GOVERNMENT OF MANIPUR
PWD MANIPUR

SE/NHC/EOI/2011/2 Date: 29th November 2011

Notice Inviting Expression of Interest for DPR Consultants

Title of the Proposed Project :- "CONSTRUCTION OF IMPHAL BYE PASS"

The Ministry of Road Transport and Highways, Government of India has included the Detailed Engineering and Feasibility study for the construction of Imphal Bye Pass in the State of Manipur in its Annual Plan- 2011-12 with a budget provision of Rs. 150.00 lakhs.

The consultancy services shall include Survey and Exploration, Collection of Data, Detailed Engineering Study, Social and Economic Appraisal, Environmental Impact Analysis, Feasibility Study, Preparation of DPR and other ancillary works as per the TOR of the work.

The consulting services will be implemented over 6 months. The Consultant's input requirement consists of about 31National person-months. The commencement consulting services is expected in **May-2012** .

The Public Works Department, Manipur invites Expression of Interest (EOI) from eligible consultants empanelled with the Ministry of Road Transport and Highways for the said assignment. On the basis of the submissions, the consultants shall be shortlisted and invited to submit their proposals. ***The request for proposal to the short-listed consultants is expected to be issued in February-2012.*** Selection of the consultant shall be done under **QCBS (quality-and cost-based selection)** with a **quality-cost ratio of 80:20** in accordance with the Ministries Guidelines.

This Notice Inviting Expression of Interest, project details, EOI submission template and the draft terms of reference can also be downloaded from http://www.pwdmanipur.nic.in

Consultants may submit the hardcopy of the EOIs to the address indicated below along with a fee of Rs. 5000/- (Ruppees five thousand) only in the form of Cash/Bank Draft/Certified Cheque drawn in favor of the " Executive Engineer, National Highways Division No. II, PWD, Manipur from any scheduled bank, payable at Imphal. The fee is non refundable.

All requested information must be filled in completely.

EOIs must be received on or before 29th December 2011.

(T. Rabindrakumar Singh)
Superintending Engineer
National Highways Circle
PWD ,Manipur

Addres:
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DRAFT

TERMS OF REFERENCE (TOR)

FOR

Engagement of Design Consultant for Preparation of Detail Project Report for "Construction of Imphal Bye Pass".

Background:-

The existing National Highways in the state i.e. NH-39, NH-150 and NH-53 passes through the heart of Capital City, Imphal, which is also the commercial centre of the State. This leads to ingression of Urban Traffic on the Highways near the Capitol region leading to heavy congestion of traffic. This is causing a great deal of in-convenience and unnecessary delays to both the urban traffic as well as the Highway traffic resulting in loss of Man hours and increasing operational cost of the vehicles. Besides the mix traffic of light vehicles including two and three wheelers and commercial vehicles has become a traffic hazard leading to numbers of fatal accidents. Considering this factor, the Ministry of Road Transport & Highway had approved the construction of a Imphal Bye-Pass to provide rapid and uninterrupted flow of Highway traffic as well as reduce the congestion. This shall also provide immense relief to the over burdened road network of the city centre.

2. Objectives:-

The basic aim of the project is to provide a Bye Pass of the capital region which shall be able to effectively cater to the requirement of traffic up to a period of 20 (twenty) Years based on detailed analysis of the Socio Economic Profile of the Region, the existing Traffic and the probable changes and growth of the region. Hence the objective shall be twofold:

- Study of the present Socio Economic Profile of the state and projection of the likely scenario in 20 yrs time as per the developing changes especially in view of the ***Look East Policy*** of the Union Government and developing commerce and trade relationship in the South East Asia region. To project the probable road usage and requirement of traffic as per the projected developments for a period of 20 (twenty) years on the National Highways and major arterial roads connected with the National Highways.

- To study the existing road infrastructure and prepare a comprehensive DPR for the Bye Pass of the Capital Region of the state, to meet the present requirement of reducing the congestions from the city center provide a dedicated corridor for highway traffic and ensure rapid unobstructed access to the National Highways. This may be achieved by utilizing the existing network of state Road with necessary realignments or new alignments wherever required.

3. The consultancy work shall comprise of

(i) Pre- feasibility study
(ii) Feasibility study/ preliminary Project report preparation.
(iii) Detailed Engineering and plan of construction.

3.1Pre-feasibility study shall consist of

(i) Reconnaissance and Traffic Estimation.
(ii) Route selection & Preliminary Design
(iii) Approximate cost Estimation and Economic Analysis
(iv) Pre-feasibility Report.

3.2Feasibility study shall comprises of

(i) Traffic Analysis and Projection
(ii) Project cost Estimation
(iii) Economic Analysis
(iv) Feasibility Report

The survey and Investigation and preparation of DPR shall be broadly governed by the guidelines laid down in IRC: SP: 19 -2001. However additional task or assignments may also be required as per the requirements of the Project.

3.3Detailed Engineering and plan of construction shall comprise of .

(i) Detailed reconnaissance;
(ii) Traffic studies including traffic surveys and axle load survey and demand forecasting for next twenty years;
(iii) Route Finalisation of optimum alignment.
(iv) Inventory and condition surveys for existing road;
(v) Soil and Material Survey for the new alignments and re-alignment portions as well as available sources of Materials with their suitability as per relevant specifications of IRC and MORTH.
(vi) Inventory and condition surveys for bridges, cross-drainage structures and drainage provisions;
(vii) Detailed topographic surveys using Total Stations and GPS;
(viii) Pavement Investigations;
(ix) Sub-grade characteristics and strength: Investigation of required sub-grade and sub-soil characteristics and strength of road and embankment design and subsoil investigation;
(x) Identification of sources of construction materials;
(xi) Road safety audit to identify areas of major concern, including black spots, and measures to be taken for improving detailed engineering design with respect to road safety;
(xii) Preliminary proposal for rehabilitation / widening including shoulder composition and cross-section details;
(xiii) Detailed design for rehabilitation/widening road, its cross-sections, horizontal and vertical alignment;
(xiv) Detailed design for the road and road pavement for the new alignments.
(xv) Detailed design for rehabilitation/widening/reconstruction of bridges, cross-drainage structures, preparation of general arrangement drawing (GAD) and detailed drawings for bridges cross drainage structures and underpasses etc. In case of reconstruction/new construction, geotechnical investigations including bore holes, hydraulic surveys, etc. shall be carried out by the Consultant.
(xvi) Identification of the type and design of intersections/junctions
(xvii) Design of drainage system and disposal point of storm water
(xviii) Value analysis/value engineering and Project costing

(xix) Strip plans indicating the scheme for carriageway widening, location of all existing utility services (both over and underground) and the scheme for their relocation, trees to be felled and planted;

(xx) Land Acquisition Plans as per the existing settlement or village maps.

(xxi) Rehabilitation and Reformation Plan (RAP)

(xxii) Utility Relocation Plan.

(xxiii) Preparation of detailed project report, cost estimate, good for construction drawings, rate analysis, detailed bill of quantities;

(xxiv) Bidding documents appropriate for single stage double cover bidding based on MORTH Standard Bidding Document and extent Policies.

(xxv) Environmental, poverty and social impacts, including those related to cultural properties, indigenous people natural habitats, involuntary resettlement, etc. as per the relevant Government of India policies and guidelines, and the agreed Environment Assessment Review Framework, Resettlement Framework, and Indigenous People Development Framework. These are to be reported separately.

4. Scope of consultancy services :

The activities of consultancy service shall comprise but not limited to the following:-

- Economic Profile Survey
- Traffic Survey
- Topographical Survey
- Soil Survey
- Route selection and alignment improvement
- Road and Pavement design
- Cross Drainage and Drainage studies
- Land Acquisition Estimate
- R & R action Plan and Environmental Impact Analysis.

4.1 **Topography Survey:**

Topography surveys shall be carried out using high precision instruments such as GPS, Total Stations, Auto-levels etc with the basic objective to capture the essential ground features along the alignment. The data from the topography surveys shall be available in (x,y,z) format for use in sophisticated digital terrain model (DIM). The width of survey corridor should be adequate (not less than 50 m on either side of centerline) taking into account the layout of the existing and proposed alignment including the extent of embankment and cut slopes and general ground profile the detailed field surveys would essentially include the following activities:

i) Topography Surveys along the Proposed Right of Way (ROW):

Running a continuous open Traverse along the existing road and realignments, wherever required, and fixation of all cardinal points such as horizontal intersection points (HIP's), centre points and transit points etc., and properly referencing the same with a pair of cement concrete reference pillars fixed on either side of the centre-line at safe places within the ROW.

Collection of details for all features such as culverts utilities, existing roads, electric and telephone installations (both 0/H as well as underground), huts, buildings, fencing and trees (with girth greater than 0.3 metre) oil and gas lines etc., falling within the extent of survey.

The preferred (i.e. selected) surveyed alignment shall be transferred on to the ground as under :

Reference Pillar and Bench Mark Reference pillar of size 15 cm. X 15 cm. X 45 cm. shall be cast in RCC of grade M 15 with a nail fixed in the centre of the top surface and embedded in concrete up to a depth of 30 cm. with CC Ml0 (5 cm. wide all around). The balance 15 cm. above ground shall be painted yellow..

ii) Carryout Geo-technical investigation and subsurface exploration as per details given below for the bridges (proposed) as per relevant IRC standard (IRC 78) :-

Sl. No.	Description	Location of Boring
	Overall length (less than) 15 m	One abutment location
	Overall length = 15-30 m	Both abutment locations
	Overall length >30 m	Both abutment locations and at each pier locations if any.

4.2 Phase II: Detail Project Report (D.P.R.)

The consultant shall carry out the detail project engineering along the approved alignment as per relevant IRC standards and manuals and submit detail project reports (DPR). Broad scope of work to be done in Phase II shall be as under:

(a) Prepare a detail alignment plan for the proposed alignment, with all geometric parameters indicating all necessary details for finalizing land acquisition proposal for the department with particular emphasis on existing features and land usages pattern.
(b) Finalise span arrangement. type of foundation, substructure and super structure of all the bridges on the approved alignment based on Geotechnical investigation, hydrology
(c) Prepare detail design and drawing of the bridge i/c approach alignments. Computer aided design shall be supported with manual calculations.
(d) Prepare detailed project reports (DPR) as per IRC SP: 19 and as defined in ante and subsequent paras taking into account the above detail in particulars.

5. <u>Sequencing of Project Preparation:</u>

Project preparation activities will be spilt into the following stages:

5.1 Stage – 1 Inception Report (IR)

The consultant is required to submit an Inception Report within 15 days from the date of award of the work. The report shall cover at least the following major aspects

i) Project appreciation
ii) Detailed methodology and work plan (after collection/collation of necessary information) to meet the requirements of TOR indicating number of teams and their composition proposed to be deployed, scheduling of various sub- activities to be carried out for completion of different stages of the work within the stipulated time;
iii) Task assignments and detailed work schedule/programe;
iv) Performa for data collection;
v) Key personnel to be employed for various activities including manning schedule;
vi) Quality Assurance Plan. (QAP) finalised in consultation with client;
vii) Draft design standards.

5.2:-**Stage :- 2 Project Study for Preparation of Preliminary Project Report (PPR) :**

The consultant shall commence the preparation of Preliminary Project Report in accordance with the accepted Inception Report and shall submit Draft PPR within 60 days from the date of commencement of services. The report shall contain at least the followings :

i) Design standards finalized in consultation with Ministry;
ii) Alignment plan depicting the details of the centerline of the Proposed Bypass;
iii) Traffic data and analysis of traffic data;
iv) Topography survey details ;
v) Strip Plan :
vi) Cross-section of proposed road ;
vii) Details of existing & proposed bridges & other major cross drainage works
viii) Junction / Intersections with other roads.
ix) Probable cost of Land Acquisition.
x) Land Acquisition Plan (LAP)
xi) Rehabilitation and Reformation Plan (RAP)
xii) Utility Relocation Plan
xiii) Environment Impact of the project.
xiv) Social Impact of the project with special reference to resettlement & Rehabilitation

The basic data obtained from the field studies and investigation shall be submitted in a separate volume as an Appendix to Preliminary Project Report.

5.3 **Stage : - 3 Detailed Engineering and Detailed Project Report.**

The PPR after modification as per department's suggestion/ finding shall be submitted to the MORTH for approval of the proposed route and subsequent freezing of the alignment. This shall be immediately communicated to the consultant who shall proceed for preparation of the draft DPR. The consultant is required to submit Draft D.P.R. within 30 days after the approval of PPR under Phase-I. The draft DPR shall cover the entire scope of services as required from the consultant for detailed engineering. The report should be provided both in hard copies and Floppies / CDs compatible with MS-Office 2000 or any update version (MS-Words/MS-Excel/MS-Access).

The draft DPR submission shall be construction package-wise and shall consist of Main Report, Topography Survey Report, Design Report, Material Report, Environmental Report, Detailed Geo-technical and Sub-soil Exploration Report, Drawings. The Documents and Drawings shall be in the following format :

5.3.1 **Volume-I,**

i. Main Report :

This report will present the project background, details of surveys and investigations carried out, analysis and interpretation of survey and investigation data, traffic studies and demand forecasts, designs, cost estimation, environmental aspects, economic analysis and conclusions. The report shall include Executive Summary giving brief accounts of the findings of the study and recommendations.

The Report shall also include maps, charts and diagrams showing locations and detail of existing features and the essential features of improvement and upgrading.

The Environmental Impact Assessment (EIA) Report shall be submitted as a part of the main report.

Topographical Survey Report will give methodology used and shall include the following :

a) Control Point Survey with GPS
b) Continuous Traverse with Total Station
c) Establishment of Bench Marks
d) Surface leveling.

The report shall give coordinates and levels for all the established cardinal points / various Travers Stations / Bench Marks etc. The report shall also give " feature codes " compatible with software used, besides, it would contain all the details of established GPS reference pillars and BM reference pillars.

ii) Materials Report :

The Materials Report shall contain details concerning all types of proposed construction materials including the proposed borrow areas and quarries and possible sources of water for construction purposes.

5.3.2 **Volume – II, Design Report :**

This volume shall contain design calculations, supported by computer printout of calculations wherever applicable. The Report shall clearly bring out the various features of design standards adopted for the study. The design report will be in two parts. The sub-soil exploration report including the complete details of boring done, analyses and interpretation of data and the selection of design parameters shall be included as an Appendix to the Design Report.

The detailed design for all features should be carried out as per the requirements of the Design Standards for the project.

5.3.3 Volume – III, Drawings :

All plan and profile drawings will be prepared in scale 1:250 V and 1"2500H scale. In addition this volume will contain drawings for the following :

a) Horizotal Alignment and Longitudinal Profile.
b) Cross – section @ 50 m interval along the alignment within ROW up to 500 m length from each abutment on either side for each bridge.
c) Typical Cross-sections with details of pavement structure.
d) Detailed Working drawings for culverts and Cross-Drainage Structures.
e) Detailed Working Drawings for construction of Bridges and Structure.
f) Drawings for Road Sign, Markings and other facilities etc.
g) Schematic Diagrams (linear chart) indicating but not limited to be followings:
h) Locations of toll plazas, parking areas, bus-bays etc.

5.4 <u>Final Detailed Project Report, Documents and Drawings :</u>

The final DPR consisting of Main Report, Design report, Detail Design report and Materials Report incorporating all revisions deemed relevant following receipt of the comments from the employer on the draft DPR shall be submitted within 15 days of the receipt of comments on the Draft DPR or within 180 days of commencement of services whichever is later. as per IRC SP: 19 and as defined in Ante and subsequent paras taking into account the above detail in particulars.

6. **Obligatory Points and Probable Alignment :-**

The department has undertaken a preliminary exploration of the probable alignments of the Bye Pass. The consultant may use this alignment for guidance. However the consultant is not bound to follow this alignment. The probable length of this alignment is approximately 30.00 Kms. A Key Index Map of the alignment is enclosed for reference purposes.The projected obligatory points for the Bye Pass are:-

- Km. 309.00 (Khonghampat) of NH-39
- Km. 4.480 (Iroishemba) of SH-No. 4 (Uripok Kangchup Road)
- Km. 7.086 (Langjing) of NH-53
- Km. 456.50 (Airport) of NH-150
- Km. 9.800 (Hiyangthang) of SH No. 5 (Imphal Mayang Imphal Road)
- Km. 329.000 (Langthabal Kunja) of NH-39

This obligatory points may be changed or omitted if the alignment proposed by the consultants requires there omission or modification. However this shall be done with prior permission and due consultation with the employer and the Ministry.

7. Services and Facilities to be provided by the Government:-

The Government shall not be responsible for providing any services and/or facilities to the appointed consultant during the phase of carrying out studies. The consultant will have to arrange all facilities/services required to carry out the assigned work on this project at their own cost. The financial proposal shall include all the required costs with breakups. However, introductory recommendation letters and Schedule of Rates shall be provided to the consultants on request from concerned authorities. Any additional services and facilities if required shall be made available on payments to the concerned authorities. However, Government will not be bound to provide the facilities as required by the consultant.

8. Reporting Requirements:

The consultant shall furnish to the client the following reports and documents both in hardcopies & floppies. All reports and documents shall be in English.

	Type of Reports	Nos.	Time Schedule (from date of start)
1	Inception report & QAP	4 Copies	30 days
2	Draft Preliminary Project Report (Phase-I)	3 Sets	90 days
3	Final PPR (Phase – I)	6 Sets	105 days
4	Draft DPR (Phase – II)	3 Sets	150 days
5	PQ documents and bid document for each package	6 Sets	165 days
6	Final DPR (Phase –II)	6 Sets	180 days

9. Payments towards Geo-Technical investigation :

Consultant is required to quote an average single rate per linear metre for bore-hole drilling through all types soils (including rock etc). For estimate purpose, a notional quantity of 180 linear metre has been considered to bring all the proposals at uniform input level to enable the client to finalise the contract value. However, the consultant shall be paid for the actual quantity of boring done by him at his accepted rate of boring.

10. Resource Input by the Consultant

10.1 Man month requirement

The consultant shall display suitable an adequate personal to ensure completion of the job strictly within the time frame specified. However, the following man months have been indicated for guidance.

i	Key Personnel	Man-month
	SENIOR ROAD ENGINEER-CUM-TEAM LEADER	3
	HIGHWAYS DESIGN ENGINEER CUM RESIDENT ENGINEER	6
	SENIOR BRIDGE ENGINEER	2
	BRIDGE ENGINEER	4
	MATERAIL ENGINEERING_CUM GEOMETRICAL ENGINEER	3
	SURVEY ENGINEER	3
	SENIOR RESETTLEMENT EXPERT	1
	SENIOR ENVIRONMENT SPECIALIST	1
	QUANTITY SURVEYOR	2
	SENIOR SURVEY EXPERT	6
	Total	31
ii	Other Personnel (as per requirement assessed by the consultant supported with details)	
Note: - Minimum qualification of key personnel should be as prescribed in the TOR.		

10.2 Geo-Technical Investigation :

As mentioned earlier, the financial proposal of the Consultant shall include cost towards complete **Geo-Technical Investigation** including cost of sampling, testing and analysis etc., complete. The consultant is required to quote his average rate per linear meter of boring through all types of soils (including rock etc.). The Consultant shall predict the total quantity of bore-hole lengths and indicate in his proposals. However, the consultant shall be paid for the actual length of bore-holes drilled for the project using his quoted rate per meter for boring through all types of sub-soil strata.

10.3 Input of Others Resources :

The consultant for his own use for this project may include in his financial proposal, the cost of the other inputs such as furniture, computer facilities, cost towards transport and communication, office rent, stationery, per diem allowance, printing of documents etc. As far as possible, only rental costs should be charged/included in the financial proposal. In case there exist cost towards any other items not considered above, the same may also be included under this sub-head. Consultant should also include in his Financial Proposal the rental provision of one A.C. car for entire period of consultancy for the use of client. Beside, the consultant shall provide to the client (i) The Air Conditioner (IST) and (ii) one photocopier heavy duty. In case, if any additional cost are involved but somehow not included in the financial proposal, the same shall be deemed to have been included in other line items and nothing extra shall be paid for.

11. Performance Security

Within 10 days of the letter of acceptance, the consultant shall deliver to the employer a performance security in the form of bank guarantee for an amount equivalent to 5 % of the contract price. The bank Guarantee shall be got issued from any Scheduled bank and shall remain valid during the currency of work and shall not be less than 9 months period.

12. Responsibility for Accuracy of Project Repots

The consultant shall be responsible for accuracy of all the data used in project preparation and estimate prepared by him as part of the project. He shall indemnify the client against any inaccuracies in the work. For this purpose he shall furnish bank guarantee for an amount to the extent of 20% of the total consultancy fees (including the amount towards Geo-Technical Investigation for Road foundations) to be received by him. The bank guarantee shall be valid for a period of two years from the date of submission of the final DPR. The final installment of 25% of the fees shall be release only on receipt of this bank guarantee issued by any Scheduled Bank.

13. JOB SPECIFICATION AND MINIMUM QUALIFICATION OF KEY PERSONNEL

13.1 SENIOR ROAD ENGINEER CUM TEAM LEADER

This is the senior most position and the expert engaged will function as Team Leader and will be responsible for the entire project preparation activities including timely completion. The expert will undertake frequent project site visits and shall guide, supervise, co-ordinate and monitor the work of the other experts. The candidate should have a proven record of supervising, organizing and managing of project preparation of condition of Road Projects. This position requires a senior Road engineer who shall be at least a graduate in Civil Engineering with at least 20 years of professional experience in executing Road projects. He should have designed at least 2 Roads of over 20 Km total length and project cost not less than Rs. 15.00 Crores each and also have filed experience of Road construction. Candidate with master degree in Structural/Road Engineering with membership of Institution shall be rated higher. He/She must have worked as a team leader/Resident Engineer for at least five years in a Road Construction Project.

13.2 HIGHWAYS DESIGN ENGINEER CUM RESIDENT ENGINEER

He should be a graduate Civil Engineer with at least 10 years professional design experience in the Highway Sector. The candidate should also have experience of highway design software (e.g. M_x, In-road, Novapoint or any similar). Post Graduate Degree in Highway and transportation Engineering shall be preferred. The candidate must have been involved in preparation of highway projects, preferably involving National Highways in India or in some developing countries. The candidate should have completed Detailed Project Engineering for at least 2 Highway projects each of length not less than 15 km with project cost not less than Rs. 10.00 Crore each. Candidate with higher qualification shall be rated higher.

13.3 SENIOR BRIDGE ENGINEER

The position requires an Engineer, preferably with a Masters degree or equivalent in structural/Bridge engineering, with minimum 15 years experience. The candidate must have capability to design Bridges with various alternative materials and structural arrangements, He should have designed independently at least two Major Bridges (60 m length). Experience in designing and implementing Bridge construction is essential. The candidate must have the

experience of planning & monitoring geometrical and hydraulic investigation for the Bridge and interpreting the findings thereof.

13.4 BRIDGE ENGINEER

He should be a Bachelor Degree in Civil Engineering, preferably with a post graduate degree in structural Engineering with memberships of Institution, with minimum 10 year experience. The candidate must possess experience in Infrastructure/ Highway work for at least six year as Bridge Engineer / Assistant Bridge Engineer (Design/ Supervision). The candidate should have project experience working on Highway Construction Project for at least 2 bridge project (costing over $20 million each) in National Highways.

13.5 MATERAIL ENGINEERING CUM GEOMETRICAL ENGINEER

This position requires an Engineer who should have done Post-graduate engineering with Soil Mechanics/Geo Technical Engineering as major field of study during Post-graduation studies. He shall have at least 12 years professional engineering experience including 8 years in supervising sub-soil investigation for Road/ Bridge foundations and testing and evaluation of highway construction materials and must be thoroughly familiar with all the standard laboratory testing procedures adopted in case of highway projects. Better qualification and experience on above lines will be considered for higher rating in evaluation.

13.6 SURVEY ENGINEER

The position requires an Diploma in Civil Engineering, preferably Bachelor Degree in Civil Engineering and Membership of Institutions with a minimum experience of 10 years for degree holder & 15 years minimum for diploma holders. The candidates should possess Experience in Infrastructure/ Highways Projects worked as Surveyor/ Assistant Survey/ Survey Engineer for minimum 6 years on highway projects of similar nature. The candidate should have project experience working on Highway Construction Project for at least 2 highway project of similar nature (costing over $20 million each).

13.7 SENIOR RESETTLEMENT EXPERT

The position requires an Bachelor Degree in Civil Engineering or Masters in Sociology or equivalent, preferably PhD in Social Science with a minimum experience of 10 years. The candidates should possess Experience in Infrastructure/ Highways Projects worked as R & R Expert for 6 years out of which at least five years should be on large infrastructure projects and must have experience in resettlement works. The candidate should have project experience working on Highway Construction Project for at least 2 major highway projects costing over US $20 million. He/She should be conversant with the requirements and the procedures laid down by the Ministry of Environment, Government of India.

13.8 SENIOR ENVIRONMENT SPECIALIST

The position requires an Bachelor Degree in Civil Engineering/ Environmental Engineering or equivalent, preferably PhD in Environmental Engineering with membership of Institution having minimum experience of 10 years. He/she must possess Experience in Infrastructure/ Highways Projects worked for atleast Six years on large highway or road construction contracts. The candidate should have project experience working on Highway Construction Project for atleast 2 projects costing over US $20 million each. He/She should be conversant with the requirements and the procedures laid down by the Ministry of Environment,

Government of India regarding environmental safeguards and preparation and execution of Environmental Management Plans.

13.9 QUANTITY SURVEYOR

He should be graduate in Civil Engineering/Quality Surveying from a recognized University/Institution with at least 5 years experience as quantity Surveyor. Diploma in Civil Engineering with al least 20 years work experience at responsible position will also be acceptable. He should have expertise in quantity surveying and tender documentation. He shall be conversant with the use computer software for computing unit rates, quantities and costs.

13.10 SENIOR SURVEY EXPERT

This position is of specialist nature and the expert is expected to have through understanding for modern computer based methods of surveying like GPS, total stations, use of satellite, imagery, digital terrain model as input to highway design software (e.g. M_x, In-road, Novapoint etc.) as being practiced in project preparation during modern highway construction. The candidate is expected to contribute significantly by guiding/supervising the surveyors in improving the quality of survey works for achieving maximum possible accuracy without any gap in survey based details. The candidate should at least be a qualified Surveyor. He should have minimum 10 years professional experience including at least 5 years in highway related projects using Total Station auto level etc.

14. Mode of Bidding:-

All the offers should be in two cover System

(i) Technical Bid
(ii) Financial Bid.

14.1 Technical Bid

The Technical Bid shall include detailed profile of the consultancy firm, records/testimonials of past experience in the field, profile of the staffs to be concerned with the Project. The Consultant should also provide a brief summary of the Methodology to be adopted, software and hardware to be used in the Project.

14.2 Financial Bid.

The Financial Bid shall cover all the aspects of the Project and shall be inclusive of all taxes and relevant charges. No alternation or addition shall be allowed in later stages. The Bid may be sub divided or sub grouped for purpose of clarity. However the total cost shall be the ruling criteria for fixing the lowest bidder. The department is not bound to accept the lowest bidder.

14.3 Selection Criteria:- The selection of the Consultant will be based on Quality cum Performance Criteria

15. Payment Schedule:-

Payments schedule for the work shall be as follows :-

(i)	Submission of Inception Report	10%	of the Contract Value

(ii)	Submission of Phase – I (PPR)	15%	of the Contract Value
(iii)	Approval of Phase – I (PPR)	20%	of the Contract Value
(iv)	Submission of draft Phase – II report (DPR)	30%	of the Contract Value
(v)	Approval of final DPR report	25%	of the Contract Value

The eligible payment towards Geo-Technical investigation (i.e. bore logs for bridges) shall be made separately in two 2-3 monthly installment in addition to schedule payments as described above.

Any other prepared, incomplete/inadequate or part submittal shall be deemed as invalid submittal. The adequacy of the submittal shall be determined at the sole discretion of the client.

16. <u>Performance Security(Guarantee):-</u>

The Consultant shall be required to submit an irrevocable Bank Guarantee of 5 % (Five Percent) of the Consultancy fee for his proper performance of the Consultancy within the period given for start of the work from the date of issue of the Acceptance Letter.

Alternatively the Department shall be permitted to deduct a sum at the rate of 10% of the gross amount of each running bill till the sum so deducted amounts to 5% of the total Consultancy fee.

Superintending Engineer
National Highways Circle
PWD, Manipur

Dated the th., 2009

ANNEXURE

DETAILS OF INFORMATION TO BE PROVIDED BY CONSULTANTS

I) Management Competence (Please answer each question in no more than 10 sentences)

a. Provide the name, qualifications and relevant experience of the lead firm's director or manager who will assume overall responsibility for the firm's, association's or joint venture's team coordination, management and output.

b. If you are proposing an association or a joint venture, outline the rationale for, and benefits to the assignment of, the arrangement.

c. If you are proposing an association, or a joint venture, outline proposed management coordination of the arrangement, including the role of each firm.

d. Does your firm/association/joint venture have standard policies, procedures or practices in place that promote quality in: the workplace, your interaction with clients, and the outputs you produce? If yes, describe briefly.

e. How will you ensure the quality of your firm's/association's/join venture's performance over the life of this assignment?

f. How will your firm/association/joint venture deal with any complaints concerning the performance of the staff or the quality of the reports submitted for this consulting assignment? What internal controls are in place to address and resolve complaints?

II. Technical Competence

Narrative Descriptions With reference to the attached project sheets, and in the context of the assignment's TORs, summarize the relevant technical qualifications of your firm/association/joint venture (maximum of 2 pages).

III Geographical Competence

Outline the country /regional experience of the firm/association/joint venture (maximum of one half page).

Appendix 1

Project Sheets

Indicate up to 5 reference projects from the past 5 years that the firm/association/joint venture feels are relevant.

Project 1 of __

• Project Name				
• Name of Client				
• Country		Project location within Country		
• Participation	❑ As lead firm ❑ As associate firm			
• Value of Services	Rs.			
• Source of Financing				
• Consultancy Services				
(i) No. of staff				
(ii) No. of person months				
• Length of Consultancy Assignment				
• Start Date		(dd/mm/yyyy)		
• Completion Date		(dd/mm/yyyy)		
• Name of Associate Firms (if any)				
• No. of Person-Months of Professional Staff Provided by Associated Firm(s)				
• Name of Senior Staff (Project Director/Coordinator, Team Leader) Involved and Functions Performed				
• Detailed Narrative Description of the Project				
• Detailed Description of the Actual Services Provided by your Firm				

Additional Information if Any:- (Attach Additional Sheets if required)