’ impact in accordance with the Government’s and ADB’s Safeguard Policy Statement 2009 (SPS). Identify whether the project road is likely to lead to private land acquisition and lead to impact on non-titled holders. The screening exercise will also include an assessment of past social impacts, viz., if land acquisition has been accomplished in anticipation of the ADB project.

(ii) Identify whether the project will be located in, or pass through, areas of significant indigenous people’s settlements, and if this is the case propose how to specifically include indigenous peoples in project planning and implementation in accordance with ADB’s Safeguard Policy Statement 2009 (SPS). If relevant, make an overview of population characteristics in the project area and anticipate project impacts.

(iii) Prepare and complete the checklist for involuntary resettlement and indigenous people screening.

(iv) For the whole program and based on the experience of recent and ongoing resettlement plans financed by ADB and similar multilateral development agencies in the country, review existing resettlement frameworks (RF) and update them to meet the Government and ADB policy compliance standards. The RF should define categories for impact, eligibility of affected people for compensation and provide a matrix of entitlements covering compensation and other assistance for all types of impacts. The RF should provide the methodology for the calculation of compensations based on replacement cost to fully replace the asset.

(v) For the whole program and should impacts on indigenous peoples be identified during the screening process, even if indicative, prepare an Indigenous Peoples Planning Framework (IPPF).

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(vi) Both the RF and IPPF should be based on a consultative process with the executive agency, ADB and draw from broad-level consultations with the communities likely to be affected by the subprojects.

(vii) Prepare relevant chapters and appendixes of the feasibility study report on resettlement and indigenous peoples planning. The appendixes should include the screening checklist for each subproject road; one Resettlement Framework; one Indigenous Peoples Framework (if impacts on indigenous peoples are identified during the screening exercise).

(viii) Prepare a resettlement plan (RP) and if impacts on indigenous peoples are identified, an indigenous peoples plan (IPP) in compliance with the Government’s National Involuntary Resettlement Policy, ADB’s Safeguard Policy Statement 2009 (SPS).

(ix) Based on the detailed design, determine the legal status of private land within the RoW, verify application of customary and traditional laws governing land tenure, usufruct rights, leasehold. Verify legal boundaries of the right of Way (RoW) with the relevant ministry.

(x) Based on the detailed design, conduct census survey of 100% of Affected People (APs) and an Inventory of Lost Assets.

(xi) Conduct a socioeconomic assessment of all APs residing/using the corridor of impact to collect data on family composition, details on age and sex of all the members of the household, income levels and occupational pattern, vulnerability status, legal ownership status of land (private, traditional and customary rights, lease), asset occupancy status and skills possessed.

(xii) Assess whether the compensation standards for all types of assets, crops, and trees are based on replacement cost and describe in detail the valuation methodology used. Undertake market surveys to compute replacement value of land.

(xiii) Prepare a comprehensive income and livelihood restoration program, supported by adequate budget, to help APs improve, or at least restore, their incomes and livelihoods. Identify specific measures for the affected poor, ethnic minorities, or other vulnerable households.

(xiv) Conduct in-depth consultations with the affected persons, ensuring the involvement of women in the process. Consultations should take the forms of public meetings, focus group discussions and one-on-one interviews. Ensure that the consultation process is well documented and demonstrate how the concerns of the affected persons are included to the design of the RP.

(xv) Establish a cut-off date for eligibility criteria for non-title holders and ensure and document that it has been publicly disseminated.

(xvi) Prepare overall budget for compensation, resettlement and rehabilitation assistance.

(xvii) Based on the draft R&R entitlements prepare an appropriate action plan for additional support required for the vulnerable.

(xviii) Organize workshops on draft R&R policy to receive feedback from identified stakeholders, including implementing agency, line agencies (specifically revenue, forest, tribal welfare, etc.), NGOs and others.

(xix) Assist the MORTB and Local Road Administration to develop a computerized database management system for recording affected persons (APs) and lost assets. The system should reflect the present impact on APs and accordingly the entitlements for APs are planned. The system should be in place from the beginning of the resettlement survey. Also, develop cadastral mapping of
affected plots for construction of new alignments using road inventory map developed under the engineering study.

(xx) Assess the capacity of the Government in implementing the proposed RP and IPP, and recommend improvements and actions required.

(xxi) If impacts on Indigenous Peoples are identified, prepare an Indigenous Peoples’ Development Plan to minimize adverse impacts on tribal communities and to enhance their access to project benefits on par with others.

(xxii) Prepare relevant chapters and appendixes of the detailed design report on resettlement and indigenous peoples planning. The appendixes should include the RP for each project road where resettlement impacts have been identified; IPP for each project road, where impacts on indigenous People have been identified.

Task 7. **Environmental and Climate Change Risk Assessment**

(i) Carry out an environmental assessment of the project roads in accordance with ADB’s Safeguard Policy Statement 2009 (SPS), and the Government’s environmental regulations and policies.

(ii) Classify the road in accordance with the environmental impact assessment requirements under the Department of Environment (DOE), Ministry of Environment and Forests and ADB’s Screening Checklist for Environmental categorization according to the SPS.

(iii) Depending on the classifications, prepare IEE as per relevant guidelines of DOE and ADB, and if EIA is required, prepare TOR that is acceptable to DOE. In preparing the IEE and/or EIA a minimum of the following issues must be covered:

(a) Potential impacts on biodiversity including modified, natural, critical habitat and protected areas and necessary measures to minimize, mitigate and offset impacts.

(b) Potential waste issues including hazardous materials and wastes and appropriate measures for their disposal, treatment and other forms of management.

(c) Potential impacts on ambient air and water quality, noise levels and soil and recommendations for suitable mitigation measures.

(d) Climate change related risks for the project in consultant with the government and ADB, and recommendations for adaptation measures in the engineering design.

(e) Quantification of greenhouse gas emissions expected from the construction and operation stages of the project with recommendations for suitable mitigation and/or offset measures. It is recommended that appropriate tools such as TEEMP\(^2\) be used for the GHG quantification exercise.

(f) Occupational Health Safety issues and measures for the construction workers as well as the local communities in and around the project site.

(g) Potential impacts on physical and cultural resources including sensitive receptors (temples, schools, hospitals etc.) and measures to avoid, minimize, or mitigate impacts.

(h) Public consultations with affected people in the project area including men, women, vulnerable or indigenous groups with clear documentation on dates of meeting and issues discussed. Consultations must also be carried out

\(^2\) Transport Emissions Evaluation Model for Projects is an excel based tool that is freely available and can be downloaded from [http://cleanairasia.org/portal/TEEMPTool](http://cleanairasia.org/portal/TEEMPTool). The findings of the traffic studies can be used as inputs in the tool.
with relevant government agencies (eg. Forest Department, Agriculture Department etc.) and relevant local NGOs if any.

(i) Grievance Redress Mechanism to address concerns and grievances of the affected people in the course of the project cycle.

(j) Cumulative and induced impact assessment (brief assessment for IEE and in depth assessment for EIA)

(k) Alternative analysis including the no project option (required only for EIA under the ADB SPS)

(l) Assessment of the institutional set up and capacity of the EA for meeting environment safeguard requirements of the Government as well as ADB. Institutional and capacity needs if any must be identified and planned for with adequate budge provisions.

(iv) Prepare the IEE and EIA reports to fulfil the requirements of DOE and ADB.

(v) Prepare an Environmental Management Plan (EMP) and Environmental Monitoring Plan (EMOP) to implement and monitor the mitigation measures will be prepared with clear information on costs, time frame, responsible agencies, monitoring methods and monitoring indicators.

(vi) Incorporate into the EIA/IEE report including EMPs feedback from all relevant stakeholders including the EA, ADB, affected persons and others.

(vii) During the feasibility study stage, the outputs will be complete IEE or EIA reports fulfilling requirements of both DOE and the ADB SPS including as many site specific details as possible. For roads with different requirements under DOE and ADB SPS (for example DOE requires and EIA but ADB requires an IEE) to the extent possible one report will be prepared to fulfill requirements of both agencies.

(viii) During the detailed design stage, provide clear recommendations in the EIA or IEE report for activities that need to be taken. Recommendations may include but not be limited to: (a) updating the EMP to provide more site specific details or other updates; (b) providing more detailed or updated information and analysis on location, expected impact and mitigation measure on sensitive receptors; (c) updating the number of trees required for removal; (d) conducting air and noise impact modelling; and (e) other updates in the reports based on design updates. The output of the detailed design stage will be the final IEE and/or EIA reports fulfilling requirements of both DOE and the ADB SPS.

Task 8. **Procurement Assistance**

(i) Prepare the procurement plan and the bidding documents for each contract package using ADB’s standard bidding document for procurement of civil works.

(ii) Prepare provisions for performance-based maintenance for the bidding documents based on the findings of reviewing past practices.

(iii) Upon the client’s request, assist the government in advertising, issuing bidding documents, responding to queries, receiving and evaluating applications, and other procurement-related activities.

(iv) Assess the possibility of adopting a public-private partnership (PPP) model, and analyze the strength and weakness of each option. The main PPP options include (a) toll-based, (b) toll-based plus viability gap fund, (c) toll-based plus annuity based, (d) annuity based, and (e) EPC model.
B. Consultant’s Inputs

5. The assignment will be carried out over a period of twenty-four (24) months from the date of commencement by a consulting firm. It is anticipated that about 69 person-months of input by international consultants and 375 person-months by national consultants will be required.

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Relevant Experience and Qualification</th>
<th>Positions</th>
<th>Person-Months</th>
</tr>
</thead>
</table>
| IC01| Team Leader/ Senior Highway Engineer | • Bachelor degree in civil engineering, post-graduate degree preferred  
• Min.20 years of professional experiences  
• Min.15 years in planning, preparation and design of highway projects, at least 5 years as project team leader | 1         | 18            |
| IC02| Senior Pavement/Material Engineer    | • Bachelor degree in civil engineering, post-graduate degree preferred  
• Min.15 years of professional experiences  
• Min.10 years of experience in road pavement design and maintenance                                      | 1         | 6             |
| IC03| Senior Bridge/Structure Engineer     | • Bachelor degree in civil engineering, post-graduate degree preferred  
• Min.15 years of professional experiences  
• Min.10 years of experience in structure and bridge design                                              | 1         | 6             |
| IC04| Senior Geotechnical/Material Engineer| • Bachelor degree in civil engineering, post-graduate degree preferred  
• Min.15 years of professional experiences  
• Min.10 years of experience in foundation design and geotechnical engineering | 1         | 5             |
| IC05| Senior Hydrologist/River Training Specialist | • Bachelor degree in civil engineering, post-graduate degree preferred  
• Min.15 years of professional experiences  
• Min.10 years of experience in hydraulic/hydrologic engineering and river training design          | 1         | 3             |
| IC06| Transport Economist                  | • Bachelor degree in engineering or economics, post-graduate degree preferred  
• Min.15 years of professional experiences  
• Min.10 years of experience in economic and financial analysis,5 years of which on transport/infrastructure projects | 1         | 3             |
| IC07| Road Safety Specialist               | • Bachelor degree in civil engineering, post-graduate degree preferred  
• Min.15 years of professional experiences  
• Min.10 years of experience in road safety design/audit                                              | 1         | 3             |
| IC08| Social/Resettlement/Gender Specialist| • Bachelor degree in social science, post-graduate degree preferred  
• Min.15 years of professional experiences  
• Min.10 years of experience in social development and resettlement planning, preferably for road/infrastructure projects | 1         | 6             |
<p>| IC09| Environment Specialist               | • Bachelor degree in environmental engineering or environmental science, post-graduate degree preferred | 1         | 4             |</p>
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<tr>
<th>No.</th>
<th>Title</th>
<th>Relevant Experience and Qualification</th>
<th>Positions</th>
<th>Person-Months</th>
</tr>
</thead>
</table>
| IC10| Asset Management/GIS Specialist | - Min. 15 years of professional experiences  
- Min. 10 years of experiences in environment impact assessment for road/infrastructure projects | 1         | 1             |
| IC11| Procurement Specialist         | - Bachelor degree in civil engineering, post-graduate degree preferred  
- Min. 15 years of professional experiences  
- Min. 10 years in highway asset management, including pavement deterioration modelling, life-cycle cost analysis, value management process, etc. | 1         | 3             |
| IC12| Senior Highway CAD Specialist  | - Bachelor degree in civil engineering, post-graduate degree preferred  
- Min. 15 years of professional experiences  
- Min. 10 years in preparing geometric designs (horizontal, vertical, intersections etc), engineering drawings including plans, profiles, cross sections, structure plans in highway projects, at least 5 years as project CAD Engineer. | 1         | 6             |
| IC13| Senior Surveyor               | - Bachelor degree in civil engineering or survey  
- Min. 20 years of professional experiences  
- Min. 15 years in reconnaissance survey, conduct survey and investigation, route and topographic survey etc. in highway projects, at least 5 years as Senior Surveyor. | 1         | 3             |
| IC14| Axle Load Control Specialist   | - Bachelor degree in civil engineering or other relevant subject  
- Min. 15 years of professional experiences  
- Min. 10 years in design and operation of axle load control facilities and equipment, at least 5 years as Axle Load Control Specialist. | 1         | 2             |

**Subtotal**  
14 69

<table>
<thead>
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<th>National</th>
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| NC01     | Deputy Team Leader/Highway Engineer  
- Bachelor degree in civil engineering, post-graduate degree preferred  
- Min. 15 years of professional experiences  
- Min. 10 years in planning, preparation and design of highway projects | 1 | 18 |
| NC02     | Highway Design Engineer  
- Bachelor degree in civil engineering  
- Min. 10 years of professional experiences  
- Min. 8 years in preparation and design of highway projects | 6 | 60 |
| NC03     | Bridge/Structure Engineer  
- Bachelor degree in civil engineering  
- Min. 10 years of professional experiences  
- Min. 8 years in structure and bridge design | 2 | 30 |
| NC04     | Traffic Engineer  
- Bachelor degree in civil engineering  
- Min. 10 years of professional experiences  
- Min. 8 years in traffic design and survey | 2 | 10 |
| NC05     | Procurement Specialist  
- Bachelor degree in civil engineering or construction science and post graduate qualifications  
- Min. 10 years of professional experiences | 2 | 10 |
<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Relevant Experience and Qualification</th>
<th>Positions</th>
<th>Person-Months</th>
</tr>
</thead>
</table>
| NC06  | Quantity Surveyor                 | • Bachelor degree in engineering or construction science  
• Min. 8 years of professional experiences  
• Min. 5 years in quantity survey, cost estimate and BOQ preparation | 4         | 12            |
| NC07  | Geotechnical Engineer             | • Bachelor degree in civil engineering and post graduate qualifications  
• Min. 10 years of professional experiences  
• Min. 8 years in geotechnical engineering | 2         | 20            |
| NC08  | Material Engineer                 | • Bachelor degree in civil or material engineering  
• Min. 8 years of professional experiences  
• Min. 5 years in QA/QC, evaluating, testing and analyzing test results of construction materials | 2         | 6             |
| NC09  | Pavement Engineer                 | • Bachelor degree in civil or material engineering  
• Min. 10 years of professional experiences  
• Min. 8 years in road pavement design and maintenance | 2         | 12            |
| NC10  | Hydrologist/River Training Specialist | • Bachelor degree in civil engineering  
• Min. 10 years of professional experiences  
• Min. 8 years of experience in hydraulic/hydrologic engineering and river training design | 2         | 6             |
| NC11  | Surveyor                          | • Bachelor degree in civil engineering or survey  
• Min. 8 years of professional experiences  
• Min. 5 years in highway/road surveys | 1         | 15            |
| NC12  | Social/Resettlement/Gender Specialist | • Bachelor degree in social science  
• Min. 10 years of professional experiences  
• Min. 5 years of experience in social development and resettlement for infrastructure projects | 2         | 20            |
| NC13  | Environment Specialist            | • Bachelor degree in environmental engineering or environmental science  
• Min. 10 years of professional experiences  
• Min. 5 years of experiences in environment impact assessment for infrastructure projects | 2         | 14            |
| NC14  | CAD Operators                     | • Bachelor degree in engineering  
• Min. 8 years of professional experiences  
• Min. 5 years in computer-aided engineering drafting | 12        | 120           |
| NC15  | Highway CAD Engineer              | • Bachelor degree in civil engineering  
• Min. 10 years of professional experiences  
• Min. 8 years in preparing geometric designs (horizontal, vertical, intersections etc), engineering drawings including plans, profiles, cross sections, structure plans in highway projects | 1         | 10            |
| NC16  | GIS/IT Specialist                 | • Bachelor degree in engineering or computer science  
• Min. 8 years of professional experiences  
• Min. 5 years in GIS and IT in transport sector | 1         | 12            |

Subtotal: 44 375

Note: Key positions for technical evaluation should be IC01, IC02, IC03, IC04, IC05, IC09, IC11, NC01, NC02, NC03, NC04, NC05, NC09 & NC10
C. Output and Reporting Requirements

6. The consultant will carry out activities according to the following time schedule, and submit reports about the activities and outputs.

<table>
<thead>
<tr>
<th>Report</th>
<th>Submission Deadline</th>
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<tbody>
<tr>
<td>1. Inception Report</td>
<td>3.00</td>
</tr>
<tr>
<td>2. Draft Feasibility Study Report</td>
<td>10.00</td>
</tr>
<tr>
<td>3. Final Feasibility Study Report</td>
<td>12.00</td>
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<td>(or 5 weeks after receiving comments, whichever is later)</td>
</tr>
<tr>
<td>4. Draft Final Report (including the detailed design)</td>
<td>20.00</td>
</tr>
<tr>
<td>5. Final Report</td>
<td>24.00</td>
</tr>
<tr>
<td></td>
<td>(or 5 weeks after receiving comments, whichever is later)</td>
</tr>
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</table>

D. Potential Downstream Works

7. Subject to the satisfactory performance of consultant and the final decision of the government on the proposed project, the consultant may be engaged to provide assistance to address engineering design and safeguard issues during the construction of project roads.
BAN: Additional Financing to Subregional Transport Project Preparatory Facility

Terms of Reference for **Safeguard Specialists**

A. Objective, Scope, and Detailed Tasks of the Assignment

1. **Objective.** The main objective is to prepare the safeguard documents of subregional road projects ready for implementation.

2. **Scope.** The scope includes reviewing the safeguard documents for upgrading about 600 km of national highways and zilla roads (the project roads) to the standard as would be recommended by the feasibility study (4 lanes, 6 lanes, etc.), keeping a minimum provision of four-lane highways, providing comments, and making recommendations to the client about whether the safeguard documents can be accepted or not. The project roads are as shown in Table 1. Upon request, the consultants will also provide supports to ADB missions for loan processing.

3. **Implementation Arrangements.** The Ministry of Road Transport and Bridge (MORTB) is the sponsoring ministry, and the Roads and Highways Department (RHD) is the executing agency (the client). The sponsoring ministry will establish a steering committee to assess the consultant’s performance from time to time. In addition, the RHD will assign its technical units (i.e., Technical Services Wing, Bridge Management Wing, Planning and Maintenance Wing etc.) to review the consultant’s reports and provide technical guidance as required. RHD will also establish a Project Implementation Unit (PIU) to implement the project. The safeguard specialists will direct report to the PIU.

4. **Detailed Tasks.** For each project roads, the consultant will carry out the following tasks.

   **Task 1. Social Safeguard Documents**
   
   (i) Participate as a member of the technical review panel and review social safeguard related aspects in all reports submitted by the TA consultants and provide feedback to RHD on the reports and guidance to the TA consultants as needed

   (ii) Reconfirm the Involuntary Resettlement (IR) and Indigenous Peoples (IP) categories of the subprojects under the TA loan according to the requirements of ADB SPS. Accordingly ensure that the correct type of assessment (RP, IPP) has been carried out for each subproject

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**Table 1: Project Roads**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Length* (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bhanga-Bhatiapara-Kalna-Lohagara-Narail-Jessore-Benapole Road</td>
<td>135</td>
</tr>
<tr>
<td>2</td>
<td>Rangpur-Banglabandha Road</td>
<td>172</td>
</tr>
<tr>
<td>3</td>
<td>Bonpara-Irshwardi-Pakshy-Kushtia-Jhinaidah Road</td>
<td>105</td>
</tr>
<tr>
<td>4</td>
<td>Khepupara-Paira Port Road</td>
<td>10</td>
</tr>
<tr>
<td>5</td>
<td>Sylhet-Charkhai-Sheola-Sutarkandi Road</td>
<td>46</td>
</tr>
<tr>
<td>6</td>
<td>Chittagong Port Access Road</td>
<td>14</td>
</tr>
<tr>
<td>7</td>
<td>Nabinagar-Paturia Road</td>
<td>58</td>
</tr>
<tr>
<td>8</td>
<td>Paglapir (Rangpur)-Dalia-Borokatha Road</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>600</strong></td>
</tr>
</tbody>
</table>

* The road length is based on an estimation of chainage length. There might be minor discrepancy with the actual road length.
(iii) Review the RF, RPs, PSAs and if relevant IPPs and IPF reports prepared by the TA consultants and provide comments and guidance to the TA consultants to ensure the reports comply with the requirements of the GOB and ADB SPS.

(iv) Conduct at least one site visit per road to verify if the information in the RPs and PSAs is correct after receiving the complete draft report for each road. Include spot check consultations with affected persons in the verification process.

**Task 2. Environmental Safeguard Documents**

(i) Participate as a member of the technical review panel and review environment safeguard related aspects in all reports submitted by the TA consultants and provide feedback to RHD on the reports and guidance to the TA consultants as needed.

(ii) Reconfirm the environmental category of the subprojects under the TA loan according to requirements of DOE and ADB SPS. Accordingly ensure that the correct type of assessment (IEE or EIA) has been carried out for each subproject.

(iii) Review the IEE and or EIA reports prepared by the TA consultants and provide comments and guidance to the TA consultants to ensure the reports comply with requirements of DOE and ADB SPS.

(iv) Conduct at least one site visit per road to verify if the information in the IEE or EIA report is correct after receiving the complete draft report for each road.

**B. Consultant’s Inputs**

5. The assignment will be carried out over a period of twenty four (24) months from the date of commencement by two individual national consultants. It is anticipated that about 7 person-months of input will be required.

<table>
<thead>
<tr>
<th>No.</th>
<th>Title</th>
<th>Relevant Experience and Qualification</th>
<th>Positions</th>
<th>Person-Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCI01</td>
<td>Social/Resettlement/Gender Specialist</td>
<td>Master’s degree or Post graduate degree in Social Science, Anthropology or related fields. Minimum 10 years of experience in preparing social impact assessments, involving resettlement for road projects financed by multi-lateral development banks (World Bank, ADB, JICA etc.) and for approval by the Government of Bangladesh (GOB).</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>NCI02</td>
<td>Environment Specialist</td>
<td>Master’s degree or Post graduate degree in Environmental Science, environmental engineering or related fields Minimum 10 years of experience in preparing environmental assessments for road projects financed by multi-lateral development banks (World Bank, ADB, JICA etc.) and for approval by the Department of Environment (DOE), Ministry of Environment and Forests (MOEF), Government of Bangladesh (GOB)</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Subtotal 2 7

**C. Output and Reporting Requirements**
6. The consultants submit following reports about the activities and outputs.

- Social safeguard review reports (1 review report per report submitted by the TA consultant – RF, RP, PSA and relevant sections of the TA inception report, feasibility study report and detailed design report)
- Environmental safeguard review reports (1 review report per report submitted by the TA consultant – IEE and/or EIA and relevant sections of the TA inception report, feasibility study report and detailed design report)

7. The review report for both social and environment safeguards should include information on (but not be limited to): (i) Scope of the report or section; (ii) observations made, comments provided to the TA consultant and revisions made; (iii) site verification findings where relevant; (iv) conclusions and recommendations including a clear recommendation to RHD whether to accept the report or not.