

**REPUBLIC OF ALBANIA
ALBANIAN ROAD AUTHORITY**

BUILDING RESILIENT BRIDGES PROJECT

Loan No: 94790-AL

Project ID: P174595

Consultancy Selection - Consultancy Firm

TERMS OF REFERENCE

for

**DESIGN REVIEW AND SUPERVISION OF THE WORKS FOR
BESHIRI BRIDGE IN ALBANIA**

Ref. No: AL-ARA-351401-CS-QCBS

December 13, 2023

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1. BACKGROUND INFORMATION

1.1. Introduction

The Government of the Republic of Albania 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 is issued for the Consultancy Services for Design Review and Supervision of Construction of Beshiri Bridge in Albania located along the road section SH56 Tirana – Ndroq – Plepa

1.2. Bridge Infrastructure in Albania

The construction of bridges and other structures of the Albania National Road Network dates back to 1930 with different design standards. The national road network (NRN) in Albania includes 803 bridges, hundreds of culvert structures and other related structures. Over the past nine decades (since 1930), those structures were constructed at different stages of Albania's road system development based on different bridge and structures design standards (BDS), including the Soviet's, Italian's and Albanian standards. Following the ongoing reforms, the country is gradually aligning its road and structures design and construction (including bridges) standards with the European Eurocodes standards.

Albania's bridge infrastructure is highly vulnerable to climate change and natural disasters. The "Climate resilient road assets in Albania" study carried out by the World Bank in 2019 concludes that bridges on the NRN corridors are among the most vulnerable infrastructure assets in Albania to flood hazards and landslides, and to a lesser extent to earthquakes. In Albania, floods frequently affect the north and southeast of the country, and climate change is expected to result in more intense and frequent rainfall events, exacerbating flood risk. Damage from the 2002 floods exceeded US\$23 million, while the 2010 floods on the Drin River resulted in at least US\$30 million in damages. Floods pose a significant risk to the transportation and trade network, more than 85% of roads losses are from service interruptions. It is estimated that average annual losses from floods along the two most critical road corridors (Tirana to Durrës and Durrës to Vlore) are as high as US\$15 million. Bridges and culverts along the primary road network are estimated to suffer over US\$20 million in annual flood losses. Primary roads face €22.5 million annual losses from floods, landslides and earthquakes, while other critical infrastructure is also at risk. The study further highlights these vulnerable road corridors, and the likely costs of road closure should one of these corridors be affected. The study shows the expected yearly repair costs and losses from road disruption due to natural hazards or climate change events' damages if no intervention is made. The costs are expressed as Annual Expected Damages (AED) in Euros/km for each of the country's fifteen primary road corridors (backbone)

Recent events, the earthquake in 2019 and the floods of 2020 exhibited the vulnerability of the road and bridge network and the whole economy to natural hazards. The devastating earthquake in November 2019 affected some 1.9 million people (about 66 percent of total population) and the country economy, and also damaged several road infrastructures (embankments and retaining walls due to landslides). According to Albania's 2019 earthquake Post-Disaster Needs Assessment damages from road infrastructure assets accounted for a total of 30.41 million euros and losses for 3.01 million euros. In addition, the intense rainfalls in November 2020 and January 2021 resulted in floods and landslides, substantial disruption to traffic and damage to the road and bridge infrastructure and also have left several parts of the country stranded and vulnerable communities isolated. Those events highlighted the high vulnerability of the Albanian road and bridge assets to natural disasters and climate change (including earthquakes, intense floods and landslides, intense windstorms, extreme

temperature, etc.), and their potential heavy impacts on the economy and the populations' livelihood. The above findings confirm the urgency for interventions to enhance the resilience of Albania's road and bridge infrastructure to climate change and natural disasters.

1.3. General Considerations

In geographical terms, the road section Tirana - Ndroq - Plepa, is located in the Western Lowlands of Albania, in the district of Tirana and Durres. Following the constriction of expressway Tirana – Durres this road is occasionally used when there is congestion on the highway or when the road users need a panoramic view accompanied with multiple agricultural tourism spots along the road.

The Tirana-Durres highway is the main economic corridor of the country that connects the capital with the main port, Durres, and the north to the south. About 40 percent of the country's population live across this segment. The planned improvement of the actual highway between Tirana and Durres will include a toll system of payment, so an alternative route has to be offered. For that purpose, the road connecting both cities through Ndroq and Plepa has to be enhanced.

Moreover, the construction of the Adriatic-Ionian Corridor includes a new highway from Vora to Ndroq, and it will attract large amount of traffic coming from the North of Albania and from Tirana. At the current situation, these trips have to be done through Durres, but this new highway will need to be complemented by an enhancement of the Tirana-Ndroq segment due to the Tirana-Rrogozhina flows that will then use that segment.

The Road SH56, Tirana - Ndroq – Plepa, represents an important route with potentially high traffic load. The route connects Tirana with the Adriatic coast and its poor functioning decreases its traffic load, and causes the highway SH2 to have an increased traffic load. The importance of this road can be observed through the fact that it can serve as the backup route in case that SH2 suffers any damages. Both existing road and reconstructed one (SH2 and SH56) are located in the area with high risk from natural hazards, most notably flooding, with annual estimation of damage costs of ~13 million Euros.

Existing road has significant damages, both to the road and to the bridges that are part of it and it needs urgent repairs. Rehabilitation of the road SH56 is planned so that, for the most part, repairs should be made on the existing road sections. However, in some sections significantly improvements to the existing road alignment along the route are needed to meet the design road standards. In turn, this requires intervention in bridges and culverts along the road segment such as rehabilitation, upgrade or construction of a new bridge in a new location.

In fulfilment of the above, Consultancy services for the Feasibility Study and Detailed Engineering Design for the construction works were undertaken by an external consultant between October 2021 and December 2022. The study ranked Beshiri Bridge as one of the priority bridges for investment because of its strategic importance. To ensure that all works are designed following all DRM and resilience recommendations, a second consultant was 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 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. In addition, the Consultancy services for the generation of the Environment and Social Impact Assessment (ESIA) and the Resettlement Action Plan (RAP) was carried out by external consultant between October 2021 and April 2022 through Result based road maintenance and Safety Project (RRMSP) financed by IBRD.

The new bridge will significantly improve the existing road alignment and safety of non-motorized traffic and pedestrians. The new structure is also crucial, as the existing one and the road itself were constructed before WWII and significant deterioration over the years. In addition, the improvement of riverbanks and interventions related to climate change risks would provide protection to the new structure and the facilities on both sides of the Erzeni river.

1.4. Existing Bridge Condition

Beshiri Bridge was constructed before the WWII/reconstructed in 1960 crossing Erzen River and is located at km 3+233 along the interurban road section (SH56) connecting the capital city Tirana to the main port, Durres via Ndroq.

The existing bridge has a total length of 118 meters and width of 6 meters including the sidewalks, with one traffic lane in each direction. The structure consists of 3 spans 25 meters each (concrete arches $L=3 \times 25.5\text{m}$) with a height of around 15 meters from the river bed.

Based on the visual inspection, the bridge shows evident moisture stains on the deck elements (arches) and the substructures surfaces (piers and abutments). On the arches the concrete is deteriorated and in one of them there are oxidized tie rods. The body of the arch has a width of 7.5 MAs a result of the long exploitation time, cracks and voids are visible on the walls above the arches. Damages are observable in the joints of the ties and concrete piers. The piers of the bridge are into the riverbed, without protections. Local scour is observed below the footing base. The bridge deck drainage system doesn't guarantee the proper water discharge out of the bridge. It can be observed that there are signs of previous interventions on structures, with various levels of repairs both on the bridge substructure and/or its superstructure. In addition, no measures appear to have been undertaken against the river erosion and the soil at the foundation level of the piers is significantly eroded due to the flow of water.

The road (SH56) leading to the bridge is a two-lane road ($<2.75\text{m}$) with narrowing along the bridge and no paved shoulders. The traffic volume is moderate and the geometric parameters as well as the pavement condition along the road is considered as poor. The traffic properties of the existing road allow for the design speed of 40-60 km/h, and the longitudinal slope of the road, in general, does not exceed 6 percent.



Figure 1 Beshiri Bridge- Longitudinal view



Figure 2 Beshiri Bridge – top view

1.5. Construction of the Beshiri Bridge

Beshiri Bridge was selected as priority bridge for investment because of its strategic importance following the Feasibility Study undertaken by an external consultant between October 2021 and December 2022. The newly proposed bridge crosses the Erzeni River and will be positioned adjacent to the existing bridge on a newly improved road alignment. The

new bridge will significantly improve the existing road alignment and safety of motorised traffic and pedestrians. The new structure consists of 6 spans, 2x29.5 meter + 4x30 meters, with a total length of 179 meters and will features 2 pedestrian pathways, with width of 2x1.0m.

The superstructure is realised by prefabricated pre-stressed concrete T-beams. The height of the beams is 1.50 meters. These beams are connected by the concrete slab of 0.25 meters thickness and by transversal diaphragm beams with a width equal to 0.30 meters. The deck plan has a total width of 14.10 meters (10.50 meters of which is the carriageway). The beams are positioned next to one another with an inter-axis of 1.32 meters. The beams are simple supported and the continuity of the system consists only by the deck slab.

The abutments, consisting of stem and lateral walls, have a maximum height of 10 meters (including the foundation). The spread footing foundation has dimensions equal to 12.50 x 6.50x1.40=BxLxH m. Above the piles, the concrete reinforcing girder will be constructed, consisting of three columns with circular cross section and the diameter of D=170 cm, on which a concrete girder will be constructed to support the superstructure. The foundations have dimensions 11.00x5.00x1.50=BxLxH m. The diameter of the piles is 1.20m with L=15.00 meters. The pier cap has dimensions equal to 12.00x3.00x1.20 meters. On each pier cap there are two bearing axes.

The engineering design has taken into account the hydrological and geological study. Erzeni River in this location, has a flow of 1270 m³/sec for 1% safety margin. A geological study was conducted at the crossing where it was found that the riverbed of Erzeni River on both sides of it, from Tirana and Ndroqi, is narrowed with deposited soil. As stated in the geological study, for both sides of the bridge, the deposited soil should be removed to the depth of the existing natural soil layers in order to avoid additional load.

The river bed is located at a depth of approximately 4 meters, and consists of grey to blue marl (semi-rock formation). Layers of gravel are placed on the base. Bridge piers are planned from “cast in situ” reinforced concrete piles with diameter Φ 1.2 m, 6 piles each pile with a length of 12.0 m which are included in the basic semi-rock formation.

Since the existing road, at the location of this bridge, has several curves and the existing bridge has serious damages, it was concluded that, for the reasons of safety and practicality, this bridge should be replaced by the new bridge, and on a new improved road alignment.

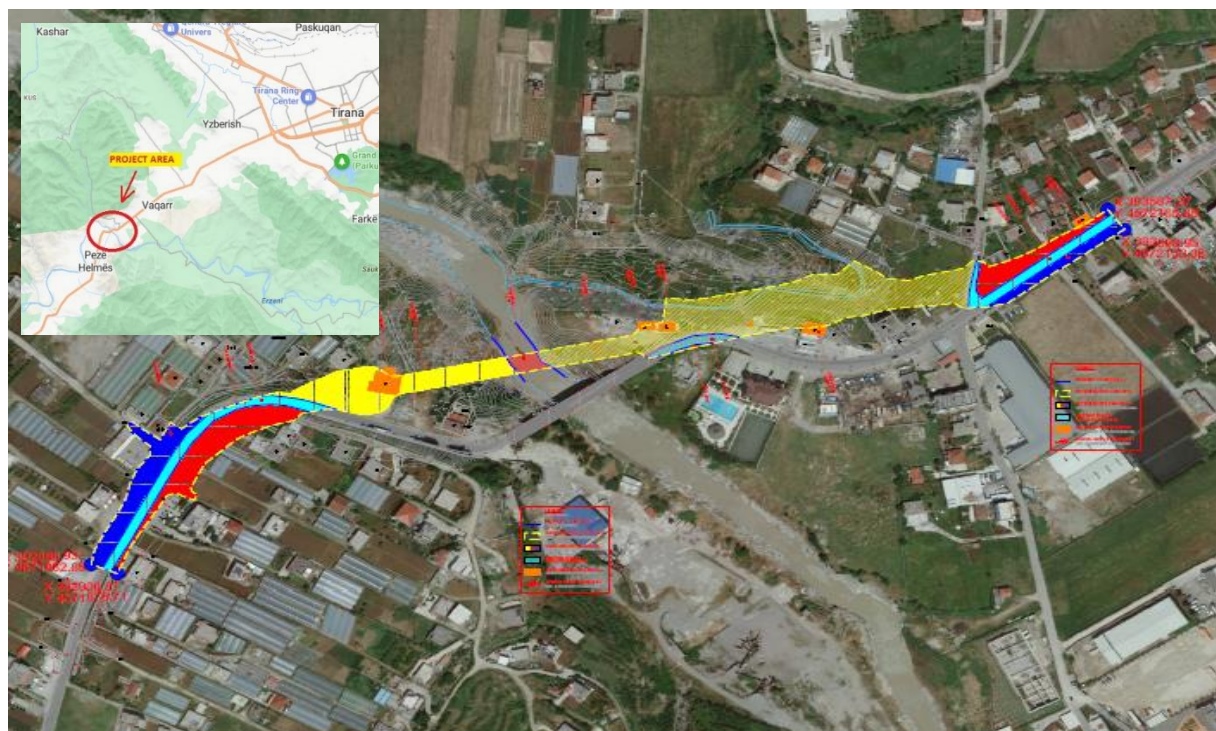


Figure 3 The location of the proposed new bridge

2. OBJECTIVES OF THE ASSIGNMENT

2.1. Overall Objective of the Assignment

The Consultant shall be responsible for the Design Review and Supervision of Construction works including assisting the Albanian Road Authority in reviewing and approving the Contractor's working drawings, supervising the civil works for reconstruction of Beshiri Bridge and ensuring compliance with road safety standards, management of environmental and social risks and impacts in line with requirements of GoA and the World Bank's ESF.

The ultimate objective of this assignment is the the construction of Beshiri Bridge in a timely manner and good quality.

2.2. Specific Objectives

The specific objectives of this assignment are as follows:

- To review the existing engineering design, sign off the final engineering design and assist the ARA/PIT during the preparation of the bidding documents for the reconstruction of Beshiri bridge;
- To carry out supervision of Works for the construction works of Beshiri bridge during their implementation to ensure compliance with the approved design, drawings, specifications, conditions of contract and sound engineering, road safety, etc. practices
- to carry out supervision of activities during the Defect Notification Period, until the Final Taking Over of the works and the issue of the Consulting Firm's Performance Certificate.
- Carry out any other activities necessary for the successful completion of the assignment.

2.3. Results to be achieved by the Consulting Firm

The Project is composed of three main phases, in which the Consulting Firm is expected to achieve the results listed below.

2.3.1 Phase 1 – Review of Detailed Design and preparation of Bidding Documents

- **Design Review:**

The Consultant will carry out all the required updates from the existing design to ensure that the documents and data are correct, complete and conform to the internationally and World Bank (WB) acceptable standards, National Guidelines and standards and advise the ARA/PIT accordingly. Under this phase the assignment will cover the following:

- Carry out design review/modifications specifically for geometrical aspects of the bridge and approach roads and incorporate required modifications. The recommended measures by the Consultant shall not result in overhauling of the structural design of the Bridge and shall require ARA/PIT prior approval. For any changes in the design the Consulting Firm will organize public consultation with the effected communities.
- Review detailed engineering design reports and adequacy of available information and details to ensure constructability of the project;
- Incorporate the outcome and recommendations arising out of the Road Safety Audit (RSA) in the design before the detailed engineering design are finalised. The RSA will be carried out by an independent Road Safety Auditor through a separate assignment to be carried out by third-party consultant;
- Verify correctness of survey / setting out data on site and perform the updates to the Detailed Engineering Design Report and Bidding documents as found appropriate;
- Review Environmental and Social Impact Assessment (ESIA) report and Environmental and Social Management Plan and recommend/make necessary updates, and incorporate relevant mitigation measures into the final design;

- Review bills of quantities (BOQ) in terms of accuracy of quantities and make updates to ensure that all items in the design are captured and quantified appropriately;
- Update the ESMP, and RAP (if needed);
- All required administrative authorizations and permits procedure shall be identified and eventually started;
- Carry out any other activities necessary for the successful completion of the project
- **Detailed Design and Tender Dossier preparation and advice during tender process:**
 - The detailed engineering design as well as all necessary technical support documentation for the projects shall be prepared and signed off electronically (i.e. the Consulting Firm must be licenced and equipped with a valid electronic signature, issued from the relevant authorities) by the Consulting Firm;
 - Assisting the ARA/PIT to Prepare the Tender documents for the procurement of the construction works in accordance with Request for Bids (RFB) procurement procedure;
 - Make sure that Environmental and Social instruments prepared for the Bridge are part of the BoQ and tender documents. Supporting the ARA/PIT during the bidding process by assistance during: site visits, any meeting/briefing with the stakeholders' representatives, possible clarifications requests etc...
 - Assistance (if needed) is provided to the ARA/PIT during the evaluation of bids by evaluation committee.

2.3.2. Phase 2 – Construction Supervision

The ultimate objective of various tasks during Phase 2 of this assignment is the supervision of the Works with due diligence and efficiency and in accordance with sound technical, financial and economic practices.

The Consultant shall perform all duties associated with such tasks to ensure that only the best construction practices are followed, and that the final product is in all respects equal to, or better than that specified, at the most economic cost and is carried out in full compliance with the governing specifications.

In particular, the Consultant tasks under this phase shall include but not limited to the following:

- Works are supervised using, as contractual framework, FIDIC Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer and applicable construction regulations in Albania;
- Monitor that the tasks have been properly performed and the amounts claimed by the contractor(s) have actually and necessarily been incurred in accordance with the requirements of the contracts. Health, Safety and Environmental (HSE) requirements are ensured on sites;
- Monitor and ensure that works are completed within the specified time (i.e: meeting the contractually binding Works Schedule and any Variation Order and/or Extension of Time) and within the Contracted budget. Variations in works are minimal, only done when necessary and processed with the approval of the Employer when there is a cost implication or any change in specification;
- Ensure that financial and quantity related oversight ensuring the works remain within budget, or if the works are likely to exceed the budget early warning is given and the Employer is adequately and timely advised on how to manage the shortfall.

2.3.3. Phase 3 – Defect Notification Period (DNP)

The consultant shall oversee the works during the Defect Notification Period (DNP). In particular, the Consultant tasks under this phase shall include but not limited to the following:

- Support the Contracting Authority (Employer) in the Taking Over of the Works. Ensure that all financial safeguards for the Contracting Authority are in place and remain valid, including guarantees and insurances throughout the works contract duration, until the end of the Defects Notification Period, expected to last twelve (12) months after the Taking Over Certificate is issued.
- Inspect the completion of all outstanding works, including Environmental restoration and grievance resolution, following the issuance of the taking over certificate(s) to ensure that they are completed satisfactorily and within the agreed time period at issue of the certificate(s);
- Provide periodic and/or continuous inspection services during defects notification period and if any defects are noted, instruct the Contractor to rectify;
- Undertake a final inspection of the Works, and after consulting with the PIT/ARA, and all other interested parties, and if satisfied, sign the Performance Certificate at the end of the Defects Notification Period;
- In consultation with ARA/PIT, review and approve the Final Environmental Social Health and Safety Mitigations Report for the Project as prepared by the Contractor.

3. SCOPE OF SERVICE

3.1. Description of the Assignment

The Consulting firm shall perform the duties and obligations of “The Engineer” and be fully responsible for the supervision of the construction Works. This shall include undertaking all the work necessary to achieve a successful project, including any additional technical studies and investigations needed resulting from carrying out the design review and update of the Detailed Designs.

The Consulting firm shall, in general, exercise the full contractual powers of “the Engineer” as identified in the FIDIC Conditions of Contract for Construction (Red Book) Second Edition, in all matters concerning the construction contract and the execution of the Works. An Engineer’s Representative will be appointed, and experienced staff will be assigned to supervise the works on site, all to the final successful completion of the construction contract including the Defects Liability Period.

3.2. Specific Activities

The services to be provided by the Consulting Firm under this contract include, but not limited to the following scope:

Phase 1: Design Review and Bidding Documents

Phase 1 has been divided in 4 (four) tasks, whose details are provided below:

3.2.1. Task 1 – Design Review

The Design Review phase is estimated to be conducted over a 3-months period prior to commencement of Construction.

The detailed design for the Beshiri Bridge was prepared by external Consultant (between October 2021 and December 2022) while the Environment and Social Impact Assessment (ESIA) and the Resettlement Action Plan (RAP) studies were carried out by different

Consultant (between November 2021 and February 2022). All the design documents are available and will be made available to the appointed Consulting firm.

The Consultant will be expected to review and update the engineering designs and the ESIA documents as deemed necessary to ensure the proposed intervention fit for purpose. The design review will be carried out in line with EU codes and standards and in accordance with the Albanian Law, including technical specifications, Bill of Quantities (BoQ) and cost estimates.

The Design Review will aim at checking the previous Design Consultant(s) Detailed Designs (and ESIA documents) to confirm their correctness and suitability for the proposed construction works for the new bridge and pay specific attention to the approach roads. As a result of the design review, the Consultant will propose design changes, and these proposed design changes from the original design that shall be applied to the project where necessary.

At the end of the Task 1 (not later than one month after the start of the assignment) the Consultant shall prepare and submit to the ARA/PIT for approval **Design Review Report** detailing the findings and recommendations of the design and ESIA review process carried out by the Consultant. On approval by ARA/PIT, and after the road Safety audit the Consultant shall proceed with incorporating the agreed improvements to the design.

The final report shall detail the improvements made to the design following the Design Review process, and how these improvements affect the overall construction cost. The Report shall also include a suite of revised/new design drawings and cost estimate as required in the scope of works and agreed with ARA/PIT.

The final detailed design prepared and approved will be signed off and shall be the responsibility of the appointed Consulting firm. The reviewed detailed engineering design undertaken by Consulting firm 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/PIT officials.

3.2.2. Task 2 – Construction Permit

The Consulting Firm shall prepare the documentation to enable the ARA 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 ARA/PIT in applying for and obtaining:

- The Environmental Permit for the Construction Works, from the National Environmental Agency; (if the existing permit expires or need validation)
- Approval on the Technical Review of the Design from ARA Technical Committee and/or appropriate authorities;
- The Construction Permit for the designed Works, from the National Territory Council, the involved relevant municipalities and other public entities.

3.2.3. Task 3 – Tender Documents

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 the designed Beshiri bridge, in accordance with IBRD ICB procurement procedure. The technical documentation (technical specifications, drawings, technical reports, BoQs, Environmental and Social consideration, 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 documents and reports will be produced in English language. Drawings shall be submitted in English and Albanian languages.

3.2.4. Task 4 – Assistance to the PIT during the Works Procurement Procedure

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

The Consulting Firm's services will focus to support and assist the ARA/PIT:

- in providing clarifications and/or additional information to the bidders;
- during the Pre-bid Conference, if requested;
- support to the evaluation committee during evaluation of bids received for technical related clarifications;
- during the preparation of the Works Contract between the ARA and the selected Contractor

3.2.5. Reporting Design Review and Bidding Documents

The Detailed Design shall be submitted within **1 month** after the date of commencement of Consulting Firm's services.

The ARA/PIT shall approve, or otherwise, the Draft Final Detailed Design, within 2 weeks of receipt from the Consulting Firm.

The Final Detailed Design, incorporating any comments received from the ARA/PIT, shall be submitted to the ARA/PIT within 1 weeks after receipt of such comments.

The Consulting Firm shall prepare minutes of all meetings. The minutes of all meetings shall be available for distribution within 2 working days from the date of the meeting.

3.2.6. Submission of Deliverables

The Consulting Firm shall submit the hard + soft copies of Project Deliverables to the ARA/PIT.

All documents and reports will be produced in English language. Drawings shall be submitted in English and Albanian languages. If Albanian language is required for certain documents or reports, for example to obtain a construction permit, the documents may also contain the Albanian language translated document or bilingual documents, where applicable.

The e-copy of the documents 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. The Bills of Quantities shall be prepared in using MS Excel (or equivalent) in English and Albanian.

The Consulting Firm's Cost Estimates shall be in the form of priced Bills of Quantities (BoQ). One single copy (both hard- and soft-copy) of the BoQ filled with the estimated unit prices according to latest market prices for the necessary works will be provided separately and confidentially to the ARA/PIT.

All documents, reports, drawings, minutes, dossiers, etc. indicated in the foregoing shall be submitted in 3 copies, unless otherwise directed.

Phase 2: Supervision of Works

This phase is expected to take 12 months and will commence when the Civil Work Contract for Construction of Beshiri Bridge will be awarded and the ARA/PIT will issue the Notice to Commence to the Consulting Firm.

The Consultant will be required to satisfy the following reporting requirements:

3.2.7. Inception Period

Within 30 days of commencement of Phase 2, the Consulting Firm will submit to the ARA/PIT, for its approval, detailing in full, the arrangements for project supervision, including a detailed implementation plan, and confirmed staffing, together with his general organization and communications with Contractors and ARA/PIT and his proposed administrative procedures for:

- health and safety on site;
- quality assurance;
- monitor and report the progress of the works;
- measurement of completed works;
- checking interim and final payments, their certification for the PIT's payment;
- modifications/variations of work items;
- performance/works programme,
- monitoring and control of costs to prevent overruns,
- process contractor's claims, ensure they are following the contractual requirements, and notify the employer in advance of any risks, or action that would result in claims
- taking over strategy,
- completion of defects,
- final certification and other such matters,
- ARA/PIT's approvals before taking actions.

The Consulting Firm will organize regular coordination meetings with the ARA/PIT and keeping them informed on the progress of this task as well as get their approval on the proposed procedures.

3.2.8. Works Implementation

The Consulting Firm will at all times use good professional judgement and keep the ARA/PIT fully apprised of all relevant matters as they arise during the works implementation. The Consulting Firm's duties are listed, but not limited to, below:

Approval of Contractor's Works Programme

The Team Leader shall review and approve the Contractor's Work Programme, particularly the mobilization of plant and equipment on site, and the deployment of specialized trades and of sub-contractors. The Consulting Firm will pay specific attention to the part of the Contractor's Works Programme and traffic management, to avoid and/or minimize any traffic disruption during construction.

Monitoring the progress of the works

The Consulting Firm's supervision staff shall monitor the actual progress of the Works by preparing progress charts at the end of each month, and comparing the actual progress with the anticipated progress as detailed in the approved Contractor's Works Programme.

The Consulting Firm shall organize monthly progress meetings, keep records and distribute the minutes of the meetings to the ARA/PIT, Contractor, and any other Project stakeholders. The meetings will be conducted in English with simultaneously translation into Albanian if requested. The minutes will be prepared in English and translated to Albanian, if requested by the ARA/PIT.

Measurement of Works

The Consulting Firm is responsible for measurements of the Works shall keep accurate records of permanent works executed by the Contractor on Site. Measurements shall be carried out with the assistance of the Contractor. The measurement sheets and drawings justifying the executed quantities are prepared by the Engineer's staff and signed by both the Engineer's and the Contractor's delegated staff.

Monitoring the and conducting quality assurance of the Works

The Engineer's staff shall carry out inspections of the Works on site as considered necessary to check the performance of the Contractor, and ensure that the execution of the Works is in accordance with the contract documents and sound engineering practice. This necessitates the inspection and testing of any materials and manufactured products that will be incorporated in the Works. Laboratory tests shall be carried out in accordance with the Contract conditions, Technical Specifications, or at the Engineer's specific request.

Health and Safety

Promptly notify the ARA/PIT of any incident or accident related to the Project which has, or is likely to have, a significant adverse effect on the environment, the affected communities, the public or workers, including inter alia, cases of sexual exploitation and abuse (SEA), sexual harassment (SH), and accidents that result in death, serious or multiple injury. Provide sufficient detail regarding the scope, severity, and possible causes of the incident or accident, indicating immediate measures taken or that are planned to be taken to address it, and any information provided by any contractor and/or supervising firm, as appropriate.

Subsequently, at the ARA/PIT request, prepare a report on the incident or accident and propose any measures to address it and prevent its recurrence.

If requested, provide subsequent incident/accident investigation report to the ARA/PIT within 30 days from the time the incident/accident was reported, unless another timeframe is agreed upon with the ARA/PIT.

Monitoring of the financial resources

The Consulting Firm shall immediately advise the ARA/PIT on any potential cost savings, and if the construction costs are likely to exceed the available budget.

Variations and amendments to the Work Contract.

If, in exceptional circumstances, the Engineer assess that a Variation would be essential and / or unavoidable, unless, in his opinion, an emergency occurs affecting the safety of life or of the Works or of adjoining property, or any delay with the variation shall give rise to a substantial cost or time overrun, he shall swiftly provide a preliminary report to the ARA/PIT outlining the basis for the Engineer's valuation of such Variation

In case a variation is approved and instructed, the Engineer following the execution of the variation by the contractor, has to provide the final report based on his/her preliminary report to demonstrate the facts in comparison to his/her above assessments explaining any deviations with the analysis whether they are material.

Performance Guarantees, Insurance Policies, Indemnities, Certificates, etc.

The Team Leader shall check and confirm the adequacy, validity and authenticity of all guarantees, insurance policies, indemnities, certificates, etc. for which the Contractor is liable under the Work Contract.

Surveys, site investigations and setting out of the Works

The Consulting Firm shall check and approve all the Contractor's surveys, investigations and setting out of the Works.

Interim Payment Certificates (IPCs)

The Engineer shall check the Contractor's Interim Payment Statements claiming the performed Works against the Bill of Quantities included in the Work Contract and, after any due corrections, issue Interim Payment Certificates to the ARA/PIT in an agreed format, within the time-frame stipulated in the Work Contract.

Unscheduled works items

For any unscheduled items of Works, the Engineer shall negotiate their prices with the Contractor and make recommendations to the ARA/PIT. The Engineer shall obtain the specific approval of the ARA/PIT before issuing any instructions to the Contractor.

On-site tests during construction

The Engineer shall instruct the Contractor to carry out any on-site tests, including load tests, if considered necessary to confirm the adequacy of the Works. The Engineer's staff shall supervise such tests, record any measurements and verify their compliance with the Contract technical requirements.

Contractor's designs, construction reports and as-built drawings

The Engineer shall ensure that the Contractor submits to the ARA/PIT all surveys, works on site diary, technical reports, construction records and maintenance manuals, including as-built drawings and calculations prepared during the Works implementation period, by the Completion Date. The Engineer shall check and approve such documentation before issuing his Taking Over Certificate.

Provisional Acceptance of the Works

The Engineer shall carry out joint site inspections and surveys and agree any snagging list with the ARA/PIT and instruct the Contractor accordingly, after receiving from the Contractor's a formal request in which he declares that the Works are substantially completed.

When, in the Engineer's opinion, the Contractor has carried out all the requested remedial actions and the Works can be considered as completed, the Engineer shall issue a Taking Over Certificate to the Contractor. If the Work Contract allows for it, the Engineer may issue a Taking Over Certificate of part of the Scope of Works.

Contractor's Claims

The Engineer shall carefully monitor the progress of the Works and provide timely warnings to the employer, in such a way that reasons for contractor's claims are avoided. If Contractor's claims are unavoidable, the Engineer shall evaluate and assist the ARA/PIT on such claims, throughout the procedure stated in the Work Contract.

In the event of receipt of a Notice of Claim from the Contractor, the Engineer shall immediately inform and provide copy of such claim to the Employer, provide him with an assessment of the Contractor's contemporary records and the Engineer's preliminary conclusions with regard to the potential outcome of the claim. The Engineer shall consult with the Employer on any further actions which should be undertaken against the Contractor's claim.

Prior to certification of any payments to the Contractor in relation to any of his claims, the Engineer shall consult and obtain a formal approval from the Employer. The Engineer shall provide the Employer with any particulars to enable the Employer to take a decision with regard to the Engineer's proposed payment to the Contractor.

3.2.9. Reporting during Phase 2

The Consulting Firm will prepare the following reports:

- Inception Report;
- Engineer's Works Programme Report;
- Monthly Reports;
- Site Meetings and other Meetings;
- Completion Report;
- Quality Assurance Dossier, finalized As-Built – Drawings, including maintenance manuals;

Phase 3: During Defect Notification Period (DNP)

The duration of this phase is expected to last 12 months following of the issuing of Taking Over Certificate for Construction of Beshiri Bridge.

The Consulting firm shall arrange inspection the works at appropriate intervals during the Defects Notification Period, identify and supervise any remedial work that may be required and issue Performance Certificate to the Contractor.

The Consulting Firm shall ensure that the Contractor fulfils his contractual obligations during the Defect Notification Period, including rectifying all defects in the Works in a timely manner.

3.2.10. Inspections during the DNP

The Consulting Firm shall undertake quarterly inspections during the DNP. In the event that the ARA/PIT calls the Team Leader to inspect the Works for a particular defect assessed on Site, in addition to the scheduled quarterly inspections, such ad-hoc inspection shall be considered as a quarterly inspection and will cover the whole works. Following his/her inspections, the Team Leader shall:

- Notify and instruct the Contractor on all the defects found, and instruct him accordingly;
- Prepare an Inspection Report on the status of the Works and on the operation and maintenance of the Works, to date. Photos, measurements and any other evidence of the status of the Works will accompany such report.

3.2.11. Final Inspection on expiry of the DNP

The final inspection of the whole works Period shall be carried out just before or on expiry of the DNP in the presence of at least representative from the Contractor and the ARA/PIT. Any outstanding defects shall be issued to the Contractor as a snag list within the time stipulated in the work contract. When the snags have been remedied, another joint site inspection shall take place and if, in the Engineer's opinion the works have been completed/remediated satisfactorily, the Team Leader will issue the Final Taking Over Certificate. The results of the inspections and the issuing of the Final Taking Over Certificate will be covered in the Consulting Firm's Final Report.

3.2.12. Reporting during Phase 3

The Consulting Firm will prepare the following reports:

- Quarterly Inspection Reports during DNP;
- Final Report.

Details of the content of the reports for both Phase 2 and Phase 3 are included in Annex I, which is part of these TOR.

4. LOGISTICS AND DURATION OF THE ASSIGNMENT

4.1. Location

The assignment of the Consulting Firm's experts shall take place in the vicinity of Beshiri bridge, where the Consulting Firm should ensure that its experts have the operational basis, in a decently arranged and self-equipped setting.

Note: The main operational base for the Project during design phase will be in Tirana.

4.2. Commencement Date and Phases Implementation Period

The intended commencement date of the assignment is in early 2024, depending on completion of service contract award procedure.

The total duration of this Service Contract will be **28 months** from Notice to Commence issued to the Consulting Firm and will be spilt into the phases listed below:

Phase 1: **Three (4) months** duration, consisting of 1 months for the preparation of Preliminary and Detailed Design + 3 months for providing assistance to the ARA/PIT in obtaining the Construction Permit and during the bidding period.

Phase 2: **Twenty-four (12) months** for the duration of the Works Supervision during the execution of the Works

Phase 3: **Twelve (12) months** for the duration of Defects Notification Period (DNP).

5. IMPLEMENTATION TIMEFRAME AND DELIVERABLES

The Consulting Firm will close a Service Contract with the ARA which will be divided into three parts, as follows:

- **Part 1** (corresponding to Phase I for Design Review) shall be structured and paid in Lump Sum basis, in which the Consulting Firm will carry out the tasks described for Phase I in Chapter 3.2 of this TOR. The level of efforts for Phase I is 11 (eleven) person/month.

The Consultant will be remunerated on the basis of the approved deliverables described in Chapter 3.2 and Phase 1, at the conditions described in the table below:

Deliverables	Deadline	Percentage of Global Price Component of the Service Contract
Reviewed Detailed Design (Task 1)	Within 1 month from the date of commencement of Consulting Firm's services	50%
Construction Permit (Task 2)	Within 2 months from the date of commencement of Consulting Firm's services	25%
Preparation of Bidding Documents (Task 3)	Within 2 months from the date of commencement of Consulting Firm's services	15%
Assistance during the Works Procurement Procedure (Task 4)	Within 4 months from the date of commencement of Consulting Firm's services	10%

Table 1: Deliverables and payments schedule – (Phase I for design review)

- **Part 2** (corresponding to Phase II for supervision) shall be structured and paid as a time-based assignment in which the Consulting Firm will carry out the tasks described for Phase II in Chapter 3.2 of this TOR. The level of efforts for Phase II is 43 (forty-three) person/month. During this phase, the Consultant must arrange its site supervision inputs in line with the progress of the civil works. The contract price will not be increased due to delays in the implementation of works.
- **Part 3** (corresponding to Phase III for supervision during DNP) shall be structured and paid as a time-based assignment in which the Consulting Firm will carry out the tasks described for Phase III in Chapter 3.2 of this TOR. The level of efforts for Phase III is 5 (five) person/month. During this phase, the Consultant must arrange to inspect the works at appropriate intervals during the Defects Notification Period, identify and supervise any remedial work that may be required and issue Performance Certificate to the Contractor. The contract price will not be increased due extended defect notification period.

6. REQUIRED QUALIFICATIONS AND EXPERIENCES

6.1. Selection

The service 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 and November 2020, in accordance with Quality and Cost Based Selection Method, Lump - Sum Contract for the Design Phase and Time-Based Contract for the Supervision Phase. The Bank requires that firms or individuals involved in Bank IPF procurement shall not have conflict of interest.

6.2. Consultant’s Profile

The Consultant Firm or J/V consortium must be able to demonstrate previous experience in similar assignments as follow:

- At least 10 years of previous international experience similar to the assignment; and
- At least 2 similar supervision contracts have been implemented within 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:

- Past experience in similar assignments (60 points)
- Firms organization and staffing (10 points)
- Core business and years in business (30 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, unless specifically requested and approved by the ARA/PIT, upon written request by the Consulting Firm.

The total contract amount (for both lump-sum and time-based parts of the assignment) 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.

6.3. Team Composition

In order to execute his obligations, the Consulting Firm shall provide suitable, experienced and qualified experts for the assignment with experience in design and works supervision, to provide sound advisory and technical services to the ARA/PIT and shall prepare a work programme, and a corresponding manning schedule, showing the timing of activities and the corresponding staff input required for execution of the services. All experts who have a crucial role in implementing the contract are referred to as key experts and their CVs should be submitted in bid.

The estimate of the key professional staff requirements is only indicative and could be construed as skill mix requirements for these Services. The Consultant shall employ only such key staff whose CVs have been approved by the ARA/PIT. In addition to the key personnel, the Consultant shall determine the support staff to assist with design review and on-site supervision of the works.

The Consultant must provide in the proposal CVs for all professional and technical staff including the duration in person-months during which the staff will be deployed under the Contract.

The working language of the project is English. All reporting outcomes shall be of Albanian and English proofreading quality. Day-to-day communication language with the ARA/PIT will be either English or Albanian language. An adequate number of Albanian speakers shall be assigned at the field level to ensure smooth communication among all participants, direct and indirect, of the Project.

6.3.1. Key Staff Requirement

The profiles of the key experts for this contract are as follows:

Team Leader (Key Expert 1)

A Team Leader shall retain the overall responsibility for the management and coordination of the assignment. He/She shall lead and coordinate the activities of the Design review and Engineering team. He/she is expected to be responsible for contractual matters and the communication between the Consulting Firm, the Contractor(s), the Employer as well as the relevant authorities. During works supervision phase he/she will act as Consulting Firm's Team Leader / Project Manager's representative. The Team Leader (TL) shall be based either on site or in Tirana, but he/she is expected to participate to all progress meetings and management meetings where his/her presence may be required.

During the design and construction periods the TL shall be present in Albania. During DNP the Team leader might be present on a part-time basis, in accordance with the Consulting Firm's proposal and as required for successful completion of the Services.

Qualifications and skills

The expert shall possess:

- University Degree + Master of Science in Civil Engineering. A postgraduate qualification in Structure/Bridge Engineering is an added advantage;
- The Team Leader is expected to possess as minimum fifteen (15) years of post-graduate professional international experience in the field of design/construction of road bridges and works supervision projects of similar size and complexity.
- Fully familiar with Project procedures, especially WB procurement and project implementation procedures.
- He/she has acted as Team Leader or similar position in bridge and/or road construction projects of similar size and complexity.
- Experience in managing works contracts under FIDIC or other international recognized conditions of contract.
- He/she shall be fluent in English, and good reporting skills both written and oral.

The Team Leader shall be the head of design review team responsible for all technical and administrative aspects of design review and design modification activities on site, which include but not limited to road surveys, site investigation, design review of road pavement structure, bridge structures, measurement of quantities and quality control of prepared design review reports, bidding documents and updated cost estimates. He/she shall be the principal contact person between the design review and engineering team and the ARA/PIT

Bridge/Structural Engineer (Key Expert 2)

The Bridge/Structural Engineer shall be responsible for structural analysis and design review of the bridge including structures and its substructure and superstructure elements.

Qualifications and skills

- University Degree + Master of Science in Civil Engineering or equivalent. A postgraduate qualification in Bridge/Structural Engineering will be an added advantage;
- He/she shall have minimum fifteen (15) years of proven international professional experience in designing of major bridges, grade separated intersections/flyovers, elevated highways and drainage structures.
- He/she shall have previous experience in similar capacity in designing of major projects of similar nature.
- He/she shall have very good English language skills;

Highway Engineer (Key Expert 3)

The Highway Engineer shall be responsible for design review and improvement of the geometrical aspects of the bridge and approach roads to incorporate required modifications for Phase 1. He/She shall also assist the Team Leader in the reviewing and improving road safety aspects, acting under the Team Leader's control and coordination.

Qualifications and skills

- University Degree + Master of Science in Civil Engineering or equivalent. A postgraduate qualification in Highway Engineering will be an added advantage;
- He/she shall have minimum fifteen (15) years of post-graduate professional experience in highway studies and designs projects of similar size and complexity.
- Previous design experience in sustainable and/or landscaping and greenery design will be an advantage;
- Experience with works bidding documents elaboration under FIDIC or other international recognized conditions of contract will be an advantage.
- He/she shall have very good English language skills.

Topographical Surveyor (Key Expert 4)

The Topographical Surveyor shall be responsible for checking that there is adequate corridor for construction of road and structures, locating and rechecking accuracy of bench marks on the project and reviewing/checking the accuracy of all the survey data used in designing.

Qualifications and skills

- University Degree in Geodetic Engineering.. A postgraduate qualification in surveying is an added advantage;
- He/she shall have minimum ten (10) years of previous professional experience in land surveying related to projects of similar size and complexity;
- He/she shall have very good English language skills;

Quantity Surveyor (Key Expert 5)

The Quantity Surveyor shall be responsible for ensuring that all measurements and evaluation of designed works conform the specifications and actual quantities measured from drawings and design layouts.

Qualifications and skills

- University Degree in Quantity Surveying or Building Economics. A postgraduate qualification in Quantity Surveyor or Building Economics is an added advantage;
- He/she shall have minimum fifteen (15) years of previous professional experience as a Quantity Surveyor in projects of similar size and complexity;
- He/she shall have very good English language skills.

Geotechnical Expert. (Key Expert 6)

Qualifications and skills

- University Degree in civil engineering with specialization in Geotechnical engineering
- He/she shall have a minimum of 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)
- He/she shall have very good English language skills.

Environmental and Social Specialist (Key Expert 7)

The Environmental and Social Specialist shall review the environmental impact assessment of the project and prepare/review Environmental impact assessment/Environmental and Social Management Plan in compliance with the World Bank Environmental and Social Standards and National Legislation, in order to minimize any negative impacts that the project will have on the environment.

Qualifications and skills

- University Degree in Environment Management or related discipline. A postgraduate qualification in Environment Management or related discipline is an added advantage;
- He/she shall have minimum ten (10) years of previous professional experience related to environmental and social issues management, initiatives and implementation of mitigation measures related to civil engineering infrastructure projects.
- He/she shall have previous experience in preparation of RAP and EIA projects of similar nature.
- Previous experience with the World Bank or other FI Environmental and Social Management Policies or Standards will be considered an advantage.
- He/she shall have very good English language skills

6.3.2. 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 to assist with design review and on-site supervision of the works. The following team composition is indicative only and can include home office back-up specialists and support staff such as Assistant Traffic Engineer, Road Safety Expert, Drainage Engineer, Assistant Geotechnical Expert, Hydraulic Engineer, OHS Specialist, CAD Draftsman, Office Management Secretary, as required. The CV for experts other than the key experts 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.

6.3.3. Staff Requirement during Defects Notification Period

The Consulting Firm shall assign at least two of key personnel in addition to the Team Leader to lead a team of experts to conduct inspections during the Defect Notification Period as described in Section 3 of the Terms of Reference.

6.3.4. Estimated Input for Key Staff

The allocation of person-months for the respective phases of consulting services is as shown in Table 2 below:

STAFFING		Number of staff	Phase 1 4 months	Phase 2 12 months	Phase 3 12 months DNP (m/m)	Total m/m
			Design Review (m/m)	Supervision of Works (m/m)		
Key Staff						
KE 1	(Team Leader) Senior Bridge / Structural Design Engineer	1	3	12	2	17
KE 2	Bridge/Structural Engineer	1	1	7	2	10
KE 3	Highway Design Engineer	1	1	1		2
KE 4	Topographic Surveyor	1	1	3	-	4
KE 5	Quantity Surveyor	1	1	7	1	9
KE 6	Geotechnical Expert	1	1	3	-	4
KE 7	Environmental and Social Specialist	1	1	2	-	3
Non- Key Staff						
NK 1	Hydraulic Engineer	1	1	3	-	4
NK 2	Road Safety Specialist	1	1	2	-	3
NK 3	Occupational Health and Safety (OHS) Specialist	1	-	3	-	3
Total for Staff		10				59

Table 2: Allocation of Person-Month by Phases

7. FACILITIES TO BE PROVIDED

7.1. ARA's Input and Counterpart Personnel

ARA will not provide any counterpart personnel. The ARA/PIT will ensure that the Consultant has access to all relevant information and data in the Client agency that is deemed necessary to the performance of the Services. This includes a draft copy of Engineering Reports, drawings and any other available data related to Beshiri bridge for design review stage. This also includes available previous studies on its inventory and condition information available to ARA and which ARA considers essential for the proper conduct and execution of this assignment. The Consulting Firm will arrange for their translation, if needed. The possible failure to solve some of the Consulting Firm's problems encountered locally will not dispense the Consulting Firm from meeting its contractual obligations vis-à-vis the Contracting Authority

7.2. Facilities to be provided by the Consulting Firm

The Consulting Firm shall ensure that experts are adequately supported and equipped. In particular the Consultant 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.

It is expected that during the assignment various laboratory and field tests will be required. During Phase 1 Consulting Firm will be responsible for all the costs associated with carrying out all laboratory and topographic surveying. During the Phase 2 and Phase 3, the work contractor will be responsible for carrying out all laboratory and field tests in accordance with the quality assurance plan and Consulting Firm instructions. The costs during this phase for all material testing in the contractor's own laboratories at site, or in providing mobile laboratories or in the independent laboratory available in Albania, are included in the contracts BoQ. If the Consulting Firm wants any additional material testing, it will request the contractor and the contractor will be responsible for providing the results if and when requested.

If the Consulting Firm is a consortium, the arrangements should allow for the 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.

The Consulting Firm will be expected to arrange a main office accommodation in Tirana close to the ARA/PIT office, of a reasonable standard and sufficient working space for the experts working on this assignment. 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.

ANNEX I

REPORTING REQUIREMENTS DURING THE SUPERVISION & DNP PHASE

Inception Report

The Team Leader will submit an Inception Report within two weeks after the issue of the Notice to Commence to the Contractor.

The Inception Report will be prepared as a strategic plan for the successful completion of this phase of the Project and will address the Consulting Firm's scope of services, organization/staffing, schedules, deliverables, administrative procedures (general communications, correspondence routing, document control, status reports, invoicing, etc.) and reporting procedures.

So, this report shall elaborate the operational strategy for provision of services against the contract and shall include (not limited to) a work plan, specific outputs and milestones, anticipated results, timeframe, use of budget and inputs against proposed activities, and quantified indicators of achievement of project objectives.

The Inception Report will also include recommendations for solutions to possible anticipated problems.

Engineer's Works Programme Report

In view of the above, The TL shall prepare the "Engineer's Work Program Report", within 28 days after the submission of the Contractor's Work Program. This report which will include, at least:

- Copy of the Contractor's detailed cash-flow estimates, in monthly periods or in accordance with milestone-based payment schedules, of all payments to which the Contractor will be entitled under the Contract;
- Copy of the Contractor's detailed Works Program, showing the order in which the Contractor intends to carry out the Works, including general description of the methods which the Contractors intends to adopt, and of the major stages, in the execution of the Works and other information as may be deemed necessary and appropriate by the Consulting Firm;
- A list of critical path items and the related Contractor's estimates of delivery periods, accompanied by the Engineer's estimate of the latest delivery periods for each critical path item to warrant the completion in accordance with the Contract;
- Details of main Plant(s) and Equipment the Contractor intend to use during the implementation of the Works;
- Materials and plant selected by the Engineer for inspections and tests, including an appropriate specification of the tests to be carried out and the associated arrangements;
- Names and particulars, including gender, of the Contractor's representative and other superintendence personnel approved by the Engineer in accordance with the Contract;
- Names of subcontractors consented by the Engineer in accordance with the Contract and, for each subcontractor, the cost and quantity of the subcontracted Works; this section will include a brief justification for the Engineer's consent;
- Copies of all relevant notices, consents, approvals, certificates or determinations given or issued by the Engineer within the reported period; and
- Other information as may be required by the ARA/PIT.

Monthly Reports

The TL shall submit Monthly Reports to the ARA/PIT, within 10 days after the end of the relevant month. The report shall be submitted in a format agreed with the ARA/PIT. The key

issues to be addressed in each Monthly Report shall include, but not be limited to:

- Safety: An update of accidents at work, an appraisal of the safety of the Contractor's working practices, and how safety transgression may be remedied.
- Quality: A summary of the Contractor's work and materials, and any problems related thereto, with recommendations for improvements.
- A summary of all samples and tests carried out on materials, plant and the Works.
- Progress: A summary of the progress of the Works, with particular reference to the major activities and those on the "critical path" for completion. The report shall detail delays and difficulties encountered and proposed measures to alleviate them.
- A copy of the Contractor's approved Works Programme marked up to show actual progress to date shall be included in the reports.
- Resources: A schedule of the Contractor's labour, staff, equipment and materials resources with an updated appraisal as to whether or not these are adequate to complete the Contract on time.
- Contract Administration and Cost: A revised projection of the final cost of the Works which takes into consideration the following:
 - the value of the interim payment certificates to date
 - the valuation of any variation/modification order issued on the Contract
 - substantiation and evaluation of any claims submitted by the Contractor
 - the cost implications of any time overruns with or without extensions of time being granted to the Contractor
 - the value of the completed Works to date.
- Tabulated summaries of:
 - Site Instructions issued to date
 - Variation/modification orders issued to date
 - Claims notified by the Contractor
 - Interim Payment Certificates certified by the Engineer, clearly showing the date in which, the Contractor has received payment, the repayment of any Advance Payment, and the amount of Retention Monies withheld from payment
 - Provisional Sums and Contingencies used to date
 - Other contractual issues, e.g. claims made on insurance policies
 - The Minutes of the Site Meetings and any other meeting attached as an appendix
- Activities of the Supervision Consulting Firm
- An appraisal of the working relationship with the ARA/PIT on the works contract and with the Contractor which details any specific administrative, supervision or inspection problems encountered, and recommendations on how these may be overcome
- A summary of the work carried out under the TL's other duties, viz. review of proposed changes to the design of the Works, and their revision
- A summary of the supervision staff and any other relevant information, such as visits to Site by ARA/PIT on the works contract, the TL, meetings held and the availability of facilities etc.
- A summary of the disbursements made to the Consulting Firm.

Site Meetings and other Meetings

The TL shall prepare minutes of Site weekly and monthly meetings, which shall be held on a regular basis, and all other ad-hoc meetings. Minutes of all meetings shall be available for distribution to all the Project Stakeholders, within 24 hours after the meeting.

Completion Report

On completion of the Works Contract (that is, upon the issue of the Taking Over Certificate), the TL shall prepare and submit a Completion Report to the Employer. The Completion Report shall contain, at least:

- copies of the partial acceptance certificate, if relevant.
- verified “as-built drawings” showing all revisions to the design of the Works,
- an overview of the actual progress of the Works, including details of reasons for delays and/or extensions of time,
- commissioning reports for the various mechanical and electrical components of the Works,
- an overview of site safety procedures, any problems in this respect and recommendations for improvements,
- an overview of the Contractor’s working practices and resources,
- an assessment of the quality of materials and workmanship, any problems in this regard and recommendations for improvement,
- details of technical difficulties encountered and how these were resolved,
- details of administrative difficulties encountered and how these were overcome, and
- an appraisal of the strengths and weaknesses of the design of the Works and the Contract Documents, including design details and drawings, final bills of quantities, with recommendations on how improvements can be achieved for future similar contracts,
- Financial status of the Civil Work Contract, to date.

Quality Assurance Dossier

In addition to the Completion Report, the TL shall prepare and submit a comprehensive Quality Assurance Dossier containing all original requests for inspections, approvals, test forms and certificates relating to the construction of the Works, and to the materials and manufactured products incorporated into the Works. Documentation in the QA Dossier shall include, but not limited to:

- all manufacturer’s test certificates for materials;
- performance test certificates and warranty agreements, where applicable, for mechanical, hydro sanitary and electrical components of the Works;
- test results and approvals for:
 - earthworks (grading, compaction etc),
 - foundation tests
 - concrete (cement, aggregates, mix designs, strength, formwork, reinforcing steel etc),
 - utility connection tests reports
 - manufactured products
 - any other tests required as per Technical Specifications
 - Final Energy efficiency report and certification;
- Maintenance manuals for any upgraded utilities networks and/or equipment.

Inspection Reports during the DNP

During the DNP, Team Leader shall prepare and submit Quarterly Inspection Reports, within 2 weeks of carrying out each required Site Inspection.

Each Inspection Report shall detail all defects found, remedial measures proposed, and the Contractor's response thereto. It shall also report on the condition of the Works, particularly in respect to the operation and maintenance by the beneficiary institutions, and any bad practices in this regard.

Final Report

Team Leader shall prepare and submit a Final Report (FR) to the ARA/PIT after the issue of the Final Taking Over Certificate by the end of the Consulting Firm's assignment.

The FR shall summarize information on the Consulting Firm's activities carried out throughout his assignment period and demonstrate that the Consulting Firm's obligations under the Service Contract have been fulfilled with due diligence, as appropriate.

The FR shall be divided into the following, but not limited to, sections:

- Consulting Firm's Services during Phase 1;
- Consulting Firm's Services during Phase 2; in particular, shall contain details of all remedial works carried out by the Contractor to rectify any defects found and shall comment on and make recommendations with regard to the Beneficiary institution's operation and maintenance practices
- Financial status of the Project, related to the civil works contract disbursements and pending Contractor's/Employer's claims, if any;
- Financial status of the Service Contract;
- Lessons learnt and Consulting Firm's final recommendations.