



REPUBLIC OF LIBERIA
MINISTRY OF PUBLIC WORKS



Terms of Reference

CONSULTANCY SERVICES TO EXECUTE THE PUBLIC SECTOR INVESTMENT PROGRAM (PSIP) 2018-2019

DESIGN REVIEW, MONITORING AND CONSTRUCTION SUPERVISION OF SELECTED NEIGHBORHOOD ROADS

1.0 PROJECT BACKGROUND

The Ministry of Public Works intends to apply part of its budgetary allocation to payments under the contract for Engineering Supervision for the Public Sector Investment Project (PSIP) divided into three (3) lots.

2.0 OBJECTIVES

2.1 The overall objectives of the consultancy service include: a) Design Review, b) provision of the monitoring supervision during the construction, Defect Liability period (DLP)

2.2 The implementation of the civil works program is to be in 24 months, with Defect Liability period of 12 months.

2.3 The Consultant shall also act as Project Manager on behalf of the Employer to carry out the monitoring supervision of the implementation of civil works contracts, In that function he will **review the detailed design and shop drawings prepared by the CONTRACTOR and recommend minor changes as required, supervise the construction works under Design-Build Methodology and support the Client during the Defect Liability Period.**

2.5 The conceptual design study prepared by the CE is aimed at providing the Employer with adequate data obtained from reliable investigations and studies which

will eliminate any inconsistencies and uncertainties in the preparation of the final design by the Contractor under the proposed Design-Build, (D&B) Methodology.

3.0 SCOPE OF SERVICES

3.1 General: The assignment under the Terms of Reference encompasses, but is not limited to the following:

Monitoring Supervision of the construction of this D&B project, where the detailed designs, based on the adopted conceptual designs, will be prepared by the Contracting Entity (CE), an entity composed of a contractor and a consultant) during implementation of the project. This also includes intermediate attendance during Defects Liability Period.

3.2 The Consultancy assignment involve, in general terms:
Construction Monitoring Supervision Services (MS) based on D&B methodology and intermediate attendance during Defects Liability Period

3.3 Service Delivery Period

Monitoring Supervisions during construction 24.0 calendar months and intermediate support during the DLP of 12.0 calendar months

4.0 Monitoring Supervision Services during Construction period and the Defects Liability Period

4.1. General - Construction Monitoring Supervision

The Consultant shall be appointed by the Client to fill the function of the Project Manager under the Civil Works Contract, in accordance with the General Conditions of the Contract. All works for this project shall be done to AASHTO standards except where otherwise approved by the Consultant with the consent of the Ministry of Public Works. The Consultants services shall include, but not be limited to the following:

Providing timely and orderly required advice to minimize any potential risk to the Employer by verifying the achievements of all contractual requirements under the works contract within the stipulated time and budget

- Assisting the Employer to establish and implement an appropriate regime for managing the works contract and for identifying future developments.
- Development of a Quality Assurance strategy and associated Manual.
- Within **ten (10) days after receipt**, review all designs, investigations and drawings submitted by the Contractor and if recommended, submit them to the Employer for approval.
- Verify that all work and materials conform to the requirements of the contract and that the specified service levels are achieved before recommending the Contractors Periodic applications for payment to the Employer.
- Provide the inspection services during the Defects Liability Period.

- Provide progress reports every month and every quarter in accordance with the MPW guidelines

4.2. The Consultants' duties and responsibilities

Consultant's duties and responsibilities will include, *inter-alia*, (but not be limited to), the following activities:

- 1.0 Check and establish that the CE mobilizes and supplies to the contract all plant, equipment and machinery that has been committed in the tender and ensure that all such items of plant remain on the contract until their release has been authorized) Review the CE's work program, method statements, material sources etc, suggest modifications if any and recommend to Client for approval. Recommend periodic payment certificates prepared by the CE for approval and disbursement.
- 2.0 Make arrangements to check the quality of the materials brought to site, ensure quality of construction consistent with the specifications.
- 3.0 Assist the CE to establish field and laboratory testing procedures
- 4.0 Prepare and issue reports as defined subsequently
- 5.0 Perform proof check on all designs and shop drawings prepared by the CE and recommend for approval by the Client. Similarly check and recommend for approval the setting out of the Works and give instructions to the CE (all survey equipment and assistance by the CE). After review of the Contractor's designs and drawings, forward a complete set of contract drawings stamped "Recommended for approval of the Client for construction" and signed by a Licensed Professional Engineer.
- 6.0 Check measurements made by the CE and maintain the measurement records. 7.0 Maintain all project records, correspondence and diaries.
- 8.0 Recommend accomplished work done in line with service levels in accordance with requirements and their inclusion in interim certificates for progress payments.
- 9.0 At the end of each working season evaluate the performance of the CE and the contract implementation with mention of impediments and suggestion of improvements for appraisal of the Employer.
- 10.0 Provide cash flow requirements for yearly requirements of funds in both local and foreign currency for each fiscal year of disbursement to the CE.
- 11.0 Assist the Client with the maintenance of consolidated project accounts, and with the preparation of financial statements and withdrawal applications for submission to the Ministry of Finance
- 12.0 Recommend completion of all of the Works
- 13.0 Review and give recommendations on all claims; assess claims notified by the CE and potential claims. Advise the Client on the outcome of the review and make recommendations on appropriate actions by the Client.
- 14.0 At the completion of the contract, **prepare** a consolidated project Final Completion Report

- 15.0 Check and ensure that the CE has taken suitable measure with regard to the safety and health care of their workers
- 16.0 Check the CE's accounts, invoices, claims and other statements concerning arithmetical errors and compliance with the contract.
- 17.0 To be responsible for all administration work related to the project supervision requirements including proper conduct, attendance and performance of duties of their staff and ensuring that they properly record all equipment, materials, etc. which have been supplied under the Contract.
- 18.0 Ensure that the CE submits "as-built" drawings together with the Final Completion Report (FCR) for the project road. The FCR will include all the relevant technical and financial details of the project and a section containing specific recommendations for routine maintenance for locations requiring special care and attention. Review the same and submit to the Client with comments and recommendations.
- 19.0 Review and recommend extension of times and give recommendations.

Note: As an integral part of the Services, the Consultant shall establish a Quality Assurance System. The system will be based on a quality management approach and will apply to both the services of the Consultant and to the CE for the construction. Procedures prepared by the Consultant will cover all requisite planning, controlling and documentation processes. Under planning, the objectives, goals, authority, and responsibility relationships of each activity are to be defined and understood. Under controlling, measures will be instituted to ensure the meeting of goals and objectives and the taking of corrective action to avert problems. Documentation will be required to facilitate feedback on how well the quality management system is performing to satisfy the Clients needs and what changes may be necessary.

4.3. Post Construction Contract Services during Defect Liability Period (DLP)

The Consultants shall provide technical assistance to the Client during the Defects Liability Period of 12 months. During this period the Consultant shall, at appropriate intervals, supervise and make sure that the CE has fully completed all works and carried out the agreed measures to correct the identified deficiencies that occurred during the initial contract period or appeared during the defects liability period due to faulty construction. After all remedial works have been satisfactorily completed the Employers Representative shall certify the Defects Liability Certificate for issuance by the Employer. This will also represent the end of the Consultant's services under this assignment.

To avoid any doubt, all components will be partially handed over to the Client for full use of public immediately after issuing Certificate of Substantial Completion of all components (road and intersections). The road and its component will be used by the public at all times and during the construction , but they will be maintained fully by the CE, and ONLY after handing over and issuing the Performance Certificate, the Client will fully take over the road.

The Conceptual Design will fully develop the above conditions and they will be clearly identified in the Bidding Documents.

4.4 Professional Staff for Monitoring Supervision during construction and DLP

Key Personnel to be provided for the assignment, shall include, but not be limited to, the following site staff. However, a Consultant may propose additional professionals, but only those mentioned below will be considered in the evaluation of the consultant's proposal:

Project Manager/ Senior Highway Engineer	24+1p /m
Senior Structural Engineer	6 p/m
Geotechnical Engineer	3 p/ m
Soils –Materials/ Pavement Engineer	12 p/m
Drainage/Hydrology Engineer	6 p/m
Contract Documentation Specialist/Engineer	2 p/m
Environmentalist/Sociologist	3 p/m
TOTAL	57 p/m

4.5. The minimum requirements of the key professional personnel are: -

4.5. 1 Project Manager/ Senior Highway Engineer

The Resident Engineer shall be an academically qualified (BSc) chartered or registered Professional Civil Engineer, with a minimum of 15 years' experience in design and construction of highways, but MS.c is an advantage.

In addition, the Resident Engineer should have a proven ability to manage and administer road and bridge construction contracts of this nature under Design, Build and Transfer modality. Fluency in written and spoken English language is mandatory, whilst excellent communication skills are essential. Experience in handling resettlement issues would be an advantage. He shall also be conversant with Microsoft Office: Word, Excel, Power Point, and Auto-CAD and shall be able to make Power Point presentations.

4.5.2 Senior Structural Engineer

He/she shall be an academically qualified chartered or registered Professional Civil Engineer (BSc) with a minimum of 10 years' experience in the investigation, planning, design and construction of reinforced concrete/pre-stressed concrete highway bridges of which a minimum of 10 years should have been on bridge construction projects of similar nature, preferably in developing countries.

4.5.3 Geotechnical Engineer

He/She shall be an academically qualified Professional Civil Engineer (BSc), with a minimum of 10 years' experience in geotechnical investigation of major bridges besides preparing and reviewing foundation recommendation reports. Masters of Engineering is an advantage. He shall be able to critically review the foundation options of the Contractor and, guide the contractor to the extent required. Fluency in written and spoken English language is mandatory and the ability to communicate is essential. He will be conversant with Microsoft Office, Word and Excel.

4.5.4 Soils, Materials & Pavement Engineer.

He/She shall be an academically qualified Professional Civil Engineer (BSc), with a minimum of 10 years' experience of which at least 3 years as principal of a laboratory conducting routine testing of road construction materials, concrete, asphalt mix and blending soils to control PI values and gradation, soil stabilization ,preparation of asphalt and concrete mix designs and producing statistical test results using mean value and standard deviation in developing and tropical countries. Experience in pavement design and organizing testing along a road and for a reinforced concrete structure is also required. He should be able to comment critically the test results in relation to their acceptability for construction. Fluency in written and spoken English language is mandatory and the ability to communicate is essential. He/She will be conversant with Microsoft Office, Word and Excel.

4.5.5 Drainage/Hydrology Engineer

He/she shall be an academically qualified professional Hydrologist (BSc); with minimum 8 years' experience in estimating details such as minimum unobstructed waterway for the bridge, scour depth for the foundation, negative impact of flow on silting and scouring around the bridge site and suggest remedial measures to avoid them. He/she shall be familiar with the techniques of estimating flood discharge using Standard Engineering Packages He shall also be conversant with Microsoft Office Word/Excel. Fluency in both written and spoken English language and ability to communicate are essential.

4.5.6 Environmentalist/Sociologist

Bachelors degree in environment/sociology or similar, minimum of 5 years' experience in reviewing RAP and environment related documents related to externally funded major Road construction projects in Africa. . He shall be conversant with Microsoft Office

Word/Excel. Fluency in both written and spoken English language and ability to communicate are essential.

4.5.7 Contract Documentation Specialist/Engineer

(S)/he should have academically qualified degree in engineering or law or similar with minimum 10 years’ experience of preparing contract documents for major infrastructure projects. He/she shall have in-depth knowledge and experience on conditions of contract, preparation of civil works bid documents, and bid evaluation including evaluation of post-qualification application. Experience with use of Output and Performance Based Contracts/DBT/FIDIC Silver or Gold book is essential, proven by his/her participation in similar projects.

4.6. Support staff during Supervision.

It is expected that the Consultant will incorporate the cost of engaging technical and administrative support staff in carrying out the duties under the contract.

4.7 Reporting Requirements.

4.7.1. General

The Consultants shall prepare and submit the following reports and documents, in English, in an approved or prescribed format. Six (6) copies of each of the listed reports are to be sent to the Client. (With at least two electronic copies):

Report	Frequency	Due Date
Inception Report	One time	Within 60 days after commencement of supervision services
Quality Management System (QMS)	One time	Within 70 days after commencement of supervision services
Progress Reports (Monthly & Quarterly)	Every month / and Three months	By 10 th of the Month
Special Reports		As and when required
Final Report	One time	Within 60 days of completion of Services
Defects Liability Reports		Three inspection visits within the DLP (after four (4) months, eight (8) months and eleven and a half (11.5) months.)

4.7.2 Inception Report

The Inception Report shall contain the details of all meetings held with Client and the CE and decisions taken thereat, the resources mobilized by the Consultant as well as the CE, and the Consultants' perception of the management of the CE and supervision of the project. The Report shall also include the Master Work Program and Resource Mobilization for the project.

4.7.3 .Progress Reports

The Progress Reports (Monthly and Quarterly) shall contain details of all meetings and decisions taken thereat, mobilization of resources (Consultants' and the CEs'), physical and financial progress, quality control, problems encountered and progress of the works in accordance with the guidelines issued by the MPW.

4.7.4 Final Construction Report

The Consultant will prepare a comprehensive final completion report of the construction contract after completion of the work. The report shall incorporate a summary of the methods of construction, the construction supervision performed, as built construction drawings, problems encountered and solutions undertaken plus recommendations for future projects of similar nature to be undertaken by the Employer. The Consultant shall submit the report within the prescribed time summarizing the following details:

- a. Details of the Personnel including substitution made during the assignment
- b. Details of extension of time granted to the CE
- c. Details of the Quality Management System
- d. Quality observed at the site by the Consultant
- e. Special measures for maintenance suggested by the Consultant

4.7.5 Special Report (s)

Some occurrences may need a special report to clarify the situation. Such instances will include: any design changes found necessary, special delays in project implementation and recommended action.

4.7.6 Defects Liability Report (s)

During the Defects Liability Period (DLP), inspections will be required at selected intervals, possibly after four months, eight months and eleven and a half months. After each inspection a report will be required, this will include an analysis of the condition of the works undertaken, together with recommendations if any remedial actions are required. At the end of the DLP a final report will be prepared summarizing all the findings and recommending

appropriate action, if required. The price quoted for the service shall allow for hiring vehicles, printing, stationary and other incidental expenses.

5.0. Contractual Matters

5.1. Accommodation, equipment's and consumables.

The Consultant will be responsible for all transportation, office accommodation, all office equipment and related consumables.

5.2. Total Estimated Duration of the Assignment.

Construction-----12 months

Defect Liability Period ----- 12 months.

The Ministry of Public Works now invites eligible consultants to indicate their interest in providing the services. Interested consultants must provide information indicating that they are qualified to perform the services (brochures, description of similar assignments, experience in similar conditions, availability of appropriate skills among staff, etc.). Consultants may associate to enhance their qualifications.

A consultant will be selected in accordance with the procedures set out in the Public Procurement and Concessions Commission Act, of the Republic of Liberia.

Interested consultants may obtain further information at the address below from 8:00hrs - to 16:00hrs GMT. Expressions of interest must be delivered to the address below by February 8, 2019 at 11:05 AM

Mailing Address: Ministry of Public Works, Procurement Unit

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