

Engineering design review, including climate and disasters resilience

1. Background and Justification

- 1.1. IDB is preparing a loan operation (CA-9 Road Corridor Development - GU-L1170), which seeks to modernize and expand the productive infrastructure of the country, through the rehabilitation, improvement, and maintenance of the CA-9 North highway, which will result in reduced logistic costs and improved access to logistics corridors, the movement of people and regional integration, and the resilience of infrastructure to the effects of climate change (CC).
- 1.2. The project will finance the expansion of the first stretch of the corridor (27.6 km) between El Rancho – Usumatlán, and it will activities related with: (i) expansion to four lanes highway, including construction works and improvement of structures, interchanges and pavements, the reconfiguration of roads and property acquisitions, and four bridges; (ii) the supervision of designs and works to ensure compliance with design standards that incorporate socio-environmental aspects, road safety measures and disaster risk reduction and adaptation to CC, as well as technical supervision services in the delivery of completed works; (iii) institutional strengthening for design and supervision road investments, including activities to stablish an executing mechanism that contribute to leverage resources to extend the CA-9 invest to the Caribbean port, to improve the transport sector management and cross-cutting themes, as road safety and climate change (CC); and (iv) project management.
- 1.3. The CA-9 North section of this corridor is of vital importance for the country's exports. In contrast to the southern section (CA-9 South "A") that connects Guatemala City with Puerto Quetzal and is the main route for imports, the expansion of the northern section has not been completed (only a third have 4 lanes), and this expansion represents significant challenges for the Ministry of Communications, Infrastructure and Housing (CIV), and its road execution entity (DGC). Among them is the need to invest resources and allocate specialized technical staff to evaluate alternatives to achieve detailed engineering designs and anticipate land acquisition, together with observing appropriate socio-environmental safeguard standards and guidelines to develop a resilient and sustainable infrastructure over the entire life cycle of the project.
- 1.4. The team`s mission: Established in 1959, the Inter-American Development Bank ("IDB" or "Bank") is the main source of financing for economic, social, and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors in its borrowing countries. The Transportation Division has one of the largest project portfolios within the IDB, with more than US\$11 billion in ongoing operations and with average approvals per year of US\$1.5 billion.

2. Objectives

- 2.1. The objective is to support the technical team of the CIV in the reviewing process of the project design studies for the CA-9 corridor expansion, including, among others, and evaluation and suggestions to improve the climate and disaster resilience of the infrastructure design.

3. Scope of Services and Key Activities

3.1. The consultancy will:

- a. Review and evaluate the final engineering designs, including new constructions in by-passes and corridor intersections.
- b. Review the execution methodology and the results of the input studies for the design of the works (topography, geotechnics, hydrology, etc.).
- c. Review the executive studies and designs prior to the construction and verify an appropriate control and monitoring during execution. The studies, particularly those in the field, and designs must have a degree of sufficiency, consistency and reliability such that eventual budget deviations during the execution of the works are within the contemplated unforeseen margin.
- d. Review the descriptive reports of the works and their construction plans, in order to verify compliance with the applicable technical standards (ASSHTO, ASTM, NIC-2000 and SIECA Manual), as well as the adoption of the most efficient solutions from the beginning. economic point of view.
- e. Review the work budget, including the work unit cost calculation reports, verifying that the prices are in line with market costs for similar works.
- f. Assess design risks and estimation of their eventual impact on the budgets, defining the pertinent recommendations to mitigate them.
- g. Hold and coordinate meetings with DGC officials to present the results of the design review.

4. Deliverables and Expected Products

4.1. The consultant will prepare the following reports:

- a. Work plan for the optimal development of the consultancy.
- b. Report 1: It will include the partial report of the activities carried out by the consultant to comply with that indicated in section 3.1.
- c. Report 2: It will include the final report of the activities carried out by the consultant to comply with that indicated in section 3.1. It must contain: (i) a summary of the relevant aspects of the execution of the different stages of the project; (ii) a technical comparison between the original designs and final designs; (iii) a review and evaluation of the final supervision report, the “As-Built” plans and the maintenance plan; and (iv) lessons learned and recommendations for future projects.

5. Project Calendar and Milestones

5.1. The consultancy will have the following calendar:

Deliverable	Deadline
Work plan	By 15 days after signing the contract
Report 1	Until 270 days after signing the contract
Report 2	Until 540 days after signing the contract

6. Report requirements:

- 6.1. The preparation of the document must be compatible with the requirements of the Guatemala regulations, as well as with the requirements of the IDB's Disaster Risk Management Policies (OP-704), and the Disaster Risk Assessment Methodology and Climate Change and resilience strategies to the effects of Climate Change and other applicable standards.
- 6.2. Interested firms must submit a proposal including the four sections (information) listed below and must not exceed ten (10) pages (main sections without annexes).
 - a. Scope of work: This section should include a description of the specific activities that will be carried out in order to perform the required tasks. This includes all proposed site visits / surveys, documents to be reviewed, interviews, etc. If the Consultant considers that there are additional tasks, or components within a required task that are justified or that he would like to suggest, these should be identified and delineated as "Optional Tasks".
 - b. Human team of the project and its qualifications: This section should include the name of any subcontractor. Team members should have the relevant technical skills, specific previous experience with Projects similar to this one, specific experience in the country and specific knowledge about it, and specific language knowledge.
 - c. Schedule: A proposed schedule for the execution of the activities must be submitted. The schedule should indicate the proposed dates for the start and end of each of the tasks required on the job and any important or specific milestones of the Project (i.e., delivery of the report, etc.).
 - d. Proposed cost: A total global budget in US dollars must be submitted for the proposed work. In addition, a detailed list of estimated costs per task (i.e., tabular format) should be presented that includes direct labor costs (i.e., number of hours or days per team member and their associated costs per unit) and indirect labor costs (i.e., travel, per diem, subcontractors, etc.). Any assumption related to the cost estimate must be clearly specified. In case you are going to recommend any Optional Task, you must provide a cost estimate separately. The tasks excluded from the scope must be clearly indicated.
- 6.3. All reports and documents related to this contract must be able to handle applications compatible with Microsoft Office. The parties can exchange and deliver information electronically (email). Reports must be submitted in electronic format.

7. Monitoring and reporting

- 7.1. The IDB will receive the consulting products, which will be evaluated by the project team leader (who may have the support of an external consultant hired to support this evaluation).
- 7.2. If the need for adjustments in the document is identified, the information will be passed to the consultancy by the project team leader.
- 7.3. Only after the acceptance of the document by the team leader, with the possible adjustments that may be due, will the payment due for each deliverable be made.

8. Other requirements

- a. Citizenship: The consultancy must be from one of the 48 IDB member countries.
- b. Consanguinity: In accordance with the applicable Bank policy, applicants with family members (including the fourth degree of consanguinity and second degree of affinity, including spouses) who work for the IDB, IDB Invest or IDB Lab as employees or contractual partners with additional contractual force, do not will be eligible to provide services to the Bank.
- c. Experience: The consulting firm must have the following profile:
 - General Experience: Being a legal entity whose corporate purpose includes the execution of services related to road engineering projects.
 - Specific experience: Having carried out at least five (05) projects on topics related to this project.
 - Professional team: The consulting entity must form a team made up of at least the following professionals:
 - A coordinator with postgraduate study in subjects related to this consultancy. Must demonstrate a minimum professional experience of ten (10) years. Experience working in IADB projects is highly desirable.
 - Two specialists with a bachelor's degree in engineering or related subjects for the purpose of the consultancy. Master's degree (required) or doctorate (desirable) in subjects related to consulting (environment, disaster risk management, etc.). Must demonstrate a minimum professional experience of five (05) years.
- d. Languages: The documents must be prepared in Spanish.

9. Supervision and reports

- 9.1. The person responsible for coordinating the activities will be the project team leader, Mauro Alem (mauroa@iadb.org).

10. Payment schedule:

Payment	Deliverable	Percentage (%)
1	Work plan	15%
2	Report 1	40%
3	Report 2	45%
Total		100%

Preliminary Environmental and Social Evaluation Complementation Studies for the CA-9 Road Corridor Development Project (GU-L1170)

1. Background and Justification

- 1.1 IDB is preparing a loan operation (CA-9 Road Corridor Development - GU-L1170), which seeks to modernize and expand the productive infrastructure of the country, through the rehabilitation, improvement, and maintenance of the CA-9 North highway, which will result in improved access to logistics corridors, the movement of people and regional integration, and the resilience of infrastructure to the effects of climate change (CC).
- 1.2 The project will finance the expansion of the first stretch of the corridor (27.6 km) between El Rancho – Usumatlán, and it will activities related with: (i) expansion to four lanes highway, including construction works and improvement of structures, interchanges and pavements, the reconfiguration of roads and property acquisitions, and four bridges; (ii) the supervision of designs and works to ensure compliance with design standards that incorporate socio-environmental aspects, road safety measures and disaster risk reduction and adaptation to CC, as well as technical supervision services in the delivery of completed works; (iii) institutional strengthening for design and supervision road investments, including activities to stablish an executing mechanism that contribute to leverage resources to extend the CA-9 invest to the Caribbean port, to improve the transport sector management and cross-cutting themes, as road safety and climate change (CC); and (iv) project management.
- 1.3 The CA-9 North section of this corridor is of vital importance for the country's exports. In contrast to the southern section (CA-9 South "A") that connects Guatemala City with Puerto Quetzal and is the main route for imports, the expansion of the northern section has not been completed (only a third have 4 lanes), and this expansion represents significant challenges for the Ministry of Communications, Infrastructure and Housing (CIV), and its road execution entity (DGC). Among them is the need to invest resources and allocate specialized technical staff to evaluate alternatives to achieve detailed engineering designs and anticipate land acquisition, together with observing appropriate socio-environmental safeguard standards and guidelines to develop a resilient and sustainable infrastructure over the entire life cycle of the project.
- 1.4 The team's mission: Established in 1959, the Inter-American Development Bank ("IDB" or "Bank") is the main source of financing for economic, social, and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors in its borrowing countries. The Transportation Division has one of the largest project portfolios within the IDB, with more than US\$11 billion in ongoing operations and with average approvals per year of US\$1.5 billion.

2. Objectives

- 2.1 The objective of this consultancy is to complement the Preliminary Environmental and Social Assessments of the Program GU-L1170, in accordance with Annex of this TORs (including consultations); that the terms of the IDB will be called "Environmental and Social Analysis (AAS) and complementary Environmental and Social Management Plans (PGAS)", in order to cover the existing gaps with the IDB's environmental and social safeguards.

2.2 In addition, the consultancy must carry out an Environmental and Social Management Framework for the project that allows the Environmental Impact Statements in progress and in the future to be prepared in accordance with the IDB's socio-environmental safeguards.

3. Scope of Services and Key Activities

3.1 The activities to be carried out by the Consultant are described below, which are not limiting, and the Consultant must expand and deepen what is considered necessary, being solely responsible for the quality and integrity of the service entrusted.

- Review the report of the consultancy “Identification of the socioenvironmental gaps between the socioenvironmental safeguards of the IDB and the preliminary environmental and social evaluations for the GU-L1170 project” and present a table of contents to carry out the complementary AAS and PGAS. As well as the production schedule.
- Completion of complementary AAS and PGAS. Working hand-in-hand with personnel designated by DGC, the necessary information will be collected in the office for the consultancy to prepare and present a first version (fit for disclosure - to the Bank's satisfaction) of the AAS and PGAS complementary to EVAP for the project, including the consultation plan. At the same time, actualize the MGAS (according to the index that is attached as a reference in Annex of this Term of Reference (ToR), in the first version “fit for disclosure - to the Bank's satisfaction”, including the necessary frameworks and the ToR for complement the Environmental and Social Impact Statements that must be prepared by the DGC.
- Support the Guatemalan authorities with the public consultation process within the IDB loan approval process, to execute the proposed Public Consultation Plan for the project, which must be carried out in a socio-culturally appropriate manner, and update (to the Bank's satisfaction) the complementary AAAS / PGAS to include the results of the consultations and the reports of the consultations for the program.

4. Deliverables and Expected Products

4.1 The consultant will prepare the following reports:

- a. Work plan for the optimal development of the consultancy.
- b. Report 1: First version of the complementary AAS / PGAS, including the proposal of the consultation plan for the project.
- c. Report 2: Report of the consultation processes of the project and the final version of the complementary AAS / PGAS.

5. Project Calendar and Milestones

5.1 The consultancy will have the following calendar:

Deliverable	Deadline
Work plan	By 15 days after signing the contract
Report 1	Until 90 days after signing the contract
Report 2	Until 180 days after signing the contract

6. Report requirements:

6.1 It must include the proposed work methodology based on the present ToR. Also, the financial proposal must include:

- Unit and total costs.
- The work schedule.
- The experience of the proposed team for the job.
- The topics that are assumed by the consultants.

7. Monitoring and reporting

7.1 The IDB will receive the consulting products, which will be evaluated by the project team leader (who may have the support of an external consultant hired to support this evaluation).

7.2 If the need for adjustments in the document is identified, the information will be passed to the consultancy by the project team leader.

7.3 Only after the acceptance of the document by the team leader, with the possible adjustments that may be due, will the payment due for each deliverable be made.

8. Other requirements

- a. Citizenship: The consultancy must be from one of the 48 IDB member countries.
- b. Consanguinity: In accordance with the applicable Bank policy, applicants with family members (including the fourth degree of consanguinity and second degree of affinity, including spouses) who work for the IDB, IDB Invest or IDB Lab as employees or contractual partners with additional contractual force, do not will be eligible to provide services to the Bank.
- c. Experience: The consulting firm must have the following profile:
 - General Experience: Being a legal entity whose corporate purpose includes the execution of services related to road engineering projects.
 - Specific experience: Having carried out at least five (05) projects on topics related to this project.
 - Professional team: The consulting entity must form a team made up of at least the following professionals:
 - A coordinator with Senior social or environmental specialist with more than ten (10) years' experience covering: (i) leadership in the preparation of socio-environmental studies for infrastructure projects (ideally transportation) complying with international standards (IDB, WB ...); (ii) socio-environmental due diligence for infrastructure projects (ideally transportation) complying with international standards (IDB, WB, etc.); and (iii) Work experience in Guatemala and knowledge of its socio-environmental regulatory framework.

- A social and an environmental specialist with a qualification similar to that of the Project Manager, but specific to each area, with at least eight (08) years of experience.

d. Languages: The documents must be prepared in Spanish.

9. Supervision and reports

9.1 The person responsible for coordinating the activities will be the project team leader, Mauro Alem (mauroa@iadb.org).

10. Payment schedule

Payment	Deliverable	Percentage (%)
1	Work plan	10%
2	Report 1	35%
3	Report 2	55%
Total		100%

Alternative Management Models for CA-9 Corridor

1. Background and Justification

- 1.1 IDB is preparing a loan operation (CA-9 Road Corridor Development - GU-L1170), which seeks to modernize and expand the productive infrastructure of the country, through the rehabilitation, improvement, and maintenance of the CA-9 North highway, which will result in improved access to logistics corridors, the movement of people and regional integration, and the resilience of infrastructure to the effects of climate change (CC).
- 1.2 The project will finance the expansion of the first stretch of the corridor (27.6 km) between El Rancho – Usumatlán, and it will activities related with: (i) expansion to four lanes highway, including construction works and improvement of structures, interchanges and pavements, the reconfiguration of roads and property acquisitions, and four bridges; (ii) the supervision of designs and works to ensure compliance with design standards that incorporate socio-environmental aspects, road safety measures and disaster risk reduction and adaptation to CC, as well as technical supervision services in the delivery of completed works; (iii) institutional strengthening for design and supervision road investments, including activities to stablish an executing mechanism that contribute to leverage resources to extend the CA-9 invest to the Caribbean port, to improve the transport sector management and cross-cutting themes, as road safety and climate change (CC); and (iv) project management.
- 1.3 The CA-9 North section of this corridor is of vital importance for the country's exports. In contrast to the southern section (CA-9 South "A") that connects Guatemala City with Puerto Quetzal and is the main route for imports, the expansion of the northern section has not been completed (only a third have 4 lanes), and this expansion represents significant challenges for the Ministry of Communications, Infrastructure and Housing (CIV), and its road execution entity (DGC). Among them is the need to invest resources and allocate specialized technical staff to evaluate alternatives to achieve detailed engineering designs and anticipate land acquisition, together with observing appropriate socio-environmental safeguard standards and guidelines to develop a resilient and sustainable infrastructure over the entire life cycle of the project.
- 1.4 The team's mission: Established in 1959, the Inter-American Development Bank ("IDB" or "Bank") is the main source of financing for economic, social, and institutional development in Latin America and the Caribbean. It provides loans, grants, guarantees, policy advice and technical assistance to the public and private sectors in its borrowing countries. The Transportation Division has one of the largest project portfolios within the IDB, with more than US\$11 billion in ongoing operations and with average approvals per year of US\$1.5 billion.

2. Objectives

- 2.1 The objective is to support the technical team of the CIV in evaluating alternative models for the administration of the CA-9 corridor, including schemes to attract the participation of the private sector.

3. Scope of Services and Key Activities

3.1 The consultancy will:

- a. Review and evaluate international experience relevant to Guatemala, including the recommendation of adapting these cases to the context of the country.
- b. Perform transit studies and institutional analysis to implement tolls to cargo users, together with the technological aspects of implementing these schemes.
- c. Design and structure alternative private sector participation schemes such as administration contracts, concessions and PPP.
- d. Elaborate the financial model of alternative schemes, including potential fiscal impacts of each of them.
- e. Review legal and regulatory framework to implement institutional innovations, such as the creation of an entity as a Special Purpose Vehicle (SPV) to administer the CA-9 corridor.
- f. Hold and coordinate meetings with DGC officials to present the results of the design review.

4. Deliverables and Expected Products

4.1 The consultant will prepare the following reports:

- a. Work plan for the optimal development of the consultancy.
- b. Report 1: It will include the partial report of the activities carried out by the consultant to comply with that indicated in section 3.1.
- c. Report 2: It will include the final report of the activities carried out by the consultant to comply with that indicated in section 3.1. It must contain: (i) a summary of the relevant aspects of the execution of the different stages of the project; (ii) a technical comparison between the original designs and final designs; (iii) a review and evaluation of the final supervision report, the “As-Built” plans and the maintenance plan; and (iv) lessons learned and recommendations for future projects.

5. Project Calendar and Milestones

5.1 The consultancy will have the following calendar:

Deliverable	Deadline
Work plan	By 15 days after signing the contract
Report 1	Until 270 days after signing the contract
Report 2	Until 540 days after signing the contract

6. Report requirements:

- 6.1 The preparation of the document must be compatible with the requirements of the Guatemala regulations, as well as with the requirements of the IDB's Disaster Risk Management Policies (OP-704), and the Disaster Risk Assessment Methodology and

Climate Change and resilience strategies to the effects of Climate Change and other applicable standards.

6.2 Interested firms must submit a proposal including the four sections (information) listed below and must not exceed 10 pages (main sections without annexes).

- a. **Scope of work:** This section should include a description of the specific activities that will be carried out in order to perform the required tasks. This includes all proposed site visits / surveys, documents to be reviewed, interviews, etc. If the Consultant considers that there are additional tasks, or components within a required task that are justified or that he would like to suggest, these should be identified and delineated as “Optional Tasks”.
- b. **Human team of the project and its qualifications:** This section should include the name of any subcontractor. Team members should have the relevant technical skills, specific previous experience with Projects similar to this one, specific experience in the country and specific knowledge about it, and specific language knowledge.
- c. **Schedule:** A proposed schedule for the execution of the activities must be submitted. The schedule should indicate the proposed dates for the start and end of each of the tasks required on the job and any important or specific milestones of the Project (i.e., delivery of the report, etc.).
- d. **Proposed cost:** A total global budget in US dollars must be submitted for the proposed work. In addition, a detailed list of estimated costs per task (i.e., tabular format) should be presented that includes direct labor costs (i.e., number of hours or days per team member and their associated costs per unit) and indirect labor costs (i.e., travel, per diem, subcontractors, etc.). Any assumption related to the cost estimate must be clearly specified. In case you are going to recommend any Optional Task, you must provide a cost estimate separately. The tasks excluded from the scope must be clearly indicated.

6.3 All reports and documents related to this contract must be able to handle applications compatible with Microsoft Office. The parties can exchange and deliver information electronically (email). Reports must be submitted in electronic format.

7. Monitoring and reporting

7.1 The IDB will receive the consulting products, which will be evaluated by the project team leader (who may have the support of an external consultant hired to support this evaluation).

7.2 If the need for adjustments in the document is identified, the information will be passed to the consultancy by the project team leader.

7.3 Only after the acceptance of the document by the team leader, with the possible adjustments that may be due, will the payment due for each deliverable be made.

8. Other requirements

- a. **Citizenship:** The consultancy must be from one of the 48 IDB member countries.
- b. **Consanguinity:** In accordance with the applicable Bank policy, applicants with family members (including the fourth degree of consanguinity and second degree of affinity, including spouses) who work for the IDB, IDB Invest or IDB Lab as employees or contractual partners with additional contractual force, do not will be eligible to provide services to the Bank.

- c. **Experience:** The consulting firm must have the following profile:
- General Experience: Being a legal entity whose corporate purpose includes the execution of services related to road engineering projects.
 - Specific experience: Having carried out at least five (05) projects on topics related to this project.
 - Professional team: The consulting entity must form a team made up of at least the following professionals:
 - A coordinator with postgraduate study in subjects related to this consultancy. Must demonstrate a minimum professional experience of ten (10) years. Experience working in IADB projects is highly desirable.
 - Two specialists with a bachelor's degree in engineering or related subjects for the purpose of the consultancy. Master's degree (required) or doctorate (desirable) in subjects related to consulting (environment, disaster risk management, etc.). Must demonstrate a minimum professional experience of five (05) years.
- d. **Languages:** The documents must be prepared in Spanish.

9. **Supervision and reports**

9.1 The person responsible for coordinating the activities will be the project team leader, Mauro Alem (mauroa@iadb.org).

10. **Payment schedule:**

Payment	Deliverable	Percentage (%)
1	Work plan	15%
2	Report 1	40%
3	Report 2	45%
Total		100%