

*GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH*  
**MINISTRY OF LOCAL GOVERNMENT RURAL DEVELOPMENT AND  
COOPERATIVES**  
*LOCAL GOVERNMENT ENGINEERING DEPARTMENT*

Program for Supporting Rural Bridges (SupRB)

**TERMS OF REFERENCE (TOR)**  
  
**FOR**  
  
**CONSULTANTfor FIELD Level**  
**(Supervision&Monitoring Consultant)**  
**(Package No. SD-23)**

**February 2019**

**Terms of Reference (ToR)**  
**for**  
**CONSULTANT FOR FIELD Level**  
**(Supervision & Monitoring Consultant)**  
  
**(Khulna Division)**

**A. BACKGROUND**

Bangladesh is a densely populated country and more than 70% of the people live in the rural areas. To access different social and economic centers and settlements, an extensive rural roads network has been developed over the period. The total road network size of the country is roughly 375,000 km. This is equivalent to a road density of approximately 250 km per 100 sq. km. The total rural road network comprises just over 350,000 km (94% of the network). Upazila roads (UZRs) and union roads (UNRs) compose of respectively 11% and 12% of the rural road network. Over a quarter (27%) of the rural road network is paved, with 82% and 57% of the UZR and UNRs, respectively, are paved. The current inventory envisages that a bridge is required for every 4.5km of UZR and UNRs. Over four-fifths of these gaps now have structures, leaving a fifth of them to be bridged. But currently, the Government does not have any dedicated bridge construction and maintenance program. Nonetheless, none of the Development Partners are involved in rural bridge maintenance and rehabilitation activities.

Due to a shortage of funds, significant backlog exists in the maintenance of bridges on rural roads. Although the rural road maintenance budget has been steadily increased in the last ten years, it was not sufficient to manage the entire maintenance needs including bridge maintenance. In this context, the Government of Bangladesh has received a loan from the World Bank (WB) toward the cost of the program titled “Program for Supporting Rural Bridges (SupRB)”.

The program will be implemented by the Local Government Engineering Department (LGED) through the Project Director’s Office and contract administration of civil works will be carried out by LGED District/Upazila offices. The program will be implemented in total 61 districts out of 64 districts of the country, except three hill districts at a cost of USD\$614million. World Bank has a commitment to contribute in reducing the maintenance backlog of rural bridges by funding the proposed Program for Supporting Rural Bridges (SupRB).

The program components include: Major and minor maintenance of 85,000 meters of bridges, rehabilitation of 24,000 meters of bridges, Capacity Expansion (widening) of 5000 meters of

rural bridges, replacement or newly construction of 20,000 meters of bridges, technical, fiduciary, procurement, social and environmental capacity improvement of LGED including design and implementation of climate resilient bridges, and establishment and operationalize of Grievance Redress System (GRS).

To support the supervision of implementation activities of the program one firm will be hired.

## **B. OBJECTIVE OF CONSULTING SERVICES**

The objective of the consultancy service under this Terms of Reference (ToR) is to provide technical, socio-environmental and management support to the PMU, the regional level officials, the district level officials and the upazila level officials of LGED to implement the program ensuring compliance with the policies / guidelines of the Government of Bangladesh (GoB) and the International Development Association (IDA). Broadly the objective is summarized below:

- i. Conduct comprehensive supervision of project implementation activities carried out by the contractor(s) to ensure total compliance with the drawings, technical specifications and various stipulations in the contract documents;
- ii. Conduct environment and social screening and prepare related documents following ESMF (Environmental and Social Management Framework);
- iii. Support the PMU/district units/upazila units in project planning, monitoring, reporting and financial management;
- iv. Assist the PMU/district units/upazila units to develop training programs for its staff and other stakeholders in technical and non-technical areas. The functions of these programs are to improve levels of competence and build a more community oriented, gender sensitive, climate change adaptation, road safety and participatory approach to their duties and responsibilities.

## **C. SCOPE OF THE WORK**

In accordance with the Act / Rules & Regulation / Guidelines/ Operational Directives (ODs) / Operational Policies (OPs) of the Government of Bangladesh and the World Bank, the Supervision Consultants shall carry out their tasks with accepted professional standards, utilizing sound international engineering and economic practices. The Consultant shall deliver timely sound and diligent services.

Any monetary loss incurred owing to their sub-standard services will be compensated from the consultant through penalizing as per conditions of the contract. In conducting this work, the Consultants shall cooperate fully with Government officials related to the project. The Consultant will carry out the following main tasks but not necessarily be limited to:

- (i) With due diligence and efficiency supervise fully the construction of the works which are to be executed in accordance with sound technical administration, financial and economic practices. The consultant shall perform all duties associated with such tasks to ensure that only the best construction practice is followed and that the final

product is in all respects equal to that specified, at the most economic costs and is executed in full compliance with the specifications.

- (ii) Check that the contractor follows safe working practices in all operations and immediately draw attention to any instances where this policy is not followed, directing the contractor to carry out all such works deemed necessary in case of emergency/ affecting the safety of personnel, works and adjacent property. Ensure that the minimum impediment is caused to the flow of traffic and that safe acceptable detours are provided and maintained at all times.
- (iii) Organize the supervision of the works contract with proper allocation of responsibilities to individual members of the supervision team and supervise their work in order to ensure that it is effectively executed.
- (iv) Prepare Quality Assurance Plan (QAP) for overall project and structure/scheme specific.
- (v) Establish a systematic construction procedure for different civil works set out in the specification following the GoB/Bank's environmental and social safeguards through demonstrating and conducting on the job training to the contractor and LGED officials. They shall also establish procedures for systematic on-site checking and monitoring of quality and quantities of all work items, including field checks to confirm integrity of survey data and bridge/culvert construction. The quality control works may include performing laboratory and field tests.
- (vi) Ensure that road safety measures are duly performed in accordance with design and specification. Assist client to improve performance and understanding on road safety issues.
- (vii) Conduct social and environmental screening and prepare all project specific Safeguard documents as set out in the Environmental and Social Management Framework (ESMF).
- (viii) Carry out comprehensive environmental analysis taking into account of the direct, indirect, induced and cumulative impacts to identify any major environmental conflicts with the selected schemes. Give adequate weight in the selection and design of schemes considering all environmental and associated regulations and guidelines related to the project governing environmental quality, health and safety, protection of sensitive areas, protection of endangered species, land use control etc. as set out in the Environmental Management Framework (EMF).
- (ix) Submit Quarterly Environmental Monitoring Report (in addition to monthly progress report) mentioning the changes of environmental parameters supported by laboratory tests result as set out in the Environmental Management Framework (EMF). The report shall also quantify and assess the efficacy of the environmental impact mitigation measures and recommendation of the best practices.
- (x) Prepare Variation Order (VOs) in light of contract agreement and recommend for approval, if required. In this case proper attention should have to be paid during design and preparation of BOQ so that the numbers of Variations could be kept minimum. The consultant shall attach a precise technical justification with their recommendation for variation.
- (xi) Check and verify in a regular basis the validity of all insurance/guarantees which the contractor is obliged to have in place.
- (xii) Approve the Contractor's setting out of the Works and preparation for the Works, prior to issuing approval to construct the Works.
- (xiii) Carry out soils and materials investigations in collaboration with LGED as necessary or advisable to minimize overhaul, to optimize the use of available resources, to enhance economy etc. For all soils and materials proposed and used by the Contractor

in the Works conduct all necessary and advisable inspection, sampling, testing and analysis for compliance with the Technical Specifications at source and in the laboratory and approve or reject the use of the soils or materials proposed for or used in the Works. Whenever necessary order removal and substitution of unsatisfactory material and workmanships.

- (xiv) Routinely inspect the Works both under construction and completed, for compliance with the Specifications and the agreed method of working, as a basis for payment. Formally arrange joint inspections with LGED and the Contractor for acceptance and/or identification of defects of the works executed or under construction.
- (xv) Keep and maintain up-to-date detailed Daily Site order book and detailed records (making them available for inspection by LGED when requested to do so) of all contractual correspondence and data; all work stoppages or delays; accidents on Site; official visitors to Site; weather records; all activities in progress at any time on site showing the start and end time and full details of the resources employed per activity.
- (xvi) Keep and maintain detailed records (and make available for inspection) of the Contractor's equipment on Site and its precise date of arrival or removal from Site, its date of manufacture, previous hours worked and condition, the date commissioned to commence work, its availability, and utilization. Establish equipment availability figures for each category of equipment.
- (xvii) Continuously monitor the Contractor's progress against program and his method of working in respect of each and all construction activities and produce a resource analysis against production needs. Advise the Contractor when additional resources or revised methods of working or revised program of the works are deemed to be required.
- (xviii) Review the Contractor's proposed working drawing/plans and associated calculations. Approve or reject the proposals accordingly and identify any changes required.
- (xix) Assist LGED to review and check the Contractor's Payment Applications through verifying the accuracy of the measurement and costing calculations and the sufficiency of the supporting documentation. Also certify the contractor's eligible payments. Advise LGED on whether liquidated damages are due from the Contractor or not. Also help LGED to prepare and issue final completion certificate.
- (xx) Thoroughly review and analyze the Contractor's applications for extensions of time (if required) and provide necessary recommendation along with justifications in the light of the Contract Agreement.
- (xxi) Take digital color progress photographs throughout the duration of the Contract, keep and maintain an official photographic record (available for inspection) of monthly progress at set locations and also of any construction activity of technical or contractual interest at any time. Each photograph is to be captioned with: reference number, time, date, precise location, subject, and points of particular note. All digital negative data should be stored on diskette in a record system, together with copies of the captions.
- (xxii) Submit progress reports, special report (to fully acquaint the client with all aspects likely to affect the Technical and Financial implementation of the project), final reports and records, and other hard outputs regarding construction progress and the status of the Works Contract.
- (xxiii) The consultant shall establish a quality assurance system to ascertain the desired quality standards at all stages of the service. To this end a quality assurance manual needs to be developed at early stages of the service.

## D. REPORTING REQUIREMENTS

The reporting requirement shall be as per below:

- (i) **Inception Report:** The Consultant shall submit and present an **inception report** within one month after signing the contract. The report will include the consultant's proposals on the detailed project implementation arrangements and the planned activities for different components based on the initial assessment. The report will also include a detailed work program and approach towards the assignment. The report needs to be finalized within 15 days after receiving the comments from LGED.
- (ii) **Monthly Report:** The consultant will submit monthly report which must reflect all the activities undertaken during the month of report. Report must contain the target and achievement.
- (iii) **Quarterly Reports:** The consultant shall furnish quarterly progress reports on physical and financial progress and also on implementation progress including achievements and problems faced, if any, and the measures to overcome the constraints. The quarterly reports shall be factual and concise with recommendations for the subsequent quarter.
- (iv) **Annual Reports:** The consultant shall furnish to LGED an annual report covering all activities in the last 12 months. In addition to summarizing key facts and issues presented in the 4 quarterly reports for the reporting period, the annual report should include the Consultant's views on the strengths and weaknesses of the project implementation arrangement and remedial actions to be taken if any.

## E. TIME SCHEDULE

The assignment period about 48(forty eight) month and it is envisaged that Consultants services will commence around July 2019, with project completion in June 2023.

## F. PROFESSIONAL STAFFING INPUTS

All the Consultant's personnel shall be fluent in (i.e. writing, reading and speaking) the contract language, which is English. In addition, all the key staff described herein, shall be computer literate regarding word processing and spread sheets, with at least one staff member must have working computer knowledge with full time accessibility.

The Consultant shall provide competent personnel for the services, who shall be managed by the Team Leader and who will represent the Consultant in performing the services. The team shall comprise the following experts showing Table 1 and 2 but not be limited to:

**Table 1: National Key Experts (To be evaluated)**

Sl. No.	Position	Qualifications & Experience	Number	Person-Month/Position	Total Person-Months
1	Regional Quality	• Minimum Bachelor's degree in Civil Engineering	3	48	192

Sl. No.	Position	Qualifications & Experience	Number	Person-Month/Position	Total Person-Months
	Control Engineer	<ul style="list-style-type: none"> <li>• 12 years professional experience</li> <li>• 10 years' experience in Quality Control/ Quality Assurance of construction work</li> </ul>			
2	Field Resident Engineer	<ul style="list-style-type: none"> <li>• Minimum Bachelor's degree in Civil Engineering</li> <li>• 12 years of professional experience</li> <li>• 10 years' experience in supervising road structure maintenance and construction work;</li> </ul>	10	48	624

#### **G. Position Based Tasks/Responsibility**

1. The position-based tasks specified for each of the positions mentioned in Table 1 above are indicated in the Table 2 below. Consultants should note that the position-based tasks and responsibilities in Table 2 are only indicative and that the consultant needs to propose its own working arrangements based on the overall requirements in the TORs.

**Table 2: Position-based Tasks/Responsibility (Indicative Only)**

Sl.No.	Position	Tasks/Responsibilities
<b>I. Key International Expert</b>		
1.	Regional Quality Control Engineer	<ul style="list-style-type: none"> <li>• Assist the PMU/PIU in implementation of all activities of the program;</li> <li>• Oversee and supervise the work of Field Resident Engineers (FREs);</li> <li>• Conduct Quality Assurance using the QA Assessment tool;</li> <li>• Prepare scheme specific Quality Assurance Plan (QAP);</li> <li>• Monitor the progress and quality control of the construction activities;</li> <li>• Undertake regular field visits to the project districts to review implementation and supervision of the construction works, and contribute to resolving any issues arising;</li> <li>• Assist PMU/PIU and TL/DTL in providing certification of the due quantity and quality of works based on cross checking of on-site approvals by the Field Resident Engineers;</li> <li>• Contribute to the training of LGED staff and contractors on testing and quality control procedures;</li> <li>• Monitor and check on a continuous basis, through regular visits and on-site inspections, the performance of laboratory and on-site testing, and advise on remedial actions as needed;</li> <li>• Assist the PMU and the LGED executive engineers in reviewing and checking site investigations carried out by others;</li> <li>• Advise on the content and organize training courses where necessary for LGED district and Upazila staff and for contractors</li> </ul>

Sl.No.	Position	Tasks/Responsibilities
		<p>on construction methods, on-site supervision and quality control, laboratory testing procedures, environmental requirements and contract management;</p> <ul style="list-style-type: none"> <li>• Contribute to the preparation of monthly, quarterly, annual and midterm report;</li> <li>• Assist with any other duties as may be reasonably assigned by the Project Director.</li> </ul>
2	Field Resident Engineer	<ul style="list-style-type: none"> <li>• Assist in management and contract administration of construction work;</li> <li>• Carry out supervision of all works as per approved method statements;</li> <li>• Oversee and support the engineering survey (Topographical Survey and Sub soil investigation);</li> <li>• Examine Contractor's preparation and the completed position of work as per "request for inspection," and promptly advise the contractor;</li> <li>• Monitor closely and regularly the progress of work and report to the TL/Executive Engineer of districts;</li> <li>• Carry out regular inspection of Contractor's equipment, plant, machinery, installations, housing and medical facilities;</li> <li>• Direct Contractor to carry out works, as may be necessary, to avoid or reduce the task in case of any emergency;</li> <li>• Supervise the Contractor on all matters concerning the safety of works, workmen and environmental aspects and labour welfare.</li> <li>• Witness sampling and testing being carried out by staff of the Contractor to ensure quality;</li> <li>• Monitor and review the test results/ certificates for all construction materials and/or sources of materials, and report to TL;</li> <li>• Examine the requests for advances and monthly statements of contractors and examine interim payment certificates;</li> <li>• Maintain a record of all measurements for the works/quantities to be paid for and payment dates;</li> <li>• Assist TL in preparing reports;</li> <li>• Review "as-built" drawings prepared by the Contractor and maintain record of tests of all data and records;</li> <li>• Maintain a record of all tests carried out for monitoring the quality of works;</li> <li>• Assist the TL/ Executive Engineer of district in planning, coordinating and monitoring of project implementation, including preparation of the annual plans of operations and detailed budgets for all project activities;</li> <li>• Identify project management issues arising from the monitoring of physical and financial progress, and bring these to the attention of the Project Director;</li> <li>• Review detailed engineering designs and bills of quantities for civil works;</li> <li>• Undertake regular field visits to review implementation and supervision of the civil works, and contribute to resolving any issues arising;</li> <li>• Assist the PIU to monitor the progress of land acquisition if any, and the application and effectiveness of environmental mitigation</li> </ul>



Sl.No.	Position	Tasks/Responsibilities
		<p>measures;</p> <ul style="list-style-type: none"> <li>• Contribute to the training of LGED district and upazila staff on project implementation procedures and technical matters;</li> <li>• Contribute to the preparation of quarterly, annual and mid-term reports, and participate in regular co-ordination meetings with project implementation staff; and</li> <li>• Assist with any other duties as may be reasonably assigned by the Project Director;</li> <li>• Review of all relevant project documents including hydrological &amp; morphological study report, topographical survey report, sub-soil investigation report, detailed design and drawings, specifications Quality Control, quality assurance and monitoring aspect etc. and suggest modifications and changes as necessary;</li> <li>• Assist the Project Director in overall project management, contract administration, progress monitoring specially regarding Quality control etc.;</li> <li>• Assist for timely implementation of the project with effective guidance, supervision, and quality control;</li> <li>• Assist for the identification of implementation problems and provide solutions;</li> <li>• Prepare quality control, assurance check list /plan and assist LGED to implement it;</li> <li>• Provide continuing support and on-the -job training to the LGED field level technical staff of concern district to build up their capacities;</li> <li>• Support and oversee the PIOs (Project implementing offices) and the Supervision &amp; Monitoring Engineers (SME) at district level in the quality control of construction works, through frequent site visit of compliance with standards and specifications. Advice to resolve promptly at the field level any problems arising;</li> <li>• Check laboratory test reports, and carry out sample spot checks of the conducted test. Advise the SME and the PIOs on remedial actions where problems are identified;</li> <li>• Provide prompt advice, based on site inspections, when problems are identified with soils or other materials during ongoing construction works;</li> <li>• Report to the Concern Upazila Engineer, Executive Engineer, Project Director on findings and recommendations from all site inspections and checks;</li> <li>• Contribute to the conduct technical training on quality and safety control and testing as appropriate;</li> <li>• Should have to submit overall detail progress report (physical &amp; financial) including related issues to the Project Director fort nightly;</li> <li>• Provide physical layout of important road, bridges as per design and drawing;</li> <li>• Ensure, Quality of construction materials, appropriate methodology of construction works as per, drawing, design and specification according to LGED's Rate schedule and implementation manual (if any);</li> </ul>

Sl.No.	Position	Tasks/Responsibilities
		<ul style="list-style-type: none"> <li>• Supervise works of Supervision &amp; Monitoring consultant working at district level and provide guidance to them as required;</li> <li>• The consultant shall advise the Project Director on contractual matters in settling contractor's claims. He shall attend adjudication and arbitration sittings if necessary along with LGED representative in connection with the settlement of disputes.</li> </ul>

#### **H. Support Staff**

The Supervision consultant will provide minimum level support staff to carry out their tasks and fulfill their responsibilities effectively and efficiently within the stipulated time.

#### **I. Counterpart Support**

- The existing staff of LGED at District and Upazila level will work as the counterpart staff.
- The executing agency (LGED) will provide the consultants with suitable office space, if available, only. LGED will provide project data and reports available with it to the consultant.
- Office furniture, hardware and software, lighting, electricity including consumption bill, air conditioning, communication, transportation and other consumables will be at the cost of the consultant.
- Any non-consumable items purchased under this consultancy package shall be handed over to LGED after completion of the contract.

#### **J. Institutional Arrangement**

Regional Quality Control Engineer will work at regional office and Field Supervision Engineer will work at District level. One of the Regional Quality Control Engineers will work as Team Leader under direct supervision of Regional Superintendent Engineer and Project Director.