

EXPRESSION OF INTEREST (EOI)

**Title of Consulting Service: DORW/337307/EOI/ S-
R-M Metro-05/75-76**

Method of Consulting Service: International

**Project Name : DPR Preparation of Satdobato-Ratnapark-NarayanGopal
Chowk elevated electrified Metro Rail.**

EOI : 0000002

Office Name: Rail,Metro Rail and Monorail Development Project

Office Address: Kathmandu Kathmandu Kathmandu

Funding agency : Government Budget

Table of Contents

Section I.	A. Request for Expression of Interest	3
Section II.	B. Instructions for submission of Expression of Interest	5
Section III.	C. Objective of Consultancy Services or Brief TOR	7
Section IV.	D. Evaluation of Consultant's EOI Application	33
Section V.	E. EOI Forms and Formats	36

A. Request for Expression of Interest

Request for Expression of Interest

Government of Nepal (GoN)

Name of Employer: Rail,Metro Rail and Monorail Development Project

Date: 24-01-2019 09:00

Name of Project: DPR Preparation of Satdobato-Ratnapark-NarayanGopal Chowk elevated electrified Metro Rail.

1. Government of Nepal (GoN) has allocated fund toward the cost of DPR Preparation of Satdobato-Ratnapark-NarayanGopal Chowk elevated electrified Metro Rail. and intend to apply portion of this fund to eligible payments under the Contract for which this Expression of Interest is invited for International consulting service
2. The Rail,Metro Rail and Monorail Development Project now invites Expression of Interest (EOI) from eligible consulting firms (“consultant”) to provide the following consulting services: Detail Engineering, Survey, Design and Preparation of DPR of Satdobato- Ratnapark- Narayangopal Chowk Elevated Electrified Metro Rail.
3. Interested eligible consultants may obtain further information and EOI document free of cost at the address Rail,Metro Rail and Monorail Development Project,Rail,Metro Rail and Monorail Development Project
Kathmandu
Kathmandu, Kathmandu
Nepal during office hours on or before 24-02-2019 12:00 or visit e-GP system www.bolpatra.gov.np/egp or visit the client’s website www.dorw.gov.np
4. Consultants may associate with other consultants to enhance their qualifications.
5. Expressions of interest shall be delivered online through e-GP system www.bolpatra.gov.np/egp on or before 24-02-2019 12:00
6. In case the last date of obtaining and submission of the EOI documents happens to be a holiday, the next working day will be deemed as the due date but the time will be the same as stipulated.
7. EOI will be assessed based on Qualification 42.0 %, Experience 48.0 %, and Capacity 10.0 % of consulting firm and key personnel. Based on evaluation of EOI, only shortlisted firms will be invited to submit technical and financial proposal through a request for proposal.
8. Minimum score to pass the EOI is 70

B. Instructions for Submission of Expression of

Instructions for Submission of Expression of Interest

1. Expression of Interest may be submitted by a sole firm or a joint venture of consulting firms.
2. Interested consultants must provide information indicating that they are qualified to perform the services (descriptions, organization and employee and of the firm or company, description of assignments of similar nature completed in the last 7 years and their location, experience in similar conditions, general qualifications and the key personnel to be involved in the proposed assignment).
3. This expression of interest is open to all eligible Consulting Firm.
4. In case, the applicant is individual consultant, details of similar assignment experience, their location in the previous 4 years and audited balance sheet and bio data shall be considered for evaluation.
5. The assignment has been scheduled for a period of 8 months. Expected date of commencement of the assignment is June, 2019..
6. A Consultant will be selected in accordance with the QCBS method.
7. Expression of Interest should contain following information:
 - (i) A covering letter addressed to the representative of the client on the official letter head of company duly signed by authorized signatory.
 - (ii) Applicants shall provide the following information in the respective formats given in the EOI document:
 - EOI Form: Letter of Application (Form 1)
 - EOI Form: Applicant's Information (Form 2)
 - EOI Form: Work Experience Details (Form 3(A), 3(B) & 3(C))
 - EOI Form: Capacity Details (Form 4)
 - EOI Form: Key Experts List (form 5).
8. Applicants may submit additional information with their application but shortlisting will be based on the evaluation of information requested and included in the formats provided in the EOI document.
9. The Expression of Interest (EOI) document must be duly completed and submitted in sealed envelope and should be clearly marked as "EOI Application for Short-listing for the DPR Preparation of Satdobato-Ratnapark-NarayanGopal Chowk elevated electrified Metro Rail..The Envelope should also clearly indicate the name and address of the Applicant. Alternatively, applicants can submit their EOI application through e-GP system by using the forms and instructions provided by the system.
10. The completed EOI document must be submitted on or before the date and address mentioned in the "Request for Expression of Interest". In case the submission falls on public holiday the submission can be made on the next working day. Any EOI Document received after the closing time for submission of proposals shall not be considered for evaluation.

C. Objective of Consultancy Services or Brief TOR



Government of Nepal

Ministry of Physical Infrastructure and Transport

Department of Railways

Rail, Metrorail and Monorail Development Project

Bishalnagar, Kathmandu.

Expression of Interest (EOI) Document for

**Shortlisting of Consulting Services
for**

**Detailed Survey, Design and Preparation of DPR of Satdobato-Ratnapark-
Narayangopal chowk elevated electrified metro rail**

**Procurement of Consulting Services
(For National and International Consulting
Services)**

Financing Agency: Government of Nepal

Issued on: January, 2019

Abbreviations

CV	-	Curriculum Vitae
DO	-	Development Partner
EA	-	Executive Agency
EOI	-	Expression of Interest
GON	-	Government of Nepal
PAN	-	Permanent Account Number
PPA	-	Public Procurement Act
PPR	-	Public Procurement Regulation
TOR	-	Terms of Reference
VAT	-	Value Added Tax

Contents

A. Request for Expression of Interest	4
B. Instructions for submission of Expression of Interest.....	5
C. Objective of Consultancy Services or Brief TOR	6
D. Evaluation of Consultant's EOI Application	14
E. EOI Forms & Formats	16
1. Letter of Application	17
2. Applicant's Information Form.....	19
3. Experience	20
4. Capacity	24
5. Key Experts (Include details of Key Experts only)	25

A. Request for Expression of Interest

Government of Nepal
Ministry of Physical Infrastructure and Transport
Department of Railways
Rail, Metrorail and Monorail Development Project
Bishalnagar, Kathmandu
Date: 2075/10/10(Jan 24th,2019)

Name of Project: **Detailed Survey, Design and Preparation of DPR of Satdobato-Ratnapark-Narayangopal Chowk elevated electrified metro rail**

1. Government of Nepal (GoN) has allocated fund toward the cost of **Detailed Survey, Design and Preparation of DPR of Satdobato-Ratnapark-Narayangopal Chowk elevated electrified metro rail** and intends to apply a portion of this fund to eligible payments under the Contract for which this Expression of Interest is invited for International consulting service.
2. The Government of Nepal, Ministry of Physical Infrastructure and Transport, Department of Railways, Rail, Metrorail and Monorail Development Project now invites Expression of Interest (EOI) from eligible consulting firms ("consultant") to provide the following consulting services: **Detailed Survey, Design and Preparation of DPR of Satdobato-Ratnapark-Narayangopal Chowk elevated electrified metro rail**.
3. Interested eligible consultants may obtain further information and EOI document free of cost at the address, Government of Nepal, Ministry of Physical Infrastructure and Transport, Department of Railways, Rail, Metrorail and Monorail Development Project, Bishalnagar, Kathmandu, Nepal until **2075/11/10(22nd, Feb 2019)** or visit e-GP system www.bolpatra.gov.np/egp or visit the client's website www.dorw.gov.np
4. Consultants may associate with other consultants to enhance their qualifications.
5. Expressions of interest shall be delivered online through e-GP system www.bolpatra.gov.np/egp until 12:00 hrs noon **2075/11/12(24th, Feb 2018)**. The submitted EOI document shall be opened electronically on 13:00 hours, same day.
6. In case the last date of obtaining and submission of the EOI documents happens to be a holiday, the next working day will be deemed as the due date but the time will be the same as stipulated.
7. EOI will be assessed based on **Qualification, Experience, and Financial Capacity** of consulting firm and key personnel. Based on evaluation of EOI, only shortlisted firms will be invited to submit technical and financial proposal through a request for proposal.
8. Minimum score to pass the EOI is 70% in general.

B. Instructions for submission of Expression of Interest

1. Expression of Interest may be submitted by a sole firm or a joint venture of consulting firms.
2. Interested consultants must provide information indicating that they are qualified to perform the services (*descriptions, organization and employee and of the firm or company, description of assignments of similar nature completed in the last 7 years and their location, experience in similar conditions, general qualifications and the key personnel to be involved in the proposed assignment*).
3. This expression of interest is open to all eligible consulting firms.
4. The assignment has been scheduled for a period of **8 months**. Expected date of commencement of the assignment is June **2019**.
5. A Consultant will be selected in accordance with the **QCBS** method.
6. Expression of Interest should contain following information:
 - (i) A covering letter addressed to the representative of the client on the official letter head of company duly signed by authorized signatory.
 - (ii) Applicants shall provide the following information in the respective formats given in the EOI document:
 - *EOI Form: Letter of Application (Form 1)*
 - *EOI Form: Applicant's Information (Form 2)*
 - *EOI Form: Work Experience Details (Form 3(A), 3(B) & 3(C))*
 - *EOI Form: Capacity Details (Form 4)*
 - *EOI Form: Key Experts List (form 5).*
7. Applicants may submit additional information with their application but shortlisting will be based on the evaluation of information requested and included in the formats provided in the EOI document.
8. applicants shall submit their EOI application through e-GP system by using the forms and instructions provided by the system.
9. The completed EOI document must be submitted on or before the date and address mentioned in the **"Request for Expression of Interest"**. In case the submission falls on public holiday the submission can be made on the next working day. Any EOI Document received after the closing time for submission of proposals shall not be considered for evaluation.

C. Objective of Consultancy Services or Brief TOR

TERMS OF REFERENCE Detailed Survey, Design and Preparation of DPR of Satdobato-Ratnapark-Narayangopal Chowk elevated electrified metro rail

BACKGROUND

1.1 GENERAL

Kathmandu valley ,consisting of three main Districts of Kathmandu,Lalitpur and Bhaktapur is the main political, cultural, educational and commercial center of Nepal.Surrounded by the hills on all its sides, and is home to about 30% of the total urban population.Along with the new developments within the valley, rapid economic development and increasing of the residents and unprecedented immigration of the rest of the country toward the capital,Kathmandu valley have had a highly dynamic and rapid urbanization in the past decades,one of the highest in south east asia.

The population growth of Kathmandu valley, especially city area of Kathmandu and Lalitpur municipalities is very high i.e. about 6.5% and the permanent population is about 2.5 million. Therefore, the population within and around the ring road will be about 3 million including temporary population and tourists. The roads are narrow and the traffic congestion is high.The travelling time across the city is very time consuming. The bus services are very slow and crowded.It is quite difficult to travel and reach to destination in time using public transport.

Therefore, the mass rapid transport system is required to develop inside the ring road.Government of Nepal is planning to construct international airport in Nijgadh,76 km away from kathandu valley and is connecting Kathmandu valley by fast track and railway connection to other part of the country.The Department of Railways, Railways ,mono and Metro development project realized to develop Mass Rapid Transit systems along and within the ring road area of Kathmandu and Lalitpur cities.Either underground or the elevated railway systems are feasible and the way to solve the problems of traffic congestion, slow movement of traffic and movement of large number of passenger in the cities.

1.2 PROJECT LOCATION

Satdobato-Ratnapark-Narayan Gopal chowk Section

(11.60 kilometres)

The Satdobato-Ratnapark-Narayan Gopal chowk elevated rail line which is approximately 11.60 kilometres starts from Satdobato in Lalitpur district and terminates at Narayan Gopal Chowk in Kathmandu district in Nepal. The rail alignment passes through Laghankhel, Pulchowk, Tripureshwor,Sahidgate,ratnapark, jamal,narayanhiti, Lajimpat, Maharajgung, Narayangopal chowk area covering major population centres of the valley.

1. OBJECTIVES

The objective of the assignment shall be to carryout detail survey and prepare detail design, cost estimate and bid documents of the project for the construction of proposed elevated Electrical Railway Line based on the Feasibility Study and findings of additional studies/ investigations conducted during the detail design work. The Consultant's services shall include but not limited to the following:

- Quick Review of the feasibility study to confirm the suitability of the findings and recommendations,
- Conduct Detailed Engineering Survey along the selected alignment including topographical surveys, soil investigation, geological & geotechnical survey, hydrological & morphological Survey etc.,
- Conduct Detailed Engineering Design and drawing of all railway infrastructures and systems,
- Conduct detailed Environmental Impact Assessment (EIA)
- Conduct Social Impact Assessment (SIA) and prepare Resettlement Action Plan (RAP)
- Prepare project cost estimates for the complete railway infrastructure and systems required for the operation of the railway,
- Recommend contract packaging and prepare Tender Documents,
- Preparation project implementation and operation plan,
- Value Engineering of the project
- Preparation of Detailed Project Report (DPR)

2. SCOPE OF WORK

The Principal services to be provided by the consultants to fulfil the objective of the consultancy services are given below. However, these services are indicative of the overall tasks to be performed by the consultants. The consultant shall be responsible for carrying out all necessary field surveys works including, topographical survey, alignment survey for railway and approach roads to the railway stations, geological and geotechnical investigations, laboratory testing, environmental and socio-economic studies and studies for complete railway infrastructure and system designs required for the preparation of the detail design reports. The railway alignments proposed for detail design in this study is approximately 11.60 kilometres and as per the feasibility study report, 7 functions at Lagankhel, pulchowk, thapathali, tripureshwor, ratnapark, lazimpat, narayanhiti, 6 transfer stations, 6 ordinary stations, 1 number of major bridges in bagmati, pass through panipokhari office, number of elevated structures (bridge, viaduct) are required in this section. The consultant shall carry out their services in accordance with accepted professional standards and International practices. For Bridges: It should include reviewing the available data, collecting, reviewing and analysis of field data to be used in the study and conducting analysis to decide upon the technical feasibility of the bridge site(s). A cost comparison of different types of bridge shall be made and discussed with the DoRw before proceeding to bridge site for soil investigation.

2.1 REVIEW OF FINDINGS OF THE FEASIBILITY STUDY

Review the feasibility study report findings and the preliminary design recommendations to identify the deficiencies if any and reconfirm the final railway alignment and design standards. Suggest required improvements or additional design works that should be incorporated for the betterment of the project in the detailed design, including the track alignment, track formation, approach roads and pavements, drainage and other structures, bridges, rolling stock, signalling, telecommunications, safety, station, depots, platform, and other facilities required for the railway operation.

2.2 DETAIL ENGINEERING SURVEY AND INVESTIGATION

The Consultants shall carry out engineering survey and investigations for preparation of detail engineering designs and drawings to enable construction quantities to be calculated with reasonable accuracy (10%). The detail design and drawings should be based on i) the Feasibility Study recommendations, ii) approved design review suggestions of the consultant, iii) additional investigations conducted by the consultants for detail design and iv) specifications and standards set forth in accordance with good industry practice. The detail engineering survey and design investigations shall include:

2.2.1 Topographic, alignment and land use survey

The consultants shall carry out field surveys in sufficient detail for (i) finalising the alignments of railway and approach roads, bridges and other grade separated structures, (ii) preparation of Land acquisition Plans where necessary, (iii) plans for shifting and relocation of utilities. The field surveys shall be carried out using high precision instruments, i.e. total stations. The width of survey corridor shall be 50 meter on either side of the Track centre and important features of the survey conducted and the reference points taken in consideration like GPS bench mark, temporary and permanent bench marks, survey control points etc. shall be recorded in appropriate formats. The activities and deliverables forming part of the topographic, alignment and land use survey shall be as follows:

- Location of stations layouts, depot and other structures in the finalised alignment,
- Location and functional plans for integration of all stations with existing road network.
- Preparation of General Alignment Drawing (GAD), L-Sections and cross-sections of the entire Project based on the plans of the horizontal and vertical alignment. All design developments shall be marked on the plans. Such developments will include new structures, station buildings, roads, relocation of utilities, removal of trees, etc.
- Preparation of a separate Land Plan of the Project showing i) all the existing assets within the agreed railway ROW e.g. structures, drains, trees, utilities and, ii) proposed land required in various stretches for the railway infrastructures and the approach roads. roads. For land required to be acquired for the project, the Land Plans shall be marked on the cadastral maps showing survey / plot numbers and shall be furnished along with a separate report which will include individual land holdings as per land ownership records, area to be acquired for railway and approach road in a suitable format, approved beforehand to facilitate land acquisition proceedings and final report must be approved from concern survey office.
- Video clips during progress of survey works exhibiting location of permanent survey control points, GPS points, BMs, daily start up and closure of works. No separate payment is made for the expenses incurred.

- **Additional Works For Bridges:**

The topographical survey of the area should cover a minimum distance of **500 m** upstream, **200 m** downstream and **200 m** from the river banks on either side of the river at the proposed bridge site. Bridge axis is to be fixed by driving concrete pillars and those locations are to be tied with some permanent feature nearby.

A bridge site topographic map produced thereof should show the following.

- (i) Location of Bridge axis
- (ii) Contours at 1(one) m. intervals in hilly area and at 0.25 m in plain area.
- (iii) Flood lines on either side of the river in the entire area surveyed.

- (iv) Lines with spot levels along which the bed slope of the river is taken
- (v) Both banks of the river
- (vi) Lines along which cross section of the river is taken
- (vii) Govt. and/or public establishments
- (viii) Traverse lines, benchmarks reference lines and/or points with respect to which the present topomap is prepared.
- (ix) The angle and direction of skew, if the bridge is proposed to be aligned skew.
- (x) The names of the nearest identifiable villages/towns etc. in either ends of the bridge.
- (xi) Other information relevant to design, construction and/or maintenance of the bridge.

The consultant shall prepare a separate topographical map, general arrangement drawings and necessary details for individual bridges.

No separate payment shall be made for Detail survey of cross drainage (culverts, waterway) structure within survey corridor for the alignment.

2.2.2 Soil, geotechnical and material surveys

The Consultants shall carry out soil investigation, geo-technical investigations and sub-surface explorations along the alignment (soil samples for every 100m or where change in soil type is encountered), bridges/Road over bridges, overpasses, via duct structures, and other location as necessary for proper design of the works and conduct all relevant laboratory and field tests on soil and rock samples. After the selection of the proposed bridge site with alternatives and preparation of topographic maps, the Consultant shall discuss the collected hydrological data and the following points with concerned of the DoRw for final decision of the bridge site:-

- (i) Design discharge
- (ii) Scour depth, Maximum Scour depth
- (iii) Linear waterway needed to be provided
- (iv) Anticipated soil condition for foundation
- (v) The most feasible proposed bridge site
- (vi) River- training & approach roads.
- (vii) Type of proposed foundation, substructure and superstructure.

The discussion will be done on the basis of the topographic maps, preliminary findings of the parameters (i to vii) above, location of the bridge. After discussion and finalizing of the bridge site/axis the consultant shall carry out subsurface exploration. **The scheme of the boring requirement, their locations and depth shall be prepared by the consultants in order to get complete sub soil profile necessary for the design work. The consultant shall get the approval of the Clients before starting the subsurface exploration works.** The weekly progress of such the investigation must be submitted to the client with Daily Drill Report as per Appendix A of IS: 5313 on whose basis drill logs would be developed. **In case of boring works of depth greater than 15 (fifteen) m, video clip must be supplied, exhibiting location, and depth of boring of every 5(five) m additional depth but no separate payment is made for such.** Investigation for sources of suitable constructional material for structures and track embankment shall be identified, surveyed and shown in plans. The soil investigation shall also incorporate determination of the sub soil condition, the engineering properties of river bed material like mean particle size, stability of cut slopes, probability of liquefaction and other properties

that consultants felt necessary for the design parameters. The minimum scope of geo-technical investigation for bridges and structure shall be as under but not limited to the following.

Scheme of Boring

	Description	Location of boring
1.0	Overall length = 6-30 m	Each abutment location
	Overall Length = 30-60 m	Each abutment locations and intermediate location between abutments for structures having more than one span
	Overall length > 60 m	Each abutment and each pier locations.

Depth of Soil exploration for bridges and structures, from the ground level shall be as follows but not limited to the following. The depth envisaged hereunder is only indicative. The consultant shall decide actual required depth based upon field condition and design parameters. But in any case, the consultant shall be paid only up to the depth mentioned in financial proposal. If rock is found at the beginning or at mid-depth then the drilling works shall not exceed the depth as mentioned in the table below. In any case the payment shall be made only for the actual depth.

Soil exploration works to be certified:

The Department, if required, may ask the Consultant to submit the soil sample obtained from drilling works and/or a bore-log certified by the concerned technical personal of the Department.

Depth of Soil investigation

S.N	Type of Soil	Governing depth
1.0	Silts, sandy, clayey soil	Three (3) times the design scour depth, or 1.5 times the least dimension of the foundation footing, or 40 m , whichever is maximum
2.0	Granular soil (gravels, boulders)	Two (2) times the design scour depth, or 1.5 times the least dimensions of footing, or 40 m , whichever is maximum
3.0	Rocks (soft or hard)	Not exceeding 20 m .

The properties of the underlying soil for alignment, stations, junctions, bridges, tunnel and other structures are determined by field and laboratory tests of the soil samples obtained from the bore holes drilled to a depth as aforementioned /or as in financial proposal. Generally, the following tests are to be conducted for determination of soil properties:

Soil samples for Test and Frequency

	Type of test	Frequency
	Undisturbed Soil Sampling	at least 3 at each borehole
	Standard Penetration Test	as required but the interval not less than 1.5 m
	Grain size analysis	at least 3 at each borehole
	Hydrometer analysis	at least 3 at each borehole
	Moisture content	at least 3 at each borehole

	Bulk and dry density	at least 3 at each borehole
	Unconfined compression test	at least 3 at each borehole
	Consolidation test	at least 3 at each borehole
	Direct shear test	at least 3 at each borehole

If required by the field condition, the consultant shall conduct other types of tests. Similarly, the frequency of the above-mentioned tests can be increased if required. The cost of all field and laboratory tests shall be incorporated in the cost of soil investigation works. No separate payment shall be made for the tests.

The consultant shall submit the drilling report in the following manner;

- I. Location of drill holes.
- II. Daily Drill Report as per Appendix A of IS: 5313 on whose basis drill logs are developed. One copy of the final printed drill logs shall be submitted along with the core boxes of major/minor bridges) at no additional cost.
- III. True cross sections of drill holes shall be presented. These cross-sections shall include all the relevant details such as reduced levels of the ground/bed surface. The various tests conducted and samples recovered from every soil and rock stratum shall be clearly shown against that stratum. Observations of water table and any peculiar conditions such as artesian conditions, sand blow, etc. shall also be noted in the "Remarks" column.
- IV. A record of all incomplete trial pits and drill holes shall be reported in the same manner as the completed pits or boreholes, to be depth of investigation, along with an appropriate explanation for abandoning further investigation.
- V. All geological features shall be prominently brought forward in these logs.

3.2.3 Hydrological Survey

The Consultants shall carryout detail hydrological survey based on the analysis of the rainfall and flood records, supplemented by engineering field investigations necessary for detail design of track formation, approach road embankment, bridges, culverts, longitudinal drainage, and other structures, design bed and protection works including river training works for drainage structures and bridges.

For determination of all design data the consultant shall carry out a detailed hydrometrical survey and hydrological study of the river, bridge and other structure site, which shall include the following:

- (i) Catchment area of the river up to bridge site
- (ii) Length of the river from origin up to bridge site
- (iii) Possibility of change of catchment
- (iv) Nature, size and quantities of debris carried by the river
- (v) Intensity, duration and distribution of rain in the catchment
- (vi) Vegetation, cultivation etc. of the catchment.
- (vii) Existence of reservoir's, Lakes etc. in the catchment.
- (viii) Existing bridge or other hydraulic structures across the river in the vicinity of the proposed bridge site with their details as much as possible.
- (ix) General slope of the river from the critical point (origin) of the river up to bridge site and general slope of the catchment in both sides of the river.
- (x) Cross sections covering 200m. beyond flood lines of the river at proposed bridge site, at about 500m. u/s and about 200m d/s. wherein HFL, LWL, LBL, area of the cross section, wetted perimeter and geological profile with silt factor of each

strata (at proposed bridge site only) shall be indicated. (horizontal and vertical scale of the cross section shall be the same.)

- (xi) Bed slope of the river which must start from 100m. up of the u/s cross section and end at 100 m. down of the d/s. cross section.
- (xii) Maximum discharge calculated by established formulas with different return periods and the peak discharge observed over a period of 100 years.
- (xiii) Velocity and depth of flow at the time of survey.
- (xiv) Shifting of the river in the past at proposed bridge site and in its vicinity.
- (xv) Other information required for river control, design, construction and maintenance of the bridge.

3.2.4 Detail Design of Civil Structures

The Consultant shall carryout detail design and drawing of the railway tracks, formation, road pavement , bridges and river training works, level crossing and track isolation, ROB, RUB, tunnels, all drainage and protection structures, blanketing, trolley refuges etc.

3.2.5 Station Building, Station platforms, Office & Service buildings, Residential Quarters, Sheds & Workshops

The Feasibility Study has mentioned the requirement number of railway stations. The Consultant shall identify station locations and prepare typical master plans one for general stations which shall include the above-mentioned facilities as required. The consultant shall then prepare specific location plans, preliminary architectural plans and elevations for approval of the Client. The proposed station complex and facilities should be adequate to cater future needs. After getting the approval of the Client, consultant shall prepare detail design and drawings of the station complex and the facilities which shall include the following:

- Conduct detailed topographic survey of the site. The survey shall also include all necessary data related to the existing public utility services, lines of streets and pavements, building lines, adjoining properties, restrictions and boundaries necessary to design of sewerage and storm water drainage system;
- Conduct necessary soil test, hydrological survey and such other tests required to provide essential data from sub-soil conditions
- Detail architectural design and drawings of the complex including typical buildings and facilities, layout plan, land developments and landscaping for individual station complex,
- Detail structural design and drawings
- Detail sanitary, plumbing, drainage, water supply and sewerage system designs including solid waste management
- Detail electrical, electronic, communication systems and internet system design;
- Heating, ventilation, and air conditioning design (HVAC) and mechanical systems designs;
- Design of fire detection, fire protection and security system etc.;
- Design of disaster management system;
- Maintenance arrangements for the infrastructure proposed to be constructed;

3.2.6 Electrical Power Supply & Traction, Signaling, Train control and Communication systems

The consultants shall carryout design and drawings for traction, train control. Communication system on the basis of the preliminary design recommendation made in the Feasibility Study and or improvements suggested by the consultants and approved by the Client. The electrical power supply system shall be designed and engineered based on the equipment being continuously in operation. The proposed capacities, ratings and safety requirements for the traction power supply and auxiliary power distribution shall be designed with reference to good industry practice. The overall power factor of electrical supplies be in conformance with power supply authorities stipulations. The power supply system for the stations requirement shall be so designed to support the system operations, as per the operation plan. All designs shall be based on performance requirements. Signaling and train control system shall be designed comprising, automatic train protection system, automatic train supervision system and automatic train operation system. The design of the telecommunication shall have the features of reliability and maintainability.

3.2.7 Rolling Stock

The consultant shall provide, on the basis of feasibility study recommendation or improvements suggested by the consultant and approved by the client, various design parameters and technology option for the rolling stock and also provide the cost of technology. Rolling stock costs for various technologies shall be obtained directly from equipment manufacturers.

3.2.8 Project Implementation and Operation Schedule

The consultant shall prepare Project Implementation and Operation Schedule, which shall include the Operation cost, maintenance frequency, operation timetable, plans to reduce mean time to restore the inventory, etc. The Consultant shall also provide detailed operating costs that are based on the ridership, and suggested operating timetable. The operating unit costs will include, i) Track maintenance, ii) Staff salary and facilities, iii) Rolling stock maintenance, iv) Electrical maintenance, v) Signals and communications maintenance, vi) Energy costs (breakdown of power for traction and ancillary power such as signaling, lighting, terminal, etc.) and, viii) Inventory Plan to reduce mean time to restore the failures in service affecting equipment.

3.2.9 Social Impact Assessment

The Consultant shall conduct social impact assessment especially the persons affected due to the Project and requiring resettlement and rehabilitation. GoN rehabilitation and resettlement guidelines shall be the basis for undertaking the assessment. Plan for resettlement and land acquisition shall be prepared, which shall include the following:

- draft Resettlement and Land Acquisition Plan;
- The social assessments should include gender and local aspects;
- scope and magnitude of likely resettlement and land acquisition effects, likely losses of households, lands, business and income opportunities, as well as affected community assets and public buildings;
- development of an entitlement matrix i) in consultation with local stakeholders, government and the Authority, ii) socio-economic surveys, and iii) inventories of losses that will determine the amount of compensation in accordance with the guidelines and policies of the Government;

3.2.10 Environment Impact Assessment

The Consultant shall undertake environment impact assessment of the Project as per provisions of applicable Laws on environment protection of Government of Nepal and

identify a package of measures to reduce/eliminate the adverse impact identified during the assessment. An environmental impact assessment (EIA) report and environmental management plan (EMAP) shall be prepared based on such assessment. The EMAP shall include project specific mitigation and monitoring measures for identified impacts as well as management and monitoring plans to address them. The Consultant shall also assist the authority in conducting public hearings and addressing the comments and suggestions received during the EIA process for getting environmental clearance from the competent authority.

3.2.11 Transfer of Technology

Nepal owes nearly eighty five years' history of operation of railway but possesses short of competent human resources for the planning, construction and operation of railway due to government's shadowed priority on this sector. But now, relevancy of mass transport system to facilitate public transportation for socio-economic transformation has urged nation to step forward in the development and construction of railway infrastructure in the country. Development, construction, operation and other activities related to railway network and infrastructure will not be achieved unless capacity and capability of railway authority is enhanced by supplement of competent human resources. Hence, the consultant shall advise suitable human resource development plan and policy. Beside, the consultant's proposal shall vividly depict suitable approach, methodology, effective incorporation of capacity building and skill enhancement measures via trainings, workshops, seminars etc., of human resources personnel of railway authority to ensure effective execution of railway development plan.

3.3 TECHNICAL SPECIFICATIONS

The Consultant shall prepare detail technical specification for each work item taking into account relevant international specification and practices with due consideration to the specifications in use in neighboring countries for similar works.

3.4 PROJECT COST/FINANCING OPTIONS

On the basis of the detail design, drawings and specifications the consultant shall prepare analysis of rates for each work item and detailed cost estimate of various components with explanatory significance in terms of value engineering and prepare cost estimate of the project with a break up of cost of each component separately. The consultant shall recommend project financing options including potential for private sector participation in the construction of the project facilities including implementation strategy and institutional arrangement.

3.5 CONTRACT PACKAGING, BILL OF QUANTITIES AND TENDER DOCUMENTS

The consultant shall prepare appropriate contract packaging, Bill of Quantities (BOQ) and tender documents based on detail engineering design, drawing and specifications.

4. THE CONSULTANTS AND STAFFING REQUIREMENT

The consulting services will be carried out by an international consulting firm in association with national consultants. The firm shall have extensive experience in similar assignment of detail survey and design of electrified metro rail project including design of railway bridges and tunnels.

D. Evaluation of Consultant's EOI Application

Consultant's EOI application which meets the eligibility criteria will be ranked on the basis of the Ranking Criteria.

i) Eligibility & Completeness Test	Compliance
Copy of Registration of the company/firm	
VAT/PAN Registration <i>(for National consulting firm only)</i>	
Tax Clearance/Tax Return Submission/Letter of Time Extension for Tax Return Submission 2074/075 <i>(for National consulting firm only)</i>	
EOI Form 1: Letter of Application	
EOI Form 2: Applicant's Information Form	
EOI Form 3: Experience (3(A) and 3(B))	
EOI Form 4: Capacity	
EOI Form 5: Qualification of Key Experts	

ii) EOI Evaluation Criteria	Score Out of 100 pts.	Requirement
A. Qualification		
A1. International Staff		
Qualification of Key Experts	12	
1. Team Leader	4	Graduate in Civil/Railway Engineering and preferably have a Master's Degree in the related field.
2. Alignment Engineer	2	
3. Structural / Bridge Engineer	3	
4. Engineering Geologist/Geo-Technical Engineer	3	
Experience of Key Experts	12	
1. Team Leader	4	Experience in Railway Sector and preferably have experience in the related field.
2. Alignment Engineer	2	
3. Structural / Bridge Engineer	3	
4. Geo-Technical Engineer	3	

A2. National Staff		
Qualification of Key Experts	9.00	
1. Deputy Team Leader	3.00	Graduate in Civil/Railway Engineering and preferably have a Master's Degree in the related (for DTL Highway /Railway Engineering) field.
2. Structural / Bridge Engineer	3.00	
3. Engineering Geologist/Geotechnical Engineer	3.00	
Experience of Key Experts	9.00	
1. Deputy Team Leader	3.00	Experience in Railway/

2. Structural / Bridge Engineer	3.00	Highway/Bridge/Tunnel Sector.
3. Engineering Geologist/ Geotechnical Engineer	3.00	

B. Experience		
General experience	13	General experience of the consultants in Civil /Railway Engineering Projects
Specific experience of consulting firm within last 7 years.	30	Rail Projects Railway Bridge Projects Elevated Railway/Metrorail Projects
Similar Geographical experience of consulting firm	5	Experience in SAARC Countries, Out of SAARC ASIA and Any other countries (difference than nation of incorporation)
C. Capacity		
Financial Capacity	10	Average Annual turnover equal to or greater than US \$ 1.75 million <u>10.00 pts.</u>

E. EOI Forms & Formats

Form 1. Letter of Application

Form 2. Applicant's information

Form 3. Experience (*General, Specific and Geographical*)

Form 4. Capacity

Form 5. Qualification of Key Experts

1. Letter of Application

(Letterhead paper of the Applicant or partner responsible for a joint venture, including full postal address, telephone no., fax and email address)

Date:

To,

Full Name of Client: _____

Full Address of Client: _____

Telephone No.: _____

Fax No.: _____

Email Address: _____

Sir/Madam,

1. Being duly authorized to represent and act on behalf of (hereinafter "the Applicant"), and having reviewed and fully understood all the short-listing information provided, the undersigned hereby apply to be short-listed by **[Insert name of Client]** as Consultant for **{Insert brief description of Work/Services}**.
2. Attached to this letter are photocopies of original documents defining:
 - a) the Applicant's legal status;
 - b) the principal place of business;
3. **[Insert name of Client]** and its authorized representatives are hereby authorized to verify the statements, documents, and information submitted in connection with this application. This Letter of Application will also serve as authorization to any individual or authorized representative of any institution referred to in the supporting information, to provide such information deemed necessary and requested by yourselves to verify statements and information provided in this application, or with regard to the resources, experience, and competence of the Applicant.
4. **[Insert name of Client]** and its authorized representatives are authorized to contact any of the signatories to this letter for any further information.¹
5. All further communication concerning this Application should be addressed to the following person,

[Person]

[Company]

[Address]

[Phone, Fax, Email]
6. We declare that, we have no conflict of interest in the proposed procurement proceedings and we

¹ Applications by joint ventures should provide on a separate sheet, relevant information for each party to the Application.

have not been punished for an offense relating to the concerned profession or business and our Company/firm has not been declared ineligible.

7. We further confirm that, if any of our experts is engaged to prepare the TOR for any ensuing assignment resulting from our work product under this assignment, our firm, JV member or sub-consultant, and the expert(s) will be disqualified from short-listing and participation in the assignment.
8. The undersigned declares that the statements made and the information provided in the duly completed application are complete, true and correct in every detail.

Signed :

Name :

For and on behalf of (name of Applicant or partner of a joint venture):

2. Applicant's Information Form

(In case of joint venture of two or more firms to be filled separately for each constituent member)

1. Name of Firm/Company:
2. Type of Constitution (*Partnership/ Pvt. Ltd/Public Ltd/ Public Sector/ NGO*)
3. Date of Registration / Commencement of Business (*Please specify*):
4. Country of Registration:
5. Registered Office/Place of Business:
6. Telephone No; Fax No; E-Mail Address
7. Name of Authorized Contact Person / Designation/ Address/Telephone:
8. Name of Authorized Local Agent /Address/Telephone:
9. Consultant's Organization:
10. Total number of staff:
11. Number of regular professional staff:

(Provide Company Profile with description of the background and organization of the Consultant and, if applicable, for each joint venture partner for this assignment.)

3. Experience

3(A). General Work Experience

(Details of assignments undertaken. Each consultant or member of a JV must fill in this form.)

S. N.	Name of assignment	Location	Value of Contract	Year Completed	Client	Description of work carried out
1.						
2.						
3.						
4.						
5.						
6.						
7.						

3(B). Specific Experience

Details of similar assignments undertaken in the previous seven years

(In case of joint venture of two or more firms to be filled separately for each constituent member)

Assignment name:	Approx. value of the contract (in current NRs; US\$ or Euro):
Country: Location within country:	Duration of assignment (months):
Name of Client:	Total No. of person-months of the assignment:
Address:	Approx. value of the services provided by your firm under the contract (in current NRs; US\$ or Euro):
Start date (month/year): Completion date (month/year):	No. of professional person-months provided by the joint venture partners or the Sub-Consultants:
Name of joint venture partner or sub-Consultants, if any:	Narrative description of Project:
Description of actual services provided in the assignment: Note: Provide highlight on similar services provided by the consultant as required by the EOI assignment.	

Firm's Name: _____

3(C). Geographic Experience

Experience of working in similar geographic region or country

(In case of joint venture of two or more firms to be filled separately for each constituent member)

No	Name of the Project	Location (Country/ Region)	Execution Year and Duration
1.			
2.			
3.			
4.			
5.			
6.			
7.			

4. Capacity

4(A). Financial Capacity

(In case of joint venture of two or more firms to be filled separately for each constituent member)

Annual Turnover	
Year	Amount Currency

- Average Annual Turnover

--

(Note: Supporting documents for Average Turnover should be submitted for the above.)

5. Key Experts *(Include details of Key Experts only)*

(In case of joint venture of two or more firms to be filled separately for each constituent member)

International

SN	Name	Position	Highest Qualification	Work Experience (in year)	Specific Work Experience (in year)	Nationality
1		Team Leader				
2		Alignment Engineer				
3		Structural / Bridge Engineer				
4		Engineering Geologist/Geo-Technical Engineer				

National

SN	Name	Position	Highest Qualification	Work Experience (in year)	Specific Work Experience (in year)
1		Deputy Team Leader			
2		Structural / Bridge Engineer			
3		Engineering Geologist/Geotechnical Engineer			

D. Evaluation of Consultant's EOI Application

Evaluation of Consultant's EOI Application

Consultant's EOI application which meets the eligibility criteria will be ranked on the basis of the Ranking Criteria.

i) Eligibility & Completeness Test

Sl. No.	Criteria Title	Compliance
1	Corporate Registration	
2	Tax Clearance/Tax Return Submission	
3	VAT/PAN Registration	
4	EOI Form 1: Letter of Application	
5	EOI Form 2: Applicant's Information Form	
6	EOI Form 3: Experience (3(A) and 3(B))	
7	EOI Form 4: Capacity	
8	EOI Form 5: Qualification of Key Experts	

ii) EOI Evaluation Criteria

A. Qualification

Sl. No.	Criteria	Minimum Requirement
1	Qualification of Key Experts	For International staff: Graduate in Civil/ Railway Engineering and preferably a Master's Degree in the related field. For National staff: Graduate in Civil/ Railway Engineering and preferably a Master's degree in the related (for DTL Highway/ Railway Engineering) field.
2	Experience of Key Experts	For International Staff: Experience in Railway sector and preferably have experience in the related field. For National Staff: Experience in Railway/ Highway/ Bridge/ Tunnel Sector.

Score: 42.0

B. Experience

Sl. No.	Criteria	Minimum Requirement
1	General Experience of consulting firm	General Experience of the consultants in Railway/ Civil Engineering Projects.
2	Specific experience of consulting firm within last 7 years. In case of person, specific experience of the person within last 4 years.	Specific experience in: Rail, Railway Bridge Projects and Elevated Railway/ Metrorail Projects.
3	Similar Geographical experience of consulting firm	Experience in Nepal, SAARC countries, Out of SAARC Asian Countries.

Score: 48.0

C. Capacity

Sl. No.	Criteria	Minimum Requirement
1	Financial Capacity.	Average Annual Turnover equal to or greater than US\$ 1.75 million.

Score: 10.0

Minimum score to pass the EOI is: 70

E. EOI Forms & Formats

E. EOI Forms & Formats

Form 1. Letter of Application

Form 2. Applicant's information

Form 3. Experience (*General, Specific and Geographical*)

Form 4. Capacity

Form 5. Qualification of Key Experts

Standard EOI Document

1. Letter of Application

(Letterhead paper of the Applicant or partner responsible for a joint venture, including full postal address, telephone no., fax and email address)

Date:

To,

Full Name of Client: _____

Full Address of Client: _____

Telephone No.: _____

Fax No.: _____

Email Address: _____

Sir/Madam,

1. Being duly authorized to represent and act on behalf of (hereinafter "the Applicant"), and having reviewed and fully understood all the short-listing information provided, the undersigned hereby apply to be short-listed by **[Insert name of Client]** as Consultant for **[Insert brief description of Work/Services]**.
2. Attached to this letter are photocopies of original documents defining:
 - a) the Applicant's legal status;
 - b) the principal place of business;
3. **[Insert name of Client]** and its authorized representatives are hereby authorized to verify the statements, documents, and information submitted in connection with this application. This Letter of Application will also serve as authorization to any individual or authorized representative of any institution referred to in the supporting information, to provide such information deemed necessary and requested by yourselves to verify statements and information provided in this application, or with regard to the resources, experience, and competence of the Applicant.
4. **[Insert name of Client]** and its authorized representatives are authorized to contact any of the signatories to this letter for any further information.¹
5. All further communication concerning this Application should be addressed to the following person,

[Person]

[Company]

[Address]

[Phone, Fax, Email]
6. We declare that, we have no conflict of interest in the proposed procurement proceedings and we have not been punished for an offense relating to the concerned profession or

¹ Applications by joint ventures should provide on a separate sheet, relevant information for each party to the Application.

Standard EOI Document

business and our Company/firm has not been declared ineligible.

7. We further confirm that, if any of our experts is engaged to prepare the TOR for any ensuing assignment resulting from our work product under this assignment, our firm, JV member or sub-consultant, and the expert(s) will be disqualified from short-listing and participation in the assignment.
8. The undersigned declares that the statements made and the information provided in the duly completed application are complete, true and correct in every detail.

Signed :

Name :

For and on behalf of (name of Applicant or partner of a joint venture):

Standard EOI Document

2. Applicant's Information Form

(In case of joint venture of two or more firms to be filled separately for each constituent member)

1. Name of Firm/Company:
2. Type of Constitution (*Partnership/ Pvt. Ltd/Public Ltd/ Public Sector/ NGO*)
3. Date of Registration / Commencement of Business (*Please specify*):
4. Country of Registration:
5. Registered Office/Place of Business:
6. Telephone No; Fax No; E-Mail Address
7. Name of Authorized Contact Person / Designation/ Address/Telephone:
8. Name of Authorized Local Agent /Address/Telephone:
9. Consultant's Organization:
10. Total number of staff:
11. Number of regular professional staff:

(Provide Company Profile with description of the background and organization of the Consultant and, if applicable, for each joint venture partner for this assignment.)

Standard EOI Document

3. Experience

3(A). General Work Experience

(Details of assignments undertaken. Each consultant or member of a JV must fill in this form.)

S. N.	Name of assignment	Location	Value of Contract	Year Completed	Client	Description of work carried out
1.						
2.						
3.						
4.						
5.						
6.						
7.						

Standard EOI Document

3(B). Specific Experience

Details of similar assignments undertaken in the previous seven years

(In case of joint venture of two or more firms to be filled separately for each constituent member)

Assignment name:	Approx. value of the contract (in current NRs; US\$ or Euro) ² :
Country: Location within country:	Duration of assignment (months):
Name of Client:	Total No. of person-months of the assignment:
Address:	Approx. value of the services provided by your firm under the contract (in current NRs; US\$ or Euro):
Start date (month/year): Completion date (month/year):	No. of professional person-months provided by the joint venture partners or the Sub-Consultants:
Name of joint venture partner or sub-Consultants, if any:	Narrative description of Project:
Description of actual services provided in the assignment: Note: Provide highlight on similar services provided by the consultant as required by the EOI assignment.	

Firm's Name: _____

² Consultant should state value in the currency as mentioned in the contract

Standard EOI Document

3(C). Geographic Experience

Experience of working in similar geographic region or country

(In case of joint venture of two or more firms to be filled separately for each constituent member)

No	<i>Name of the Project</i>	<i>Location (Country/ Region)</i>	<i>Execution Year and Duration</i>
1.			
2.			
3.			
4.			
5.			
6.			
7.			

Standard EOI Document

4. Capacity

4(A). Financial Capacity

(In case of joint venture of two or more firms to be filled separately for each constituent member)

Annual Turnover	
Year	Amount Currency

- Average Annual Turnover

--

(Note: Supporting documents for Average Turnover should be submitted for the above.)

Standard EOI Document

4(B). Infrastructure/equipment related to the proposed assignment³

No	Infrastructure/equipment Required	Requirements Description
1.		
2.		
3.		
4.		
5.		

³ Delete this table if infrastructure/equipment for the proposed assignment is not required.

Standard EOI Document

5. Key Experts *(Include details of Key Experts only)*

(In case of joint venture of two or more firms to be filled separately for each constituent member)

SN	Name	Position	Highest Qualification	Work Experience (in year)	Specific Work Experience (in year)	Nationality
1						
2						
3						
4						
5						

(Please insert more rows as necessary)