

**REPUBLIC OF ALBANIA**  
**ALBANIAN ROAD AUTHORITY**

**BUILDING RESILIENT BRIDGES PROJECT**

Loan No: 94790-AL  
Project ID: P174595

**TERMS OF REFERENCE**  
**FOR**  
**FEASIBILITY STUDIES AND DETAILED DESIGN FOR GROUP A BRIDGES**

*(Ref.: AL-ARA-351514-CS-QCBS)*

Date: November 20, 2023

## ABBREVIATIONS AND ACRONYMS

ARA	Albanian Road Authority
BMS	Bridge Management System
BRB	Building Resilient Bridges
BDS	Bridge Design Standards
BIM	Building Information Modeling
CAD	Computer-Aided Design
CBA	Cost Benefit Analysis
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
E&S	Environmental and Social
EBRD	European Bank for Reconstruction and Development
EIRR	Economic Internal Rate of Return
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
ESIA	Environmental and Social Impact Assessment
GoA	Government of Albania
PB	Priority Bridges
MoIE	Albania's Ministry of Infrastructure and Energy
NPV	Net Present Value
NRN	Albania's National Road Network
PIT	Project Implementation Team
RDB	Road Data Base
ToR	Terms of Reference
WB	World Bank

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## **1. BACKGROUND INFORMATION**

### **1.1. Introduction**

The Government of the Republic of Albania (GoA) has received financing from the International Bank for Reconstruction and Development (IBRD) in the form of Loan toward the cost of Building Resilient Bridges Project (BRBP).

Albanian Road Authority (ARA) under the Ministry of Infrastructure and Energy (MOIE) is the implementing agency of the BRB project. ARA intends to apply a portion of the proceeds of this loan to eligible payments under the contract for which the terms of reference are issued for the consultancy services for Feasibility Studies and Detailed Design for Group A Bridges.

### **1.2. Relevant country background**

Albania has experienced rapid growth since 1990, rising into the ranks of middle-income countries in 2008. The country applied for EU membership in 2009 and became an official candidate for accession in June 2014. This entails strong commitments in the transport sector, as reflected in signing of the Memorandum of Understanding with the European Commission for the Core Network creating the South East Europe Transport Observatory (SEETO) and in signing the Transport Community Treaty in July of this year. The treaty will help the Western Balkan countries align their national transport laws with those of the EU.

Roads and highways are the predominant mode of land transport in Albania and provide essential connectivity for freight and passenger transport. Authority (ARA) is responsible for managing the national road network, while municipalities are responsible for the regional and local roads. The Albania Development Fund (ADF) was established in 1993 to implement regional and local roads projects mainly financed by international development partners.

The road infrastructure planning and prioritization process still has some way to go to provide transparent and economically efficient selection of investments. With support from the World Bank, progress has been made by the Government in developing Medium-term Budget Plans 2015–2017 to prioritize higher impact new investments. A framework that is more aligned with the budget realities is slowly emerging and more fiscal discipline is applied to avoid accumulation of arrears in the road sector.

Road safety remains a major social and public health issue in Albania. Although the number of accidents has dropped in recent years, Albania still compares unfavorably with countries in the region or EU member states. In response, GoA aiming to reduce the 2009 number of fatalities by 50 percent in 2020, has increased its attention to road safety reforms, including the adoption of the Road Safety Strategy and Action Plan in 2011 and adoption of a mandatory road safety audit for all new road investments.

In addition, an emerging major issue affecting the sustainability of the road infrastructure is its vulnerability to climate change impacts and natural disasters, including changing precipitation patterns coupled with more frequent and intense floods and landslides. Floods in recent years have increasingly affected the infrastructure and consequently caused major disruptions to traffic along major road transport corridors.

### **1.3. Bridge Infrastructure in Albania**

The construction of bridges and other structures of the NRN dates back to 1930 with different design standards. The NRN in Albania includes 803 bridges, hundreds of culverts, and other related structures. Since 1930, these structures were constructed at different stages of the development of Albania's road system based on different bridge and structural design standards, including Soviet, Italian, and Albanian. With the ongoing reforms, Albania is gradually aligning its road and structures design and construction (including bridges) standards with the European Eurocodes standards.

Albania's road and bridge infrastructure are vulnerable to climate change and natural disasters, primarily flooding and earthquakes. Average damages from flooding and earthquakes are estimated at US\$147 million per year, with a catastrophic event, such as a 1-in-100-year earthquake, for example, causing more than US\$2 billion in damages. Fluvial flooding is a major natural hazard risk to the primary road network in Albania and accounts for 84 percent of the total AED, compared to 11 percent from landslides and 5 percent from earthquakes. Under the strategic network, Corridor 4 (Tirana to Durrës) and Corridor 5 Durrës to Vlorë, are the most critical routes in Albania. These corridors are even now vulnerable to flood events, and the annualized damage could be as high as €13 million due to the large traffic volumes and the economic importance of these corridors and is expected to increase under the different climate change scenarios. Considering the whole national road network, bridges and culverts are the key infrastructure, being the most vulnerable and exposed elements with an estimated AED of €18.7 million.

There is a clear and urgent need to increase the resilience of Albania's road infrastructure to climate change and natural disasters (e.g., earthquakes, intense floods and landslides, intense windstorms, etc.). This implies the urgent need for a risk-based assessment of the physical condition of the existing bridges, adjacent structures (retaining walls, gabions, etc.) and other structures further afield to stabilize the course of the rivers, and of their resilience to the expected higher climate change impacts and natural disasters.

### **1.4. Identified Group A bridges**

The Albanian Road Authority (ARA) hired a Consulting Firm with the World Bank's RRMSP funds to carry out the selection of the bridges to be included in the BRB program according to the abovementioned criteria. The firm selected and carried out field inspections for 100 bridges and ranked these bridges on a priority list of 30 bridges to be implemented under the BRB program, 15 of which will be in Phase 1. To ensure that all works are designed following all DRM and resilience recommendations, a second consultant has been contracted by the World Bank with the Western Balkans (WeBa) DRM Program. Under this assignment, the consultant has: (a) analyzed the policy, the institutional and planning framework of Albania's bridge infrastructure, and DRM; (b) provided recommendations for the selection and prioritization of the 30 priority bridges advising on the inclusion of disaster and climate risk considerations in the selection criteria and process; (c) reviewed and verified that DRM recommendations were incorporated into the preparation of the first two bridge designs; and (d) prepared an appropriate set of guidelines for incorporating DRM into the BMS and bridge infrastructure designs.

Relative thereto, this Terms of Reference (TOR) shall refer to the following identified priority bridges, duly classified as critical and shall need urgent retrofitting/strengthening:

No.	Name of the bridge	Ref.	Bridge ID.	Road Id.	Region
1.	Lokaliteti Klos Bridge	828	U-06-04-01	SH6	Dibër
2.	Karica Bridge	821	U-06-02-04	SH6	Dibër
3.	Uzina Bridge (Rubik)	906	U-30-01-09	SH30	Lezhë
4.	Murashi Bridge	1075	U-03-03-02	SH3	Elbasan

*Table 1 List of Priority Bridges Group A and their Geographic Location*

## 2. OBJECTIVE OF THE ASSIGNMENT

These Terms of Reference describe the scope of work for a Consulting service to be procured within the context of the Building Resilient Bridges Project for which the Government of Albania has requested financing from the World Bank. The consulting service includes the preparation of the detailed designs for the priority bridges under Group A as well as the tender documents for the rehabilitation and upgrading works of the existing priority bridges as identified below.

The bridges to be retrofitted under the Group A are as follows;

Name of Bridge	Coordinates		No. of Spans	Total Length (m)	Description
	Longitude	Latitude.			
1. Lokaliteti Klos	20.09273	41.49753	3 (7m each)	21	Concrete slab on masonry piers and abutments
2. Karica	19.98152	41.63609	2 (15m each)	30	Isostatic bridge, 10 main girders for each span. Central concrete pier with variable section and concrete abutments
3. Uzina (Rubik)	19.78153	41.76416	5 (20m each)	100	Isostatic bridge, 5 main precast girders for each span. Concrete piers (2 columns and pier cap) and abutments
4. Murashi	20.27369	41.18202	4 (20m each)	80	Isostatic bridge, 6 main girders for each span. Concrete wall piers (round nose) and abutments

*Table 2 Main Characteristics of Priority Bridges – Group A*

**Note:** The above bridge descriptions as shown in the table shall be validated by the Consultants during the detailed engineering works.

### 3. COMPONENTS AND SCOPE OF SERVICES

In order to achieve the specific Project Objectives, ARA, as the Contracting Authority, is intending to employ a qualified Consultant Firm to carry out the above-mentioned services. The Consultant is expected to be proactive in identifying solutions to achieve the objectives and to identify, if needed, any additional tasks and activities, which are desirable, or necessary, for the successful implementation of this assignment. It is up to the Consultant to prepare his own detailed organization and methodology including all relevant particulars for all activities to ensure that they fulfill the general and specific requirements described in these Terms of Reference.

The Project, in general, shall consist of the detailed engineering design activities and engineering services for each bridge listed above in Table 2 which include, but not limited to the following:

#### **Task 1: In-depth condition survey of the Group A bridges**

As mentioned earlier the study for the selection of priority bridges was carried out by an external Consulting Firm. The latter has already carried out a visual inspection of the priority bridges (i.e., including the bridges listed under this assignment) as part of that study. The documents are available and will be made available to the selected Consulting Firm. However, under this task, during the first months the consultant shall first carry out a detailed inspection and detailed condition survey of each bridge with the objective of collecting more detailed information and data. The depth of the condition survey must be sufficient for the consultant to be able to determine for each bridge (i) the options for the physical interventions required for either repairing, rehabilitating, upgrading or replacing the bridge or culvert, and (ii) the estimated cost of the different options for those interventions with a confidence level of +/- 20%, based on current market rates in Albania and the sub-region.

At the end of the Task 1 (not later than one month after the start of the assignment) the Consultant shall prepare and submit **Technical Report** detailing the findings for each bridge, including the options for interventions and the specific option recommended by the consultant, and its time frame and its estimated cost. The report will also present, for each of the bridges, photographs showing the conditions of the bridge elements (superstructures, structures and infrastructures), abutments, embankments and water course (including existing erosions), etc.

**Note:** The consultant's technical proposal shall provide details of the planned approach for carrying out the surveys and inspections required under Task 1, including the resources to be mobilized in terms of personnel, number of survey teams, equipment to be used, software, etc.

#### **Task 2: Preparation of Preliminary Detail Designs**

##### **Task 2.1: Feasibility Study**

The main purpose of the Feasibility Study is to assess, for each of the Group A priority bridges, the Technical, Economic, Environmental and Social aspects of various scenarios of conceivable designs for repair, rehabilitation or reconstruction. This assessment will allow the consultant to propose to ARA the optimal intervention for each bridge, which achieves the highest socio-economic benefits

while minimizing the environmental and social impacts. The feasibility study shall take place in parallel with the preliminary/conceptual design phase (Task 2.2).

### **Task 2.2: Preliminary Design**

Based on the results of the inspection/condition surveys, the consultant shall decide on the necessity of additional surveys at the preliminary design stage, such as geotechnical or topographic surveys, or structural inspections and testing, to enable the assessment of the level of structural deterioration, the residual bearing capacity, and the stability of embankments and abutments.

Depending on the existing condition of the Bridges, the consultant shall determine the type of intervention needed for each Bridge on the Group A priority list, which may include the following options, among others:

- the rehabilitation or replacement in-situ of the existing bridges' deteriorated parts, including the foundation, substructure or superstructure, and/or the adjacent protection structures (retaining walls); and/or
- the upgrade/retrofit in-situ of the existing bridges to accommodate new operational requirements such as increased road capacity and traffic levels, enhancing road safety, and improving resilience to changes in weather conditions (by increasing headroom and flow capacity) and to natural disasters (earthquakes); or
- the construction of a new bridge in a new location and the corresponding access lanes, particularly in cases of fully depreciated existing bridges or when it is impossible to close the road to traffic during bridge rehabilitation or reconstruction.

The consultant shall prepare a preliminary design for each bridge in Group A, for the type of intervention that is determined to be the most appropriate. The consultant shall also prepare cost estimates for the recommended interventions, as well as for future annual routine and periodic maintenance. All design work shall be based on Eurocode design standards<sup>1</sup> and take into account the effects of climate change on the frequency and magnitude of climate-related events (e.g., intense floods and landslides, heavy snowfall, intense windstorms, extreme temperatures, etc.). The consultant shall base the designs on existing traffic counts and his forecast of future traffic, and on axle load measurements undertaken by ARA during the past three years.

The output of Task 2 is a **Preliminary Design Report** covering all bridges included in Group A. The reports and all drawings, calculations, etc. is to be presented in electronic format only.

### **Task 2.3: Climate Resilience and Road Safety Audit**

The designs of the bridges will be independently audited (by a third-party consultant) to assure the designs incorporate the standards needed to be resilient to climate change. Also, the designs will be audited for road safety by an independent Road Safety Auditor for each bridge in three different stages (i.e., preliminary design, final design and while operational). The climate resilience and road safety audits will be prepared through separate assignments by third-party consultants that will be working in parallel with the Consulting Firm. The recommendations arising out of these audits will

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<sup>1</sup> [https://eurocodes.jrc.ec.europa.eu/sites/default/files/2022-06/Bridge\\_Design-Eurocodes-Worked\\_examples-main\\_only.pdf](https://eurocodes.jrc.ec.europa.eu/sites/default/files/2022-06/Bridge_Design-Eurocodes-Worked_examples-main_only.pdf)



inform the Consulting Firm preparing the engineering design of the bridges to mitigate any potential hazards related to climate resilience and road safety. The Consulting Firm will be expected to work together closely with the third-party consultants and ensure to incorporate the outcomes and recommendations arising out of the climate resilience and road safety audits in the design before the detailed designs are finalized.

The Consulting Firm shall use a traffic safety specialist to undertake a traffic safety study for each of the priority bridges to identify all possible black spots existing and potential in the future and incorporate them within their design measures to improve the design. The consultant's traffic safety specialist will also gather any existing information on road safety/crashes for each bridge. He/she will review the preliminary design, the road accident database and police reports to determine the most typical causes of accidents occurring on or within the vicinity (approach road) of each priority bridge and ensure that the detailed bridge design includes the necessary traffic safety risk mitigation measures. The consultant's traffic safety specialist shall produce a short **Traffic Safety Report** which will be integrated as a separate section or annex into each detailed design report. As mentioned above, the Road Safety Audit (RSA) will be carried out for each bridge in three different stages by an independent Road Safety Auditor through a separate assignment to be carried out by a third-party consultant. The consultant's traffic safety specialist will collaborate closely with the Road Safety Auditor and will also sign off on all detailed design reports.

### **Task 3: Environmental and Social Scoping**

The detailed Environmental and Social Impact Assessments (ESIA's) of the identified sub-projects are not part of this consulting assignment. They will be prepared under different Terms of Reference through a separate study to be carried out by a third-party consultant. However, for the purpose of the selection of design scenarios that minimize the environmental and social impacts of the rehabilitation/reconstruction works, the consultant shall include in the team Environmental and Social Specialists to undertake a preliminary survey/screening of the baseline Environmental and Social conditions surrounding each bridge on the Group A. The screening will identify areas that are environmentally sensitive (fauna and flora) as well as the location of nearby settlements that are likely to be impacted by the rehabilitation works. In case of bridges requiring full reconstruction on a different site, or dualling of an existing bridge, as well as if new structures are required upstream to protect the bridge (e.g., breakwater, retention reservoir) the survey shall identify feasible locations that can minimize the environmental or social impacts of the new construction.

For each bridge the consultant will identify potential environmental and social issues and provide baseline/impact information based on the ESF and WB Policies (OP 7.50 Projects on International Waterways) requirements of the scope agreed with the World Bank. This shall include but is not limited to: international status of waters, potential impact on the hydrology (quality, quantity, flow, etc.), land ownership, feature of the location – sensitive or protected area/body of water, including candidate status for protection, endemic and protected species, cultural heritage issues, associated facilities and additional needed construction, expected amounts and quality of waste (construction, hazardous, etc.), safety. A scoping questionnaire can be developed for this purpose.

For each design option to be analyzed in the Feasibility Study, the consultant shall prepare a scoping study of the potential environmental and social impacts and an outline (preliminary) estimate of the

costs of the Environmental, occupational health and safety, community safety mitigation measures and resettlements, if applicable. As mentioned above, the Environmental and Social Impact Assessment (ESIA) will be prepared under a separate assignment by a different consultant. The consultant's environmental and social specialist is expected to collaborate with the separate ESIA consultant and provide him/her with regular updates on any changes in the designs that are likely to impact the ESIA, as well as any information requested. The Consulting Firm will organize public consultation and support PIT/ARA to disclose the Environmental and Social Impact Assessments (ESIAs) and Environmental and Social Management Plans (ESMPs) for each bridge design. The consultant's Environmental and Social Specialists should take the Minutes of Meetings for each of the public disclosures and public consultation. The input from the public consultations will be reflected in the final ESMPs and design, if necessary.

The output of Task 3 is an **Environmental and Social Scoping Report** for each bridge in Group A presenting the results of the assessment in line with the requirements stated above.

#### **Task 4: Economic Appraisal**

For each of the bridges in Group A, the consultant shall carry out a Cost-Benefit Analysis (CBA) of each design option in order to determine the most economically viable option. The consultant shall compute a standard CBA, including NPV and EIRR over a period of 30 years and considering the following costs and benefits under the “*with project*” scenario:

- Full project costs including (i) the cost of the bridge intervention works, (ii) the cost of the Environmental and Social mitigation measures, compensations and resettlements, (iii) the social cost of any needed traffic deviations during rehabilitation or reconstruction works as well as (iv) future annual routine and periodic maintenance costs.
- The project benefits in terms of savings in travel times, savings in road accidents, savings in costs related to climate change induced events (Bridge collapse or closures) and savings due to the avoidance of bridge collapses due to material fatigue or damages, causing long term traffic disruption, communities isolation, loss of lives, and additional costs of reconstruction.
- The number of direct beneficiaries which will benefit directly from the project including (i) direct daily road users benefited by rehabilitated, re-constructed or constructed bridges and (ii) pedestrians which will benefit by safer designs from the rehabilitated or re-constructed bridges. This will include residents who live in the immediate hinterland of the bridge and will benefit from improved safety and the potential for increased access to local markets, job opportunities, and health and education services.

For each of the bridges, the consultant shall identify the appropriate “without project” scenario, based on the identified risks for each bridge and the likelihood of the risk materializing.

The output of Task 4 is an **Economic Appraisal Report** summarizing, for each bridge (i) the NPV and EIRR for each design option and in particular the recommended option. The consultant shall present the study results (during a meeting in Tirana with ARA and various stakeholders) for validation by ARA.

## **Task 5: Preparation of Detailed Engineering Designs**

### **Task: 5.1: Detailed Design and cost estimates**

The consultant shall undertake any necessary additional geotechnical and topographic surveys needed for the detailed design, and structural inspections (core or sound sampling) of the slabs, cables, beams, and piles, required to assess the level of structural deterioration, the residual bearing capacity, and the stability of embankments and abutment. In addition, the consultant shall assess the superstructures (such as guardrails, safety barriers, parapets, vertical signage, etc.) requiring strengthening or replacement. Finally, the consultant shall assess the condition of other structures upstream and downstream which protect the bridge's foundations and abutments against erosions from exceptional floods, in order to determine the need for their reinforcement as part of the Bridge rehabilitation or reconstruction works.

Once the preliminary engineering designs are approved, the Consulting Firm will proceed with the preparation of the Detailed Design for the selected design option of each of the Group A bridges. All detailed designs shall be based on Eurocode design standards and taking into account the additional expected effects of climate change on the frequency and magnitude of climatic events, (e.g, intense floods and landslides, heavy snowfall, intense windstorms, extreme temperatures, etc.). In order to minimize the impact of climate change, the Consulting Firm shall incorporate in the design the philosophy of all climatic change stressors with emphasis placed on the proper design of drainage structures. Therefore, the design will adopt engineering measures to reduce the impact of climate change to ensure that priority bridges become climatic resilient such that it can retain its passability after both periodic and extreme climatic event such as floods, etc. To this end, the Consulting Firm shall carefully study and follow the guidance notes that were carried out and prepared under a separate assignment, namely, "Incorporating Disaster and Climate Risk Management into Albania's Bridge Investment and Management System" which will be provided by the PIT/ARA to the selected Consulting Firm upon commencement of the assignment. Also, other important issues the Consulting Firm shall considered during the design stage, where possible, are aesthetics and the use of sustainable raw materials to enable the preparation of detailed engineering designs for the priority bridges from the sustainability-based perspective. The consultant shall base the detailed designs on the traffic counts and traffic forecasts, axle load measurements undertaken by ARA during the past three-year period. If those are not available, the consultant shall conduct his own traffic counts and axle load surveys during a typical three-day period (excluding national holidays).

The output of Task 5.1 are separate detailed designs for each of the bridges included in the Group A. Besides the general design report justifying the choices made, the consultant shall use Computer Aided Design (CAD) software to prepare design plans on scale 1:200 (or as otherwise requested by the employer) as well as unpriced bills of quantities (BOQ's) and present the calculations carried out. The consultant shall also prepare the cost estimate for the bridge rehabilitation / reconstruction works, including the priced BOQ's according to latest market prices for the necessary works, and cost estimates for future annual routine and periodic maintenance.

The final plans prepared and approved shall be the responsibility of the design consultants. The detailed engineering surveys and design undertaken by Consultants neither diminishes the

responsibility of the latter for the technical integrity of the surveys and design nor transfer any part of that responsibility to the approving ARA officials.

After completion of the survey work and detailed design, all electronic files of reports, plans and drawings and other relevant documents shall be turned over by the consultant to ARA.

### **Task 5.2: Construction Permit**

The Consulting Firm shall prepare the documentation to enable the Client to apply for the necessary certifications / approvals from the relevant national authorities necessary for obtaining the Construction Permit and implementing the construction works on Site. In particular, the Consulting Firm will assist the Client in applying for and obtaining:

- The Environmental Permit for the Construction Works, from the National Environmental Agency;
- Approval on the Technical Review of the Design from appropriate authorities;
- The Construction Permit for the designed Works, from the National Territory Council, the involved relevant municipalities and other public entities

### **Task 5.3: Preparation of Bidding Documents**

The Consulting Firm in collaboration with ARA/PIT shall define the optimal allotment of works into groups of bridges for which the works are to be tendered as one lot, with the objective to minimize mobilization costs and achieve economies of scale. This allotment shall take into account the capacity of the local Albanian construction industry if possible, although foreign bidders are also eligible to bid.

Once the allotment is validated, the Consulting Firm shall assist the ARA/PIT during the preparation of the full Tender Dossier for the procurement of a Unit-Price Measured Work Contract for each lot, in accordance with IBRD ICB procurement procedure using as basis the appropriate World Bank Standard Bidding Documents in the most recent version. The technical documentation (technical specifications, drawings, technical reports, BoQs, etc.) which will be included in the Tender Dossier shall be necessary and sufficient for enabling the Bidders to understand the kind and complexity of the Scope of Works and price the related BoQ accordingly.

All the experts involved in the preparation of the Detailed Design and/or assistance in the preparation of Bidding Documents shall sign declarations of objectivity and confidentiality, as provided by the ARA/PIT.

#### **Task 5.3.1: Assistance to the PIT/ARA during the Works Procurement Procedure**

The Consulting Firm shall support and assist the PIT/ARA throughout the procurement procedure period stated for the selection of the Contractors who will implement the Works, until the award of the Civil Works Contract.

The Consulting Firm's services will focus to support and assist the Client:

- in providing clarifications and/or additional information to the bidders;
- during the Pre-bid Conference, if requested;
- during the preparation of the Works Contract between the ARA and the selected Contractor

#### 4. DELIVERABLES TIMELINE AND PAYMENT

##### Form of Contract

The Consulting Firm will close a Service Contract with the ARA which shall be structured and paid on a Lump Sum basis, in which the Consulting Firm will carry out the tasks described in Section 3 of this TOR.

The Consultant shall also submit a short Inception Report confirming their mobilization, staff, detailed work plan, and any issues likely to interfere with timely implementation of studies and designs. The Inception Report shall be submitted within 2 weeks after the project start date.

All documents, reports and drawings shall be submitted (both hard- and soft-copy) in English and Albanian language. In addition, digital copies of all the materials will be uploaded/stored in a dedicated cloud-based area, with access to parties involved in the assignment, shall be provided and maintained in full operating mood by the selected Consulting Firm for the entire duration of this assignment. Text shall be submitted in MS Word (or equivalent) or portable document format (PDF). Drawings shall be prepared using a CAD program such as AutoCAD or equivalent, and provided in electronic format. Bills of Quantities shall be prepared in using MS Excel (or equivalent) in English and Albanian.

Payments will be on a Lump-Sum (LS) identified separately for the agreed deliveries, as shown in the table below. Each LS payment expressed in percentage (%) of the total Contract Amount will become eligible for payment upon submission of the Reports/deliverables accepted by ARA.

<b>Deliverables</b>	<b>Deadline</b>	<b>Lumpsum Payment (% of total contract amount)</b>
Inception Report	<b>Within 2 weeks</b> from the date of commencement of Consulting Firm's services	5 %
Task 1 - Technical Report	<b>Within 1 month</b> from the date of commencement of Consulting Firm's services	10 %
Task 2 - Preliminary designs	<b>Within 2 months</b> from the date of commencement of Consulting Firm's services	20 %
Task 3 - Environmental and Social Scoping Report	<b>Within 3 months</b> from the date of commencement of Consulting Firm's services	10 %
Task 4 - Economic Appraisal Report	<b>Within 3.5 months</b> from the date of commencement of Consulting Firm's services	5 %
Task 5 - Detailed designs and cost estimates, and Bidding Documents for the Work Procurement	<b>Within 6 months</b> from the date of commencement of Consulting Firm's services	50 %

## **5. FIRM QUALIFICATIONS AND EXPERIENCE**

The consulting firm will be selected under the provisions of the World Bank Procurement Regulations for Borrowers under Investment Project Financing” dated July 1, 2016, revised on November 2017, August 2018, November 2020, in accordance with Quality and Cost Based Selection, Lump - Sum based Contract. The Bank requires that firms or individuals involved in Bank IPF procurement shall not have conflict of interest.

### **5.1. Consultant Profile**

The Consulting firm (which may be a single firm or a Joint Venture -JV) shall comply with the following qualifications:

1. The Consultant should be a qualified firm or JV with at least 10 years of international experience with projects of a similar scale and scope to the services described in these TOR. Previous experience in feasibility studies and detailed designs for bridge construction and rehabilitation would be considered an advantage.
2. The consulting company should have successfully implemented at least 2 similar contracts during the last 5 years.

The consulting firms participating to the bid will be assessed in order to determine a shortlist comprising the most qualified candidates. The criteria to be used for shortlisting will be the following:

- Core business and years in business (30 points)
- Past experience in similar assignments (50 points)
- Firms’ organization and staffing (20 points)

The CVs of Key experts will not be evaluated during the shortlisting process. The CVs of key experts will be evaluated after the issuance of the Request for Proposals to the shortlisted consultants. The evaluation shall be in accordance with the evaluation criteria specified and detailed in the Request for Proposals and the consultant should take into consideration the following:

All experts should work in the Beneficiary country 100% of the contracted working days. The total contract amount must include all the administrative costs of employing the relevant experts, such as relocation and repatriation expenses (including flights to and from the beneficiary country upon each mobilization and demobilization), all travelling in the beneficiary country, accommodation, expatriation allowances, leave, full medical insurance and other employment benefits accorded to the experts by the Consulting Firm.

### **5.2. Team Composition**

All experts who have a crucial role in implementing the contract are referred to as key experts and their CVs should be submitted with the proposal. The Consultant shall provide a team of qualified experts with proven technical and managerial competence and experience in feasibility studies and detailed designs in the area of bridge rehabilitation and construction to provide sound advisory and technical services to the PIT. All the team members assigned by the Consultant must possess proficiency in English language. Day-to-day communication language with the employees of relevant institutions and other utilities and local authorities will be either English or Albanian language. An adequate number of Albanian speakers shall be included by the Consultant in his team to ensure smooth communication among all participants, direct and indirect, of the Project.

The Consultant shall provide approximately 32 man - months of Key professional staff inputs and 8 man-months of non-key staff. Given the extensive volume of fieldwork and design tasks, the consultant firm or JV must be able to mobilize several independent teams which can proceed in parallel, while assuring strong quality control for the output of the various teams.

The staffing for the assignment is likely to require a mix of international and local professionals with substantial international and local experience. The team composition shown below constitutes the minimum number of staff to be mobilized, but the consultant may need to mobilize more personnel to deliver the required outputs within the given time frame.

The consultant team shall comprise the following minimum team of experts:

**KE 1: Team Leader – Bridge Expert.** (6 man/months)

A Team Leader shall lead and coordinate all the activities of the Design and Engineer / Project Manager's teams. He/she is expected to be responsible for contractual matters and communication between the Consulting Firm, the Contractor(s), the ARA/PIT as well as the relevant authorities. During the assignment he/she shall be based in Tirana and is expected to participate in all progress meetings and management meetings where his/her presence may be required.

- minimum qualification is a Master's Degree in civil engineering with at least fifteen (15) years of proven and relevant international experience in managing the design of large and complex road Bridges (bridge design and rehabilitation).
- previous role as Team Leader or similar position in at least 2 bridges & road construction projects of similar size and complexity
- proficiency in written and spoken English is mandatory.

**KE 2: Structural Engineer** (5 man/months)

- minimum qualification is a Master's Degree in structural engineering with specific experience in bridge/structural design and construction.
- he/she must have a minimum of ten (10) years of proven international experience in projects of similar size and complexity.
- proficiency in written and spoken English is mandatory.

**KE 3: Highway Design Engineer.** (3 man/months)

- minimum qualification is a Degree in civil engineering with at least ten (10) years of experience in highway studies and designs. A postgraduate qualification in Highway engineering will be an advantage.
- proficiency in written and spoken English is mandatory.

**KE 4: Geotechnical Expert.** (3 man/months)

- minimum qualification is a Degree in civil engineering with specialization in Geotechnical engineering with at least ten (10) years of experience in conducting and evaluation of soil / sub-soil investigation results, designing of foundation of major structures especially river bridges.
- have in-depth knowledge of various types of foundations i.e., shallow foundations & deep foundations (well foundations, Pile Foundations etc.)
- proficiency in written and spoken English is mandatory.

**KE 5: Hydraulic Engineer.** (3 man/months)

- minimum qualification is a Master’s Degree in hydrology engineering with at least ten (10) years of experience in highway bridge (river) projects.
- he/she should have experience in determining flood levels, discharges, model study preparing schemes for proper cross drainage and determining the regime / waterway widths for bridge projects.
- proficiency in written and spoken English is mandatory.

**KE 6: Topographic Surveyor.** (3 man/months)

- minimum qualification is a Master’s Degree in land surveying with at least ten (10) years of experience in land surveying related to road studies and design activities.
- proficiency in written and spoken English is mandatory.

**KE 7: Quantity Surveyor.** (3 man/months)

- minimum qualification is a Master’s Degree in civil engineering with at least ten (10) years of experience as a Quantity Surveyor in Civil works.
- proficiency in written and spoken English is mandatory.

**KE 8: Road Safety Specialist** 2 man/months)

- minimum qualification is a Master’s Degree in civil engineering with at least ten (10) years of experience in infrastructure projects.
- proficiency in written and spoken English is mandatory.

**KE 9: Bridge Architect** (1 man/month)

- minimum qualification is a Master’s Degree in architecture with at least fifteen (15) years of proven and relevant experience in planning and designing of aesthetical structures that are integrated with road infrastructures including Bridges,
- proficiency in written and spoken English is mandatory.

**KE 10: Transport Economist** (1 man/month)

- minimum qualification is a Master’s Degree in transport economics with experience in carrying out socio-economics analysis of road/bridge investments studies of similar nature and magnitude within the last ten (10) years.
- proficiency in written and spoken English is mandatory.

**KE11: Environmental and Social Specialist** (2 man/month)

- with at least ten (10) years of experience in conducting ESIA. The Specialist will have at least MSc degree in civil, chemical and other relevant engineering, or environmental management, biology or other similar environmental science relevant degree. Experience in a) social issues management and b) working with the WB or other FI Safeguards/Environmental and Social Management Policies or Standards will be considered an advantage.
- proficiency in written and spoken English is mandatory.

**5.3. Non-key Experts, support staff**

In addition to the key experts designated above, the Consultant is free to propose a team composition of additional support of non-key back-up staff in its proposal as deemed necessary. The following



team composition is indicative only and can include home office back-up specialists and support staff such as geotechnical and topographical surveyors, CAD/BIM Drafters, office management secretary, drivers, etc., Additional support or non – key staff may be added and identified by the Consultant in its proposal as needed in order to fulfill the ToR. The CV’s for non – key staff shall not be evaluated or examined prior to the signature of the contract; therefore, they need not be included in the proposal. Their roles, however, should be included in the Technical Proposal, and the associated costs should be included in the Financial Proposal. The cost of both key and non-key staff shall be included in the evaluation of the Financial Proposal.

## **6. LOGISTICS AND CONTRACT PERIOD**

### **6.1. Location**

The main operational base for the Project will be in Tirana.

### **6.2. Office accommodation**

A Project main office accommodation in Tirana close to the PIT office, of a reasonable standard and sufficient working space for the experts working on this assignment, is to be provided by the Consulting Firm. The costs of the office accommodation will be included in the financial proposal and will be paid under the lump-sum price.

### **6.3. Commencement Date**

The intended commencement date is March 2024, depending on completion of service contract award procedure. The Consultant’s contract period for undertaking the detailed engineering and the preparation of bidding documents shall not be more than six (6) months from Notice to Commence issued to the Consulting Firm. The Consultant shall commence work within fifteen (15) days after receipt of the Letter of Commencement.

## **7. DATA AND ASSISTANCE TO BE PROVIDED BY THE ARA**

The ARA will not provide any counterpart personnel. In connection with the work by the Consultant that require inputs from other government agencies, the ARA shall provide assistance in liaising with those agencies and shall ensure that the Consultant has access to any available information and data that is deemed necessary for the execution of the Services. Technical information and access to the existing records will be provided upon request. The Consulting Firm will arrange for their translation, if needed.

## **8. FACILITIES TO BE PROVIDED BY THE CONSULTANT**

There will be no facilities provided by ARA. The Consultant will be expected to arrange office facilities in Tirana, close to the PIT office. The Consultant shall be responsible for the provision of all the necessary offices accommodation, operating facilities and transport it requires in Tirana or elsewhere, to provide the service, and shall include the cost of all such operating, travel and accommodation costs within its financial proposal. The Consultant shall also be responsible for all costs associated with mobilizing and maintaining staff or resources required for the service, in Tirana or elsewhere.

The Consulting Firm shall ensure that experts are adequately supported and equipped. In particular he shall ensure that there is sufficient administrative, secretarial and interpreting provision to enable experts to concentrate on their primary responsibilities. It must also transfer funds as necessary to support his activities under the service contract and to ensure that his employees are paid regularly and in a timely fashion.

If the Consulting Firm is a consortium, the arrangements should allow for maximum flexibility in project implementation. Arrangements offering each consortium member a fixed percentage of the work to be undertaken under the contract, should be avoided.