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Government of Nepal
Ministry of Physical Infrastructure and Transport
Department of Roads
Development Cooperation Implementation Division
Strategic Road Connectivity and Trade Improvement Project (SRCTIP)
Jwagal, Lalitpur

Request for Expression of Interest (REOI)

Notice No.: SRCTIP/01/080-81

Date of Publication: 24 July, 2023

It is notified that Strategic Road Connectivity and Trade Improvement Project requested all the eligible Individual Consultants to submit expression of interest in providing the following services.

S.N.	Contract Identification No.	Post	Duration of Total Service	Market Approach
1	SRCTIP-DOR-CS-IND-35	Geotechnical Engineering Expert (GEE) at DoR-GESU	18 months	Open and National

Interested Consultant may obtain Terms of Reference (TOR) for the mentioned assignment title and further detail relevant information from <https://dor.gov.np/home/notices>.

Expression of Interest must be delivered in written form to the given address (in Person or by email) by 6th August, 2023 office hours.

Project Director

Government of Nepal
Ministry of Physical Infrastructure and Transport
Department of Roads
Development Cooperation Implementation Division (DCID)
Strategic Road Connectivity & Trade Improvement Project (SRCTIP)

Terms of Reference
for
Geotechnical Engineering Expert (GEE) at DOR-GESU

Contract Identification No: -SRCTIP-DOR-CS-IND-35

July, 2023

Government of Nepal
Ministry of Physical Infrastructure & Transport
Department of Roads
Development Corporation & Implementation Division (DCID)
Strategic Road Connectivity & Trade Improvement Project (SRCTIP)

**Terms of Reference (ToR) for Geotechnical Engineering Expert
(GEE)**

1. INTRODUCTION

Government of Nepal (GoN) has received financing from the International Development Association ("World Bank") toward the cost of Strategic Road Connectivity and Trade Improvement Project (SRCTIP). The Department of Roads (DoR), Development Cooperation Implementation Division under the Ministry of Physical Infrastructure and Transport (MoPIT) is the implementing agency for the Component 2 & 3 of this project, and responsible for implementation, management, supervision and coordination. A Project Coordination Unit (PCU) has been established under the Development Cooperation Implementation Division (DCID) of DoR for carrying out activities related to the project which is responsible for coordination and implementation of the respective project activities. The PCU comprises of a Project Director (PD), Project Coordinators and Project Engineers (PE). There are other technical and managerial support staffs/consultants working within the PCU.

The Project Development Objective (PDO) of SRCTIP is to improve the efficiency and safety of select transport infrastructure, improve the efficiency of cross-border trade, and strengthen capacity for strategic road network management in Nepal. SRCTIP will comprise the following four components:

Component 1: Trade Facilitation

Component 2: Regional Road Connectivity

Component 3: Institutional Strengthening

Component 4: Contingent Emergency Response

To strengthen the institutional capacity of DoR under Component 3; DOR-DCID intends to support DoR-Geo Environmental Social Unit (GESU) by hiring a Geotechnical Engineering Expert to work on road side slope management activities and geotechnical services for highways, tunnels and bridges and related retaining structures. For the implementation of this component, the human resources available with the Department of Roads need support from the consultants in various aspect of program implementation. Therefore, Department of Roads, SRCTIP, Project Coordination Unit intends to hire individual consultant to support GESU for effective implementation of program. This term of reference has been prepared for an individual Consultant for the post of **Geotechnical Engineering Expert**. He or she will be working in GESU, DoR after assigned by DDG, Development Corporation & Implementation Division (DCID). The objective, and role and responsibility of the post will be as described but not limited to followings:

2. OBJECTIVE

The main objective of the consultancy service is to provide support in overall geotechnical works as per requirement of GESU. Besides this, the consultant is required to assist/support Bridge Branch, DCID and other concern offices in DoR as directed by the department. The objectives are:

1. To provide expert's service on geotechnical investigations, site assessment and design of road side slopes, retaining structures, bridges and tunnels and other areas identified by GESU and/or as directed by DoR.
2. To assess the potential adverse impacts of the development project on the stability of slopes, soil, water and natural environment.
3. To provide appropriate recommendations and remedial as well as mitigation measures to be adopted.
4. Prepare training packages and conduct trainings related to the geotechnical investigations, analysis, design of retaining structures, soil bioengineering and geotechnical aspects of the road, bridges, tunnel etc.

3. SCOPE OF SERVICES

With the above set of objectives, the Geotechnical Engineering Expert is required to support and assist GESU in areas & manner listed but not limited to the followings:

1. Undertake field trips to the identified area and carry out field surveys to confirm desk study interpretation and gather supplementary data.
2. Identify, assess and prepare instability inventory maps (landslides, erosion, debris flow, scouring, toe erosion, creep, subsidence, land degradation, rock fall, planner failure, wedge failure, toppling etc.) within the study area; indicate the level of hazard posed by the instabilities; prepare the slope map of the study area indicating the slope classification and level of hazards posed by the topography.
3. Identify, assess, and prepare the landslide maps for the instabilities and mark on map all water bodies (springs, creek, stream both seasonal and perennial, seepages, river etc) that have impacts on the study area.
4. Assess the impacts on land use with particular emphasis on critical watershed areas, loss of agricultural and forest land, settlement/movement/cracks on the land use.
5. Identify and assess the strength of geological materials by conducting necessary field and laboratory test and analysis.
6. Assess the correlation between instabilities and geology (rock type, soil, and deposits), topography (slopes), land use, hydrology (rainfall, seepages, and ground water) and determine the most significant factors that are responsible for causing the instabilities. If required, geophysical investigation should be conducted to verify the depth of groundwater, slip circle etc.

7. Analyze the stability of rock/soil slopes based on all probable instability factors and determine if the excavated rock/soil faces are likely to fail (planar sliding along a discontinuity, wedge failure, or toppling failure or any other).
8. Identify if the risk areas of ground are still moving or likely to move (evidence of tension cracking, high ground water, inflow of surface water, ground creep etc.)
9. Determine requirement for engineering structures such as retaining walls, Landscaping, complementary bioengineering application or any other.
10. Assess the risks to existing infrastructures (houses, transmission towers, religious structures etc.
11. Recommend remedial measures for the prevention of instability problem.
12. Present the findings of site assessments and geotechnical investigations reports to GESU and/or DoR concerned office.
13. Carry out research work of various problematic slope areas, land subsidence, road subsidence, upheaval, bridge subsidence sites etc. under the jurisdiction of DoR and recommend the long-term remedial measures.
14. Review the existing bioengineering publications, norms etc. and recommend expertise suggestions for required improvements.
15. Assess the scope of bioengineering measures on roadside slopes.
16. Prepare training manuals in slope stability and bioengineering techniques for DoR engineers.
17. Support GESU and/or DoR officials for preparing training packages, conducting trainings, monitoring of its effectiveness & recommending rooms for improvements.
18. Assist and support GESU/DoR in all other matters in this expertise as directed by GESU.

4. QUALIFICATION REQUIREMENT

The Consultant for the post of GEE should have following expertise and education

Area	Qualifications and Experience of the Consultant
Education	<p>Minimum:</p> <ul style="list-style-type: none"> ▪ Master's Degree in Geotechnical Engineering or related fields. <p>Preferable:</p> <ul style="list-style-type: none"> ▪ PhD in Geotechnical Engineering/Engineering Geology or relevant field ▪ Training in Slope Analysis stability and prevention works related or related field/Training in Bio-Engineering (Duration of training : 2 (two) weeks minimum)
Experience	<p>A. General:</p> <ul style="list-style-type: none"> ▪ Minimum: 15 years ▪ Preferable: 20 years <p>B. Specific:</p> <p>i. Experience as geotechnical engineer in Road /Bridge Works</p> <ul style="list-style-type: none"> ▪ Minimum: 5 years ▪ Preferable: 15 years <p>ii. Assessment of Slope, slope stability analysis and preparation of design for slope stabilization</p> <ul style="list-style-type: none"> ▪ Minimum: 5 nos ▪ Preferable: 10 nos <p>iii. Experience in Conducting Training on geotechnical aspects</p> <ul style="list-style-type: none"> ▪ Minimum: 1 no ▪ Preferable: 3 nos <p>iv. Additional Requirements:</p> <ul style="list-style-type: none"> ▪ Registered in Nepal Engineering Council as per Nepal Engineering Council Act, 2055 (1999) or subsequent revision;
Language	<ul style="list-style-type: none"> ▪ Fluency in English and Nepali

5. PERFORMANCE EVALUATION OF THE CONSULTANT:

The performance of the individual Consultant will be annually evaluated by a Performance Evaluation Committee formed at DoR or alternatively by a third party. The committee shall develop a standard procedure for performance evaluation. Annual performance evaluation and satisfactory or above performance of GEE will be the basis for continuation of the service up to contract period.

6. REMUNERATION

The remuneration to the Individual Consultant shall be on the monthly basis, as a time-based contract. Expenses including per diem incurred through field and training visit to project sites/ field offices

shall be reimbursed in arrears as incurred subject to approval of the travel by the GESU. Reimbursable expenses shall be paid as per contract. The consultant shall be submitting a detail time sheet showing the days and activities done under the DOR-GESU.

7. DURATION OF CONSULTANT'S SERVICE

The duration of the consulting services shall be for 18 months. The Consultant shall commence the work at least within two weeks from the date of signing agreement. The contract shall be subjected to annual performance evaluation as stated in article 5, and continuation of the contract shall be based on performance evaluation of GEE evaluated by the evaluation committee. Only satisfactory or above performance shall result in continuation of the contract. The contract may be terminated, if the project does not need the service due to the project's change in management need and or poor performance of the consultant.

8. WORKING DAYS, LEAVE AND OVERTIME

The official working days and holidays will be as per GON official calendar. There shall be no extra payment for any overtime work. The Consultant should submit the monthly work plan at the start of each month.

Well in advance the Consultant should plan his/her work plan showing the site visits and let the DOR-GESU, Bridge Branch (BB), Federal Road Supervision and Monitoring Offices (FRSMO), and Road Division /Project Office (RDO/PO) know his/her program. A good coordination with the DRO's responsible team will be required while visiting the respective road/bridge sites.

9. TAXATION

The Consultant shall be fully responsible for all taxes imposed by Government of Nepal. The Consultant must be registered in VAT after signing the contract agreement, if not registered. The consultant will be responsible for the costs of the premium of any insurance plan including accidental insurance he/she takes up.

10. REPORTING

The Consultant should report bi-monthly to the Unit Chief of DOR- GESU or to the concerned offices authorized in an acceptable format not later than 15th day after the end of each reporting period.

11. LOGISTIC AND OTHER ASSISTANCE PROVIDED BY THE CLIENT

The Consultant will be provided an office space in premises of the Department of Roads. Other office management expenses including stationery, photocopying, telephone, net facilities etc. shall be provided by DoR. Training hall and other related logistics shall be provided by the client for conducting training to DoR officials.

Options for site visit transport: (1) Transport expenditures incurred during visiting to work sites shall be reimbursed as per actual bill. (2) For the purpose of visiting road/bridge sites and works accomplishment a vehicle with driver shall be arranged by GESU/ or concerned offices as far as possible. This vehicle shall be exclusively used for the proposed works together with the other field-based team members or visiting persons from the GESU, Bridge Branch, FRSMO, and RDO.

DoR, BB, GESU and RDO will provide access to necessary DoR documents, contract documents, design, QAP, quality control, work schedule, and other relevant data available in the office for performance of the Consultant's service.

12. CONSULTANT'S RESPONSIBILITY

While working with the GESU, the Consultant shall be fully responsible for managing the taxes and accidental and or medical insurance that required covering his/her expenses. Tax clearance certificate and accidental insurance shall be submitted by the consultant in due course of time. The Consultant shall be responsible in managing his/her own lodging and other requirement during site visits.

Though mainly responsible to the GESU the Consultant should be working along with and reporting to the DROs, FRSMO office, BB, DCID if required.

The Consultants shall not, during the term of this Contract and after its expiration, disclose any proprietary or confidential information relating to the Services, this Contract or the Client's business or operations without the prior written consent of the Client. The Consultant shall keep full records relating to all aspects of the work covered by his service contract. All original drawings, work sheets, field notes, computer programs, reports and other documents relating to the study shall become the property of the Government.

In addition to the above, the Consultant shall submit the reports not limited to following during the course of services:

- The GEE shall prepare bi-monthly, quarterly and special highlighted reports separately to DOR-GESU and other concerned offices.
- Completion Report at the end of Service period

13. AGREEMENT

The Consultant shall be required to enter into an agreement with Development Cooperation Implementation Division, Department of Roads on time-based Contract as per the Provision of World Bank, Procurement Regulations for IPF Borrowers, Fourth Edition November 2020. An agreement shall be signed by both parties before the commencement of the work.