

INDICATIVE TERMS OF REFERENCE FOR CONSULTING SERVICES

CONSTRUCTION SUPERVISION CONSULTANT FOR LOTS 1 AND 2

I. BACKGROUND

❖ The overall project corridor will connect two major CAREC regional corridors by rehabilitating a crucial connector road, part of the North-South Alternate Corridor, a priority in the National Sustainable Development Strategy. It will improve connectivity and mobility in the country and link the economic underprivileged regions with the economic hubs, as well as strengthen road maintenance practices and institutional capacity.

❖ The subject Terms of Reference is for a Construction Supervision Consultant for the following road sections:

Lot	Limits	Chainage		ADT Range	Length km
		Start	End		
Lot 1	Balykchy – Kochkor	0+000	43+000	563	43
Lot 2	Kochkor – Epkin	62+400	89+500	1,498	27.1
	Total Length				70.1

❖ The works and services to be provided under the proposed Contract by the appointed civil works Contractor(s) consist of two major parts:

- **Part A** – Rehabilitation works with an estimated Contract duration of 2 years with a 36-month DNP;
- **Part B** – Performance Based Maintenance [PBM] of the rehabilitated road(s) for an overall Contract period of 5 years. As indicated above, the PBM and DNP periods will commence at the same time and run concurrently for the first three years.

❖ The civil works Contract(s) will be based upon the FIDIC MDB Harmonized General Conditions of Contract, 2010 edition (“the Pink Book”) with modifications in order to accommodate the Performance Based Maintenance (PBM) services, to be provided by the same appointed Contractor(s). The general conditions of this Contract is obtainable from the following location:

<https://www.adb.org/sites/default/files/page/84077/fidic-gcc-construction.pdf>.

❖ The rehabilitation component of the Contract will use a standard ad-measurement approach as described in the FIDIC Pink Book. The PBM component will be based on a series of “lump-sum” payments, based on the approach used by the World Bank for the Output and Performance Based Road Contracts (OPBRC).

II. OBJECTIVE(S) OF THE ASSIGNMENT:

❖ The Consultant, to be designated as the 'Engineer' for the civil works Contract(s) as defined in the FIDIC General Conditions of Contract, will assist the Ministry of Transport and Roads (MOTR) of the Kyrgyz Republic, the Executing Agency (EA) for the Project and the Employer for the civil works Contracts, in reviewing and approving the Contractor's working drawings, supervising the civil rehabilitation works and monitoring the maintenance services for the road section(s). Also ensuring compliance with road safety standards, environmental protection measures, and social safeguards.

III. SCOPE OF SERVICES, TASKS (COMPONENTS) AND EXPECTED DELIVERABLES

Apart from every requirement described below or elsewhere in the TOR and without any limitation to those requirements, the Consultant shall fulfill all obligations set forth for the Engineer in the civil works Contracts (for Lot 1 and Lot 2) that will be signed between the Employer and the Contractor(s).

❖ The specific tasks of the Consultant include the following:

(a) Supervision and Administration – Rehabilitation phase

- (i) Assist the Employer in Contract administration.
- (ii) Interpret the Technical Specifications and Contract Documents.
- (iii) Review designs, drawings, BOQ provisions and specifications with respect to actual site conditions both for permanent and temporary works within 60 calendar days after submission of such documents and suggest modifications, if required or deemed appropriate.
- (iv) Review and ensure conformity of Contractor's securities (bank guarantees) with the civil works Contracts in approved formats and track and ensure validity and enforceability of these securities.
- (v) Review and ensure conformity of Contractor's insurance policies with the civil works Contracts and track and check that the Contractor is maintaining the validity of these insurance policies.
- (vi) Review compliance with the documentation and advance actions requirements, including securing of all statutory clearances and permits as well as handing over of the site.
- (vii) Scrutinize the Contractor's detailed work programme and related logistics, notify the Contractor, giving detailed reasons, if the programme does not comply with the contract, and ensure that the Contractor complies at all times with the approved programme.
- (viii) Check that the construction methods proposed by the Contractor for carrying out the works, are satisfactory.
- (ix) Inspect the Contractor's construction equipment, results of material and soil tests, safety of the works, property and personnel and the schedule of

mitigation measures proposed to prevent adverse environmental impacts. Notify the Contractor to remedy works and materials that fail to comply with the Specifications.

- (x) Confirm the horizontal and vertical alignments for the roads based on reviews of the Contract drawings and the topographic survey carried out by the Contractor. This work will include if required, amending the alignment plan and profile drawings based on the updated topographic surveys.
- (xi) Review and approve finalized or revised 'Issued for Construction' drawings of Contractor and additional detailed drawings, if and as necessary, including drainage (inclusive of drainage scheme through the built-up areas), junctions, road signs and markings, safety measures, marker stones, protection works etc. based on the Contractor's survey and setting out data.
- (xii) Identify with the Contractor and public utility agencies, all utility services (i.e. electricity, telecommunication, and water) if any, within the right-of-way that are to be protected and marked to avoid damage or relocated, as required by the works and monitor the facilities reinstallation plan of gas and water pipelines, telecommunications systems and electricity services to ensure continued public utility services supply during the construction.
- (xiii) Monitor and supervise (a) progress of the Contractors' works vis-à-vis the approved Contract programme and (b) the quality of the Contractors' works vis-à-vis the applicable technical specifications and design details.
- (xiv) Check that 'as-built' drawings are prepared by the Contractors for all works as construction progresses. Review and approve those drawings and maintain records of all test data and results and certify them "as constructed" drawings for each component of the works when furnished by the Contractor.
- (xv) Ensure that road safety design requirements are implemented in accordance with the Contract specifications.
- (xvi) Develop a quality assurance system and a quality control plan for provision of asphalt-concrete pavements for road and reinforced concrete for bridges.
- (xvii) Monitor implementation of community targeted, awareness raising campaign on human trafficking and sexually transmitted diseases, as well as on road safety.
- (xviii) monitor the Contractor's compliance with and performance of required actions regarding HIV/AIDS, human trafficking, and core labor standards in accordance with the Contract documents, such as awareness and education of laborers and workers; and
- (xix) ensure that the Contractor does not recruit child labor in the execution of the civil works Contracts in accordance with the provisions of the Contract agreement;
- (xx) Establish procedures to verify the Contractor's performance and report progress and problems on time including quality control reports, quantity survey records, requests for variation or change orders and the Contractor's claims and invoices.

- (xxi) Conduct weekly Site Meetings (technical matters) and monthly Site Meetings (progress matters) to be attended by representatives of the Employer and the Contractor.
- (xxii) Evaluate any changes proposed (e.g. time, scope and cost) by the Contractor during the course of the Project.
- (xxiii) Review and certify work volume and process interim and final payments of the Contractor. Arrange for timely submission of interim payment certificates and monitor the release of payments.
- (xxiv) Maintain a day-to-day site diary recording all events relevant to the works.
- (xxv) Ensure project financial management procedures are in place and are strictly followed, specifically relating to payments, financial accounting, any requests for time extension and Contractor's claims and invoices.
- (xxvi) Review the price adjustment data and coefficients included in the Contract and check current index prices as submitted by the Contractor. Recommend to the Employer for approval, any price adjustments found to be justified. In case the price adjustment indexes included in the civil works Contract(s) will prove to be unreliable, or will not be available, develop an alternative solution and present it to the Client for approval.
- (xxvii) Develop and implement training programs (including workshops and technical guidelines) for MOTR staff and national Consultants at the project site on project management issues including quality assurance, contract administration, quality control, in-situ and laboratory testing, reporting, monitoring and the implementation of environmental and social safeguards, road maintenance plan and other activities as required.
- (xxviii) Make all necessary test on completion of the rehabilitation works;
- (xxix) Prepare the taking-over procedure, establish the snag list and issue the Taking-Over Certificate;
- (xxx) Monitor the completion of any minor outstanding works noted at completion as well as the treatment of the snag list;
- (xxxi) Notify any defect to the Contractor during the DNP and ensure that they are duly treated;
- (xxxii) Prepare the issue of the Performance certificate;
- (xxxiii) Review the Contractor's final account for the rehabilitation works at the end of the DNP;
- (xxxiv) Make determination on any claims submitted by the Employer or the Engineer.

(b) Supervision and Administration – PBM phase

- (i) The Contractor will be required to maintain roads open to traffic and substantially free of interruptions at all times (except for unforeseen events or extreme weather conditions). The Engineer shall monitor the Contractor's performance in this respect and shall use best efforts to ensure that these requirements are fulfilled throughout the project period.

- (ii) The Engineer shall check that the required Maintenance and Service Levels specified for each road section are being complied with in full through an established system of formal and informal inspections described in the Specifications.
- (iii) In the case of any failure by the Contractor to rectify deviations from the required Maintenance and Service Levels within the permitted time or to the required quality, the Engineer shall determine, in accordance with the provisions of the Specifications, what penalties should be deducted from the relevant monthly payment calculation. Also, to ensure that these penalties are correctly reflected in the Contractor's Interim Payment Certificate (IPC).
- (iv) The Engineer shall review the Contractor's monthly statements and ensure that the certification to the Employer properly reflects payment due, having regard to all penalties and deductions the Engineer considers appropriate and to the levels of service achieved.
- (v) Review the price adjustment data and coefficients included in the Contract and check current index prices as submitted by the Contractor and recommend to the Employer for approval, those price adjustments which are justified. In case the price adjustment indexes included in the civil works Contract(s) will prove to be unreliable, or will not be available, develop an alternative solution and present it to the Client for approval.
- (vi) The Engineer, shall regularly review the roughness of the pavement in each road section. The timing of and intervals between reviews shall be at the discretion of the Engineer and shall be such as to provide adequate confirmation that the surface roughness is in accordance with the Specification requirements or where necessary, determine the appropriate penalties for failure to maintain roughness below the required IRI values.
- (vii) The Engineer shall review any claim for compensation in respect of overloading, after approval of a detailed, comprehensive plan by the Contract for the axle load survey, arrange the collection of data and for its comparison with relevant traffic counts. The Consultant shall recommend to the Employer if the Contractor is entitled to any relief of penalties otherwise due as a result of overloading of third party vehicles having due regard to the provisions contained in the Specifications.
- (viii) The Engineer shall assist with the collection, organization and management of road data collection IRI, visual inspection and the general details of maintenance activities executed. This to include the checking of collected data for accuracy and completeness and analysis of the collected data against the prescribed service level performance measures. This to be

followed by the incorporation of the relevant data into the Employer's Asset Management Database system.

- (ix) The Engineer shall maintain at the project site, orderly files for correspondence, reports of site meetings, product and material submissions, reproductions of original Contract documents including all addenda, variation orders, site instructions, information and drawings issued subsequent to the start of works Contract etc. Also, details of the Consultant's clarifications and interpretations of the Contract documents, progress reports and other related documents.
- (x) Keep a diary or log book, recording the Contractor's activities on the job site including hours worked, weather conditions, data relative to questions of extras to or deductions from Pay Items, list of visiting officials, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures.
- (xi) Ensure that the Contractor maintains records of all details of the work as actually executed with reference to distance along the roads.
- (xii) The Consultant will contribute actively to the learning process of Government staff and the personnel of the Contractor in all aspects of the PBM concept. This constitutes an essential element of the Consultant's assignment and should be complied with through the organization and delivery of formal training sessions and workshops.

Maintenance Verification

❖ The Engineer shall clearly understand that the Contractor is responsible for the maintenance of the road, which must be reviewed, commented upon and approved by the Engineer. Since the liability rests fully with the Contractor, the Engineer may only suggest necessary improvements to meet the specified level of service conditions. The remedy for non-compliance, if the specifications/service levels are not met, will result in the reduction of monthly payments otherwise due to the Contractor.

❖ The following represents typical maintenance checks to be undertaken by the Engineer. If faults or deficiencies are noted, the Engineer must inform the Contractor in writing, as soon as possible.

- Check the quality of materials and works and verify compliance with all requirements of the Specifications through intermittent, random testing and inspection of the maintenance undertaken.
- Check that the road section complies with respective Technical Specifications and/or service levels set out in the Contract.

❖ Reporting during the Maintenance Phase shall require the preparation of monthly progress reports which must contain all the relevant financial and technical details of the Maintenance

undertaken including the revision and confirmation of the Contractor's Invoicing and details of any non-compliance.

❖ These reports should include (but not be limited to) status of achievement of all service levels defined from the road user's point of view, including road usability and road user service and comfort, durability of the road and other elements of road service.

(c) Documentation and Reporting

- (i) Report and update the works implementation schedule, highlight any unforeseen delays and propose corrective measures.
- (ii) Undertake project performance monitoring and evaluation and reporting up to project completion. Collect baseline survey data based on the indicators in the project's design and monitoring framework; and measure the indicators over time during the assignment period. Design a simple MS Excel or similar system for recording the baseline and periodic data.
- (iii) Prepare and submit reports as indicated in Section V (Reporting Requirements) of this TOR.
- (iv) Develop and maintain a storage and retrieval system of records to document information supplied by the field teams, decisions made at meetings, progress on civil works, certified achievements and milestones, financial records, any deviations from or changes to the Contract plans (scope, cost, materials, time), correspondences, site diaries, test data and quality control reports, quantity survey records, as-built drawings, and progress reports.

(d) Environmental Safeguard Supervision. The consultant will:

- (i) when required, due to design changes, unforeseen impacts or any other situation that may warrant update of the impact assessment, update the IEE, EMP or any other environmental safeguard document, detailing impacts, environmental mitigation measures to address each identified impact, and recommend appropriate monitoring requirements;;
- (ii) prepare Corrective Action Plans (CAP) as required and needed;
- (iii) assist MoTR KR/IPIG in implementation by the Contractors of of IEE, EMP, CAP to ensure compliance with environmental safeguards compliance;
- (iv) assist IPIG in supervision of implementation of measures aimed at protecting of archaeological sites and cultural property.
- (v) assess the cost, responsibilities, schedule, location, and monitoring framework associated with the implementation of the mitigation measures and the EMP;
- (vi) assist IPIG in incorporating EMP in bidding documents and bid evaluation;
- (vii) provide guidance and quality assurance in undertaking the environmental monitoring as outlined in the EMP;
- (viii) prepare a section in Project quarterly progress report on environmental safeguard compliance;

- (ix) assist IPIG in compiling semi-annual environmental monitoring reports;
- (x) monitor compliance with environmental mitigation, management plans (EMP and SEMP), CAP, Contractor health and safety plan;
- (xi) conduct consultation with groups to be affected by the project and conduct public awareness meetings as required by the project;
- (xii) support IPIG and Contractor with development of Site-Specific Management Plans (SEMPs) and ensure Contractor complies with the requirements on-site;
- (xiii) undertake the environmental monitoring as outlined in the EMP and SEMP;
- (xiv) prepare all related certificates or other relevant papers or documentation.

(e) Social Development and Resettlement Supervision. The consultant will:

- (i) monitor and report of the land acquisition and resettlement plan (LARP) implementation, including preparation internal monitoring reports on resettlement and social safeguards in English, Russian and, if necessary, in Kyrgyz on monthly, a semi-annual and annual basis for further submission to MOTR, ADB and its disclosure after approval;
- (ii) assist the IPIG in collecting all the needed monitoring data on LARP implementation, including the establishment of LAR database;
- (iii) prepare a Completion Report on LARP implementation in English, Russian and if necessary, in Kyrgyz for review and approval of ADB and MOTR;
- (iv) prepare a section in the Project quarterly progress report on resettlement and social safeguard compliance;
- (v) regularly monitor implementation of the project grievance redress mechanism and inform MOTR and ADB about any project-related issues, requests and complaints registered from the affected persons, local authorities and other stakeholders; assist MOTR in addressing complaints related to the LAR and social safeguards during the project. These works also include development / improvement of existing complaints database (electronic format), which helps to consolidate, track, compare and analyze complaints received by type, gender of the complainant, decisions, status, etc. and relevant reporting thereof.
- (vi) In the event of design changes and/or unforeseen impact of LAR (both permanent and temporary) - to ensure that the necessary impact assessment surveys, consultations, valuation and preparation of LARP/CAP are carried out (as an additional document) and approved by ADB before the implementation; and provide all necessary permits, legal opinions and agreements, as well as compensation to persons affected by the project, prior to the commencement of construction works.
- (vii)
- (viii) support the implementation of the social summary matrix and its implementation progress reporting.

IV. TEAM COMPOSITION & QUALIFICATION REQUIREMENTS FOR THE CONSULTANT'S KEY EXPERTS

❖ **Inputs.** The Employer will select a consulting firm, , to carry out the tasks described in this TOR. The QCBS selection method will be used. The format of the Technical Proposal to be submitted is Full Technical Proposal. The weights given to the Technical (T) and Financial (P) Proposals are: T = 0.9, and P = 0.1. Consulting services require a total of 147 person-months of international experts and 349 person-months of national experts who will be engaged on intermittent basis and will cover a total period of 84 months (24 months of rehabilitation and 60 months of PBM).

No	Experts	No. of Experts	No. of Person-Months Rehabilitation Component	No. of Person-Months PBM Component
1	i. International key			
1.1	Resident Engineer/Team Leader	1	36	
1.2	Pavement and Materials Engineer	1	14	
1.3	Bridge/Structural Engineer	1	14	
1.4	Quality Assurance Engineer	1	14	
1.5	Road Safety Engineer	1	4	
1.6	Contract Specialist	1	6	
1.7	Social Development and Resettlement Specialist	1	10	
1.8	Environment Specialist	1	10	3
1.9	Resident Engineer/Team Leader (PBM)	1		36
	Subtotal		108	39
2	ii. National key			
2.1	Highway Engineer/Deputy Team Leader	2	60	
2.2	Pavement and Materials Engineer	2	36	
2.3	Structural Engineer	1	18	
2.4	Quality Assurance Engineer	1	24	12
2.5	Quantity Surveyor	2	60	
2.6	Road Safety Engineer	1	18	6
2.7	Social and Resettlement Specialist	1	23	1
2.8	Environment Specialist	1	21	10
2.9	Archaeologist	1	6	
2.10	Quantity Engineer	1	18	
2.11	Trainee Resident Engineer (PBM)	1		36
	Subtotal		284	65
3	iii. National non-key			

3.1	Surveyors (technician topographer)	3	72	
3.2	Field Inspectors	4	96	
3.3	Laboratory Technicians	3	72	
3.4	Office staff - Translator	2	48	
3.5	Office Manager/	2	48	
	Subtotal		336	
	Subtotal key experts		392	104
		Total	832	

The abovementioned list is the Client's estimate of the MINIMUM key staff input required for the assignment. If the Consultant considers that additional involvement of the key staff is required, it is free to include such input in its proposal. If no additional input will be included in the proposal, it will be deemed that the Consultant is satisfied with the minimum input for key staff provided above and takes full responsibility to fulfil all obligations as set out in the TOR with the indicated inputs.

Apart from the Key Staff listed above, the Consultant is fully responsible to determine and provide (in its proposal) any and all additional experts (as Non-key staff) that might be necessary for proper implementation of the duties prescribed by the current TOR.

❖ **Requirements for Key International Staff.** Staff should have expertise, knowledge and skills as described below.

1. Resident Engineer/Team Leader

The Team Leader must have expertise in all aspects of road design and construction supervision with experience in leading a team of multi-discipline experts. Team Leader must be a certified graduate civil engineer. The team leader will have overall responsibility for implementing the project and managing the team of consultants with expertise in bridge and road engineering, cost estimation and Contract documentation, geology, traffic engineering, road safety, social development, environment, and construction supervision. He/she should be a senior engineer with preferably 15 years of relevant experience covering road design and construction projects He should have good communication and reporting skills.

2. Pavement / Materials Engineer

The Pavement / Materials Engineer should be a senior engineer with university degree in the field of road construction, or higher with preferably 10 years of relevant experiences in pavement design and works supervision of road projects with extensive knowledge in materials of roads and pavement and materials investigations. He/she should be familiar with international pavement design guidelines and state-of-the art pavement construction technologies. He/she should be familiar with the preparation of Contract Specifications for materials and testing.

3. Bridge/Structural Engineer

The Bridge/Structural Engineer should have a civil engineering degree with preferably 15 years of work experience including preferably 7 years in structural engineering, design and supervision of Construction of bridges, culverts and other structures. The Bridge/Structural Engineer should possess knowledge and skills in bridge and structural engineering, seismic retrofitting, bridge

loading tests, investigations of bridge failures, bridge design review, and bridge assessment and maintenance. Shall have experience in similar geographic areas, and is proficient in both written and spoken English.

4. Quality Assurance Engineer

The international Quality Assurance Engineer should have a civil engineering degree or related field with preferably 15 years of work experience including preferably 7 years in quality assurances and quality control in construction works, and road construction materials testing. The Quality Assurance Engineer should possess knowledge and skills in supervision of works, and laboratory and in-situ testing. He/she should have experience in similar geographic areas, and is proficient in both written and spoken English. Knowledge of local languages is an advantage, but not required.

5. Road Safety Engineer

The international Road Safety Engineer should have a bachelor's degree in road safety or traffic organization or road construction field with preferably 10 years of work experience including 5 years in implementing and monitoring road safety in road construction projects. The Road Safety Engineer should have knowledge and skills in road safety aspects in design, road safety standards, preparing a road safety and traffic management plan in road construction sites, and development of road safety campaigns. Shall have experience in similar geographic areas, and is proficient in both written and spoken English. Knowledge of local languages is an advantage, but not required.

6. Contracts Specialist

The Contract Specialist should have university degree, preferably 5 years' experience in the preparation of Contract Documents and claim management on major road or infrastructure projects using FIDIC. He/she should be familiar with ADB standard bidding documents and procurement guidelines. The Contracts Specialist shall possess knowledge and skills in Contractor's claims management, resolution of disputes, arbitration proceedings in any project involving FIDIC general conditions, and application of price adjustment provisions. Shall have experience in similar geographic areas, and is proficient in both written and spoken English.

7. Social Development / Resettlement Specialist

The Specialist should have a master's degree in social science with preferably 10 years of work experiences. Up-to-date knowledge of ADB's safeguards policies and procedures, particularly on social impact assessment, poverty assessment, core labour standards, land acquisition, and resettlement, and its implementation are required. Experiences in ADB funded projects or projects funded by multilateral agencies in the transport sector will be preferable. The specialist shall also have experience in working in multidisciplinary teams with good communication skill.

8. Environmental Specialist

The Environmental Specialist should have university degree in this field and preferably 10 years' experience and familiarity with all aspects of environmental assessment and management and with significant experience in environmental management, auditing, and monitoring of projects, environmental assessment and/or implementation of environmental mitigation measures on construction projects. The Environmental Specialist shall also have experience in working in teams of multi-discipline experts.

9. Resident Engineer / Team Leader [PBM]

The PBM RE/Team Leader should have university degree in the construction of highways or civil engineering and preferably 10 years of experience in management of OPRC (Output and Performance Based Road Contracts) including road rehabilitation and maintenance. In addition, the TL shall have experience in Supervision of Performance Based Maintenance Road Contracts. Other experience in road maintenance and general Road Asset Management will be an advantage as will training of support staff. Fluency in the English language is required.

❖ **Requirements for Key National Staff.** The key national staff should have expertise, knowledge and skills as described below.

1. Highway Engineer/Deputy Team Leader

The Highway/ Engineer deputy Team Leader must be a certified road engineer with a university degree and have 15 years of experience in road construction projects, including at least 7 years of experience in the design and implementation of road construction supervision, funded by international donors. The Deputy Team Leader will have responsibility for implementing the project and managing the team of consultants in support of the international Resident Engineers. He should have good communication and reporting skills.

2. Pavement / Materials Engineer

The Pavement / Materials Engineer should be a senior engineer with university degree in the field of road construction, or higher with preferably 10 years of relevant experiences in pavement design and works supervision of road projects with extensive knowledge of local materials for road construction. He/she should be familiar with international pavement design guidelines and pavement construction technologies and in the interpretation of Technical Specifications for materials and testing.

3. Structural Engineer

The National Structural Engineer should have a university degree in civil engineering or related fields and must have with preferably 15 years of work experience including 7 years field

supervision of the construction of bridges and culverts. The engineer should possess skills in general bridge and structural engineering including design review and maintenance techniques.

4. Quality Assurance Engineer

The national QA Engineer should have a degree in civil engineering or a related field with preferably 15 years of work experience including preferably 7 years in quality assurance / quality control for highway and bridge construction works and materials testing. The Quality Assurance Engineer should possess extensive knowledge of laboratory and in-situ testing.

5. Quantity Surveyor

The national QS must have a degree in civil engineering or a related field and preferably 8 years of work experience as a quantity surveyor on highway projects. He must have experience in topographic equipment, knowledge of the principles of their work and operating rules.

6. Road Safety Engineer

The national Road Safety Engineer should have a bachelor degree in road safety or traffic organization or road construction field and preferably 10 years of work experience in monitoring road safety in road construction projects. The Road Safety Engineer should have knowledge and skills in road safety aspects in design, road safety standards, preparing a road safety and traffic management plans for road construction sites and the development of road safety campaigns.

7. Social Development / Resettlement Specialist

National Social Development / Resettlement Specialist shall have a university degree in the social sector or in related social sciences.

- General experience in the relevant field (at least 7 years).
- Specific experience (at least 3 years) in international organizations as a Social sector specialist, Sociologist and / or Resettlement specialist, as well as in organizations funded by international donors;
- Experience in conducting social surveys, resettlement and monitoring activities, availability of scientific publications will be an advantage;
- Preference will be given to specialists with experience in LARP implementation and its monitoring.

8. Environmental Specialist

This Specialist should have university degree in this field and preferably 10 years' experience and familiarity with all aspects of environmental impact assessment and environmental management procedures and the implementation of environmental management plans, auditing and monitoring for major construction projects. The Specialist shall also have experience in working in teams of multi-disciplinary experts.

9. Archaeologist

The Specialist shall be a fully qualified Archaeologist with field experience and knowledge of the archaeological and cultural heritage in Central Asia and the Kyrgyz Republic in particular.

The successful candidate should have:

- Degree in archeology;
- Knowledge of archaeological resources of the Kyrgyz Republic;
- understanding of the process used to evaluate such resources;
- Demonstrated experience with impact assessment and protection of resources associated with major construction works.

10. Quantity Engineer

The Quantity Surveyor shall assist the Client in (i) checking Bill of Quantities against Technical Specifications provided by MOTR, and recommend changes if necessary; (ii) monitoring and measuring the quantity of materials and workers at the construction site in order to minimize the amount of material used, and ensure that construction costs remain within the budget; (iii) verification of interim and final payment certificates of contractors, and verification of the Bill of Quantities against the measurements; (iv) preparing Requests for Variation as necessary; (v) preparing and maintaining quantity accounting books and lists with the latest information on materials and works; (vi) audit and management of monthly financial statements; (vii) preparation of payment schedules and maintaining work schedules and cash flows, and (viii) maintaining current as-built drawings as work progresses.

Qualification

Quantity Surveyor shall have a university degree in civil engineering with at least 7 years of experience in determining and surveying quantities of works in road construction projects. Experience in similar international projects is an advantage.

11. Trainee Resident Engineer [PBM]

The Trainee RE [PBM] shall have university degree in the construction of highways or civil engineering and should have 5 years of experience in the management of road rehabilitation with preferably experience in maintenance and operation of roads. Experience with Road Asset Management systems will be considered as an advantage. Resident Engineer shall be familiar with local legislation and state standards for road maintenance.

V. REPORTING REQUIREMENTS AND TIME SCHEDULE FOR DELIVERABLES

❖ The Consultant shall prepare the following reports in English and Russian and distribute them in the number of copies indicated below to MOTR and ADB. The format and content of each report is to be agreed with MOTR and ADB. For each report submitted an electronic copy will be provided. Standard software shall be used for preparation of the reports.

- (i) (i) Inception report (IR) – shall be submitted within 1 month from the date of signing the contract. IR shall: (I) define the goals and objectives for the services to be provided; (II) state the detailed work program of the project; (III) identify potential problems to address and possible solutions; (IV) identify the staff, employees in the office and other organizations of the Client, and specify their obligations; (V) include analysis of stakeholders involved in the project implementation process; (VI) include an overview of the current project implementation status.
- (ii) (ii) Traffic management and traffic safety plan – shall be submitted within 2 months after the project start,
- (iii) (iii) Supervision and Quality Assurance Manual – shall be submitted within 3 months after the project start. The Manual shall contain a detailed description of the software

system to be implemented, as well as a quality control process to be performed while monitoring the acceptability of works performed.

- (iv) (iv) Monthly progress reports – shall be submitted by the 10th of each subsequent month (The Client needs this report for monthly progress monitoring);
- (v) (v) Quarterly progress reports – shall be submitted by the 15th of each subsequent quarter, and show compliance with safeguard measures (Description of project activities during the current quarter with a summary of payments describing (ii) implementation progress for each component and subcomponent during the corresponding quarter; (iii) problems and delays encountered during project implementation, and proposed measures, and (iv) description of the activities for the next quarter. Such a report shall also contain indicators and targets set in the Project Design and Monitoring Framework);
- (vi) (vi) Semi-annual social monitoring reports (social aspects, land acquisition and resettlement) – shall be submitted within one month after each reporting period, throughout the project implementation period,
- (vii) (vii) Semi-annual environmental monitoring reports, throughout the project implementation period, within one month after each reporting period,
- (viii) (viii) Annual Project Performance Monitoring Report includes project indicators and achievements. Shall be submitted throughout the project implementation period, within one month after each reporting period.
- (ix) (ix) LARP Completion Report shall be submitted within 15 days after completion of LARP implementation,
- (x) (x) Reports on road safety audits at the commencement of construction and receipt of traffic management schemes. Report shall be submitted at the end of the project;
- (xi) (xi) LARP Implementation Report in English and Russian for review and endorsement/approval by ADB and MOTR KR.
- (xii)(xii) The content of the Project Completion Report shall follow the list provided in the Project Administration Manual, and shall be submitted within 2 months after physical Project completion.

Taking any action under a civil works Contract designating the Consultant as “Engineer”, for which action, pursuant to such civil works Contract, the written approval of the Client as “Employer” is required.

VI. **CLIENT’S INPUT**

The Client will arrange to provide the following items for the Consultant’s use through the Civil Works Contract[s] to be awarded to the Contractor in accordance with the Technical Specifications contained therein:

- Site office with furniture, equipment and consumables;
 - Site laboratory with furniture, equipment and consumables;
 - Living accommodation with furniture and consumables;
- The Engineer's Staff Accommodation, Type II – 4 no.

The accommodation shall consist of 2 bedrooms and a dining/sitting room, kitchen, store, bathroom, and separate toilet. The kitchen shall be furnished with benches having drawers, fixed shelves and a sink. The bedroom shall be provided with airing cupboards having shelves and lockers, all to the satisfaction of the Engineer.

The accommodations shall be supplied with constant running water and electricity. The accommodation shall be equipped with water heaters providing a constant flow of hot water to kitchen and bathroom.

The Contractor shall provide and install reverse cycle air conditioning units, electrical heaters and water heaters in the laboratory building as directed. The air conditioning units and electrical heaters, in combination with building insulation, shall be such as to enable the maintenance of a constant internal temperature of 20 °C in the accommodations throughout the year. The Contractor shall be responsible for cleaning and maintaining the accommodation on daily basis.

The Contractor shall provide a telephone connected to an international telephone line. All expenses in connection with the installation and maintenance of the telephone shall be included in the relevant tendered rates.

A lockable garage shall be provided adjacent to the house.

- Survey equipment;
- Vehicles of Types 2, 3 and 4 with drivers, fuel and repair/maintenance services.
 - Type 2 – 2 units. Not less than 2.5 litre-engine, 6 cylinders, 5 door, long wheel base, 4 wheel drive passenger vehicle, Mitsubishi Pajero, Toyota Prado, Nissan Terrano or similar approved.
 - Type 3 – 4 units. Not less than 2.5 litres, 4-6 cylinders, double cabin pick-up with 4 wheel drive, Toyota Hi-Lux, Nissan Navara or similar approved.
 - Type 4 – 6 units Not less than 1.6 litres, 4 cylinders, 3-5 door, 4 wheel drive, passenger vehicle. Lada Niva or similar approved.

VII. EQUIPMENT TO BE PROVIDED BY THE CONSULTANT AND HANDED OVER TO THE CLIENT AT THE END OF THE ASSIGNMENT

- ❖ Class 1 Laser Roughness Measurement equipment (IRI);