A. Background and Context:

1. Nepal is a geographically small, landlocked country surrounded by India in the south, east and west and the Tibet Autonomous Region of the People's Republic of China in the north. Nepal's access to international trade markets depends on efficient and reliable transport infrastructure and logistics services and transit facilities in neighboring countries, particularly India. There are 26 official trade routes between Nepal and India. About 60 percent of third country trade passes through the Birgunj border post, hence the Kathmandu-Birgunj-Raxaul-Kolkata/Haldia route is the main transit corridor for Nepal's foreign trade. The Treaty of Transit between India and Nepal allows Nepali goods to transit through designated routes in India, with the ports of Kolkata/Haldia serving as gateway ports for the movement of third country trade cargo by road or by rail to the only railhead serving Nepal at Raxaul (Indian border with Nepal), whereas the Rail Service agreement between Nepal and India allows movement of transit traffic from Kolkata/Haldia to Birgunj ICD in Nepal via. Raxual in India on Indian Railways and Birgunj via. Raxual for Bilateral traffic.

2. Nepal's 2010 Trade Integration Strategy (NTIS) and 2013-16 National Development Plan prioritize the need to facilitate trade and improve the country’s export competitiveness. Key objectives include strengthening the capacity of the country's trade-related institutions, strengthening export industries that promote economic inclusion, and strengthening the Government’s capacity to implement the NTIS, improve coordination between trade-related institutions and enhance the delivery of technical assistance. Nepal also has to meet trade facilitation objectives related to its obligations to the World Trade Organization, South Asian Free Trade Agreement, and bilateral agreements with India. Most of these have to do with facilitating freedom of transit and eliminating non-tariff barriers including those related to technical and sanitary and phyto-sanitary inspections, and cumbersome clearance procedures.

3. The Government of Nepal has received a financing from the World Bank for the Nepal India Regional Trade and Transport project (NIRTTP), designed to decrease transport time and logistics costs for bilateral trade between Nepal and India and transit trade along the Kathmandu-Kolkata corridor for the benefit of traders by reducing key infrastructure bottlenecks in Nepal and by supporting the adoption of modern approaches to border management. The project has three components, namely:
   i. Modernize transport and transit arrangements between Nepal and India
   ii. Strengthen Trade-Related Institutional Capacity in Nepal
   iii. Improve Select Trade-Related Infrastructure

The Government of Nepal intends to use part of the proceeds of the grant for eligible payment of the consulting services for which this TOR is issued.
4. A Project Coordination Office (PCO) has been established under the administrative jurisdiction of Ministry of Commerce and Supplies (MoCS), which is the executive agency for the project, with the overall responsibility for supervision, monitoring and evaluation of the activities and coordination between various sub-components of the NIRTTP. It also works as bridge between implementing agencies and the National Trade and Transport Facilitation Committee (NTTFC), a coordinating committee which includes representation from the trade-related government ministries, departments, parastatals and private sector organizations. Beside Department of Roads (DoR), which is independently implementing the transport infrastructures under NIRTTP, the PCO at MoCS coordinates four different Implementing Agencies; viz. Department of Transport Management (DoTM), Department of Customs (DoC), Nepal Intermodal Transport Development Board (NITDB) and Trade and Export Promotion Centre (TEPC).

5. As an Implementing Agency, Nepal Intermodal Transport Development Board (NITDB) is responsible for trade related Infrastructures of the Project. The components under this category are: Restoration of Pavement inside Bhairahawa ICD, Good Shed extension inside Birgunj ICD, Modification of Railway Line in Birgunj ICD and Construction of CFS in Kathmandu.

6. Proposed Improvement Works in Bhairahawa ICD consists of 3,000.CUM Reinforced Cement Concrete Pavement and about 300 CUM of Asphalt Concrete Pavement. Other items are scarifying and regravelling of the surface. Similarly, Shed extension work in Birjung includes two steel structure Goods shed, North side extension has dimension of about 175m*38.5m and the South side extension has dimension of about 115m*38.5m with crown height of 15m from a Existing High Level Platform (about 1.5m above GL).

7. NITDB, for implementation of these components, requires Engineering Consultant Services through an Engineering firm to provide expert service/advice in design review, project implementation planning, construction supervision, project implementation management, contract administration and post-construction services. To provide the technical and managerial support to the implementing agency (i.e. NITDB) with respect to all above activities associated with the implementation of the project, the necessity of the Supervision Consultant is identified.

B. Objectives:

8. This service is procured with following major objectives:
   i. Service of Supervision Consultant shall provide engineering expert service/advise in pre-construction, construction and post-construction phase of the project.
   ii. The service shall ensure the suitability/accuracy of design, quality construction and transparent project execution.
   iii. The service shall mitigate/resolve probable technical problems/deadlocks associated with the project and hence accelerate project execution.
   iv. The service shall ensure technically sound project implementation and contract administration.

C. Scope of Services:
9. The services of Supervision Consultant are required to provide necessary service/support to the implementing agency in engineering and contract management aspects of the project, so that above mentioned objectives shall be achieved. The specific responsibilities of the Supervision Consultant is broadly divided into two headings:

I. General and pre-construction phase responsibilities:
10. Responsibilities of Supervision Consultant under this heading includes, but not necessarily limited to following:
   i. Provide opinion/recommendation in engineering related issues;
   ii. Provide necessary technical support to the implementing agency on its project management, including risk management, cost control, scheduling, monitoring and reporting;
   iii. Review Design documents, modify design and make changes in contract in compliance with the works contract, where necessary;
   iv. Review and update specification of works, develop guidelines for quality assurance and quality control system for the smooth implementation of project components;
   v. Prepare Supervision Manual delineating a consistent, comprehensive and uniform system of quality assurance and quality control for the components, including but not limited to systems of checks and reviews, description of type, frequency and procedures of on-site as well as laboratory tests and inspections, etc., that will be enforced during design and construction to ensure highest standards of quality;
   vi. Provide technical information of the project during procurement phase.

II. Construction supervision and post-construction phase responsibilities:
11. The Supervision Consultant, as the Employer's Representative under the contract, will supervise construction of the project components; monitor construction methods and quality control; certify that the quality of works conforms to the specifications, norms, standards and drawings; assess the adequacy of the contractor's input materials, labour, equipment, and construction methods; resolution of contractual issues, furnish all revisions and detailed drawings as necessary during the continuance of the contract; attend third party inspections as necessary; examine the contractor's claims for variations/extension, additional compensation, etc., and prepare recommendation for approval by the Project Manager; Record the work measurement, certify the contractor's claim and assist Implementing Agency in contract monitoring and in preparing the “as built” drawings for issuance of work completion certificate to the contractor. Responsibilities of Supervision Consultant under this heading includes, but not necessarily limited to following:
   i. Scrutinize and approve the contractor's detailed work program including contractor's resource planning;
   ii. Scrutinize and approve construction methods proposed by contractor, modify as necessary and monitor environmental and social safeguard requirements provisioned in EMF/EMP and SMF;
   iii. Prepare and issue construction drawings with sufficient details to permit contractors to carry out construction work effectively and unambiguously and with highest standards of quality;
   iv. Assess and enforce, as per standard Construction Management System, the adequacy of contractors’ inputs in terms of materials, equipment, construction machinery, workers, funds, and construction approach and methodologies;
v. Supervise and monitor construction of all project components, modify designs as required by site conditions and issue variation orders to the contractor; check measurements for works completed and in-progress and verify bills for payments to the contractors;

vi. Check line level, layout of construction to ensure conformity with the contract, propose any change in the plans, if required;

vii. Interpret the technical specifications, where required;

viii. Supervise all aspects of construction work including periodical inspection of contractor’s machinery and equipment;

ix. Attend third party inspections, as necessary, and provide certification on the quality of the supplies based on such inspections;

x. Review and examine the process of passing of contractors’ bills and payments to contractors with special emphasis on minimizing the time taken in submission of a bill by the contractor and payment received by the contractor against such a bill;

xi. Monitor mobilization and progress of work;

xii. Prepare monthly progress reports, draft project completion report one month before the completion of the services and Final project completion report within one month of the completion of the services;

xiii. Approve and/or issue working drawings and issuing instructions to the contractors as required in accordance with the contract specification and contractors’ quality management plan;

xiv. Maintain detailed records of measurement of the completed works, correspondence, detailed diaries, photographs, daily site records submitted by the contractor on ambient conditions and contractor’s resources at the site and their use including other documents concerning relevant events and activities;

xv. Approve interim certificates for progress payments and verify the quantities for such certificates and recommend for payment to the employer;

xvi. Assess and make recommendations to the employer on the contractor’s claim for additional payment, extension of time and any other matters related to contract administration;

xvii. Certify completion of part or all of the works and issue the Taking Over Certificate;

xviii. Check and certify ‘as-built’ drawings for the works prepared by the contractors at the end of assignment;

xix. At the completion of the works, assist the Employer in preparing a consolidated Project Completion Report in the format as prescribed by World Bank;

xx. Inspect the works at appropriate intervals during defect liability period and recommend for certification.

**Approval by the Employer**

The Consultant will be required to obtain specific approval of the Employer before taking any of the following actions that are specified in the General Conditions of Contract:

- Approving the subcontracting of any parts of the Works
- Issuing variation order
- Approving extension time
- Fixing new rates for works or other items
- Suspension of the contract
D. Indicative Project Implementation Schedule
The total duration of the consulting services will be 18 months followed by 12 months defects liability period as shown in the table

<table>
<thead>
<tr>
<th>Key Activities</th>
<th>Tentative date</th>
<th>Tentative duration in Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start of consulting services</td>
<td>April 2014</td>
<td></td>
</tr>
<tr>
<td>Start of Civil Works Construction</td>
<td>May 2014</td>
<td>18</td>
</tr>
<tr>
<td>Completion of Civil Works Construction</td>
<td>October 2015</td>
<td></td>
</tr>
<tr>
<td>Defects Liability Period</td>
<td>October 2015 - July 2016</td>
<td>12</td>
</tr>
</tbody>
</table>

E. Indicative Responsibilities and Requirements of Key Personnel:
12. The staffing with responsibilities and requirements of the Supervision Consultant is indicated in the table below. The duration and responsibility of personnel input may vary according to the requirement of services to meet above objectives. The duration of actual work performed shall be considered for payment purpose which shall be calculated from the monthly timesheet submitted by the consultant and approved by the Sub-Project Coordinator of the Project.

**Tentative Manpower Requirement**

<table>
<thead>
<tr>
<th>Position</th>
<th>No.</th>
<th>Input Months</th>
<th>Total Person Months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Construction Phase</td>
<td>Defects Liability Period</td>
</tr>
<tr>
<td><strong>Key Professionals</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team Leader (Resident Engineer)</td>
<td>1</td>
<td>18</td>
<td>1</td>
</tr>
<tr>
<td>Civil engineer (Site Engineer)</td>
<td>2</td>
<td>18</td>
<td>2</td>
</tr>
<tr>
<td>Structural Engineer</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Pavement Engineer</td>
<td>1</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Material engineer</td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Environmental Engineer</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Social Safeguard</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td><strong>Support Staff</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office Manager</td>
<td>1</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Inspector of Works</td>
<td>2</td>
<td>18</td>
<td>4</td>
</tr>
<tr>
<td>Lab Technicians</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Draft Person</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Computer operator</td>
<td>1</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td>Office assistant/runner</td>
<td>1</td>
<td>18</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note:**
a. The above key staff composition and estimated total key staff man-month is Client's suggestion. The consultants are advised to assess their own requirement and propose their own staff composition and staff input requirement for efficient performance of their job as per the Terms of Reference. If the proposed consultant's team is found
inadequate or not sufficient during the performance of the services then additional staff shall be provided by the consultant at their own cost.

b. A Technical Proposal shall be considered unsuitable and shall be rejected for further evaluation if it does not respond to TOR for adequacy of main key staff input meeting minimum qualification requirement.

F. Qualifications and Responsibilities of Key Personnel

13. The broad qualifications and the responsibilities of the Key personnel are given below:

14. **Team Leader (Resident Engineer)**

**Academic Qualification and Experience:**
Education: Graduate in Civil Engineering; preferably Masters in Civil Engineering/Construction Management or related field.
Experience: 10 years of minimum experience as Civil Engineer and at least 5 years of experience as Team Leader in at least in 2 construction projects. Experience in ICB contracts is desirable.

**Key Responsibilities:**
The Team Leader will take the overall responsibility for the execution of the work in accordance with the TOR and also for the coordination of all professional inputs. She/he will be responsible to the client and maintain close contact with Sub-Project Coordinator (Client’s representative) to ensure that the contract is implemented in accordance with the World Bank guidelines.

The Team Leader will act as the Engineer’s authorized representative for the contract administration, with the authority to liaise with government authorities and make decisions on behalf of the Engineer on all matters pertaining to the consulting services. However, the Team Leader shall have no authority to relieve the contractor of any of the duties or obligations under the contract or to impose additional obligations not included in the contract. The principal responsibilities of the Team Leader will be included but not limited to:
- Lead the Supervision Consultant team and assure that the project objectives are met;
- Participate and advise in meetings of stakeholders of the project components;
- Provide instruction, and guidance to the Supervision Consultant team;
- Issue the “Order to Commence the Works” to the contractor with Employer’s approval;
- Provide recommendation to the NITDB/PCO, MoCS for acceptance of Contractor’s Performance Security, advance payment security and required insurances;
- Review the design documents prepared and suggest improvements, if required;
- Rectify any design of project components before and during the construction phase, when necessary / requested;
- Approve the Contractor’s working drawings, methodology and to issue further drawings if necessary;
- Approve contractor’s key personnel, construction programs, equipment and construction materials including their sources;
- Recommend the Employer on variation orders after evaluating those proposals, fix rates for new work items;
- Assist the Employer in extension of time as necessary;
- Suggest best solution to the Sub-Project Coordinator in case of ambiguity during project implementation;
- Involve in construction supervision and instruct to Contractors / Civil Engineers as necessary, and efficient contract administration;
- Certify the payments of the works done by the contractors and recommend to the Project Implementing Agency NITDB.
- Performing all the activities as per this TOR by himself or through the team members of Supervision Consultant.

15. Civil Engineer (Site Engineer – 2 Nos)

**Academic Qualification and Experience:**
- Education: Graduate in Civil Engineering;
- Experience: 5 years of minimum experience as Civil Engineer (for both) with;
  - **Civil Engineer 1:** Site supervision experience for 3 years and 2 Pavement Construction Projects.
  - **Civil Engineer 2:** Site supervision experience for 3 years and 2 Structural Construction Projects.

**Key Responsibilities:**
Civil Engineers (Site Engineers) will be responsible for the supervision of day to day construction works. S/he should be responsible for checking survey and layouts, the general workmanship and quality of the works, checking and recording works measurements and checking of contractor's bills. S/he shall maintain the daily diary and prepare daily reports on standard reporting formats. Site Engineers shall attain the weekly/bi-weekly meetings with the Team Leader and other team members as appropriate and brief about the progress of the works and problems associated with the delay of construction works. Site Engineer shall assist the Material Engineer and work with him closely with regard to quality control aspects.

16. Structural Engineer

**Academic Qualification and Experience:**
- Education: Graduate in Civil Engineering with Masters in Structures
- Experience: 7 years of minimum experience as Civil Engineer and at least 5 years of experience in structural design and/or construction;

**Key Responsibilities:**
The Structural Engineer will be responsible for review the design/specifications of the structures prepared under the project and suggest improvements, if required. S/he will carry out intermittent supervision before and during the construction supervision phase and instruct Contractors accordingly. The Structural Engineer will be responsible for overall structural installation ensuring that the quality and quantity of material used are in accordance to the specification, norms and practices.

17. Pavement Engineer

**Academic Qualification and Experience:**
- Education: Graduate in Civil Engineering with Masters in Pavement Construction or equivalent.
Experience: 7 years of minimum experience as Civil Engineer and at least 5 years of experience in Pavement design and/or construction or experience in designing and or construction supervision of at least 2 contracts involving pavement construction;

**Key Responsibilities:**
The Pavement Engineer will be responsible for review of the design/specifications of the pavement prepared under the project and suggest improvements, if required. S/he will carry out intermittent supervision before and during the construction supervision phase and instruct Contractors accordingly. The Pavement Engineer will be responsible for overall pavement construction ensuring that the quality and quantity of material used are in accordance to the specification, norms and practices.

18. **Material engineer**

**Academic Qualification and Experience:**
Education: Graduate in Civil engineering preferably Masters in Material/Geotechnical Engineering or equivalent.
Experience: 7 years of minimum experience as Civil Engineer and at least 5 years of experience in Material Testing and quality control in civil works construction or experience as Material Engineer at least 2 contracts;

**Key Responsibilities:**
The Material engineer will be responsible for the overall quality of materials used in construction of Goods Shed in Birgunj and Pavement construction in Bhairahawa ICD. S/he will ensure that the Quality Assurance Plan has been appropriately prepared and the testing of the construction materials is carried out in accordance with the agreed plan, specifications, norms and practices. Material Engineer will check the material test schedules, records and confirm that it meets the requirement. S/he will verify the contractor’s proposed material, its sources, specification and ensuring the compliance with the specification in every respect. S/he will assist the Team Leader in preparation of monthly progress report with regard to quality aspects in accordance with the contract.

19. **Environmental Engineer**

**Academic Qualification and Experience:**
Education: Master’s in Environmental Engineering or Environment Science.
Experience: 7 years of minimum experience as Civil/Environment Engineer and at least 5 years of experience in Environmental Safeguards in civil works construction or experience as Environmental Engineer at least 2 contracts;

**Key Responsibilities:**
The Environmental Engineer will be responsible for all environmental related works in accordance with TOR. S/he will review the IEE and EMF/EMP prepared and adjusts as necessary. The Environment Engineer will monitor the environmental mitigation measures as per the plan and ensure that all mitigation measures are completed. S/he will assist the Team Leader in preparation of monthly progress report with regard to environmental monitoring aspects in accordance with the contract.

20. **Social Safeguard Specialist**
**Academic Qualification and Experience:**
Education: Master’s in Social Science/Sociology or equivalent
Experience: 7 years of minimum experience as social safeguard specialist for infrastructural (civil engineering) projects.

**Key Responsibilities:**
The Social Safeguard Specialist will be responsible for all social aspects of the project. A Social Management Framework (SMF) has been prepared which will set out general social policies, safeguard principles and provide technical guidelines to identify impacts, prepare safeguard plans, and mitigate adverse impacts likely to arise from the activities financed by this Project during implementation. Adhering to the principles and procedures outlined in the World Bank’s social safeguards policy, and using the checklist of potential social issues laid out in the SMF, the Safeguard specialist will help implementing agencies to ensure compliance with said policies and the relevant provisions under the related policies of the GoN, and associated rules, regulations and procedures. In this context, the social safeguard specialist will be responsible for proper resolution of social issues laid down in guidelines, project related document and/or which is found necessary during the implementation.

**G. Reporting:**
21. The Supervision Consultant shall prepare official reports duly signed by the Team Leader and submit it to the Implementing Agency / Sub-Project Coordinator of concerned component. The reports shall be submitted in number as mentioned below

<table>
<thead>
<tr>
<th>Report</th>
<th>No of copies</th>
<th>Due date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inception Report Cum Supervision Manual</td>
<td>6+ (2 soft copies)</td>
<td>Within one month of agreement</td>
</tr>
<tr>
<td>Monthly report</td>
<td>6 + (2 soft copies)</td>
<td>First week of succeeding month</td>
</tr>
<tr>
<td>Project Completion Report</td>
<td>6 + (2 soft copies)</td>
<td>One month from completion of works</td>
</tr>
<tr>
<td>Other reports</td>
<td>As requested by Sub-Project Coordinator</td>
<td></td>
</tr>
</tbody>
</table>

22. Monthly progress reports describing works and services performed and issues encountered during the reporting month and scheduled activities in the following month to be submitted and quarterly progress reports, describing in detail the implementation progress of all project components with issues highlighted.

**H. Facilities to be provided by the Employer:**
23. Following facilities shall be provided to the Supervision Consultant during the period of service:
   i. All the available studies, reports and documents related to the project components;
   ii. Details of land use plan of ICD Birgunj and Bhairahawa ICD;
   iii. Uninterrupted access to the construction site for the purpose of supervision of construction works;

**I. Consultant’s obligations:**
24. It should be noted that the Consultant will need to provide all the administrative, technical professional and support staff needed to carry out their services. The Consultant will also be
responsible for providing all other necessary facilities and logistical support for its staff, including accommodation, vehicle/transportation during, miscellaneous transportation, office equipment, survey & investigation equipment, communications, utilities, office supplies and other miscellaneous requirements that required to render their services, effectively.

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