
Government of Nepal

Water and Energy Commission Secretariat

Singha Durbar, Kathmandu

Expression of Interest (EOI)

For

“Preparation of Hydrological Manual for
Infrastructure”

Job No. : 2072/73 - 2

Budget Head: 308101

April, 2016

Government of Nepal
Water and Energy Commission Secretariat
Singha Durbar, Kathmandu

Invitation for Expression of Interest (EOI) for Consultancy Services

(Date of First Publication: 2072/12/24)

1. The Water and Energy Commission Secretariat (WECS) intends to prepare a list of competent Nepali national consulting firms for the Job indicated below, which is proposed to be conducted using funds from Government of Nepal (GON)'s own resources. This Invitation for Expression of Interest (EOI) is made to invite applications from interested and eligible Nepali national consulting firms registered in Nepal under GON rules & regulations and/or their joint ventures (JV)

Job No.	Job Title
2072/73-2	Preparation of Hydrological Manual for Infrastructure

2. The consulting firm can apply either in single or in JV. The number of consulting firms in a JV should not exceed three including the lead firm. In addition, same consulting firm is not allowed to enter into more than one JV for the Job.
3. EOI document could be obtained free of cost during office hours on all government working days within 15th day of first date of publication of this EOI notice from WECS or can be downloaded from the website <http://www.wecs.gov.np>. The instructions to applicants, prescribed formats for EOI preparation, evaluation criteria, detailed information, and Terms of Reference (TOR) for the job are provided in the EOI document.
4. Duly completed EOI documents in hard copy should be submitted to the address mentioned below clearly mentioning the name of the job in sealed envelopes before 12 Noon (NST-Nepal Standard Time) within 16th day of first publication of this notice :
- The Secretary, Water and Energy Commission Secretariat
Singha Durbar, Kathmandu
Tel:4211423 , Fax: 4211425, Email:
5. If the deadline specified herein falls on a government holiday, the deadline shall be extended automatically to the next working day at the same hour. Duly completed EOI documents received after the due date & time shall be considered late, summarily rejected and returned unopened.
6. The completed EOI documents received by the due date and within the specified time shall be opened at 14:00 (NST) on the 16th day of first date of publication of this notice in the presence of the applicants or their authorized representatives whosoever wish to attend. Absence of the applicant or their authorized representatives, however, shall not obstruct or prevent the opening of the EOI in any way.
7. The EOI documents received from the applicants will be evaluated on the basis of the approved eligibility and evaluation criteria. The evaluation of EOI application of eligible JV consulting firm(s) will be done in cumulative basis. Only six top ranked consulting firms obtaining at least 60% marks in the EOI evaluation will be shortlisted for the job and considered as qualified firms.
8. Request for Proposal (RFP) for this job will be subsequently issued to qualified short listed firms. The Quality and Cost Based Selection (QCBS) procedure will be used for final selection of the consulting firm.
9. WECS reserves the right to accept or reject any or all EOI applications with or without giving any reason whatsoever.

1. INSTRUCTIONS TO APPLICANTS

1.1 INTRODUCTION

1.1.1 *Scope of Qualification*

1. The Water and Energy Commission Secretariat (WECS) intends to prepare a list of competent Nepali national consulting firms to conduct study titled “Preparation of Hydrological Manual for Infrastructure.” This Invitation for Expression of Interest (EOI) is made to invite applications from interested and eligible Nepali national consulting firms registered in Nepal under GoN rules & regulations and/or their joint ventures.

1.1.2 *Definition of Terms*

Unless otherwise specified, the following terms used in this EOI have the following meanings:

“Applicant” means a single consulting firm or a joint venture of firms which intends to submit completed EOI document as per the published notice and instructions given in this EOI document.

“Authorized Representative” means an individual authorized by the Applicant as the duly authorized entity to legally bind the Applicant to the EOI process, is the authorized signatory to the process, and is the point of contact for WECS in connection with the process.

“Bidder” means a successful Applicant that is shortlisted under this EOI and submits Technical and Financial proposal in response to RFP.

“WECS” means the “Water and Energy Commission Secretariat”

“GoN” means “Government of Nepal”

“JV” means “Joint Venture”

“Lead Firm” means an entity or firm that is the authorized leader of a team comprising the Lead Firm and its constituents to submit the EOI and perform the assignment.

“EOI” means “Expression of Interest”

“RFP” means a “Request for Proposal”

“TOR” means “Terms of Reference”

“VAT” means “Value Added Tax”

1.1.3 *Eligible Applicants*

1. In order to be eligible, the consulting firms should be registered in Nepal under GoN rules & regulations and should submit valid Registration Certificate, VAT Registration Certificate and Income Tax Clearance Certificate of FY 071/72. These eligibility certificates shall be notarized by authorized entity.
2. In addition, the Applicant (consulting firms) should submit Self Declaration as per clause 40 – 2 (e) of Public Procurement Rule, 2064 mentioning their eligibility, non-conflict of interest, non receipt of any punishment while doing consulting business and litigation history (if any).
3. In case of a Joint Venture, each member of the JV shall submit the above eligibility documents.

4. In case of a Joint Venture, the consulting firms shall submit Joint Venture Agreement between the JV partners duly signed by authorized signatories & stamped with company seal of each member of JV & clearly mentioning name of the lead firm, name of JV partners, role and responsibility of each JV partner, share percentage of each members, and names and signatures of the authorized signatories. A power of attorney of authorized signatories in the JV from their respective firms with signature and seal of each member in the JV is also required.
5. Firms are not allowed to enter into more than one joint venture for the job. The total number of consulting firms including the lead firm should not exceed a maximum of three in a joint venture.
6. The minimum share percentage of the lead firm should be at least 40% and that of each of the other JV partners should be at least 20%. The lead firm should have an Average Annual Turnover of at least NRs. 10.00 millions on average in the best three fiscal years among the last five consecutive fiscal years.
7. If the consulting firm or any member of the joint venture fails to submit the above documents or does not meet any of the above mentioned eligibility criteria, the consulting firm will be considered as non-eligible and will NOT be considered for further evaluation.

1.2 GENERAL INSTRUCTION TO CONSULTANTS

1.2.1 Clarification on EOI Documents

A prospective Applicant requiring any clarification on this EOI document may seek clarification by contacting WECS during office hours on all working days prior to the deadline for submission of the completed EOI document at the address mentioned below

Contact person

Mr. Suresh Maskey

Senior Divisional Engineer

WECS, Singha Durbar, Kathmandu

Tel:- 4211423, 4211429 Fax:- 4211425

Email: maskeysuresh@hotmail.com

Amendment to EOI Documents

1. At any time prior to the deadline for the submission of the EOI document, WECS may amend the EOI clauses, for any reason, whether on its own initiative or in response to a clarification requested by an Applicant.
2. All Applicants will be notified in writing about the amendments. All Applicants will be bound by the amendments. Applicants will be required to acknowledge the receipt of any amendment within three business days of such receipt. Otherwise, WECS will assume that the information contained in the amendment is taken into account by the Applicant in its Application.

1.2.2 Cost of Preparation of EOI and Liability

Applicant shall bear all costs associated with the preparation and submission of the EOI document. WECS will, in no case, be responsible or liable for these costs, or have any other liability to any Applicant, regardless of the conduct or outcome of the EOI process. WECS shall have no obligation to any Applicant to reimburse any costs incurred in preparing a response to this EOI.

1.2.3 Confidentiality of the Document

If an Applicant believes that any portion of the submittal is to be treated in confidence, he/she shall identify such information clearly in the submittal. WECS will make every effort to treat such documents in confidence as far as possible.

1.2.4 Joint Liability for Joint Venture Firms

By submitting an EOI in joint venture, the Applicant represents that, if qualified and if awarded the contract after the RFP process, the Applicant with its constituent members shall be jointly responsible to perform the obligations of such contract.

1.3 SUBMISSION OF EXPRESSION OF INTEREST (EOI)

1.3.1 Sealing and Marking

1. The Applicant shall seal the one original and one copy of the completed EOI in separate envelopes, duly marking the envelopes as “Original” and “Copy”. These envelopes shall then be sealed in an outer envelope and marked as “Expression of Interest”. The inner as well as outer envelope should clearly mention the title of consulting Job. The envelopes should also indicate the name and address of the Applicant.
2. The inner and the outer envelopes shall be addressed to:

The Secretary
Water and Energy Commission Secretariat
Singha Durbar, Kathmandu
Tel: 4211422, Fax: 4211425

1.3.2 Deadline for Submission

1. The completed EOI document must be submitted to WECS at the address specified in section 1.3.1 before 12:00 hr Nepal Standard Time (NST) **within 16th day from the date of first publication of this notice.**
2. The completed EOI documents received by WECS after the deadline set forth in section 1.3.2 (1) shall be considered late and shall be summarily rejected and returned un-opened.
3. If the deadline specified herein falls on a government holiday, the deadline shall be extended automatically to the next working day at the same hour.

1.3.3 Withdrawal of EOI document

An Applicant shall not be permitted to withdraw the EOI Application that has been submitted to WECS.

1.4 PUBLIC OPENING OF SUBMITTED EOI DOCUMENT

The completed EOI documents received by the due date and within the time specified in clause 1.3.2 (1) will be opened at 14.00 hrs NST on the last date of submission of EOI document in the presence of the applicants or their authorized representatives whosoever wish to attend. Absence of the applicants or their authorized representative(s), however, shall not obstruct or prevent the opening of the EOI in any way. Applicants' each designated representative must bring a letter from the applicant stating that he/she is authorized to represent the applicant for the public opening of the EOI document. Applicants or their authorized representatives who are present at the time of opening shall sign in a register evidencing their presence.

During the opening, an authorized representative of WECS will read out the names of the applicants who have submitted the completed EOI document and then will open the submitted EOI envelopes.

1.5 PREPARATION OF THE EOI DOCUMENT

Detailed procedure for preparation of EOI documents is given in section – 2.

1.6 EVALUATION PROCESS

WECS will carry out evaluation of the submitted EOI documents based on the eligibility and evaluation criteria approved by WECS and listed in this document. Anything not mentioned in this document regarding the EOI process shall be governed by the prevailing Public Procurement Act and Rule of Nepal.

The evaluation of EOI documents will be done in two stages (i) Screening of EOI Application of all firms for eligibility; and (ii) Evaluation of EOI document of eligible firms.

i) Screening of EOI Application of all firms for eligibility

The basic criteria for the eligibility of applicants are as follows:

A. Eligibility Requirement

i	Notarized Copy of Valid Registration Certificate
ii	Notarized Copy of VAT Certificate
iii	Notarized Copy of Income Tax Clearance Certificate of FY 071/72
iv	Self Declaration as per clause 40 – 2 (e) of Public Procurement Rule, 2064 mentioning their eligibility, non-conflict of interest, non receipt of any punishment while doing consulting business and litigation history (if any)

Note:

- (a) In case of Joint Venture, each member of the JV shall submit the above eligibility documents.
- (b) The total number of consulting firms including the lead firms should not exceed a maximum of three in a joint venture.
- (c) The same firm is not allowed to enter into more than one Joint Venture.
- (d) In addition, in case of Joint Venture, following documents should be provided

i	Joint Venture Agreement of consulting firms duly signed by authorized signatories & stamped with company seal of each member of joint venture & clearly mentioning name of the lead firm, name of JV partners, role and responsibility of each member, share percentage of each members, name of the authorized signatories. The original signature of authorized representatives & stamp of companies should be in each page of JV agreement. The digital signature or digital stamp shall not be accepted. (In any case, the firms are not allowed to enter into more than one joint venture for same job).
ii	Power of attorney of authorized signatories of JV agreement from their respective firm with signature & stamp for each member of JV. Such Power of attorney of authorized signatories of JV agreement shall have been issued by executive head of organization such as Managing Director, CEO or Chairperson, etc. The digital signature or digital stamp shall not be accepted.

iii	The minimum share percentage of the lead firm should be at least 40% and that of other JV partners should be at least 20%.
iv	Power of attorney to lead firm by JV partners
v	Documents showing that the lead firm has an Average Annual Turnover of at least NRs. 10.0 millions on average in the best three fiscal years among last five consecutive fiscal years.

If a consulting firm or any member in the joint venture fails to submit the above documents or does not meet any of the above mentioned criteria, the consulting firm/their JV will be considered as non-eligible and will NOT be considered for further evaluation.

(ii) Evaluation of EOI document of eligible firms

In case of a JV, the evaluation will be done in cumulative basis. However, cumulative basis will not be applied for financial capability of the firm in presenting the minimum average annual turnover (NRs.10 Millions) as the lead firm shall have an Average Annual Turnover of at least NRs. 10.0 millions on average in the best three fiscal years among last five consecutive fiscal years as stated above in the eligibility criteria.

The criteria for the evaluation of EOI documents are as follows:

<u>S.N</u>		<u>Description</u>	<u>Weightage</u>	<u>Marks</u>
A		Financial Capability of the Firm		20
	I	Average Annual Turn Over of best three fiscal years among last five consecutive fiscal years (in NRs.)		
	a	/ 15.0 Million	100%	
	b	12.5 to 15.0 Million	80%	
	c	10.0 to 12.5 Million	60%	
B		Proposed key Personnel/Professionals (Minimum Qualification and Experience as specified in the TOR) – Marks will be distributed as given against respective personnel in the list.		15
	a	Full Time	100%	
	b	Part Time	80%	
C		General Work Experience of the Firm in the last Five Years in the Area of Water Resources Development Projects.		15
		(Based on cumulative value of contracts completed in the past five years, in NRs.)		
	a	Cumulative Value of ≥ 15 million	100%	
	b	Cumulative Value of 10 to 15 million	80%	
	c	Cumulative Value of 5 to 10 million	60%	
	d	Cumulative Value of < 5 million	0%	
D		Specific Work experience of the firm in the Last Five Years (Not counting the works under C)		50
	I	Experience in study & research related works on preparation of Manual and Design Guidelines of Infrastructure Development		15

		works.(Hydropower/Irrigation/Water Supply/River Training) (Based on number of projects completed in the last five years)		
	a	More than 2 tasks or projects	100%	
	b	2 tasks or projects	80%	
	c	At least 1 task or project	60%	
	II	Experience in Infrastructure Development Project Design- Detailed Design and Feasibility Study work of Hydropower /Irrigation/ Water Supply /River Training projects(Based on number of projects completed in the last five years)		15
	a	More than 2 tasks or projects	100%	
	b	2 tasks or projects	80%	
	c	At least 1 task or project	60%	
	III	Experience in Study & Research work in Hydrology/Meteorology/Climate Change (Based on number of projects completed in the last five years)		20
	a	More than 2 tasks or projects	100%	
	b	2 tasks or projects	80%	
	c	At least 1 task or project	60%	
Total Marks				100.00

Note:

- a)
 - i.
 - ii. The relevant figures/numbers of each member of the joint venture shall be added together to calculate cumulative figures/numbers of the joint venture's for the purpose of evaluation.
 - iii. In the event of any discrepancy between the original and the copy, the original shall govern.
 - iv. The Consultant must make (put) the original signature of authorized representative and stamp of company **on each printed side of every page of EOI document(s).**
 - b) The experience of the firm should be supported with the evidence/proof of experience/ completion certificates. The experience/ completion certificates shall contain the project size, consulting service amount and date of completion of the assignment. The experience of the firm without evidence/proof or experience certificate will not be considered for evaluation.
- c)
 - i.
 - ii. Marks will be given only to the key professionals to be deployed for the study.
 - iii. The Professional hired from outside or part time will be evaluated with only 80% weightage for its marks obtained. If the qualification and experience of the key personnel does not meet the minimum requirements as specified in the TOR, such personnel will not be considered for evaluation.

List of Key Personnel/Professionals

Professionals in the following areas of expertise are proposed for the job. Details of the qualification, experience and responsibilities of key experts are provided in TOR.

S N	Descriptions	Required No.	Maximum Marks
1	Team Leader(Water resources expert)	1	3
2	Senior hydrologist	1	2
3	Hydrologist	1	1.5
4	Hydropower engineer	1	1.5
5	Irrigation and drainage engineer	1	1.5
6	Sediment management expert	1	1.0
7	Water supply and sanitation engineer	1	1.5
8	Bridge design expert	1	1.5
9	Flood control expert	1	1.5

1.6.1 Screening of EOI Applications

In this stage, screening/ eligibility verification of received EOI documents will be done based on approved eligibility criteria. Each Consultant must 'pass' each and every criterion of eligibility. Any Consultant not complying or fulfilling with any one of these eligibility criteria will be disqualified from further evaluation.

1.6.2 Evaluation of EOI Documents

In second stage, the EOI document of eligible firms (Consultants determined "Pass" in Stage I), will be further evaluated based on (i) Financial Capability of Firm, (ii) Qualification and Experience of the proposed Key Professional/Personnel (iii) General Work Experience of the Firm and (iv) Specific Work Experience of the Firm .

Applicants obtaining at least 60% marks in the EOI evaluation process shall be considered as qualified firms. Only top six out of such qualified firms will be allowed to participate in RFP process.

1.6.3 Clarification during Evaluation by WECS

1. During the evaluation, WECS may request the Applicant for necessary clarifications or substantiation of the information furnished. The Applicant shall furnish the necessary clarifications expeditiously by post/courier/fax/e-mail or by any other means of communication to WECS at the address given in Clause - 1.2.1.

2. If the Applicant fails to provide timely clarification or substantiation of the information furnished, WECS may declare such Applicant as non-responsive and reject his/her document.

1.6.4 Rejection of EOI Document of Applicant

1. WECS reserves the right to accept or reject any or all EOI proposals with or without giving any reason whatsoever and is not liable for any losses to Applicants due to such rejection.
2. Furnishing of false or wrong information, document or evidence by any firm or joint venture may result in rejection of the EOI document of the firm or their joint ventures. In addition in such cases, legal action shall be taken as per prevailing law.

1.7 NOTICE OF RESULT OF EVALUATION

All applicants irrespective of the qualified or non-qualified and short listed or non-shortlisted will be notified in writing the result of evaluation of qualification in due course of time. Applicants listed in the short-list will be considered as qualified firm and will be invited to participate in the Request for Proposal process.

1.8 TERMS OF REFERENCE (TOR)

TOR is provided in Annex-1 of this EOI document.

2. PREPARATION OF EOI APPLICATION

The EOI document shall be structured in accordance with the outlines given in the EOI form and must contain accurate and complete information as requested in the EOI form. **The EOI document shall have no interlineations or overwriting, except as necessary to correct errors made by the Consulting Firm itself. Any such correction must be initialed by the person authorized to sign the application and stamped with the firm's seal.**

2.1.1 Documents for EOI

The completed EOI documents to be submitted by Applicants shall comprise of the following documents:

Form Type	Description/Content
Form A	General Information
Form A-1	Letter of Submission
Form A-2	Joint Venture Information (Attach JV Agreement and Power of Attorney, Share Percentage)
Form A-3	Self Declaration Form
Form A-4	Eligibility Documents (Attach Registration, VAT, Income Tax Clearance Certificates)
Form A-5	Identification of the Consulting Firm
Form A-6	Financial Capability of the Consulting Firm (Attach Audit Reports of last five consecutive fiscal years)
Form B	General Work Experience of the Firm in the Area of Water Resources Development in last five years
Form C	Specific Work Experience of the Firm in last five years
Form C-1	Experience in study & research related works on preparation of Manual and Design Guideline of Infrastructure Development works.(Hydropower /Irrigation/Water Supply/River Training)
Form C-2	Experience in Infrastructure Development Project Design-Detailed Design and Feasibility Study work of Hydropower /Irrigation/ Water Supply /River Training projects
Form C-3	Experience in Study & Research work in Hydrology/Meteorology/Climate Change
Form D	Details of Proposed Key Personnel/Professional

Note: The EOI documents should be prepared and submitted in above mentioned sequence providing supporting documents with respective Forms.

2.1.2 General Information

1. The Applicant shall provide a Letter of Submittal with completed forms as provided in the Format Forms A to D in the EOI document. All necessary information shall be presented to demonstrate the firm/joint venture's eligibility, capability, experience and professionals to be deployed for the study.
2. The Applicant shall enclose notarized copies of registration certificate, VAT certificate, and Tax clearance certificate. The applicants shall also enclose experience certificate or completion certificate, audit report of last five years and other relevant information.

2.1.3 Information Regarding Technical & Financial Capability of the Consulting Firm

Form A-1: Letter of Submission

The applicant shall submit with the EOI a submittal letter with name and full contact information of the authorized representative. The letter shall be signed by an authorized person of the firm or lead firm in case of joint venture and shall be stamped by the company's seal. The format of submittal letter is given in Form A-1 of the EOI document. The letter shall also include the title of consulting job being applied for.

Form A-2: Joint Venture Information

In case of Joint Venture, the Consultant shall submit duly signed by authorized signatories & stamped with company seal of each member of joint venture & clearly mentioning name of the lead firm, name of JV partners, role and responsibility of each member, share percentage of each members, name of the authorized signatories. The original signature of authorized representatives & stamp of companies should be in each page of JV agreement. The digital signature or digital stamp shall not be accepted. The authorized signatories of JV agreement should hold power of attorney from their respective firm. Such Power of attorney of authorized signatories of JV agreement shall have been issued by executive head of organization such as Managing Director, CEO or Chairperson, etc.

Form A-3: Self Declaration Statement of Consultant

The applicant shall submit a Self Declaration as per clause 40 – 2 (e) of Public Procurement Rule, 2064 mentioning that Consultant is not ineligible to participate in this procurement process, that the Consulting Firm does not have any conflict of interest in the proposed assignment, and that the consulting Firm has not received any punishment while doing consulting business and litigation history (if any) in last five years. The self declaration letter shall be signed with original signature of an authorized person of the consulting firm and shall be stamped by the company's seal. The format of the self declaration letter is given in Form A-3 of this EOI document. In case of JV, each individual Consultant should submit Self Declaration either separately or jointly by signing each member of JV mentioning information requested in Self Declaration.

Form A-4: Eligibility Documents

The applicant shall complete form A-4 and submit supporting documents to support the eligibility requirements(s). The supporting documents will be in the form of notarized copies of registration certificate, VAT Certificate and Income Tax Clearance Certificates.

Form A-5: Identification of the Firm

The background information of the consulting firm shall be presented in the prescribed Form A-5.

Form A-6: Financial Capability of the Firm

The financial capability of the consulting firm shall be presented in the prescribed Form A-6 of this EOI document. The financial status of the Consulting Firm shall be supported with audited reports of last five consecutive fiscal years.

2.1.4 General and Specific Work Experience of the Firm

The experience of the firm should be supported with evidence/proof in the form of work completion certificates showing the project size, value of contract, time duration and date of completion of the assignment, as appropriate. The experience of the firm without such evidence/proof will not be considered for evaluation.

Form B: General Experience of the Firm in the area of Water Resources Development in last five years

General Experience of the Firm in the last 5 years in the area of Water Resources Development shall be presented in the prescribed Form B.

Form C-1: Experience in study & research related works on preparation of Manual and Design Guideline of Infrastructure Development works. (Hydropower /Irrigation/Water Supply/River Training) in the last 5 years shall be presented in the prescribed Form C-1.

Form C-2: Experience in Infrastructure Development Project Design- Detailed Design and Feasibility Study work of Hydropower /Road /Irrigation/ Water Supply /River training projects in the last 5 years shall be presented in the prescribed Form C-2.

Form C-3: Experience in Study & Research work in Hydrology/Meteorology/Climate Change Projects in the last 5 years shall be presented in the prescribed Form C-3.

2.1.5 Details of Key Personnel/Professionals

Form D

The details of proposed Key Personnel/Professionals shall be presented in prescribed Form D.

Note: The firm is requested to provide the information provided in sections 2.1.3, 2.1.4 and 2.1.5 in electronic form (prepared in word or excel) after the opening date of the submitted EOI documents.

FORM A-1

LETTER OF SUBMISSION

[Letterhead of the Applicant, In case of Joint Venture, of the Lead Firm)]

Date:

To:
The Secretary
Water and Energy Commission Secretariat
Singha Durbar, Kathmandu, Nepal

Sirs,

Being duly authorized to represent and act on behalf of

.....(hereinafter “the Applicant”), and having reviewed and fully understood all the information provided in EOI, the undersigned hereby apply for qualification by WECS as a Consultant for the Preparation of Hydrological Manual for Infrastructure.

1. WECS and its authorized representatives are hereby authorized to verify the statements, documents, and information submitted in connection with the submitted EOI. This Letter 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 you to verify statements and information provided in this EOI, or with regard to the resources, experience, and competence of the Applicant.
2. WECS and its authorized representatives are authorized to contact any of the signatories to this letter for any further information.
3. This application is made in the full understanding that all decisions by WECS related to this EOI are final, binding and not subject to review. WECS shall be under no obligation to inform the Applicant of the reasons for its decisions or actions.
4. The Applicant hereby provides willingness and commitment to abide by all applicable laws, regulations, and other requirements having the effect of law in the execution of this study, if selected.
5. All further communication concerning this EOI proposal should be addressed to the following person who is authorized to represent and to receive all communication on behalf of the Applicant and its constituents.

[Person & Designation]

[Company]

[Address]

[Phone, Fax, Email]

6. The undersigned declare that the statements made and the information provided in the duly completed EOI proposal are complete, true and correct in every detail.

Signed :

Name :

Designation :

For and on behalf of (Name of Applicant :
or Lead Firm in the joint venture)

FORM A-2

JOINT VENTURE INFORMATION

If the EOI is being submitted in Joint Venture, provide the following Joint Venture Information:

SN	NAME OF	Postal Address,	NAME OF	TELEPHONE	SHARE
----	---------	-----------------	---------	-----------	-------

	FIRM	TEL, FAX and E-mail	CONTACT PERSON	OF CONTACT PERSON	PERCENTAGE IN JV
1.	Lead Firm:				
2.	Partner Firm:				
3.					

Note:

1. A maximum of three (3) firms can form a Joint Venture.
2. In case of a JV, the minimum share percentage of the lead firm should be at least 40% and that of each of the other JV partners should be at least 20%. The lead firm should have an Average Annual Turnover of at least NRs. 10.0 million on average in the best three fiscal years among last five consecutive fiscal years. Also, the lead firm should hold the power of attorney.

Attachment

1. Joint Venture Agreement
2. Power of attorney of the signatory (ies)
3. Power of attorney to lead the JV

FORM A-3

SELF DECLARATION FORM

Date:.....

To,
The Secretary

Water and Energy Commission Secretariat
Singha Durbar, Kathmandu
Sir,

We undersigned,
(name of all Consulting Firm/JV) declare that we are legally eligible to participate in the
procurement process of consulting services for the (title of consulting service).

We also declare that we do not have any conflict of interest in the said assignment.

We hereby also declare that we have not received any punishment while doing consulting
business in the last five years.

*Note: (If any member of the consulting Firm is not eligible to participate in procurement
process or has conflict of interest in the said assignment or has received any punishment while
doing consulting business in the last five years, the same must be clearly mentioned in this form.
Any history of litigation during the last five years shall also be declared here along with the
relevant verdict.)*

**(Note: Each Consultant of JV needs to submit Self Declaration either jointly or
individually with original signature and stamp of company together with EOI document)**

FORM A-4

ELIGIBILITY DOUCUMENTS

Fulfillment of Eligibility Requirements

Description	Status/Name of Submitted documents and how these are presented in the EOI	Remarks
Notarized Copy of Valid Registration Certificate (of each member of JV, in case of JV.)		
Notarized Copy of VAT Certificate (of each member of JV, in case of JV.)		
Notarized Copy of Income Tax Clearance Certificate of FY 071/72. (Of each member of JV, in case of JV.)		
Self-Declaration (In case of JV, the Consultants should submit Self Declaration either separately or jointly by signing each member of JV mentioning information requested in Self Declaration).		
Joint Venture Agreement between the JV Partners duly signed by authorized signatories & stamped with company seal of each member of joint venture & clearly mentioning name of the lead firm, name of JV partners, role and responsibility of each member, share percentage of each members, name of the authorized signatories (in case of a JV)		
Power of attorney of authorized signatories of JV agreement from their respective firm with signature & stamp for each member of JV (in case of a JV).		
Power of attorney to lead firm by JV partners (in case of a JV)		

The supporting documents in the form of notarized copies of registration certificate, VAT Certificate and Tax Clearance Certificate shall be attached here:

In addition, provide the following information

Description	Value	Remarks
The total number of consulting firms in joint venture		
Share percentage		
Lead firm		
JV partner firm-1		
JV partner firm-2		
The Average Annual Turnover in the best three fiscal years among last five consecutive fiscal years		
Lead firm		
JV partner firm-1		
JV partner firm-2		

FORM A-5

IDENTIFICATION OF THE CONSULTING FIRM

Full name of the Firm:

Address:

Telephone number: Fax number: E-mail: Others:	Year of Establishment: Number of Years since establishment:
Corporate Registration: Date of Registration: Registration No: Date of last renewal: Valid up to:	VAT Registration: Date of Registration: VAT Registration No:
Name and address of contact person: Name and Designation of Contact Person: Address: Telephone number (Office): Telephone number (Residence) : Mobile no: Fax: Email:	

Note: In case of a JV, provide similar information for each member in the joint venture separately

FORM A-6

FINANCIAL CAPABILITY OF THE CONSULTING FIRM

Full name of the Consulting Firm:

FINANCIAL STATUS

Turn Over of last five consecutive fiscal years

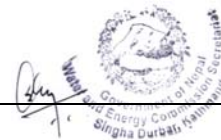
Description	FY	FY	FY	FY	FY
Turnover (NRs.)					

Turn Over of best three years

Description	FY	FY	FY	Average Annual
Turnover (NRs.)				

Note:

1. Provide similar information for each member in case of joint venture.
2. Submit Audited Reports of last five consecutive fiscal years to support the above information.



FORM B

**GENERAL WORK EXPERIENCE OF THE FIRM IN THE AREA OF WATER RESOURCES
DEVELOPMENT (IN THE LAST FIVE YEARS)**

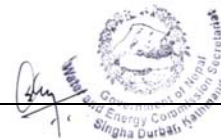
S. N.	NAME OF PROJECT	LOCATION	CLIENT	VALUE OF CONTRACT	YEAR OF COMPLETION	DESCRIPTION OF RELEVANT WORK CARRIED OUT
1.						
2.						
3.						
4.						

Note: (1) *Note: Provide above information for each member in case of a joint venture.*
(2) *Details of the work completed by Consulting Firm (s) should be filled in FormC-4 .*

Date:

Signature & Designation of Applicant:

Seal of the Firm



FORM C-1

SPECIFIC WORK EXPERIENCE OF THE FIRM IN STUDY & RESEARCH RELATED WORKS ON PREPARATION OF MANUAL AND DESIGN GUIDELINE OF INFRASTRUCTURE DEVELOPMENT WORKS. (HYDROPOWER /IRRIGATION/WATER SUPPLY/RIVER TRAINING WORKS IN LAST FIVE YEARS)

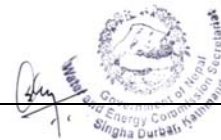
S. N.	NAME OF PROJECT	LOCATION	CLIENT	VALUE OF CONTRACT	YEAR OF COMPLETION	DESCRIPTION OF RELEVANT WORK CARRIED OUT
1.						
2.						
3.						
4.						

Note: (1) *Note: Provide above information for each member in case of a joint venture.*
(2) *Details of the work completed by Consulting Firm (s) should be filled in FormC-4 .*

Date:

Signature & Designation of Applicant:

Seal of the Firm



FORM C-2

**EXPERIENCE IN INFRASTRUCTURE DEVELOPMENT PROJECT DESIGN- DETAILED DESIGN
AND FEASIBILITY STUDY WORK OF HYDROPOWER /IRRIGATION/ WATER SUPPLY /RIVER
TRAINING PROJECTS IN THE LAST FIVE YEARS**

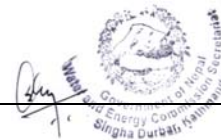
S. N.	NAME OF PROJECT	LOCATION	CLIENT	VALUE OF CONTRACT	YEAR OF COMPLETIO N	DESCRIPTION OF RELEVANT WORK CARRIED OUT
1.						
2.						
3.						

Note: (1) *Note: Provide above information for each member in case of a joint venture.*
(2) *Details of the work completed by Consulting Firm (s) should be filled in FormC-4 .*

Date:

Signature & Designation of Applicant:

Seal of the Firm



FORM - C-3

EXPERIENCE IN STUDY & RESEARCH WORK IN HYDROLOGY/METEOROLOGY/CLIMATE CHANGE PROJECTS IN THE LAST FIVE YEARS

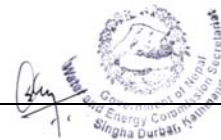
S. N.	NAME OF PROJECT	LOCATION	CLIENT	VALUE OF CONTRACT	YEAR OF COMPLETION	DESCRIPTION OF RELEVANT WORK CARRIED OUT
1.						
2.						
3.						

Note: (1) *Note: Provide above information for each member in case of a joint venture.*
(2) *Details of the work completed by Consulting Firm (s) should be filled in FormC-4 .*

Date:

Signature & Designation of Applicant:

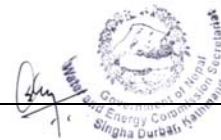
Seal of the Firm:

**FORM C-4****DETAILS OF FORM C-1, C-2 AND C-3**

(DETAILS OF THE WORKS SHOWN IN FORMS B, C-1, C-2 AND C-3)

The following information should be provided in the format indicated for each reference project for which your company, either individually as a corporate entity or as a one of the major companies within a consortium was legally contracted.

Project Name:		Country:
Project Location:		Professional Staff Provided by the Company:
Name of Client:		No. of Staff:
Approximate value of Services:		N. of Man-months:
Start Date: (Month/Year)	Completion Date: (Month/Year)	No. of man-months of Professional Staff provided by Associated Firm(s).
Name of associated firm(s) if any:		
Name of Senior Staff (Project Director/Coordinator, Team Leader) involved and functions performed:		
Detailed Narrative Description of Project:		
Detailed Description of Actual Services Provided by the Company:		



FORM D

DETAILS OF KEY PERSONNEL/PROFESSIONALS

S. N.	DESIGNATION	NAME	QUALIFICATION (INCLUDING UNIVERSITY & YEAR OF DEGREE OBTAINED AFTER GRADUATION)	FULL TIME/PART TIME	TOTAL YEARS OF EXPERIENCE	PROJECTS CURRENTLY INVOLVED IN
	i)Key Experts:					
1	Team Leader(Water resources expert)					
2	Senior hydrologist					
3	Hydrologist					
4	Hydropower engineer					
5	Irrigation and drainage engineer					
6	Sediment management expert					
7	Water supply and sanitation engineer					
8	Bridge design expert					
9	Flood control expert					

Note: Duly signed bio-data of personnel must be attached.

Date:

Signature & Designation of Applicant:

Seal of the Firm

Annex-1

Terms of Reference (TOR)

For

**“Preparation of Hydrological Manual for
Infrastructure”**

April, 2016

Terms of Reference for

“Preparation of Hydrological Manual for Infrastructure”

1. Background

In absence of a national design standards for computing and adopting hydrological design parameters in various infrastructure in Nepal, it has been felt that many of the works constructed on the rivers are either unsafe or uneconomical. Apart from this, hydrology, being a stochastic science, is always a subject of debate with regard to methodology, risk factor, dependability, etc. used in determining a magnitude of the design parameter. In such situation, the Water and Energy Commission Secretariat (WECS) intends to prepare a Hydrological Manual for Infrastructure, which will be useful to maintain consistency in hydrological data acquisition, analysis and design across various agencies that are responsible for developing and maintaining different civil structures on or along the rivers in Nepal, and at the same time, to strike a balance between structural safety and economy following an internationally accepted prudent engineering practice.

Apart from the above, the Manual is also expected to prescribe guidelines for assessing water requirements in different uses of water and for assessing availability of surface water in connection with planning and design of water projects.

In this context, WECS is seeking services from a consulting firm or a joint venture of consulting firms (the Consultant) to prepare the above stated Hydrological Manual for Infrastructure. The Terms of Reference (ToR) under which the Consultant will have to render services in order to prepare the manual is subsequently described below.

2. Objective of the Study

The objective of the study is to prepare a Hydrological Manual for Infrastructure, which will be used by different agencies and practicing engineers & hydrologists in Nepal as standard guidelines in - (i) planning, design and maintenance of various works that will be or have been constructed on or along the rivers; (ii) assessing water requirements in different uses; and (iii) assessing water resource availability in connection with the planning and design of water projects.

3. Scope of the Study

The scope of the study includes the followings:

1. Review of present state of availability of hydrological and meteorological data and their lengths of records, quality and consistency;
2. Review of present practice of hydrological analyses in planning and design of various structures in connection with the development of infrastructure *viz.* hydropower, irrigation, drainage, flood control, water supply and sanitation and several other uses of water; such work shall also include the analysis practices in assessing water availability and water requirements in different sub-sectors of water sector such as hydropower, irrigation, water supply, environmental flow, etc.
3. Review of hydrological analysis and design practices being followed in different countries in South Asia and elsewhere, both in connection with water resource assessment and estimation of extreme flood magnitudes;
4. Review of relevant parts of manuals being used by various sub sectoral agencies and assessment of their applicability and need for updating; and
5. Preparation of Hydrological Manual for Infrastructure having components for water requirements, water resource/availability assessment and estimation of design flood

magnitudes for several infrastructure development cases which shall include hydropower structures including storage dams, bridges and other cross-drainage structures in roads, railways, including longitudinal drainage, and cross-drainage structures, irrigation and drainage structures, including cross-drainage structures, river training works, water supply and sanitary works, inland navigation structures, recreation water works, environmental flow considerations, and other appropriate hydraulic structures.

4. Study Approach

4.1 Review work

Under the above stated Scope of Work, the Consultant shall carry out review of availability, quality and consistency of hydrological and climatological data in Nepal. The Consultant shall make an assessment of adequacy/density of precipitation, discharge and other climatological and hydrological parameter measurement stations. The Consultant shall also make a general assessment of quality and consistencies of the available data and upkeep of such measurement stations.

The Consultant shall make a thorough review of present practices of hydrological analyses being followed by different sub-sectoral agencies of the water sector and other infrastructural sectors like road, railway, telecommunication, etc. in estimating water requirements, assessing water resources and estimating design floods, as applicable. Such review work shall include the practices being followed by consulting engineers, private sector and local bodies within Nepal. Some of the agencies have also been using their own guidelines and manuals, which cover hydrological aspects of the planning and design of infrastructure, besides internationally used guidelines and text books. The Consultant shall make every effort to make assessments of adequacy and efficacy of those documents and the current hydrological practices in terms of physical impacts on the field. The impacts could be in the form of irrigation coverage attributable to water requirement estimation *viz.* water availability assessment, safety/adequacy or (un)economical and (over)design of waterways in weir/barrage, road bridges, over safe or frequently breached river training works, etc.

The Consultant shall make a review of guidelines and manuals and practices being followed in connection with hydrological analysis in relevant South Asian countries and beyond as far as it is practicable and relevant. While doing so, the Consultant shall make a comparative assessment with that being followed in Nepal.

4.2 Stakeholder Consultation

Various government and other public sector entities at the centre and local level involved in infrastructure development, academic institutions, consulting engineers, etc. are the mainly identified stakeholders in connection with the hydrological manual preparation work. They need to be thoroughly consulted at various stages of the manual preparation project. Besides, formal consultations through different workshops about which it is mentioned subsequently below, the Consultant shall remain in touch with the relevant expert representatives of these entities and institutions throughout the project period and constantly engage with them to take benefits from their direct field experience and years of observation and experience.

Apart from the above, a Monitoring and Consultative Committee (MCC) will be constituted at WECS, which will have a total of nine members representing various

stakeholder agencies under the chairmanship of Joint Secretary, WECS. The MCC will meet maximum 10 times during the study project period. The timings of the meetings will be decided in consultation with the Consultant based on the work progress and report submissions; a tentative schedule of these meetings is expected from the Consultant right in its technical proposal though. The Consultant shall make a presentation in every MCC meeting and the discussion and decisions made in it will be recorded in minutes.

The Consultant shall organize three half-day consultative workshops – after the submission of (i) Inception Report, (ii) Interim Report, and (iii) Draft Final Report. Each workshop will have a maximum of 25 participants, apart from those participating from the Consultant. The Consultant shall make the copies of discussions materials available one week in advance to the WECS so that they can be timely distributed among the participants.

4.3 Fieldwork

In course of review work or taking stock of the situation, the Consultant shall carry out fieldwork in order to make direct observations on adequacy/efficacy/deficiency of the present hydrological analysis and related literatures used by four (sub) sectors – (i) road, (ii) irrigation, (iii) flood control, and (iv) water supply. The Consultant shall take up at least two successful and effective cases and two failure cases from each of the (sub) sectors for the field study. The case studies need to cover diverse geographical regions of the country.

4.4 Formulation of Hydrological Manual

On the basis of the outcomes of the review works, stakeholder consultation and field works, the Consultant shall formulate the hydrological manual for infrastructure having components for water requirements, water resource/availability assessment and estimation of design flood magnitudes for several infrastructure development cases, which shall include, but not limited to:

- i. Hydropower structures including storage dams,
- ii. Bridges and other cross-drainage structures in roads, railways, including longitudinal drainage, and cross-drainage structures,
- iii. Irrigation and drainage structures, including cross-drainage structures,
- iv. River training works,
- v. Water supply and sanitary works,
- vi. Inland navigation structures,
- vii. Recreation water works,
- viii. Environmental flow considerations, and
- ix. Other appropriate hydraulic structures.

4.5 Management of the study

Management of the study is an essential part for execution of the assigned task. In this regard, the Consultant shall work in close coordination with the project management unit at WECS. A Project Coordinator from WECS will work in close coordination with the Consultants for day to day execution and monitoring of the study. All the correspondences and coordination with WECS from the Consultant side shall be the responsibility of the team leader. Any office space and office set up is the responsibility

of the Consultant. All the cost incurred for office setup and logistics shall be borne by the Consultant.

5. Output of the Study

The output of this study shall be in the form of reports with compiled data, analysis and result in hard copy as well as in the digital form.

The consultant shall submit the following reports in given timeframe.

a) Inception Report: As soon as the study starts, the Consultant shall prepare an Inception Report. Based on discussions with WECS, the Consultant shall review and verify the content of the tasks required. Specifically, the Consultant shall review the existing/available information, and prepare plans for the field studies. The Consultant shall elaborate: (i) conceptual framework of the study, (ii) methodology, (iii) main tasks, (iv) work and staffing plans, and (v) reporting program. The Consultant shall submit 5 (Five) hard copies and 1 (one) soft copy of the Inception Report within one month from the date of the agreement. The Consultant shall make a presentation on the Inception report during the half-day consultation workshop. WECS will provide comments and suggestions on the Inception Report within 15 (fifteen) working days from the date of its submission. Thereafter, the Consultant shall again submit final Inception Report after incorporating all the comments.

b) Interim Report: The Consultant shall submit 5 (five) hard copies and 1 (one) soft copy of the Interim Report within six months after submission of the Inception Report. Most of the stakeholder consultation and field studies shall be completed by this reporting period. The Consultant shall summarize the updated progress of the study; submit major findings of stakeholder consultation and preliminary analysis of hydrological methods used in infrastructure.

The Consultant shall make a presentation on the Interim report and discuss during the half-day consultation workshop. WECS will provide comments and suggestions on the Interim Report within 15 (fifteen) working days from the date of its submission. Thereafter, the Consultant shall again submit the Interim Report after incorporating all the comments.

c) Draft Report: The Consultant shall submit 7 (seven) hard copies and 1 (one) soft copy of the Draft Report at least three months before the end date of the contract. The Draft Report shall present the complete analysis and findings of the study, which includes the formulation of hydrological manual for infrastructures as discussed in section 4.4.

d) Final Report: The Consultant shall incorporate all the comments and suggestions provided by WECS on the Draft Report and submit 10 (ten) hard copies and 2 (two) soft copies of the Final Report.

The Draft/Final Report shall constitute two parts – one consisting of the review and analysis and other the Manual proper. The number of volumes and formats of the reports will be decided by WECS and the Consultant on mutual consultation.

6. Workshop and Meetings

The Consultant shall organize three half-day workshops each attended by 25 participants in Kathmandu to present and discuss the Inception report, Interim report and Draft report.

All the costs involved in carrying out these workshops/ meetings will be borne by the Consultant.

7. Staffing requirements

The followings are the requirements of experts for the study. However, the Consultant may include additional experts during the project period without any additional expenses on the agreed amount.

<u>Descriptions</u>	<u>Required Number</u>	<u>Total Man-month</u>
1. Team Leader(Water resources expert)	1	12
2. Senior hydrologist	1	8
3. Hydrologist	1	12
4. Hydropower engineer	1	6
5. Irrigation and drainage engineer	1	6
6. Sediment management expert	1	2
7. Water supply and sanitation engineer	1	6
8. Bridge design expert	1	6
9. Flood control expert	1	6
10. Computer operator	1	12
11. Support Staff	2	24

The responsibility of the experts are, but not limited to, the following:

1. **Team Leader (Water Resources Expert)**

The team leader shall have substantial experience in water resources projects. S/he shall have at least a Master's degree in Civil Engineering with specialization in Water Resources Engineering/ Development. S/he shall have a minimum 20 years of experience in the respective field with adequate training in the area of hydrology. S/he shall be responsible to:

- Take full responsibility of the study project, provide overall direction to the team, and coordinate among various experts and also the stakeholder agencies.
- Carry out extensive consultations with the key stakeholders and obtain suggestions and concurrence on the contents of the study.
- Ensure timely delivery and quality control of the outputs required as per the Scope of Work.

2. **Senior Hydrologist**

The Senior Hydrologist shall have minimum Master's degree in Civil Engineering with specialization in Hydrology or Water Resource Engineering. S/he will have a minimum of 15 years' experience in hydrological analysis in different infrastructure projects. S/he shall be responsible to:

- Work closely with other team members and assist the team leader by carrying out field studies, analysis and designs for specific types of hydrology related problems in different infrastructure projects.
- Assist the team leader to carry out all studies and analysis in implementing the hydrologic standards.

- Recommend suitable designs for various situations based on the study of success/failure cases including previous modeling investigations.
- Recommend suitable designs for various situations based on the study of success/failure cases including previous modeling investigations.
- Provide procedural guidelines to make assessment of water availability and requirement and to work out design flood magnitudes in different water works.

3. **Hydrologist**

The Hydrologist shall have minimum Master's degree in Civil Engineering with specialization in Hydrology or Water Resource Engineering. S/he will have a minimum of 10 years' experience in hydrological analysis in different infrastructure projects. S/he shall be responsible to:

- Work closely with other team members and assist the senior hydrologist and team leader to carry out field studies, analysis and designs for specific types of hydrology related problems in different infrastructure projects.
- Assist the Senior Hydrologist to carry out all studies and analysis in implementing the hydrologic standards.
- Recommend suitable designs for various situations based on the study of success/failure cases including previous modeling investigations.
- Assist the Senior Hydrologist Engineer in synthesizing the inputs provided by different experts in the team and in ensuring timely delivery of all outputs and preparation of reports.
- Provide procedural guidelines to make assessment of water availability and requirement and to work out design flood magnitudes in different water works.

4. **Hydropower Engineer**

The Hydropower Engineer shall have at least a Master's degree in Civil Engineering with specialization in Hydropower Engineering/Development. S/he shall have a minimum 10 years of experience in different phases of survey, design, construction and operation of hydropower projects. S/he shall be responsible to:

- Work closely with other team members and assist the team leader and hydrologists to carry out field studies, analysis and designs for specific types of hydrology related problems in run-of-river/storage type hydropower projects.
- Recommend suitable design parameters pertaining to hydrology in hydropower projects.
- Assist the Team Leader in synthesizing the inputs provided by different experts in the team and in ensuring timely delivery of all outputs and preparation of reports.

5. **Irrigation and drainage Engineer**

The Irrigation Engineer shall have minimum Master's degree in Civil Engineering with specialization in Irrigation or Water Resource Engineering. S/he will have a minimum of 10 years' experience in hydrological analysis in different irrigation related infrastructure projects. S/he shall be responsible to:

- Work closely with other team members and assist the team leader to carry out field studies, analysis and designs for specific types of hydrology related problems in different irrigation and drainage projects.

- Assist the team leader to carry out all studies and analysis in implementing the hydrologic standards in design of irrigation and drainage structures.
- Recommend appropriate design parameters pertaining to hydrology in irrigation and drainage project including diversion and cross-drainage structures.
- Assist the Team Leader in synthesizing the inputs provided by different experts in the team and in ensuring timely delivery of all outputs and preparation of reports.

6. Sediment Management Expert

The Sediment Management Expert shall have minimum Master's degree in Civil Engineering with specialization in sediment transport and management or Water Resources Engineering. S/he will have a minimum of 10 years' experience in sediment related works. S/he shall be responsible to:

- Work closely with other team members and assist the team leader to carry out field studies, analysis and designs for specific types of hydrology related problems in different infrastructure projects from the viewpoint of sediment management.
- Assist the team leader to carry out all studies and analysis in implementing the hydrologic standards.
- Recommend suitable designs for various situations based on the study of success/failure cases including previous design/modeling investigations.
- Assist the team leader in ensuring timely delivery of all outputs and preparation of reports.

7. Water supply and sanitation Engineer

The Water supply and Drainage Engineer shall have minimum Master's degree in Civil Engineering with specialization in water supply/drainage or Water Resource Engineering. S/he will have a minimum of 10 years' experience in water supply/drainage related infrastructure projects. S/he shall be responsible to:

- Work closely with other team members and assist the team leader to carry out field studies, analysis and designs for specific types of hydrology related problems in different water supply and drainage related projects.
- Assist the team leader to carry out all studies and analysis in implementing the hydrologic standards.
- Recommend suitable design parameters pertaining to hydrology in water supply and sewerage projects including treatment works.
- Assist the team leader in synthesizing the inputs provided by different experts in the team and in ensuring timely delivery of all outputs and preparation of reports.

8. Bridge design Engineer

The Bridge design Engineer shall have minimum Master's degree in Civil Engineering with specialization in Structural/Transportation/Infrastructure development Engineering. S/he will have a minimum of 10 years' experience in bridge design in different infrastructure projects. S/he shall be responsible to:

- Work closely with other team members and assist the team leader to carry out field studies, analysis and designs for specific types of hydrology related problems during bridge design in different infrastructure projects.
- Assist the team leader to carry out all studies and analysis in implementing the hydrologic standards.

- Recommend suitable design parameters pertaining to longitudinal and cross drainage of transport infrastructure such as roads and railways.
- Assist the team leader in synthesizing the inputs provided by different experts in the team and in ensuring timely delivery of all outputs and preparation of reports.

9. Flood Control Expert

The Flood Control Expert shall have minimum Master's degree in Civil Engineering with specialization in Hydrology or Water Resource Engineering. S/he will have a minimum of 10 years' experience in flood control/river training works in different infrastructure projects. S/he shall be responsible to:

- Work closely with other team members and assist the team leader to carry out field studies, analysis and designs for specific types of hydrology related problems in controlling flood in different infrastructure projects.
- Assist the team leader to carry out all studies and analysis in implementing the hydrologic standards.
- Recommend suitable design parameters pertaining to flood control and river management projects.
- Assist the team leader in synthesizing the inputs provided by different experts in the team and in ensuring timely delivery of all outputs and preparation of reports.

8. Payment Mode

The payment schedule will be as mentioned in the table below.

S. N.	Payments	Payment % of total contract amount	Preconditions for payment
1	First Installment	20	Submission and Approval of Inception Report
2	Second Installment	25	Submission and Approval of Interim Report
3	Third Installment	30	Submission and Approval of Draft Report
4	Fourth and Final Installment	25	Submission and Approval of the Final Report

9. Work Schedule

The Consultant shall complete the entire study project within a period of 12 months from the date of signing the agreement with WECS. It is the responsibility of the Consultant to plan in detail the work schedule and expert person-months schedule to complete the assigned work within the assigned time frame.