

## **SECTION 7**

### **TERMS OF REFERENCE**

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## 1. INTRODUCTION

Public Company Roads of Federation of Bosnia and Herzegovina (PC Roads FBH) has launched the Programme “Modernisation of main roads in the FBH” in order to assure adequate road infrastructure by 2020. In the framework of the above mentioned umbrella Program, PC Roads FBH has initiated the FBH Road Sector Modernization Project (Project) and loans from the European Investment Bank (EIB) and from the World Bank (WB) for funding the Project has been obtained. This assignment focuses on the following Road Upgrade and Rehabilitation and Road Safety Interventions within the Project: (i) construction of third lanes for slow traffic on nine selected road sections; (ii) reconstruction/rehabilitation of four selected road sections with partial axis correction; (iii) rehabilitation of three selected tunnels; and (iv) rehabilitation of seven selected bridges;(v) reconstruction of eight black spots and dangerous places.

## 2. DESCRIPTION OF CIVIL WORKS AND CONSULTING SERVICES

The Services will be enforced in the following

<i>Item:</i>	<b>Road No:</b>	<b>NAME</b>	<b>ESTIMATED DURATION (MONTHS)</b>	<b>PLANED IMPLEMENTATION PERIOD</b>
1	M17	Topčić polje - Lašva (Vranduk II) Improvements to Tunnel	12	2017
2	M17	Improvements to Bridge over Bosna River, Bosna IV		
3	M18	Improvements to Bridge over Ljubina River	6	2017
4	M5	Improvements to Bridge over Sana River, Ključ		
5	M5	Improvements to Bridge over Pliva River, Jajce		
6	M5	Improvements to Bridge Komar, across deep obstacle		
7	M16.4	Improvements to Bridge over Vrbas River, Bugojno	4	2017
8	M4.2	Skokovi - Srbljani "Mala Lisa" km 11+230 Black Spots		
9	M5	Granica BiH/RH (Izačić) - Bihać roundabout Kamenica R403a Black Spots		
10	M17	Improvements to Bridge over Bregava River, Tasovčići	6	2017
11	M17	Tarčin - Konjic km 16+800 - km 17+600 Black Spots		
12	M17	Mostar centar - Gnojnice south Mostar km 1+640 Black Spots		
13	M17	Tasovčići - Čapljina roundabout M6 and M17 km 0+000 Black Spots		
14	M20	Ustikolina – Goražde 8 Roundabout Vitkovići Road Pavement and axis corrections	6	2017
15	M5	Jajce jug – Donji Vakuf 1 Road Pavement and axis corrections	12	2017/2018
16	M 5	Ripač - Dubovsko Construction Slow Lane		
17	M 5	Bos. Petrovac - Ključ - Prevoj Lanište Construction Slow Lane		
18	M 5	Donji Vakuf - Turbe (Komar) Construction Slow Lane		
19	M 6.1	Posušje - Grude - Široki Brijeg Construction Slow Lane		
20	M19.2	Vitalj – Vlasenica (Gran.entiteta) Road Pavement and axis	6	2017

		corrections		
21	M18	Vitalj - Olovo "Nula" km 20+600 Black Spots		
22	M1.8	Pelagićevo - Srebrenik (Ormanica) Improvements to Tunnel	6	2017/2018
23	M18	Šićki Brod 3 - Živinice 1 km 2+500 roundabout "Husino" Black Spots		2017
24	M15	Borova Glava + Trivunove krivine L=2,3+2,4+1,6km L=1,0km Construction Slow Lines	8	2017/2018
25	M17	Konjic - Jablanica 1 (Crnaja) Improvements to Tunnel	12	2017/2019
26	M5	Kobiljača Construction Slow Lines	8	2018/2019
27	M17	Potoci - Mostar centar, nort Mostar km 7+800 Black Spots	3	2018
28	M5	Bihać 4 - Ripač Road Pavement and axis corrections	3	2018
29	M 14.2	Bosanski Petrovac - Drvar Construction Slow Lane	6	2019/2020
30	M 14.2	Drvar - Resanovci Construction Slow Lane		
31	M 18	Banj Brdo - Simin Han Construction Slow Lane	8	2019/2020

### 3. OBJECTIVES OF THE CONSULTING SERVICES

The objective of the consultancy services is to ensure that high quality construction and environmental and social protection is achieved and that all works are carried out in full compliance with the engineering design, environmental protection and social safeguards, technical specifications described in the civil works contracts and that all efforts are deployed by the contractors to manage the construction within the agreed time and price.

The service comprises, but are not limited to:

- Supervision of the quality, quantity and technology of the executed works
- approval the materials, equipment and workmanship;
- Environmental and Social Monitoring: Environmental and Social Management Framework (ESMF) has been prepared in 2016 and the site –specific Environmental and Social Management Plan (ESMP) will be prepared for each of the sections above listed;
- supervision of implementation of the RPF and site specific RAPs ;
- supervision that expropriation/resettlements are done in compliance with national legislation and OP 4.12. In case of discrepancy, the consultant should suggest corrective actions to be implemented by the implementation agency
- proper accounting and recording the progress of the Works;
- controlling that civil works are planned orderly and completed on schedule;
- technical assistance during civil works execution on the quality of works
- preparation and submission of the mandatory reporting and
- other activities as recommended in Guidelines for Road Design, Construction, Maintenance and Supervision /Sarajevo 2005/Volume II , III and IV ([www.jpcebih.ba](http://www.jpcebih.ba)).

### 4. CONSTRUCTION SUPERVISION

#### **4.1 RESPONSIBILITIES**

##### **4.1.1. General**

The Consultant shall exercise all reasonable care to protect the interests of JP Ceste FBIH, to ensure the timely supervision and control of the Works and to avoid any occurrence of disorder of construction during the Works.

#### **4.1.2. Presence of Key Personnel**

To guarantee a timely implementation of the Works and efficient use of financial resources, the Consultant shall maintain a presence of its Key Experts on the site of the Works.

#### **Working hours for supervising team:**

During the supervision of the works the Consultant should be aware that the Contractor may elect to carry out works outside the statutory working hours. Accordingly the Consultant shall plan for this eventuality and shall include any overtime costs within its rates.

During the supervision the Consultant shall have appropriate personnel present on the site six days a week except Tunnel Supervision Engineers and, in any case, at any time when the ongoing nominated contractor for civil work is working.

#### **Specification of Leave and Working Regulations**

The Personnel shall be entitled to all the statutory holidays in Bosnia and Herzegovina, which time shall be considered as time working for the Services.

The Personnel assigned for 12 consecutive months or more in Bosnia and Herzegovina shall be guaranteed 28 calendar days leave annually, at times to be approved by JP Ceste FBIH.

The Personnel shall be guaranteed a maximum cumulative 3 days sick leave (or 7 days in case of hospitalisation) for each full year of continuous service in Bosnia and Herzegovina. This sick leave shall be considered as time worked for the Services.

#### **4.1.3. Laws**

The Consultant shall perform the Services in accordance with the laws and any other instruments having force of law in Bosnia and Herzegovina as may be issued and in force from time to time. The Consultant must familiarize itself with the activities of the State Inspectorate of Quality in Construction and must accommodate this activity during the supervision of the works.

#### **4.1.4. Responsibility of Personnel**

The Consultant shall be responsible for both its personnel and the personnel provided by its sub-consultant, if any.

#### **4.1.5. Progress of Works**

The Consultant shall be required to closely monitor the progress of the works and to provide extensive reports on the matter. The Contractors, in accordance with the tender documents, shall submit programmes of work using an internationally recognized software program for planning such as Microsoft Project or Primavera. A suitable specification shall be devised by the Consultant. The Consultant's supervision team shall be conversant with this software and shall review all contractors' submittals and shall check and verify all logic and resource links within the contractors' programmes.

The Consultant will not be held responsible if the works are not progressing satisfactorily for reasons that are beyond his control, provided that when such event is recorded discussions are quickly convened with the Contractor and the Employer to find a remedy to the delay and an order is given to the Contractor to take the necessary steps to meet the completion date set forth in the Contract.

Progress of works will be recorded monthly and notified to the Employer through monthly progress reports. In the event progress has slipped in a given month below the rate shown in the original program of works, the Consultant shall prepare a special report showing the reasons for the slippage and shall advise on the ways to remedy.

If slippage has reached such a magnitude that, in the opinion of the Consultant, it becomes clear that construction time will extend beyond the original completion date, then the discussions referred above between the parties - Employer, the Engineer and the Contractor - will be held on the initiative of the Engineer.

The Consultant shall further write the minutes of the meeting(s), which shall be signed by the three parties. The minutes shall report on the actions to be taken by the three parties and shall be signed by the same. Thereafter, the Consultant will check that the actions to be taken by the three parties are implemented.

If the Consultant does not comply with their obligations under this Article an amount will be withheld from their periodic invoice as specified in Clause 3.8 of the Special Conditions of Contract, Section 6 of the present tender dossier.

Further to any joint meeting referred to above, if it is determined that any delay to works is due to the Consultant not meeting the terms set in the Contract for taking action then, the Consultant will incur a penalty as specified in Clause 3.8 of the Special Conditions of Contract, Section 6 of the present tender dossier.

Delays on the part of the Consultant to certify Contractors' interim invoices within the time specified in the Conditions of Contract will lead to the Consultant being penalized under Clause 3.8 of the Special Conditions of Contract.

#### **4.1.6. Authority of Supervisor**

The Consultant will seek the prior approval of JP Ceste FBiH before:

- (a) issuing a variation, except if such variation is up to an amount of BAM 10.000 and cumulatively cannot exceed 0.5% of the Contract Price at tender rates;
- (b) approving the subletting of any part of the Works;
- (c) approving any extension of the Time for Completion;
- (d) granting any claims for any additional cost including any costs associated with an extension of the Time for Completion;
- (e) determining any new rates or prices in respect of variations;
- (f) issuing Taking over Certificate of any section or part of the Works; and
- (g) suspending the Works.

Failure to comply with the above will result in a penalty being imposed on the Consultant as specified in Clause 3.8 of the Special Conditions of Contract, Section 6 of the present tender dossier

#### **4.2 BASIC REQUIREMENTS FOR SUPERVISION TEAM-**

The Consultant shall assign at least the following team of Key Experts and Supporting Expert:

- 1 (one) Engineer – Coordinator; (minimum 15 years experience)
- 2 (two) Supervision Road Engineer; (minimum 10 years experience)
- 2 (two) Supervision Bridge Engineer (minimum 10 years experience)

Support team experts:

- 1 (one) Quality Assurance Engineer (minimum 10 years experience)
- 1 (one) Engineer for Electrical Works (minimum 10 years experience)
- 1 (one) Engineer for Mechanical works (minimum 10 years experience)
- 1 (one) Environmental specialist,
- 1 (one) Social Specialist
- 1 (one) Claim expert (minimum 10 years experience).
- 1 (one) Geologist / Geotechnician,
- 1 (one) Surveyor, and

Providing that the basic minimum staff requirements, as specified above, are met the Consultant is free to propose the supervision structure that they deem best fits the project requirements set up in the table given below.

<b>Team Composition</b>	<b>Person-months</b>
<b>Key Experts</b>	
Engineer – Coordinator	50
Supervision Road Engineer (Chartered under the BiH law “expert exam”)	2x40
Supervision Bridge Engineer (Chartered under the BiH law “expert exam”)	2x15
<b>Support Team of Experts:</b>	
Quality Assurance Engineer	24 months part time
Engineer for Mechanical works	4 months part time
Engineer for Electrical works	4 months part time
Environmental Specialist	12 months part time
Social Specialist	12 months part time
Geologist / Geotechnician	12 months part time
Surveyor	12 months part time
Claim expert	6 months part time

Engineer- Coordinator must be present full time on the work contract.

Supervision Bridge and Road Engineer will have to be present in time during execution of works on the bridge, tunnel, road section or other works given to them by Engineer – Coordinator.

The supporting staff will have to be present according to the plan and order of Engineer – Coordinator.

The Consultant shall ensure that his proposed team is duly qualified and able to supervise and inspect all aspects of the construction work and is competent to carry out the tasks assigned in accordance with the scope of the contract.

### **4.3 SERVICES TO BE PROVIDED BY THE CONSULTANT**

The Services to be provided by the Consultant shall address, inter alia:

- (1) pre-construction activities
- (2) supervision of RAP implementation (i.e. Client's compliance with applicable World Bank safeguards) ;
- (3) ensure that proper social safeguards is upheld;
- (4) administration of the civil work contract;
- (5) approval of contractors' materials, construction techniques and programmes of works;
- (6) direct supervision of the works and monitoring of progress including supervision of ESMP implementation;
- (7) technical assistance during works execution
- (8) preparation of mandatory reporting and assisting the Client on preparing supervision and other reports to be presented to World Bank and European Investment Bank.

#### **4.3.1. Pre-construction activities**

- (a) reviewing the detailed design and other civil works contract documents for each civil works contract and commenting of any issues, mistakes or improvements(technical designs, traffic management during construction, legal, contractual, administrative, coordination or otherwise) that in the opinion of the Consultant, needs to be addressed to secure a successful completion of the civil works contract
- (b) approval of contractors' insurance policies as required by the Conditions of Contract;
- (b) approval, when satisfactory, the Contractors' Quality Assurance Plan;
- (c) approval of mobilization of plant to the site;
- (c) before the start of the works and during the works, facilitate any communication and attend any meeting between contractors and the owners of facilities (water, telephone, electricity, gas) sharing the road right-of-way; in particular, give advice on proposed modifications by the owners of facilities;
- (d) ensure that all relevant environmental and social management plans and activities are established to ensure proper implementation of the ESMP;
- (e) ensure that relevant Resettlement Action Plans and activities are established prior to initiation of civil works. Since RAP is being implemented gradually, ensure that all compensations have been made (either to person or reserved on escrow) before land take and initiation of civil works. Report on level of compensation achieved for all section about to start with civil works;



- (g) ensure that traffic operational safety is met before commencing the works and issue any work plan or drawing in that respect;
- (g) check correctness of co-ordinates and levels of all survey reference markers provided by the Project Designer and require the contractor to make an independent check;
- (h) approval the sources of materials proposed to be used by the Contractor.

#### **4.3.2. Administration of the civil works contracts**

The responsibility of the Consultant shall be for, but not limited to, the following tasks:

- (a) financial management of the civil work contract. Based on (i) contractor's programme of works and cash-flow predictions which should be revised at required time intervals and, (ii) upon his own judgment, the Consultant shall prepare monthly disbursement tables showing the status of previous disbursements and a tentative prediction of future disbursements on a monthly basis. The said tables shall be submitted before the 10th day of each month to the Employer.  
If the Consultant does not meet their obligations under the present subparagraph 5.3(3) (a) they will incur a withdrawal from their periodic invoice of an amount as specified in Clause 3.8 of the Special Conditions of Contract, Section 6 of the present tender dossier.
- (b) continuous follow-up of the contractors' work programmes and monitoring cash-flow in relation to the planned schedules;
- (c) alert immediately the Client if any change occurs in the progress of disbursements;
- (d) day-to-day measurement and recording of quantities of works carried out by contractors;
- (e) daily recording of work site events in a work site logbook;
- (f) Recapitulation of quantities of work carried out monthly for each contractual item of work;
- (g) monthly comparison of actual progress against progress as scheduled;
- (h) monthly controlling "as-built" drawings
- (i) establishment of Interim and Final Payment Certificates.

The required formats to carry out these tasks shall be prepared by the Consultant and submitted to the approval of the Employer.

#### **4.3.3. Approval of Contractor's programmes, construction techniques and materials**

The responsibility of the Consultant shall be for, but not limited to, the following tasks:

- (a) approval of contractors' site installation;
- (b) approval of equipment temporarily imported by contractors;
- (c) approval of proposed sub-contractors with the prior agreement of the Employer;
- (d) approval of Contractor's proposal for traffic management and safety at work sites for his equipment;

- (e) approval of Contractor's proposal for traffic operational safety for road users;
- (f) approval of work programme based on proposed resources, and the updated programme;
- (g) approval of quantities and calculations established by Contractor;
- (h) approval of corrections/modifications of geometric survey, if required;
- (i) approval of earthmoving scheme for earthworks;
- (j) approval of procedures for construction of drainage works;
- (k) approval of proposed sources of materials;
- (l) approval of construction techniques for structures;
- (m) approval of work methods of the Contractor, including construction site health and safety procedure;
- (n) approval of setting-out of the works;
- (o) approval of concrete placing programme;
- (p) approval of establishment of contract management documents;
- (q) approval of all information submitted to the Employer by other channels than the Engineer - Supervision Coordinator;
- (r) comparison of work output actually carried out with that presented in the tender and discuss with contractors remedy to possible slippage;
- (s) any other activity related to the approval and review of methods of work and methods of management;
- (t) verification of the Contractor's compliance with the provisions of the latest editions of Austrian guidelines for tunnel designing RVS 09.01.24-issued 2009 and the "Guidelines for Road Design, Construction, Maintenance and Supervision" Book II Construction, section 3: Special Technical Conditions for Tunnels ,Sarajevo – Banja Luka 2007 and other norms from one of the EU-Member States have to be used.

#### **4.3.4. Supervising the Works**

The responsibilities of the Consultant shall be for, but not limited to, the following tasks:

- (a) Inspect the works to check whether performance complies with specifications and drawings;
- (b) order and approve tests of materials and of completed works, and order the removal of improper or substandard work;
- (c) control materials incorporated into the works;
- (d) examine and attend the measurement of any work that is about to be covered or put out of view before permanent work is placed thereon;
- (e) record work site daily events and quantities to pay (subject to geometric and quality tests);
- (f) maintaining a day by day civil works contract diary which shall record all events(including environmental, safety, social) pertaining to the administration of the civil works contracts, and notifying the Client immediately of any activity that might compromise the wellbeing of the construction workers and local population;

- (g) monitoring employment generation through civil works, by recording the permanent and temporary staff working for the Contractor and Subcontractors on a monthly bases. Local employment racking should be gender-disaggregated ;
- (h) ensuring that road users and local population have means to file complaints or suggestions related to the construction works (phone, e-mail etc.) and ensure that grievances are communicated to the Client, logged and resolved in a timely manner
- (i) take the necessary measures to increase the rate of the works and advise the Employer accordingly in case of slippage in the progress of the Works, with reference to the original or updated and approved work programme and if a postponement of the contractual Completion Date is foreseen the Consultant shall evaluate the implications for the contract and advise the Employer on the consequences of such postponement;
- (j) supervising proper implementation of the site specific Environmental and Social Management Plan (ESMP) and report number of local jobs created for men and women during project planning and construction (Number of men-months, disaggregated)
- (k) establish content and formats of a system of weekly reports by the Contractor to the Engineer and the Employer;
- (l) conduct on site inspections
- (m) attend to the work inspections carried out by the State Inspectorate for Quality in accordance with the Bosnian Law;
- (n) organize provisional and temporary Taking – over of work and submit all supervision documents to the taking – over committee according to the Applicable Law;
- (o) calculate liquidated damages, if necessary;
- (p) inspect the works during the defects liability period;
- (q) review and approve the Quality Assurance Plan submitted by the Contractor and check that it be implemented in keeping with the specifications; in particular, the Consultant shall verify that all lab tests described in terms of type and frequency are carried out by the contractor's laboratory. The Consultant shall himself check the quality of such tests by conducting separate testing to verify the Contractor's findings;
- (r) the Consultant shall analyze the claims submitted by the Contractor provided these claims have been submitted in accordance with FIDIC procedures.  
Further to their analysis, they shall advise the Employer showing clearly the possible scenarios. Their report to the Employer shall be presented in a special report addressing specifically the claim submitted.
- (s) the Consultant shall immediately report to the Employer any event or dispute which requires the intervention of the Employer and will assist the Employer in resolving any site dispute.
- (t) supervise that Contractor perform all construction site activities, including OHS training, concerning safety and wellbeing of the construction workers and population living along the project roads, in particular , ensuring that women and children receive proper treatment;

- (v) issuing of Taking-Over Certificate;
- (w) prepare final statement of accounts;
- (x) recommend returns of guarantees and retention;
- (y) Supervise, verify and correct, if necessary, the Contractor's "as-built" drawings.

#### **4.3.5. Technical assistance during works execution**

The Designer is responsible for preparing the Construction Drawings. Although if any modifications become necessary due to the altered field conditions, Consultant could propose updating the original designs or new solutions to reflect changed conditions on the field or to address the civil works Contractor's justified request for variation.

The Consultant shall fulfil all the requirements under the applicable law and shall allow for this in its rates and prices.

#### **4.3.6. Reporting**

Reporting requirements are indicated in Article 4.5 below.

#### **4.3.7. Additional Services**

Other duties requested by the Client that require additional staff inputs, beyond the levels stipulated in Section 4.4 – Required Inputs, of these TOR, may constitute Services other than Normal Services (hereinafter referred to as “Additional Services”) in accordance with the Contract.

### **4.4. EXPERTS PROFILE**

#### **Personnel**

The Consultant shall employ a team adequate for the provision of the requested services. **All the required Experts for this Contract will be considered as experts and consequently their CVs will be part of the evaluation process.**

The working language of the project is English; all the team members assigned by the Consultant must possess sufficient proficiency in English.

It has to be taken into account that the book Site Diary under Bosnian Legislation needs to be written in local language. Another book site will be filled in English and kept updated during the works.

The Consultant is encouraged to employ the necessary local support staff such as secretaries/interpreters, drivers, office assistants etc. The cost of the support staff is to be covered by the Experts fees.

The costs of all experts will be included in the fees given, including local transport and allowances.

All experts who have a crucial role in implementing the contract are referred to as experts. They will be allowed to participate in other proposals to provide consulting services if they are fully qualified to cover all the requirements.

The Experts for the present project are envisaged to be:

### **Engineer – Coordinator**

#### Qualifications and skills

A graduate engineer (where a university degree has been awarded on completion of four years study in a university or equivalent institution) with 15 or more years of professional experience in the field of Civil Engineering. He/she shall have good working knowledge of Standard Bidding Document for Procurement of Small Works The World Bank April 2015, FIDIC, Red Book, 1999 (International Federation of Construction Engineer) and MDB Harmonised Edition 2010.

#### General professional experience

At least 15 years of experience in design, construction, construction supervision and contract management of road projects.

#### Specific professional experience

He/she will have 10 years of international experience.

He/she shall demonstrate that he/she has experience in similar positions in construction supervision and contract management in at least two projects under conditions similar to those prevailing in B&H.

He/she shall demonstrate that he/she has occupied similar posts as FIDIC engineer or Supervisor on at least one similar road projects with a cumulated value of the works of 30 million EURO.

#### Language skills

- Good working knowledge of both written and spoken English.
- Fluency, both written and spoken in one of the official languages of BiH

#### Job description

The Engineer – Coordinator shall:

- carry out the duties of the Engineer, as described in the civil works contract documents;
- manage the Consultant's team;
- elaborate the programme of activities of his team;
- take care of his team's logistics;
- check that the services are carried out in accordance with the Terms of Reference;
- verify and certify the Interim and Final statements of work;
- managing claim issues and preparing claim settling for the Client;
- produce the periodic reports;
- produce the final reports
- produce any other reports as required by the Client
- inspect the works during the Defects Liability Period and issue the related reports;
- advise the Client on any issue likely to affect the financial resources, e.g., variation orders, or the scope of work;
- delegate duties as appropriate to Main Supervision Engineers and Supporting staff;
- any other tasks at request of JP Ceste FBIH

**Supervision Bridge Engineer**

**Supervision Road Engineer**

Qualifications and skills

A graduate engineer (where a university degree has been awarded on completion of four years study in a university or equivalent institution) having at least ten (10) year of the professional experience for Supervision Bridge and Road Engineer .

He/She will be chartered engineer under the BiH law (“expert exam“)

General professional experience

Minimum of seven (7) years of experience in similar functions in motorways work supervision and contract management, each in their particular field of expertise.

Specific professional experience

He/She shall demonstrate that he has occupied similar posts in their field of expertise on at least two projects of similar nature and characteristics to the one object of this Terms of Reference.

He / she will have at least five (5) years of international experience as well as at least two projects under conditions similar to those prevailing in Bosnia and Herzegovina.

The Supervision Road and Bridge Engineer proposed shall demonstrate that he has occupied similar positions in their field of expertise on at least two projects of similar nature and value of the works over 3 million EURO, relevant to the proposed position.

Language skills

- Good working knowledge of both written and spoken English.
- Fluency, both written and spoken in one of the official languages of BiH.

(site diary is being maintained both in local and English language)

Job Description

He/She shall:

- carry out the activities specified in articles 4.3.(3) and 4.3.(4) above;
- be in charge of signing the Site Diary (Građevinski dnevnik) and other construction site documentation each for their discipline;
- timely inform both Engineer - Coordinator about probable Variation Orders and unexpected increases in costs, resulting from the Site Instruction issued to the Contractor;
- coordinate daily the supporting staff assigned under his direct control, ensuring a constant supervision and quality control of the works in progress.
- follow-up the works in order to advise the Engineer - Coordinator about any event which might create disturbance or disorders on site.

**Support Team of Experts:**

- Quality Assurance Engineer
- Engineer for Electrical Works
- Engineer for Mechanical Works
- Environmental Specialist
- Social Specialist
- Claim Expert
- Geologist / Geotechnician
- Surveyor

Qualifications and skills

Support team of experts are to be graduated civil engineers or possess a university degree in their area of expertise (university degree has been awarded on completion of four years study in a university or equivalent institution).

They shall have at least ten (10) years of professional experience in their area of expertise.

General professional experience

Minimum of seven (7) years of experience in similar functions in roads, motorways and/or railroads works supervision, each of them for their corresponding field of expertise.

Experience in countries with conditions similar to Bosnia and Herzegovina shall be appreciated.

Experience on World Bank or other international finance institutions (IFI) projects is an asset.

Specific professional experience

They shall demonstrate that they have occupied similar positions in at least two (2) similar projects.

Social expert needs to have demonstrated knowledge of local legislation on expropriation and WB's OP 4.12. Minimum experience working 2 similar projects with International Finance Institutions (IFIs).

Good working knowledge of FIDIC, Red Book,1999 (International Federation of Consulting Engineers) or similar Conditions of Contract shall be appreciated.

In addition, the Claim expert must demonstrate that he/she has extensive experience in claims under FIDIC, Red Book,1999, the valuation of variation orders, extensions of time and payment issues. International experience will be regarded as an asset.

Language skills

- Good working knowledge of both written and spoken English.

Job Description

Each of the Support Team Experts shall:

- carry out the activities specified in articles 4.3.(3) and 4.3.(4) above;
- timely inform both the Engineer –Coordinator about probable Variation Orders and unexpected increases in costs, resulting from the Site Instruction issued to the Contractor;
- ensuring a constant supervision and quality control of the works in progress.

- Follow-up the works in order to advise the Engineer – Coordinator about any event which might create disturbance or disorders on site.

They will be mobilized according to the needs, which may arise during the pre-construction stage, execution of the works or during the maintenance period.

Support team of experts shall produce detailed reports at the end of their stay in Bosnia and Herzegovina, stating the results of their expertise on site.

#### 4.5 Reporting

During the period of contract supervision, the Consultant will provide JP Ceste FBIH with the following reports:

- (a) Inception Report - within one month from signing of the Contract. The Inception Report will describe the planning the Consultant has established for the assignment, the staffing and remarks as deemed appropriate. This report will update the methodology and program of work that was included in the Consultant's proposal and used as a basis for agreed pricing, noting the changes and detailing any difficulties encountered, together with a proposal on how they may be overcome. JP Ceste FBIH will comment on the Inception Report. The Consultant's established program of work may be revised from time to time, but acceptance by JP Ceste FBIH must be sought each time. The Inception Report will include at least the following:
  - Methodology
  - Scoping
  - A statement defining the proposed Consulting services, including:
    - methods and parameters;
    - any changes to the composition of the Consultant's team and specialists needed;
    - methods of consultation with the Client and Contractor;
    - methods of consultation with the construction contractors, including Quality Assurance and Health and Safety issues;
    - methods of consultation with the JP Ceste FBIH and the Fiscal Agent; and
    - methods of consultation with the local authorities, local population and other concerned parties.
  - Proposed methodology for tracking compliance with Environmental Guidelines and applicable BiH environmental laws and regulations.
  - Detailed program of work, showing time, duration and personnel as well as the inter-relationship between activities.
- (b) Monthly Progress Report (2 copies in Local language and 2 copies in English plus electronic copies in both languages on CD) showing events and including minutes of the meetings and progress for the previous months and to be submitted within 7 days of the last day of the previous month. Reports must contain photo documentation with the written date.

The Monthly Progress Report shall compulsorily comprise a chapter dealing with the activities of the Consultant's staff. These reports will cover the physical and financial progress of the Project, quality of construction, monthly quality assurance plan, environmental and social issues and mitigation measures, construction safety and health issues and remedial actions, and other aspects of construction. Progress reports should include a section on social aspects, including social safeguards (land acquisition and resettlement). The social section should summarize progress on



preparation/implementation of resettlement instruments and social incidents related to the Project (i.e., impacts on local population and road users, local employment, grievances received, construction related accidents, etc). The reports will also discuss ongoing and planned activities of the construction contractors, and issues to be addressed. These reports shall also comment on the suitability of personnel employed on the Project with recommendations for replacement of the construction contractors' personnel considered to be less than adequate for the work and responsibilities delegated to them. In particular, a monthly time sheet shall be filled in daily to report on the presence of any personnel (travel, site, holiday, health vacation). No payment will be effected to the Consultant if personnel time sheets are not filled in for each member of the Consultant's team. Time Sheets shall be signed by each member of the Consultant's team and endorsed by the Project Manager of the Client.

The monthly report will form part of the quarterly reports to be submitted to the Bank in the course the entire project, as required by the loan agreement.

- (c) Annual reports (within one month after the end of the reporting period), summarizing all issues related to the works undertaken on the foregoing year.
- (d) a Completion Report (2 copies in Local language and 2 copies in English plus electronic copies of both) at the time of final completion of the works, when the final Taking Over Certificate is issued.
- (e) Report of detailed supervision of Environmental and Social Management Plan implementation, for each specified mitigation and monitoring measures' (monthly, annual, completion report)
- (e) "As built" drawings of the Project (one film original and 2 bound sets of paper prints as well as electronic copies, all material being supplied by the contractors), within one month following the issuance of the respective Taking over certificates;
- (f) Interim Defects Notification Report (2 copies in Local language and 2 copies in English plus electronic copies of both) within the last two months of the assignment; and
- (g) In addition to the regular submissions outlined above, the Consultant shall also submit various special reports, addressing specific Project requirements. Such reports shall include, but shall not be limited to, evaluations of construction contractors' submittals, including proposed programs and methods of work, construction drawings, change orders, and claims at the request of JP Ceste FBiH or the Bank.
- (h) Maintenance Report
- (i) Final Defects Notification Report
- (j) The Construction Book
- (k) Test Certificates

**5. TIMING**

Tentatively, it is expected that the Consultant would start their services in January 2017 and complete the activities in December 2020.

**6. SERVICES TO BE PROVIDED TO THE CONSULTANT**

During the supervision of the civil works the Contractor shall provide the Consultant with a furnished office satisfactory for the proposed Consultants' Team, laboratory, data processing equipment, communication facilities and transportation free of charge as per civil works conditions of contract.

The Consultant and his staff shall pay taxes and duties in accordance with the Bosnian Law. Value Added Tax shall be paid by the Consultant to the relevant Government agencies.

With respect to the Value Added Tax to be paid by their sub-consultants, the Consultant is advised to consult the Bosnian Law. In any event, the Consultant will be responsible for the payment, if any, of the Value Added Tax applicable to their sub-consultant(s).

JP Ceste FBIH will assist the Consultant in obtaining any entry/exit visas, etc. However, the cost of the same shall be borne by the Consultant.

Any available information, reports, documents, etc., related to the execution of the Works shall be made available by JP Ceste FBIH to the Consultant.

All documents related to the Works are, and will remain JP Ceste BIH's property after completion of works. The Consultant cannot use or dispose of this documentation without JP Ceste BIH's previous approval.