



NATIONAL HIGHWAY AUTHORITY

Procurement & Contract Administration Section
28 Mauve Area, G-9/I, Islamabad ☎ 051-9032727, 📠 051-9260419

No. 6(444)/DIR-III(P&CA)/NHA/17/152

28th November, 2017

Director General

Public Procurement Regulatory Authority
1st Floor FBC Building near State Bank,
Sector G-5/2, Islamabad

Subject: **ANNOUNCEMENT OF EVALUATION REPORT (PPRA Rule-35):
Consultancy Services for Maintenance Backlog Reduction
Program & Resurfacing and Strengthening Program for NHA
Network (South Package).**

Reference: PPRA Rule-35

Kindly find attached the duly filled and signed Evaluation Report along with Bid Evaluation Criteria (Annex-I) pertaining to the procurement of subject services in view of above referred PPRA Rule-35 for uploading on PPRA website at the earliest, please.

(Muhammad Azam)
Director (P&CA)

Encl: Evaluation Report along with **Annex-I**

Copy for kind information to:

- Member (Engineering-Coord), NHA;
- Member (Planning), NHA;
- General Manager (P&CA), NHA;
- S.O. (Tech.) to Chairman, NHA.

EVALUATION REPORT

(As Per Rule 35 of PP Rules, 2004)

1.	Name of Procuring Agency:	National Highway Authority
2.	Method of Procurement:	Single Stage Two Envelop Procedure
3.	Title of Procurement:	Consultancy Services for Maintenance Backlog Reduction Program & Resurfacing and Strengthening Program for NHA Network (South Package).
4.	Tender Inquiry No.:	6(444)
5.	PPRA Ref. No. (TSE):	TS318907E
6.	Date & Time of Bid Closing:	22 nd June, 2017 at 1030 hours local time
7.	Date & Time of Bid Opening:	22 nd June, 2017 at 1100 hours local time
8.	No of Bids Received:	Three (03) Proposals were received
9.	Criteria for Bid Evaluation:	Criteria of Bid Evaluation is attached at Annex-I
10.	Details of Bid(s) Evaluation:	As below

Name of Bidder	Marks		Evaluated Cost (PKR)	Rule/Regulation/SBD*/ Policy/ Basis for Rejection / Acceptance as per Rule 35 of PP Rules, 2004.
	Technical (if applicable)	Financial (if applicable)		
1) M/s ABM Engineers - Karachi	612	200	15,588,400	Top scoring firm in combined evaluation (PPRA Rule 36(b) (ix))
2) M/s Associated Consultancy Centre (Pvt.) Ltd. in JV with M/s Prime Engineering & Testing Consultants (Pvt.) Ltd.	600	77	39,498,569	2 nd
3) M/s B.M Consulting Engineers (Pvt.) Ltd.	409	Financial Proposal not opened		PPRA Rule 36(b) (v)

Top Ranked Bidder: M/s ABM Engineers – Karachi

11. **Any other additional / supporting information, the procuring agency may like to share:** The Procurement was carried out in line with PPRA Rules & Regulations. The bidding was done on QCBS method with 80:20 Technical to Financial Proposals ratio.

Signature: 

Official Stamp:

Manager (P&CA)
National Highway Authority

***Standard Bidding Documents (SBD).**

National Highway Authority



Annex-I

Criteria

FOR

Bid Evaluation

**Consultancy Services for Maintenance Backlog
Reduction Program & Resurfacing and
Strengthening Program for NHA Network
(South Package)**

November, 2017



NATIONAL HIGHWAY AUTHORITY

Procurement & Contract Administration Section

28-Mauve Area, G-9/1, Islamabad Tel: 9032727, Fax: 9260419

Ref: 6(437-B)/GM (P&CA)/NHA/17/667

28th April, 2017

To **All Prospective Consultants**

Subject: **MINUTES OF PRE-PROPOSAL MEETING & ADDENDUM NO.1 FOR: CONSULTANCY SERVICES FOR MAINTENANCE BACKLOG REDUCTION PROGRAM & RESURFACING AND STRENGTHENING PROGRAM FOR NHA NETWORK (SOUTH PACKAGE)**

Reference: *Pre-proposal Meeting held on 14th April, 2017 for subject services*

Minutes of Pre-proposal Meeting and Addendum No.1 being integral part of RFP for the subject services are enclosed herewith for your necessary action, please.


(Muhammad Azam)
Director (P&CA)

Enclosure:

- (1) Minutes of Pre-proposal Meeting (02 Pages)**
(2) Addendum No.01 (11 Pages)

Copy for kind information to:

- Member (Planning), NHA, Islamabad;
- Member (Engineering Coordination), NHA, Islamabad;
- General Manager (Planning), NHA, Islamabad;
- General Manager (P&CA), NHA, Islamabad;
- General Manager (RAMD), NHA, Islamabad;

MINUTES OF PRE-PROPOSAL
MEETING HELD ON 14th APRIL 2017

Consultancy Services for Maintenance Backlog Reduction Program & Resurfacing and Strengthening Program for NHA Network (South Package)

A Pre-Proposal Meeting was held in NHA Auditorium at 1100 hours on 14th April, 2017 to discuss the Request for Proposal (RFP) for subject Services. Following NHA officers and representatives of prospective consultants attended the meeting:

▪ **National Highway Authority**

- Mr. Arbab Ali ... General Manager (Planning)
- Ikramus Saqlain Haider ... General Manager (RAMD)
- Mr. Muhammad Azam ... Director (P&CA) - III
- Mr. Dawood Khan ... Deputy Director (P&CA) - II

▪ **Consultants**

- Mr. Muzaffar/ Khalid Pervaiz ... M/s EA Consulting (Pvt.) Ltd./ M/s Partners in Development
- Mr. Muhammad Abdul Hameed ... M/s REC (Pvt.) Ltd.
- Mr. Muhammad Naveed Arshad ... M/s AA Associates
- GM Project ... M/S ABM Engineers Karachi
- Mr. Khalid Rasool ... M/S ACE (Pvt.) Ltd.

2. The queries submitted during and after the above mentioned pre-proposal meeting and their clarifications/ replies are summarized below for information of all prospective bidders:

Sr. No.	Queries	Reply
1.	Please clarify that if all the data available with NHA regarding condition survey, roughness survey and HWD survey of existing network will be made available to consultants free of cost.	The data required to perform the tasks defined in TOR will be provided to consultants free of cost (if available).
2.	Interval for soil pits for Geotechnical Investigations is not provided.	The test pits for Geotechnical Investigation will be dug at an interval of 50-100 m along the length of road.
3.	It is not clear that if EIA is to be prepared or only Environmental management Plan (EMP) is to be prepared.	The consultant, after carrying out Rapid Environmental Assessment of the candidate sections, will categorize the project and prepare the IEE/EI/EMP fulfilling the requirements outlined in ABD's Environmental Policy.
4.	Highway Safety Audit Report is required as per the deliverables however no scope of work is provided in the RFP.	Required as per NHA standards.
5.	Financial Forms does not contain item for traffic surveys, environmental surveys, soil surveys etc. These activities may be included in the financial forms to avoid any confusion.	Refer Financial Proposal Submission Form A-16 on page 41 of RFP.



Sr. No.	Queries	Reply
6.	Total time period for the project is provided as four (04) months which is quite less. It is proposed that six (06) months period may be given for completion of the assignment.	Not acceded to, proceed as per TOR, please.
7.	The project being scattered in large areas, we would like to know that who will provide the facilities such as accommodation, transportation, site office and other necessary facilities to the consultant personnel at site, is it built-in contractor's cost as has been done in 6-Lane KMP from Lahore to Multan.	Not acceded to, proceed as per TOR and with reference to Form A-16 (Page 41) of RFP.
8.	At Page 19 of Documents under the heading of Summary Evaluation sheet for Full Technical Proposal in Item IV you have given 25 numbers to the present commitment of the firm, kindly elaborate the implementation of such engagement.	All the ongoing assignments which are not completed on the date of submission of proposal must be mentioned by consultant on Form A-10 of RFP.

... 000 0 000 ...

Say No to Corruption



ADDENDUM No.1

Consultancy Services for Maintenance Backlog Reduction Program & Resurfacing and Strengthening Program for NHA Network (South Package)

Following amendments have been made in the Request for Proposal (RFP) for subject Services under this Addendum No.1, which shall be read and construed as an integral part of RFP and shall take precedence in case of any conflict(s)/ambiguity(s) amongst this Addendum No.1 and other provisions of the RFP.

1. FINANCIAL PROPOSAL FORMS

Refer Financial Proposal Form A-16, Direct (Non-Salary) Costs, page 41, the said page is deleted and entirely replaced with revised Form A-16, as page-41 enclosed at **Attachment-I** to **Addendum No.1**.

2. TERMS OF REFERENCE (TOR)

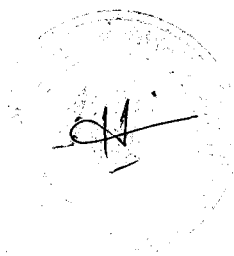
2.1. Refer Appendix-A, page 43, the said page is deleted and entirely replaced with revised page-43 enclosed as **Attachment-II** to **Addendum No.1**.

2.2. Refer Appendix-A, page 48, the said page is deleted and entirely replaced with revised page-48 enclosed as **Attachment-III** to **Addendum No.1**.

2.3. The Terms of Reference for "Environmental Impact Assessment of Roads/ Highways Projects" is added as **Attachment-IV** to **Addendum No.1**.

3. All other terms and conditions shall remain same.

---ooOoo---



Form A-16

DIRECT (NON-SALARY) COSTS

Sr. No.	Nomenclature	Unit	Qty.	Unit Price (Rs.)	Total Amount (Rs.)
1.	Rent for Office Accommodation	L.S			
2.	Office Utilities Costs	L.S			
3.	Cost / rental of Furniture / Furnishings	L.S			
4.	Cost (rentals) of Office/Other Equipment i. Computers and accessories ii. Photo copy machines iii. Communication equipment iv. Drafting / Engineering equipment v. Surveying instruments (rentals) vi. Transport Vehicles (Rentals) vii. Site visits and Meetings in Islamabad during current Assignment and execution of Works	L.S			
5.	Communication expenses	Month			
6.	Drafting/ Reproduction of Reports	L.S			
7.	Office/ Drafting Supplies	L.S			
8.	Traffic Survey	L.S			
9.	Environmental Survey	L.S			
10.	Soil Investigation Survey	L.S			
11.	Others not covered above to comply with TOR requirement*				
Total					

* Any additional item/ cost quoted against this line item must be supported by solid/ tenable justification(s) detailed in Technical Proposal Submission Form A-4 "Comments on TOR" without indicating financial value therein. The negotiation committee of the Client may negotiate this cost on the basis of justification provided in the form A-4 with the prospective successful bidder in the light of Clause ITC 6.6 of RFP. Moreover, if no justification is given or Client does not agree to the justifications, the Client in both the cases **shall not** include this cost in the total cost offered by the Consultants for this assignment, particularly in case any amount against this line item is deemed to have been covered in other pay items.



APPENDIX-A

TERMS OF REFERENCE

(TOR)

CONSULTING SERVICES

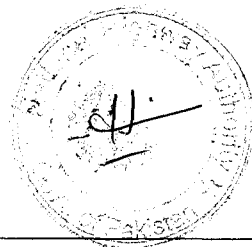
MAINTENANCE BACKLOG REDUCTION PROGRAM

(MBRP) & RESURFACING AND STRENGTHENING

PROGRAM (RSP) FOR NHA NETWORK

(SOUTH PACKAGE)

N-5 (Karachi – Sahiwal), N-10, N-25, N-40, N-50,
N-55 (Kotri – Ramak), N-65, N-70, N-120 & M-10



14. Location of the Project

The consultant will perform all the tasks specified in the TOR for the road sections falling in South & West Zones of NHA, the details are:

South & West Zones:	National Highway	N-5 (Karachi – Sahiwal), N-10, N-25, N-40, N-50, N-55 (Kotri – Ramak), N-65, N-70 & N-120
	Motorways	M-10

15. Formulation of PC-I

The Consultants shall prepare PC-I of the project including candidate sections on prescribed proforma of Planning Commission in manner acceptable to NHA.

16. Tender Documents

Tender Documents shall comprise of the following:-

a. Volume-I

- Instructions to Bidders
- Conditions of Contract (Part-I) (General Conditions)
- Conditions of Contract (Part-II), (Conditions of Particular Application).
- Conditions of Contract (Part-III), (Supplementary Conditions)
- Forms and Appendices

b. Volume-II

- General Specifications.

c. Volume-III

- Particular Specifications, Special Provisions and Bills of Quantities.

d. Volume-IV

Drawings as per the following detail:

- Title Sheet
- Sheet Index
- Sheet of Legends & Symbols
- Typical Cross-Sections with locations of applications
- Super-elevation details and Linear Plan
- Road Furniture Details (Guard rails, Pavement Markings & Traffic signs etc)
- Road furniture, location tables
- Retaining walls with location tables
- Intersection Details



ENVIRONMENTAL IMPACT ASSESSMENT OF ROADS/ HIGHWAYS PROJECTS**1. Need for Environmental Impact Assessment (EIA)**

Highway projects are generally undertaken to improve the economic and social welfare of the people. At the same time, they may also create an adverse impact on the surrounding environment. People and property in the direct path of the road works are affected. The environmental and social impact of highway projects include damage to sensitive eco-systems, soil erosion, changes to drainage pattern and thereby groundwater, interference with animal and plant life, loss of productive agricultural lands, resettlement of people, disruption of local economic activities, demographic changes, accelerated urbanization and increase in air pollution. Highway development and operation should, therefore, be planned with careful consideration of the environmental impact. To minimize these adverse effects that may be created by highway development projects, the techniques of EIA become necessary. Identification and assessment of potential environmental impact should be an integral part of the project cycle it should commence early in the planning process to enable a full consideration of alternatives and to avoid later delays and complications.

2. In view of the above, an EIA will be carried out for the Environmental aspects of all stages of the projects i.e. preconstruction, construction and post construction with the following objectives:

- Establishing the environmental baseline in the study area and identifying any significant environmental issue;
- Assessing these impacts and providing for the requisite avoidance, mitigation and compensation measures;
- Integrating the identified environmental issues in the project planning and design;
- Developing appropriate management plans for implementing, monitoring and reporting of the environmental mitigation and enhancement measures suggested;

The EIA studies and reporting requirements to be undertaken this TOR must conform to the guidelines and regulations issued by the Pakistan Environmental Protection Agency (Pak EPA), Ministry of Environment, Govt. of Pakistan (GOP) which comprise mainly of the Pakistan Environmental Protection Act 1997, its implementing regulations, the EIA Guidelines and Review of IEE and EIA Regulations, 2000. These guidelines include the amendments and subsequent rules for the IEE and EIA of projects.

- i) **Regulations and Standards.** Describe the pertinent legislation, regulations and standards, and environmental policies that are relevant and applicable to the proposed project, and identify the appropriate authority jurisdictions that will specifically apply to the project.
- ii) **Project Introduction.** The Consultants should categorize the project (category A or B and IEE or EIA) but may not be limited to the general information, rationale of the project, description of the project, and any revised alignment.



- iii) **Project Description.** The Consultants should provide a brief history of the project, a detailed location and maps with scales (km) of the projects with any alignment (starting point to end point). In the project description the Consultants should also highlight but not limited to bridges information, project components, scope and schedule of operation and construction, construction camps, and construction materials.
- iv) **Description of Environment.** Assemble, evaluate and present baseline data on the relevant environmental characteristics of the project area. In addition to general information, the Consultants should provide methodology for preparing the essential environmental data. The data should emphasize but may not be limited to the information about Physical Environment which could include, meteorology and climate, geology and soil, seismology, air and water quality, noise, topography and drainage patterns, hydrology and/or hydraulic regime, surface and ground water and land use. Ecological Resources should discuss about forests/flora/vegetation profile, crop and horticulture activities, and fauna/wild life and local livestock species (should specify mammals, birds, fish, reptiles and insects), protected and/or endangered wildlife species. Social and Cultural Resources may discuss about the methodology of surveys, settlement pattern, political and administrative setup, population and communities, socioeconomic conditions, protective and sensitive areas, archaeological and cultural sites, health and facilities, educational facilities, industrial/commercial activities, physical and cultural heritage, utilities, railway links or alignment, tourism facilities and potentials and others. Availability of Resources for Construction should also highlight about borrow soils, construction material, water and power availability and any other resources. Hazard vulnerability-identify vulnerability of area to flooding, hurricanes, storm surge, and earthquakes. Characterize the extent and quality of the available data, indicating significant information, deficiencies and any uncertainties associated with the prediction of impacts.
- v) **Environmental Impacts and Mitigation Measures.** Identify any negative positive, direct, indirect, short term and long term impacts of the project, during pre-construction/design, construction and operation phases. Identify any information gaps and evaluate their importance for decision-making. The Consultants must recommend appropriate mitigation and rehabilitation measures for the environmental damage and other impacts identified for specific road corridors, and how they would be implemented with regards to: coordination between highway design and environmental issues, ambient air, water and noise quality, water resources, drainage, mineral resources, flora and fauna, social and cultural environment, historical sites. The Consultants should attempt to identify creative measures that would also have positive social implications, such as participatory tree planting that would also serve as job creation for affected communities. Consultants should identify biological environment, and must discuss about national parks, game reserves and endangered species. Consultants should also identify the impacts and mitigation measures for topography, social / cultural issues, land acquisition and resettlement, community development, borrow open pits, waste disposal, geology and soil, surface and ground water, hydrologic regime, traffic flow, wastage of fertile humus layer, utilities issue and poverty alleviation etc.

However, report should not be limited to the above mentioned constituents of the environmental impacts and their mitigation measures. The consultants should be



more creative according to the specified project alignment. It should also include maps, figures and photographs when necessary.

In order to assess environmental impacts and recommend various mitigation measures to minimize the environmental impacts, identify and develop data.

vi) Development of Environmental Data. Identify EPA NEQS and guidelines and analyze following parameters to develop base line environmental data of the project:

- Ambient air quality.
- Noise levels.
- Water.
- Biological environment.
- Socio economic profiles,

i) AMBIENT AIR QUALITY:

Consultants should monitor the ambient air quality along the selected road site.

The parameters need to be monitored include Ozone (O₃) Carbon monoxide (CO) Sulphur dioxide (SO₂), Nitrogen dioxide (NO₂), and particulate matter (PM₁₀). Acceptable standard analysis methodology should be selected to measure the NEQS parameters.

Air quality data will be collected over a 24-hour period at all the sampling points (a reasonable number of sampling and their analysis should depend upon the road length and other environmental factors which should provide a reasonable image of air quality).

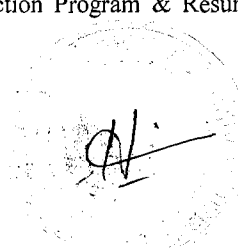
High pollutant concentrations spots should be selected for sampling to assess 'worst-case' scenarios, and measurements will be made in areas with extensive ribbon development and schools/hospitals where traffic will be expected to be a little heavier.

ii) NOISE LEVELS:

Roadside noise level measurements should be taken at a distance of ~ 6 m from the edge of the highway (corresponding roughly to 7.5 m from source vehicles). The noise parameter should be measured for 24 hours at various locations of the specified site. The permissible limit of noise is 85 dBA prescribed by the NEQS for motor vehicles. The NEQS do not prescribe a noise level limit for receptors. (a reasonable number of sampling and their analysis should depend upon the road length and other environmental factors which should provide a reasonable image of noise pollution).

iii) WATER QUALITY:

During field investigations, water samples from various sources in the vicinity of the proposed sections should be analyzed for important parameters with respect to human consumption. Although, NEQS include 32 water criteria pollutants for effluents and 16 NEQS for gaseous emissions, NHA prefer and recommend basic water quality analysis which may include but not limited to pH, turbidity, alkalinity,



TDS, TSS, 5 day BOD at 20°C, COD, OD, total hardness, chloride, sodium nitrates, lead, mercury, arsenic, cadmium, total toxic metals, phenolic compounds as phenols, pesticides / herbicides / fungicides (*in farmland areas*) and *E-coli. (a reasonable number of sampling and their analysis should depend upon the road length, other environmental factors which should provide a reasonable representation of water quality).*

Consultants **must identify** standard and recognized laboratories. Consultants should also provide Analytical Laboratory Reports along with methodologies and analytical techniques used for each parameter. The analysis reports must include information, address and contact persons of analytical laboratories.

- vii) **Analysis of Alternatives.** Describe the alternatives examined for the proposed project that would achieve the same objective including the “no change in alignment”. Distinguish the most environmentally friendly alternatives. In case of minor impacts, which can be successfully mitigated within the ROW and without change in alignment, there will be no need for the analysis of alternative. In all other cases, and especially in the case of major or critical issues, a systematic comparison will be undertaken of the proposed design, site technology and operational alternatives in terms of:

Their potential environmental and social impacts;
 Capital and recurrent costs;
 Suitability under local conditions; and
 Institutional, training and monitoring requirements.

For each alternative, the environmental cost and benefits should be quantified to the possible extent, and economic values should be attached where feasible. The basis for the selection of alternative proposal for the project design must be stated.

- viii) (A) **Public Consultation, Involvement and Disclosure.** During the field surveys the Consultants will organize workshops and formal public consultation sessions at province level to identify main stakeholder, their categories, their views on the existing condition of the project, volume of traffic concern's stemming from the impact of improvement works, as well as safety related issues. If possible, Consultants will assist in inter-agency coordination, and public/NGO participation.

(B) **Grievance Redress Mechanism**

- ix) **Environmental Management Plan (EMP).** Identify and prepare EMP including an implementation schedule and supervision program with associated costs and contracting procedures for the execution of environmental mitigation and social issues for pre-construction, design, construction and implementation phases. The Consultants should describe the objectives of EMP and key environmental and social components, role of functionaries, and road safety. The key components of EMP should emphasize but not limited to:

alignment and shoulder width options, road side safety, structural recommendations, topography, geology and soil, seismic activities, flood hazards, camp sites, borrow pits, archaeological sites, land acquisition and resettlement, local communities their



social and cultural heritage, archaeological sites, waste disposal, air and water quality including ground and surface water, noise, flora including roadside vegetation cutting and plantation, fauna including wildlife, endangered species and their protection, traffic management, utilities, use of fertile humus soil recommendation of environmental protection sign boards, and health risk of workers. EMP should identify the training and workshops programs.

- x) **Environmental Monitoring Plan.** Identify the critical issues requiring monitoring to ensure compliance to mitigation and environmental management plans and to measure and monitor the environmental impacts during construction and operation. The objectives of the plan are to monitor the actual impact of the works on the project corridor's physical, biological and socio-economic receptors within the corridor. This will indicate the adequacy of the EIA. The monitoring plan should recommend mitigation measures for any unexpected impact or where the impact level exceeds the limits. The plan should ensure compliance with legal and community obligations including safety on construction sites. Consultants should monitor the rehabilitation of borrow areas and the restoration construction campsites according to EMP report. The monitoring plan should ensure the safe disposal of excess construction materials. Consultants should also evaluate the effectiveness of the mitigation measures proposed in the EMP and recommend improvements if necessary. Apart from regular compliance checks the Consultants should generate a tabular matrix for air, water and noise analysis, asphalt plant emissions, soil erosion and contamination, plantation, safety and traffic rules compliance for construction and operation phases.

Environmental Monitoring Plan will list the procedure through which mitigation measures proposed in EIA will be implemented. It will also include environmental parameter need monitoring, frequency and responsibilities of key players. In case of disagreement with local communities or stakeholders, grievances addressable mechanism shall be part of plan. The management plan will develop the institutional requirement and type of training to enhance the capabilities of staff. The total environmental mitigation, Monitoring, equipment and training cost shall also be included.

- xi) **Economic Assessment.** This section should include the overall cost estimate in relation to the project benefits, environmental costs and total cost of the proposed project. The Consultants should address the cost analysis of training, monitoring activities, environmental analysis and activities, resettlement, land and property acquisition, and mitigation measures.
- xii) **Role of Functionaries and Government Agencies Involvement.** This section should include role of all the functionaries and variable involvement of government agencies or authorities for the project accomplishment.
- xiii) **Recommendation and Conclusions.** An adequate summary should emphasize on the project description and environment, environmental impacts and mitigation measures, alternatives, socio-cultural and socio economics, public consultation and the resulting issues and recommendations, environmental management and monitoring plans, economic assessment, recommendation and conclusions.
- xiv) **Submission of Reports.** The report should be prepared and presented in strict conformity to IEE/EIA regulations, 2000 and Guidelines for preparation and



submission of IEE/EIA 1997 issued under the Pakistan Environmental Protection Act, 1997.

The title page of the report should specify the report name, project name, highway length, scaled maps and / or colored photographs, date of the report, consultant company name, address, phone numbers, e-mail and logos.

The reports should include acronyms list and a copy right certificate in the name of NHA. The reports should include all the key articles but not limited to the executive summary, introduction, description of the project, policy, all legal and administrative framework, description of the project environment, alternative analysis, environmental impacts and mitigation measures, public consultation and resettlement action plan, inter-agency and public/ NGO consultation process, environmental monitoring plans, economic assessment, conclusions and recommendations.

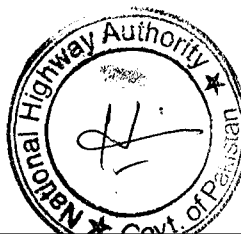
All figures, maps, appendices, tables, photographs, matrices and list of references should be chronologically organized and each page should be numbered.

- (i) Initially Consultants should submit two draft copies of the report to NHA
- (ii) After incorporating the comments from NHA, bureau of Environmental Protection/Provincial EPAs and donor agencies Consultants should finalize the report.
- (iii) Consultants required submitting two hard copies and one soft copy of final EIA report to NHA.
- (iv) Must fill and attach the application form for Environmental approval under Sec (12) of Pakistan Environmental Protection Agency (PEPA) Act 1997 (PEPA- Review of IEE and EIA-Schedule IV regulations, 2000). The form requires information of the description, Location, objective, alternative alignment, topography and land use of the project. In addition it also required information about the land acquisition in acres, environmental quality standard (NEQS) analyzed and measured, source of powers for the project construction and number of labour force (employees) required for the project construction and operation phases.
- (v) The prepared Environmental Impact Assessment (EIA) report will be submitted to the concerned EPA for formal concurrence and will be disclosed to the public, stake holders etc.

*Ten hard copies and two electronic copies (format on CD) of the report are to be submitted should be labeled properly.

Public Hearing:

It will be the responsibility of the Consultants to obtain NOC from the respective EPA, and to prepare documents and presentations for EPA as and when required by EPA with due intimation to NHA.



Consultants' Fee for Services:

The payments to the Consultants for EIA shall be made in the following manner:

Sr. No.	Description	% of A'
(i)	Inception Report for services (within first 7 days of commencement).	10%
(ii)	Submission of draft EIA/IEE report.	30%
(iii)	Submission of final EIA/IEE report (ten hard and two soft copies) to concerned EPA.	20%
(iv)	Submission of final EIA/IEE report after attending all observation and comments of EPA.	20%
(v)	Obtain NOC from concerned EPA including public hearing aspects.	20%
	Total:	100%

Where A' is the total payable amount in respect of EIA Study.

Consulting Service Period:

Consultants shall submit the final report within Three (03) months from the date of Date of Commencement of Services.



National Highway Authority



REQUEST FOR PROPOSAL

for

Consultancy Services

for

**Maintenance Backlog Reduction Program &
Resurfacing and Strengthening Program for NHA
Network (South Package)**

Pages (1 to 104)

June, 2017

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**GOVERNMENT OF PAKISTAN
NATIONAL HIGHWAY AUTHORITY**

**27-Mauve Area, G-9/1,
Post Box No. 1205,
ISLAMABAD**

**Dated the _____
Ref No. _____**

LETTER OF INVITATION (LOI)

To,
All prospective consultants

Gentlemen!

We extend warm welcome to you and invite you for participating in this project. We hope that you will live up to your reputation and provide us accurate information so that the evaluation is carried out "just and transparent". Please understand that the contents of this RFP, where applicable, shall be deemed part of the contract agreement. An example to this affect can be the contents of your work plan and methodology which you shall be submitting in your technical proposal. Since that is the basis of the selection, therefore, it shall become part of the contract agreement subject to approval/revisions of the same by NHA during the negotiations. Similarly, all other services and the content contributing to services shall be deemed part of the contract agreement unless it is specified for any particular item up-front in your technical proposal which obviously will make your proposal a conditional proposal whereby, authorizing NHA to may or may not consider to evaluate your proposal. Please understand that if no such mention appears up-front (i.e. on front page of technical proposal) then it shall be deemed that the consultant is in 100% agreement to the above. You are also advised to kindly read the RFP thoroughly as it can drastically affect the price structure for various services which may not be appearing directly in the terms of reference. In the end, we appreciate your participation and hope that you will feed a good proposal to merit consideration by NHA.

General Manager (P&CA)
Telephone: +92-51-9032727,
Fax: +92-51-9260419
E-mail: gmpca.nha@gmail.com,
Website: www.nha.gov.pk



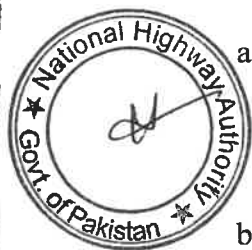
ATTACHMENTS

1. Instructions to Consultants (Annex A)
2. Data Sheet (Annex B)
3. Checklist for Completeness of Proposal
4. Summary Evaluation Sheet
5. Personnel Evaluation Sheet
6. Technical Proposal Forms
7. Financial Proposal Forms
8. Appendix A (Terms of Reference)
9. Appendix B (Person-Months and Activity Schedule)
10. Appendix C (Client's Requirements from the Consultants)
11. Appendix D (Personnel, Equipment, Facilities and other services to be provided by the Client).
12. Appendix E (Copy of Model Agreement)



INSTRUCTIONS TO CONSULTANTS**1. INTRODUCTION**

- 1.1 You are hereby invited to submit a technical and a financial proposal for consulting services required for the assignment named in the attached Data Sheet (referred to as "Data Sheet" hereafter) annexed with this letter. Your proposal could form the basis for future negotiations and ultimately a Contract between your firm and the Client named in the Data Sheet.
- 1.2 A brief description of the assignment and its objectives are given in the Data Sheet. Details are provided in the attached RFP for design services provided in the Documents, and will become part of agreement subsequently.
- 1.3 The assignment shall be implemented in accordance with the phasing specified in the Data Sheet.
- 1.4 The Client has been entrusted the duty to implement the Project as Executing Agency by Government of Pakistan (GoP) and funds for the project shall be arranged by the Client.
- 1.5 To obtain first-hand information on the assignment and on the local conditions, you are encouraged to pay a visit to the Client before submitting a proposal and attend a pre-proposal conference if specified in the Data Sheet. Your representative shall meet the named officials on the date and time specified in the Data Sheet. Please ensure that these officials are advised of the visit in advance to allow adequate time for them to make appropriate arrangements. You must fully inform yourself of local conditions and take them into account in preparing your proposal.
- 1.6 The Client shall provide the inputs specified in the Data Sheet, assist the Consultants in obtaining licenses and permits needed to carry out the services, and make available relevant project data and reports.
- 1.7 Please note that:
 - i. The cost of preparing the proposal and of negotiating the Contract, including a visit to the Client, are not reimbursable as a direct cost of the Assignment, and
 - ii. The Client is not bound to accept any of the proposals submitted.
- 1.8 The names of the invited consultants are given in the Data Sheet.
- 1.9 We wish to remind you that in order to avoid conflicts of interest:
 - a. Any firm providing goods, works, or services with which you are affiliated or associated is not eligible to participate in bidding for any goods, works, or services (other than the services and any continuation thereof) resulting from or associated with the project of which this assignment forms a part; and
 - b. Any previous or ongoing participation in relation with the project by your firm, its



professional staff, its affiliates or associates under a Contract may result in rejection of your proposal. You should clarify your situation in that respect with the Client before preparing the proposal.

2. DOCUMENTS

- 2.1 To prepare a proposal, please use the Documents specified in the Data Sheet.
- 2.2 Consultants requiring a clarification of the Documents must notify the Client, in writing, not later than twenty one (21) days before the proposal submission date. Any request for clarification in writing, or by cable, telex or tele-fax shall be sent to the Client's address specified in the Data Sheet. The Client shall respond by cable, telex or tele-fax to such requests and copies of the response shall be sent to all invited Consultants.
- 2.3 At any time before the submission of proposals, the Client may, for any reason, whether at its own initiative or in response to a clarification requested by an invited consulting firm, modify the Documents by amendment. The amendment shall be sent in writing or by cable, telex or tele-fax to all invited consulting firms and will be binding on them. The Client may at its discretion extend the deadlines for the submission of proposals.

3. PREPARATION OF PROPOSAL

It will consist of two parts – Technical and Financial

3.1 Technical Proposal

- 3.1.1 The Technical Proposal should be submitted using the format specified and shall include duly signed and stamped forms appended with the RFP. This is a mandatory requirement for evaluation of proposals and needs to be filled up carefully.
- 3.1.2 For Technical Proposal, the general approach and methodology which you propose for carrying out the services covered in the TOR, including such detailed information as you deem relevant, together with your appreciation of the Project from provided details and
- a. A detailed overall work program to be provided with timing of the assignment of each expert or other staff member assigned to the project. This will also provide the Client an opportunity to effectively monitor work progress.
 - b. Total number of man-months and project duration as per TOR.
 - c. Clear description of the responsibilities of each expert staff member within the overall work program.
 - d. The Curriculum Vitae (CV) of all Key Staff members and an affidavit that proposed staff shall be available for the assignment during the project duration and their present place of duty may also be specified. The Consultants are advised to suggest such names that shall be available for the Assignment.

The technical proposal shall include duly filled in forms provided with this RFP. The name, background and professional experience of each expert staff member to be assigned to the project, with particular reference to his experience of work of a nature similar to that of the proposed assignment.

- f. Current commitments and past performance are the basic criteria of technical



proposal. You are required to provide the details of present commitments/on- going jobs as referred in the Form A-10 of technical proposal. Further, the basis for the past performance is the report from Design Section and Construction Wing of the Client.

3.1.3 In preparing the technical proposal, you are expected to examine all terms and instructions included in the Documents. Failure to provide all requested information shall be at your own risk and may result adversely in the scoring of your proposal. The proposal should be prepared as per RFP and any suggestion or review of staff etc. should be clearly spelt out in form A-4. This will be discussed at the time of negotiation meeting as and when called.

3.1.4 During preparation of the technical proposal, you must give particular attention to the following:

- a. The Firm needs to be registered with Pakistan Engineering Council (PEC).
 - b. If you consider that your firm does not have all the expertise for the assignment you may obtain a full range of experience by associating with other firms or entities. You may also utilize the services of expatriate experts but only to the extent for which the requisite expertise is not available in any Pakistani firm. In case of Joint Venture, the proposal should state clearly partners will be "Jointly and Severally" responsible for performance under the Contract and one (Representative) partner will be responsible for all dealings with the Client on behalf of the Joint Venture. Its "Power of Attorney" on this account is to be enclosed. The representative partner shall retain the responsibility for the performance of obligations and satisfactory completion of the consultancy services. PEC registers a foreign consulting firm for issuing license to provide consultancy services in Pakistan, which is based on formation of JV with the condition that the foreign consulting firm shall provide only that share of consultancy services by the JV for which expertise is not available with Pakistani consulting firms. A copy of JV agreement to be provided at the time of finalizing the contract documents with specific responsibilities and assignments to be looked after by each partner.
 - c. Subcontracting part of the assignment to the other Consultants is not discouraged and Specialist Sub-Consultants may be included.
 - d. The key professional staff proposed shall be permanent employees of the firm unless otherwise specified in the Data Sheet. The minimum stay with the firm for such persons is Six months. No alternative to key professional staff may be proposed and only one CV may be submitted for each position. The minimum required experience of proposed Key Staff is specified in the Data Sheet.
- e. The training shall be imparted during the currency of the contract if specified in the Data Sheet.

3.1.5 The technical proposal shall not include any financial information. The Consultant's comments, if any, on the data, services and facilities to be provided by the Client and specified in the TOR shall be included in the technical proposal.



3.2 Financial Proposal

- 3.2.1 The financial proposal should be submitted using the format specified and enclosed with this RFP. This is a mandatory requirement for evaluation of proposals and needs to be filled up carefully. The total cost is to be specified in the Form A-17.
- 3.2.2 The financial proposal should list the costs associated with the Assignment. These normally cover remuneration for staff in the field and at headquarters, per diem, housing, transportation for mobilization and demobilization, services and equipment (vehicles, office equipment furniture and supplies), printing of documents, surveys and investigations. These costs should be broken into foreign (if applicable) and local costs. Your financial proposal should be prepared using the formats attached as forms A-11 to A-17.
- 3.2.3 The financial proposal shall also take into account the professional liability as provided under the relevant PEC Bye-Laws and cost of insurances specified in the Data Sheet.
- 3.2.4 Costs may be expressed in currency (s) listed in the Data Sheet.
- 3.2.5 The evaluation committee will correct any computational errors. When correcting computational errors, in case of discrepancy between a partial amount and the total amount, or between word and figures the formers will prevail. In addition to the above corrections, activities and items described in the Technical Proposals but not priced, in the Financial Proposals shall be assumed to be included in the prices of other activities or items. In case an activity or item is quantified in the Financial Proposal differently from the Technical Proposal, the evaluation committee shall correct the quantification specified in the Financial Proposal so as to make it consistent with that specified in the Technical Proposal.

4. SUBMISSION OF PROPOSALS

- 4.1 You shall submit one original technical proposal and one original financial proposal and the number of copies of each specified in the Data Sheet. Each proposal shall be in a separate envelope indicating original or copy, as appropriate. All technical proposals shall be placed in an envelope clearly marked "Technical Proposal" and the financial proposals in the one marked "Financial Proposal". These two envelopes, in turn, shall be sealed in an outer envelope bearing the address and information specified in the Data Sheet. The envelope shall be clearly marked, "DO NOT OPEN, EXCEPT IN PRESENCE OF THE EVALUATION COMMITTEE."
- 4.2 In the event of any discrepancy between the copies of the proposal, the original shall govern. The original and each copy of the technical and financial proposals shall be prepared in indelible ink and shall be signed by the authorized Consultant's representative. The representative's authorization shall be confirmed by a written power of attorney accompanying the proposals. All pages of the technical and financial proposals shall be initialed by the person or persons signing the proposal.
- 4.3 The proposal shall contain no interlineations or overwriting except as necessary to correct errors made by the Consultants themselves. Any such corrections shall be initialed by the person or persons signing the proposal.



- 4.4 The completed technical and financial proposals shall be delivered on or before the time, date, and the location specified in the Data Sheet.
- 4.5 The proposals shall be valid for the number of days stated in the Data Sheet from the date of its submission. During this period, you shall keep available the professional staff proposed for the assignment. The Client shall make its best effort to complete negotiations at the location stated in the Data Sheet within this period.

5. PROPOSAL EVALUATION

- 5.1 A Single-Stage-Two-Envelope procedures shall be adopted in ranking of the proposals. The technical evaluation shall be carried out first, followed by the financial evaluation. The Consultants shall be ranked using a combined technical/financial score.

5.2 Technical Proposal

- 5.2.1 The evaluation committee appointed by the Client shall carry out its evaluation for all the projects as listed in Para 1.1, applying the evaluation criteria and point system specified in the Data Sheet. Each responsive proposal shall be given a technical score: S_t . The Consultants scoring less than seventy (70) percent points shall be rejected and their financial proposals returned un-opened.

5.3 Financial Proposal

- 5.3.1 The financial proposals of the three top-ranking qualifying Consultants on the basis of evaluation of technical proposals shall be opened in the presence of the representatives of these Consultants, who shall be invited for the occasion and who care to attend. The Client shall inform the date, time and address for opening of financial proposals as specified in the Data Sheet. The total cost and major components of each proposal shall be publicly announced to the attending representatives of the firms.

- 5.3.2 The evaluation committee shall determine whether the financial proposals are complete and without computational errors. The lowest financial proposal (F_m) among all shall be given a financial score: S_f of 1000 points. The financial scores of the proposals shall be computed as follows:

$$S_f = (1000 \times F_m) / F$$

(F = amount of specific financial proposal)

- 5.3.3 Proposals, in the Quality Cum Cost Based Selection (QCBS) shall finally be ranked according to their combined technical (S_t) and financial (S_f) scores using the weights (T- the weight given to the technical proposal, P = the weight given to the financial proposal, and T+P=1) stated in the Data Sheet:

$$S = S_t \times T \% + S_f \times P \%$$

6. NEGOTIATION

- 6.1 Prior to the expiration of proposal validity, the Client shall notify the successful Consultant who submitted the highest ranking proposal in writing, by registered letter, cable telex or facsimile and invite it to negotiate the Contract.



- 6.2 Negotiations normally take from two to five days. The aim is to reach agreement on all points and initial a draft contract by the conclusion of negotiations.
- 6.3 Negotiations shall commence with a discussion of your technical proposal. The proposed methodology, work plan, staffing and any suggestions you may have made to improve the TOR. Agreement shall then be reached on the final TOR, the staffing, and the bar charts, which shall indicate activities, staff, and periods in the field and in the home office, staff months, logistics and reporting.
- 6.4 Changes agreed upon shall then be reflected in the financial proposal, using proposed unit rates (no negotiation of the staff month rates).
- 6.5 Having selected Consultants on the basis of, among other things, an evaluation of proposed key professional staff, the Client expects to negotiate a contract on the basis of the staff named in the proposal. Prior to contract negotiations, the Client shall require assurances that the staff members will be actually available. The Client shall not consider substitutions of key staff except in cases of un-expected delays in the starting date or incapacity of key professional staff for reasons of health.
- 6.6 The negotiations shall be concluded with a review of the draft form of the contract. The Client and the Consultants shall finalize the contract to conclude negotiations. If negotiations fail, the Client shall invite the Consultants that received the second highest score in ranking to Contract negotiations. The procedure will continue with the third in case the negotiation process is not successful with the second ranked consultants.

7. AWARD OF CONTRACT


- 7.1 The contract shall be awarded after successful negotiations with the selected Consultants and approved by the competent authority. Upon successful completion of negotiations/initialing of the draft contract, the Client shall promptly inform the other Consultants that their proposals have not been selected.
- 7.2 The selected Consultant is expected to commence the assignment on the date and at the location specified in the Data Sheet.

8. CONFIRMATION OF RECEIPT

- 8.1 Please inform the Client by telex/facsimile courier or any other means:
- (i) That you received the letter of invitation;
 - (ii) Whether you will submit a proposal; and
 - (iii) If you plan to submit a proposal, when and how you will transmit it.



DATA SHEET

LOI Clause No.	DESCRIPTION OF CLAUSE
1.1	<p>The name of Assignment is:- Consultancy Services for “Maintenance Backlog Reduction Program & Resurfacing and Strengthening Program for NHA Network (South Package)”</p> <p>The Client’s Name is:- National Highway Authority</p>
1.2	<p>The description and the objectives of the assignment are: As per TOR</p>
1.3	<p>Phasing of the Assignment (if any): Nil</p> <p>The Consultant shall commence the assignment upon signing of Contract Agreement between NHA and the successful Consultant.</p>
1.5	<p>Pre-Proposal Conference: Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>The name(s) and address(es) of the Official(s) is (are):</p> <p>General Manager (P&CA) National Highway Authority 28, Mauve Area, G-9/1 Islamabad</p> <p>Date, Time and Venue for Pre-proposal Conference:</p> <p>Date: 9th June, 2017 Time: 1030 hours Venue: NHA Auditorium (HQ) National Highway Authority 28, Mauve Area, G-9/1 Islamabad.</p> 
1.6	<p>The Client shall provide the following inputs:</p> <p>As per TOR and Appendix D.</p>
1.7	<p>Following sub-clauses are added:</p> <p>iii. The Consultant may please note not to suggest names of key staff already proposed in other proposals with the Client or awarded recently. This will affect adversely marking of these professionals in evaluation of the technical proposal. Their secured points are liable to be reduced by 50% if their name appears in more than 1 previous proposal in which they are ranked No.1. Also the existing load of work with a firm shall be considered as one of the factors for the consideration in the award of the work.</p>

	iv. Form A-4 is meant for comments on provision contained in RFP and Terms of Reference (TOR) and unless the observations are noted in this particular form, anything written elsewhere on this account including financial implications, if any, shall be considered of no consequence in the evaluation process.
1.8	<p>The Invited Consultants / Eligible Consultants are:</p> <p>Any firm meeting the following requirements:</p> <p>(a) Valid Registration Certificate of Pakistan Engineering Council.</p> <p>(b) Affidavit in original bearing the subject with project name on stamp paper duly attested by the Oath Commissioner to the effect that the firm has neither been blacklisted nor any contract rescinded in the past for non-fulfillment of contractual obligations (By all member firms in case of JV and/or sub-consultant).</p> <p>(c) Facilities available with the Consultant to perform their functions effectively (proper office premises, software, hardware, record keeping etc.)</p> <p>(d) Client's satisfaction certificates (Performance Reports) for the last three relevant assignments from the respective Clients. Moreover any adverse report regarding performance of Consultant on NHA projects received from NHA's any relevant quarter may become basis for its disqualification from the services above named in clause 1.1.</p> <p>(e) Signing and certification of the Checklist for Completeness of the Proposal as per attachment at the end of Data Sheet.</p> <p>(f) Man-months of staff and Project Duration as per TOR.</p>
2.1	<p>The Documents are:</p> <p>(a) Letter of Invitation (LOI).</p> <p>(b) Instructions to Consultants (ITC).</p> <p>(c) Data Sheet.</p> <p>(d) Technical Proposal Forms.</p> <p>(e) Financial Proposal Forms</p> <p>(f) Appendix – A: TOR and Background Information.</p> <p>(g) Appendix – B: Man-Months and Activity Schedule</p> <p>(h) Appendix – C: Client's Requirements from the Consultant.</p> <p>(i) Appendix – D: Personnel Equipment, Facilities and Other Services to be Provided by the Client.</p> <p>(j) Appendix – E: Copy of Model Agreement/ Draft Form of Contract & Appendices etc.</p> <p>(k) Form of Contract (<i>For Consultants to perform services as a Joint Venture</i>)</p>
2.2	The words "Twenty one (21)" is deleted in its entirety and replaced with "Five



	(05)" The address for seeking clarification is: General Manager (P&CA) National Highway Authority 28, Mauve Area, G-9/1, Islamabad E-mail: gmpca.nha@gmail.com
3.1.1	Add following: The proposals should be bound in the hard book binding form to deny the possibility of removal or addition of page(s). All the pages of proposal must be signed and stamped in original by authorized representative of the firm/JV. All the pages must be numbered starting from first page to last. Any proposal found not adhering to these requirements will be rejected at the time opening.
3.1.4	d. Proposed key staff shall preferably be permanent employees who are employed with the consultants at least six months prior to submission of Proposal. Yes ___√___ No _____ The minimum required experience of proposed Key staff is given below:
FOR KEY STAFF	
Team Leader/ Sr. Highway Engineer	Minimum B.Sc. (Civil Engineering) with minimum twenty (20) years' relevant experience (proven fifteen (15) years' design experience as Highway/ Geometric Design Engineer on National Highways Projects); -OR- M.Sc. (Transportation Engineering) with minimum eighteen (18) years relevant experience (proven thirteen (13) years' design experience as Highway/ Geometric Design Engineer on National Highways Projects); He/she must also have performed as Team Leader for at least three (03) major Highway Design Projects;
Senior Pavement Engineer	Minimum B.Sc. (Civil Engineering) with minimum twenty (20) years' relevant experience [proven fifteen (15) years' design experience as Pavement Engineer on major Highways Projects]; -OR- M.Sc. (Highway Engg./ Transportation Engg.) with minimum eighteen (18) years' relevant experience [proven thirteen (13) years' design experience as Pavement Engineer on major Highways Projects];



Sr. Structure Engineer	<p>Minimum B.Sc. (Civil Engineering) with minimum twenty (20) years' relevant experience (proven fifteen (15) years' design experience as Structure Engineer on National Highways Projects);</p> <p>-OR-</p> <p>M.Sc. (Structure Engineering) with minimum eighteen (18) years relevant experience (proven thirteen (13) years' design experience as Structure Engineer on National Highways Projects);</p>
Hydraulics/ Drainage Engineer	<p>Minimum B.Sc. (Civil Engineering) with minimum twenty (20) years relevant experience (proven eighteen (18) years' design experience as Hydraulics / Drainage Engineer on major Highway and Bridge Projects);</p> <p>-OR-</p> <p>M.Sc. (Hydrology / Drainage/ Hydraulic Engineering) with minimum eighteen (18) years relevant experience (proven sixteen (16) years' design experience as Hydraulics/ Drainage Engineer on major Highway and Bridge Projects);</p>
Highway Safety Expert	<p>Minimum B.Sc. (Civil Engineering) with minimum twenty (20) years relevant experience (proven eighteen (18) years' design experience as Highway Safety Engineer on major Highway Projects);</p> <p>-OR-</p> <p>M.Sc. (Highway Engineering) with minimum eighteen (18) years relevant experience (proven sixteen (16) years' design experience as Highway Safety Engineer on major Highway Projects);</p>
Contract Engineer	<p>Minimum B.Sc. in (Civil Engineering) with minimum fifteen (15) years relevant experience [proven ten (10) years' experience of Bidding/ Contract Documents];</p> <p>-OR-</p> <p>M.Sc. in (Contracts/ Procurement or Contracts Management) with minimum thirteen (13) years relevant [proven eight (08) years' experience of Bidding/ Contract Documents];</p>
Geo Technical Engineer	<p>Minimum B.Sc. (Civil Engg./Geo-Tech Engg.) with minimum twenty (20) years' relevant experience [proven fifteen (15) years' design experience as Geo Technical Engineer on major Highways and Bridges Projects];</p> <p>-OR-</p> <p>M.Sc. (Geo-Tech Engg.) with minimum eighteen (18)</p>



	years' relevant experience [proven thirteen (13) years' design experience as Geo Technical Engineer on major Highways and Bridges Projects];
Environmental Engineer	Minimum B.Sc. (Civil Engineering/ Environmental Engineering) with minimum fifteen (15) years' relevant experience (proven ten (10) years' experience as Environmental Engineer on mega Civil Engineering preferably Highway Projects); -OR- M.Sc. (Civil Engineering/ Environmental Engineering) with minimum thirteen (13) years' relevant experience (proven eight (08) years' experience as Environmental Engineer on mega Civil Engineering preferably Highway Projects);
Economist	M.Sc. (Transport Economics) with minimum fifteen (15) years' relevant experience [proven ten (10) years' experience as Transport Economist] on major transportation Projects;
Traffic Engineer	Minimum B.Sc. (Civil Engineering) with minimum twenty (20) years' relevant experience [proven fifteen (15) years' design experience as Traffic Engineer on major Highways Projects]; -OR- M.Sc. (Traffic Engg./ Transportation Engg.) with minimum eighteen (18) years' relevant experience [proven thirteen (13) years' design experience as Traffic Engineer on major Highways Projects]
Material Engineer	Minimum B.Sc. (Civil Engineering)/ M.Sc. Geology with minimum eighteen (18) years relevant experience (proven thirteen (13) years' experience as Material Engineer on major Highway Design projects);
Survey Engineer	DAE (Civil); preferably having Bachelor's in Civil Engineering. In case of DAE having minimum eighteen (18) years post-qualification experience in Highway Sector which includes proven ten (10) years' experience as Surveyor on Highway Projects. -OR- In case of Bachelor's Degree having minimum ten (10) years post-qualification experience in Highway Sector including seven (7) years' experience as Surveyor on Highway Projects.
Quantity Surveyor	DAE (Civil); preferably having Bachelor's in Civil



	<p>Engineering.</p> <p>In case of DAE having minimum eighteen (18) years post-qualification experience in Highway Sector which includes proven ten (10) years' experience as Quantity Surveyor on Highway Projects.</p> <p>-OR-</p> <p>In case of Bachelor's Degree having minimum fifteen (15) years post-qualification experience in Highway Sector including seven (7) years' experience as Quantity Surveyor on Highway Projects.</p>
	<p><u>Note: The Consultants are advised to submit updated CV's strictly in compliance with the format of CVs given in Technical Proposal Form A-5. CVs submitted without regard to the said format may score low.</u></p>
	<p>e. Training is an important feature of this Assignment:</p> <p>Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p> <p>If Yes, details of training are given in TOR</p>
3.2.1	<p>The last line of this Para is deleted in its entirety and replaced with following:</p> <p>The total cost is to be specified in the Form A-17 and accordingly also in Form A-11</p>
3.2.3	<p>Professional liability, insurances (description or reference to appropriate documentation):</p> <p>i. The Consultants shall be responsible for Professional Indemnity Bond of the required amount at their own cost. This bond shall be in the joint name of Consultant and the Client.</p> <p>ii. The Consultants are required to insure their Employees and Professionals for Hospitalization/ Medical, Travel and Accident Cover for the duration of the Contract. The details provided in Para 3.5 of Special Conditions of Contract in Model Contract.</p>
4.1	<p>The number of copies of the Proposal required is:</p> <p>Technical Proposal: One Original and Three copies with CD (soft form of complete Technical Proposal in PDF Form) in sealed envelope.</p> <p>Financial Proposal: One Original with CD (soft form of complete Financial Proposal in PDF as well as MS Word/Excel Forms) in sealed envelope.</p>



	<p>The address for writing on the proposal is:</p> <p>General Manager (P&CA) National Highway Authority 28, Mauve Area G-9/1 Islamabad Telephone: +92-51-9032727 Facsimile: +92-51-9260419</p>																																
4.4	<p>The date and time of proposal submission is:</p> <p>Date: 22nd June, 2017 Time: 1030 hours Location of Submission : NHA Main Auditorium National Highway Authority 27, Mauve Area G-9/1 Islamabad.</p>																																
4.5	<p>Validity period of the proposal is: 180 days The bid shall remain valid upto 19th December, 2017</p> <p>The location for negotiation of proposal is:</p> <p>General Manager (P&CA) National Highway Authority 28, Mauve Area G-9/1 Islamabad Telephone: +92-51-9032727 Facsimile: +92-51-9260419</p>																																
5.2	<p>The evaluation of technical proposal shall be based on following criteria:</p> <table border="1"> <thead> <tr> <th>Description / Items</th> <th>Points</th> </tr> </thead> <tbody> <tr> <td>i. Qualification of the Firm</td> <td>125</td> </tr> <tr> <td> a) General Experience (25)</td> <td></td> </tr> <tr> <td> b) Specific Experience of the Firm (100)</td> <td></td> </tr> <tr> <td>ii. Approach & Methodology</td> <td>180</td> </tr> <tr> <td> Understanding of Objectives (20)</td> <td></td> </tr> <tr> <td> Quality of Methodology (50)</td> <td></td> </tr> <tr> <td> Innovativeness/Comments on TOR (20)</td> <td></td> </tr> <tr> <td> Work Program (40)</td> <td></td> </tr> <tr> <td> Staffing Schedule (40)</td> <td></td> </tr> <tr> <td> Conciseness, clarity and completeness in proposal presentation (10)</td> <td></td> </tr> <tr> <td>iii. Qualification and Experience of the Key Staff</td> <td>550</td> </tr> <tr> <td>iv. Present commitment of the Firm</td> <td>025</td> </tr> <tr> <td>v. Past performance of the firm</td> <td>120</td> </tr> <tr> <td>Total Points:</td> <td>1000</td> </tr> <tr> <td>Minimum qualifying technical score:</td> <td>700</td> </tr> </tbody> </table> <p>The points earmarked for evaluation sub-criteria (iii) for suitability of Key Staff are:-</p>	Description / Items	Points	i. Qualification of the Firm	125	a) General Experience (25)		b) Specific Experience of the Firm (100)		ii. Approach & Methodology	180	Understanding of Objectives (20)		Quality of Methodology (50)		Innovativeness/Comments on TOR (20)		Work Program (40)		Staffing Schedule (40)		Conciseness, clarity and completeness in proposal presentation (10)		iii. Qualification and Experience of the Key Staff	550	iv. Present commitment of the Firm	025	v. Past performance of the firm	120	Total Points:	1000	Minimum qualifying technical score:	700
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	Description / Items	Points (%)
	i. Academic and General Qualifications	30
	ii. Professional experience related to the Project	60
	iii. Status with the firm (Permanent & duration with Firm as per LOI Clause 3.1.4 (d))	10
	Total Points:	100
5.3.1	<p>Following is added:</p> <p>The words “three top-ranking qualifying consulting firms” is deleted in its entirety and replaced with the words “qualifying consultants”</p> <p>The date, time, and address of the financial proposal opening are:</p> <p>After evaluation and approval of technical proposals (TO BE INFORMED LATER).</p>	
5.3.3	<p>The weights given to the Technical and Financial Proposals are:</p> <p>Technical: 80%</p> <p>Financial: 20%</p>	
6.3	<p>Add following at the end of this Para:</p> <p>The final person-months of each expert are subject to adjustment at the stage of contract negotiation in line with demonstrated approaches methodology and need bases.</p>	
7.2	The assignment is expected to commence in: September, 2017	
8	The Clause is deleted in its entirety	



Checklist for Completeness of Proposal

S. No.	Description	Must attach Documents	
		In case of Single Entity	In case of JV/ Sub-Consultants
1.	Power of Attorney to submit the Proposal (Original, scanned copy is not acceptable)	a. By the owner/owners of Firm to authorized representative. b. In case of more than one owner, legal authority of issuing Power of Attorney of Executants itself.	a. By the owner/owners of each Firm to authorized representative. b. In case of more than one owner, legal authority of issuing Power of Attorney of Executants itself. c. Power of Attorney by the duly authorized representative(s) of member firm(s)/sub-consultant(s) to the authorized representative of Lead Firm
2.	Power of Attorney to sign the Proposal (Original, scanned copy is not acceptable)	a. By the owner of Firm to authorized representative. b. In case of more than one owner, legal authority of issuing Power of Attorney of Executant itself.	a. By the owner of each Firm to authorized representative. b. In case of more than one owner, legal authority of issuing Power of Attorney of Executant itself. c. Power of Attorney by the duly authorized representative(s) of member firm(s)/sub-consultant(s) to the authorized representative of Lead Firm
3.	Letter of Intent to form JV on firm's letterhead/ JV agreement on stamp paper (Original, scanned copy is not acceptable)	N.A	Each Firm (all JV members), including the Lead Firm, to sign through its authorized representative (along with authorization)
4.	TECHNICAL PROPOSAL FORMS A-1 to A-10 duly completed as per Instructions to Consultants/ Data Sheet and requirements of TOR (To be attached with Technical Proposal)	Must provide	Must provide
5.	Valid Registration Certificate of Pakistan Engineering Council with relevant Project Profile Codes	Must provide	Must be provided by all member firm(s) including the Lead firm (and sub-consultant(s) if applicable)
6.	Foreign consulting firms shall make JV in accordance with Bye-Law 6(2) and Bye-Law 9 of the Pakistan Engineering Council (Conduct and Practice of Consulting Engineers) Bye-Laws 1986	Ineligible	PEC License(s) must be provided at the time of proposal submission
7.	Affidavit on stamp paper duly attested by the Oath Commissioner to the effect that the firm has neither been blacklisted nor any contract rescinded in the past for non-fulfillment of contractual obligations	Must provide	Must be provided by all member firm(s) including the Lead firm (and sub-consultant(s) if applicable)
8.	Lists of facilities available with the Consultant to perform their functions effectively (proper office premises, software, hardware, record keeping etc.)	Must provide	Must be provided for each JV member including the Lead firm separately. In case of involvement of sub-consultant(s), will also be provided
9.	Affidavit on stamp paper duly attested by the Oath Commissioner to the effect that the proposed Personnel shall be available as per their proposed inputs in the Personnel Schedule and TOR	Must provide	Must be provided separately for each JV member including the Lead firm who have proposed Personnel. In case of involvement of Specialist sub-consultant(s), the affidavit will be signed by the individual himself
10.	Performance Certificate/ Assignment Completion Certificate (All completed projects mentioned under TECHNICAL PROPOSAL FORM A-2 CLIENT'S	Must provide	Must be provided for completed projects of each member including Lead firm



S. No.	Description	Must attach Documents	
		In case of Single Entity	In case of JV/ Sub-Consultants
	REFERENCE Note: Any project mentioned completed under Form A-2 may not be considered for evaluation unless Performance Certificate/ Assignment Completion Certificate with satisfactory remarks by the client's representative is not attached. The Client NHA reserves the right to verify the Performance/Assignment Completion Certificates.		
11.	Integrity Pact Document duly filled in the blank spaces with requisite information and signed/ stamped	Must provide	Must provide
12.	FINANCIAL PROPOSAL FORMS A-11 to A-17 duly completed as per Instructions to Consultants/ Data Sheet and requirements of TOR (To be attached with Financial Proposal)	Must provide	Must provide
13.	Audit Reports of the firm for past three years duly certified by Chartered Accountant (To be attached with Financial Proposal)	Must provide	Must be provided for each firm who proposes Personnel for the Assignment
14.	Sequential page numbering of Proposal. Signing and stamping of proposal (Technical and Financial) wherever indicated as well as initial/ signature and seal on all other pages of proposals. The Proposal is bound as hard book to deny addition/ removal of pages	Must fulfill the requirement	Must fulfill the requirement

Certification:-

I, the undersigned, certify to the best of my knowledge and belief that all above mentioned documents (as applicable), Sr. No.1 to 11 have been attached to our proposal and signed and stamped as per requirement mentioned at Sr. No.12. In the event of any sort of falsification of this certification, the Client NHA may at its sole discretion disqualify our firm from bidding for the Assignment named under Data Sheet Sub-Clause 1.1.

Signature of authorized representative of the firm(s) Date: _____
Day/Month/Year

Full name of authorized representative: _____

For and on behalf of: _____ {Name of the bidder} _____

(Seal)

Note: copy or scanned signatures are not allowed



SUMMARY EVALUATION SHEET FOR FULL TECHNICAL PROPOSALS (QCBS)

ABM

ACG

BMCCE

EVALUATION CRITERIA	Max. Weight	Firm 1		Firm 2	
		Rating	Score	Rating	Score
I. Firms Experience	125				
a) General Experience of the firm	25				
b) Specific Experience of the firm	100				
II. Approach and Methodology	180				
> Understanding of Objectives	20	50	70	70	25
> Quality of Methodology	50	70	85	85	25
> Innovativeness / Comments on TOR	20	50	70	70	0
> Work Program	40				
> Staffing Schedule	40				
> Conciseness, clarity and completeness in proposal presentation	10	60	80	80	25
III. Personnel (Areas of Expertise - Qualification and Competence of Key Staff)	550				
a) Team Leader/ Sr. Highway Engineer	70				
b) Senior Pavement Engineer	55				
c) Sr. Structure Engineer	55				
d) Hydraulics/ Drainage Engineer	60				
e) Highway Safety Expert	40				
f) Contract Engineer	42				
g) Geo Technical Engineer	52				
h) Environmental Engineer	36				
i) Economist	50				
j) Traffic Engineer	40				
k) Material Engineer	50				
IV. Present commitment of the firm	25				
V. Past performance of the consultant in last three assignments	120				
The basis for Past Performance of the consultant is the report from various quarters in NHA particularly Design Section. The Client's satisfaction certificates are also required to be attached. The current commitments are to be assessed as per works in hand by the consultant.					
TOTAL	1000				

Excellent - 100% Very Good - 90-99% Above Average - 80-89% Average - 70-79% Below Average - 1-69% Non-complying - 0%
 Score: Maximum Weight x rating / 100.
 Minimum qualifying score is 70% or 700 marks.



PERSONNEL EVALUATION SHEET

POSITION / AREA OF EXPERTISE (Show all experts to be evaluated)	Name	Academic and General Qualification* Weight 30%		Project related Experience Weight 60%		Status with the Firm** 10%		OVERALL RATING (Sum of Weighted Ratings) (A+B+C)
		Percentage Rating	Weighted Rating (A)	Percentage Rating	Weighted Rating (B)	Percentage Rating	Weighted Rating (C)	
a) Team Leader/ Sr. Highway Engineer								
b) Senior Pavement Engineer								
c) Sr. Structure Engineer								
d) Hydraulics/ Drainage Engineer								
e) Highway Safety Expert								
f) Contract Engineer								
g) Geo Technical Engineer								
h) Environmental Engineer								
i) Economist								
j) Traffic Engineer								
k) Material Engineer								

Rating: - Excellent - 100% Very good - 90-99% Above Average - 80-89% Average - 70-79% Below Average - 1-69% Non-complying - 0%

Score: Maximum Weight X rating / 100.

* For Team Leader/ Sr. Highway Engineer, Senior Pavement Engineer, Sr. Structure Engineer, Hydraulics/ Drainage Engineer, Highway Safety Expert, Contract Engineer, Geo Technical Engineer, Environmental Engineer, Traffic Engineer. M.Sc. with additional trainings/courses relevant to assignment -100%; M.Sc. - 90%; B.Sc. with additional trainings/ courses relevant to assignment - 80%; B.Sc. - 70%

For Economist: M.Sc. with additional trainings/courses relevant to assignment -100%; M.Sc. - 90%; B.Sc. with additional trainings/ courses relevant to assignment - 65%; B.Sc. - 60%

For Material Engineer: B.Sc. with additional trainings/courses relevant to assignment -100%; B.Sc. - 90%

** Full time - 100%; Part time only for this assignment - 0%



TECHNICAL PROPOSAL FORMS



TECHNICAL PROPOSAL SUBMISSION FORM

{Location, Date}

To: [Name and address of Client]

Dear Sirs:

We, the undersigned, offer to provide the consulting services for [Insert the Project Name] in accordance with your Request for Proposals dated [Insert Date]. We are hereby submitting our Proposal, which includes this Technical Proposal and a Financial Proposal sealed in a separate envelope.

[{If the Consultant is a joint venture, insert the following: We are submitting our Proposal in a joint venture with: {Insert a list with full name and the legal address of each member, and indicate the lead member}. We have attached a copy {insert: "of our letter of intent to form a joint venture" or, if a JV is already formed, "of the JV agreement"} signed by every participating member, which details the likely legal structure of and the confirmation of joint and severable liability of the members of the said joint venture.}

OR

If the Consultant's Proposal includes Sub-consultants, insert the following: We are submitting our Proposal with the following firm(s) as Sub-consultants: {Insert a list with full name and country of each Sub-consultant.}

We hereby declare that:

- (a) All the information and statements made in this Proposal are true and we accept that any misinterpretation or misrepresentation contained in this Proposal may lead to our disqualification and/or may be sanctioned by the Client.
- (b) Our Proposal shall be valid and remain binding upon us for the period of time specified in the Data Sheet, Clause 4.5.
- (c) We have no conflict of interest in accordance with LOI Clause 1.9.
- (d) We meet the eligibility requirements as stated in Data Sheet Clause 1.8.
- (e) Neither we, nor our JV Partner(s)/sub-consultant(s) or any of the proposed experts prepared the TOR for this consulting assignment.

Within the time limit stated in the Data Sheet, Clause 4.5, we undertake to negotiate a Contract on the basis of the proposed Key Experts. We accept that the substitution of Key Experts for reasons other than those stated in Letter of Invitation, Clause 6.5 may lead to the termination of Contract negotiations.



- (g) Our Proposal is binding upon us and subject to any modifications resulting from the Contract negotiations.

We undertake, if our Proposal is accepted and the Contract is signed, to initiate the Services related to the Assignment not later than the date mentioned in Data Sheet 4.5 (*or the date extended with the written consent of Consultant in case of delay in procurement process*)

We understand that the Client is not bound to accept any or all Proposal(s) that the Client receives.

We remain,

Yours sincerely,

Authorized Signature {In full and initials}: _____

Name and Title of Signatory: _____

Name of Consultant (company's name or JV's name): _____

In the capacity of: _____

Address: _____

Contact information (phone and e-mail): _____

{For a joint venture, either all members shall sign or only the representative member, in which case the power of attorney to sign on behalf of all members shall be attached}



CLIENT'S REFERENCE

**Relevant Services (as per RFP notice) Carried Out in the Last Ten Years
Which Best Illustrate Qualifications**

Using in the format below, provide information on each reference assignment for which your firm, either individually as a corporate entity or as one of the major companies within a consortium, was largely contracted.

Assignment Name:		Country:
Location within Country:		Professional Staff Provided by Your Firm:
Name of Client:		No of Staff:
Address:		No of Staff Months:
Start Date (Month/Year):	Completion Date (Month/Year):	Approx. Value of Services (in Current US\$ /Rs.)
Name of Associated Firm (s), if any:		No. of Months of Professional Staff Provided by Associated Firm(s)
Name of Senior Staff (Project Director/Coordinator, Team Leader) involved and functions performed:		
Narrative Description of Project		
Description of Actual Services Provided by Your Staff		

Consultants' Name: _____



Form A-3

**APPROACH PAPER ON METHODOLOGY PROPOSED FOR PERFORMING THE
ASSIGNMENT**

Say No to Corruption



COMMENTS/SUGGESTIONS OF CONSULTANT

On the Terms of Reference (TOR)

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

Etc.

On the data, services and facilities to be provided by the Client specified in the TOR.

- 1.
- 2.
- 3.
- 4.
- 5.

Etc.



FORMAT OF CURRICULUM VITAE (CV) FOR PROPOSED KEY STAFF

1. Proposed Position: _____
2. Name of Firm: _____
3. Name of Staff: _____
4. Profession: _____
5. Date of Birth: _____
6. Years with Firm: _____
7. Nationality: _____
8. N.I.C Number: _____
9. Cell Number: _____
10. Membership in Professional Societies: _____
(Membership of PEC is Mandatory)
10. Detailed Tasks Assigned on the Project: _____



◆ **Key Qualifications:**

[Give an outline of staff member's experience and training most pertinent to tasks on assignment. Describe degree of responsibility held by staff member on relevant previous assignments and give dates and locations. Use up to one page].

◆ **Education**

[Summarize college/university and other specialized education of staff member, giving names of institutions, dates attended and degrees obtained].

◆ **Employment Record**

[Starting with present position, list in reverse order every employment held. List all positions held by staff member since graduation, giving dates, names of employing organizations, title of positions held and location of assignments. For experience in last ten years, also give types of activities performed and Client references, where appropriate].

◆ Languages

[Indicate proficiency in speaking, reading and writing of each language: excellent, good, fair, or poor].

◆ Certification

I, the undersigned, certify to the best of my knowledge and belief that

- (i) This CV correctly describes my qualifications and experience
- (ii) I am not a current employee of the Executing or the Implementing Agency
- (iii) In the absence of medical incapacity, I will undertake this assignment for the duration and in terms of the inputs specified for me in Form A-9 provided team mobilization takes place within the validity of this proposal.
- (iv) I was not part of the team who wrote the terms of reference for this consulting services assignment
- (v) I am not currently debarred by any department/organization/ (semi-autonomous / autonomous) bodies or such like institutions in Pakistan.
- (vi) I certify that I have been informed by the firm that it is including my CV in the Proposal for the {name of project and contract}. I confirm that I will be available to carry out the assignment for which my CV has been submitted in accordance with the implementation arrangements and schedule set out in the Proposal.

If CV is signed by the firm's authorized representative:

- (vii) I, as the authorized representative of the firm submitting this Proposal for the {name of project and contract}, certify that I have obtained the consent of the named expert to submit his/her CV, and that s/he will be available to carry out the assignment in accordance with the implementation arrangements and schedule set out in the Proposal, and confirm his/her compliance with paras (i) to (v) above.
- (viii) Latest colored attested photograph stapled attached with the CV.

I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

Signature of expert or authorized representative of the firm

Date: _____
Day/Month/Year

Full name of authorized representative: _____

Note: copy or scanned signatures are not allowed



Form A-6

COMPLETION AND SUBMISSION OF REPORTS AS PER TOR

Reports	Date
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	



COMPOSITION OF THE TEAM PERSONNEL AND THE TASKS TO BE ASSIGNED TO EACH TEAM MEMBER

1. Technical / Managerial Staff

Name	Position	Tasks Assignment	Present location	Name of assignment involved and clients name



WORK PLAN / ACTIVITY SCHEDULE

Items of Work/Activities	Monthly Program from date of assignment (in the form of a Bar Chart)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15



WORK PLAN AND TIME SCHEDULE FOR KEY PERSONNEL

Name	Position	Months (in the form of a Bar Chart)															Number of Months		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			

Full Time: _____
 Part Time: _____

Activities Duration _____

Yours faithfully,

Signature _____
 (Authorized Representative)

Full Name _____
 Designation _____
 Address _____



Form A-10

CURRENT COMMITMENTS OF THE FIRM

(List MUST be comprehensive including projects from clients other than NHA as well)

Name of project	Single or JV	Task Assignment	Start date of the project	Expected date of completion



FINANCIAL PROPOSAL FORMS

Say No to Corruption



FINANCIAL PROPOSAL SUBMISSION FORM

{Location, Date}

To: [Name and address of Client]

Dear Sirs:

We, the undersigned, offer to provide the consulting services for [Insert the Project Name] in accordance with your Request for Proposal dated [Insert Date] and our Technical Proposal.

Our attached Financial Proposal is for the amount of {Insert amount in words and figures}, including all Federal, Provincial & Local taxes including GST applicable as per law of the land. {Please note that all amounts shall be the same as in Financial Proposal Form A-17}.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal, i.e. before the date indicated in Clause 4.5 of the Data Sheet.

We confirm that we have no condition to state that may have financial implications over and above the amount quoted above.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature {In full and initials}: _____

Name and Title of Signatory: _____

In the capacity of: _____

Address: _____

E-mail: _____

{For a joint venture, either all members shall sign or only the representative member/consultant, in which case the power of attorney to sign on behalf of all members shall be attached.}



Form A-12**BREAKDOWN OF RATES FOR CONSULTANCY CONTRACT**

Project: _____ Consultant: _____

Name	Position	Basic Salary per Cal. Month	Social Charges (%age of 1)	Overhead (%age of 1+2)	Sub-Total (1+2+3)	Fee (%age of 4)	Rate per Month for project Office	Field Allow. (%age of 1)	Rate per Month for Field Work
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

Notes:

- Item No. 1 Basic salary shall include actual gross salary before deduction of taxes. Payroll sheet for each proposed personnel should be submitted at the time of negotiations.
- Item No. 2 Social charges shall include Client's contribution to social security, paid vacation, average sick leave and other standard benefits paid by the company to the employee. Breakdown of proposed percentage charges should be submitted and supported (see Form A-13).
- Item No. 3 Overhead shall include general administration cost, rent, clerical and junior professional staff and business getting expenses, etc. Breakdown of proposed percentage charges for overhead should be submitted and supported (see Form A-14).
- Item No. 5 Fee shall include company profit and share of salary of partners and directors (if not billed individually for the project) or specified in overhead costs of the Company.
- Item No. 7 Normally payable only in case of field work under hard and arduous conditions.
- Note 1 The minimum percentage of item (1) should preferably be 50% of (8).
- Note 2 The consultant is to provide appointment letter and affidavit/undertaking duly signed by each of the individual staff members showing salary rates as above. Further during execution each invoice will also be provided showing that the professionals have been paid their salaries as per basic rates specified therein. Failing to which, the Client will take punitive action against the consultant and shall deduct the deficient amount from his monthly invoice. Moreover, it will be considered as a negative mark on his performance that will be considered for future projects.

Full Name: _____

Signature: _____

Title: _____



BREAKDOWN OF OVERHEAD COSTS

Sr. No.	Detailed Description	As a %age of Basic Salary and Social Charges



ESTIMATED LOCAL CURRENCY SALARY COSTS/REMUNERATION

Sr. No.	Position	Name	Staff-Months	Monthly Billing Rate	Total Estimated Amount (Rs.)
I. Professional / Key Staff					
Sub-Total:					



ESTIMATED LOCAL CURRENCY SALARY COSTS/REMUNERATION

Sr. No.	Position	Staff-Months	Monthly Billing Rate	Total Estimated Amount (Rs.)
II. Non-Key / Support Staff				
Sub-Total:				

Note: The bidders are required to quote the rates of Non Key/ Support Staff given in the TOR in above table. The bidder(s) may propose Non Key/ Support Staff Person-Months in addition to those given in TOR; however, in such a case tenable reasons must be given in the Technical Proposal Submission Form A-4 "Comments on TOR". The Client's negotiation committee will deliberate on the requirement of additional staff during negotiation meeting. It is also to be noted that the Client is not bound to agree to the reasons given in Form A-4.



DIRECT (NON-SALARY) COSTS

Sr. No.	Nomenclature	Unit	Qty.	Unit Price (Rs.)	Total Amount (Rs.)
1.	Rent for Office Accommodation	L.S			
2.	Office Utilities Costs	L.S			
3.	Cost / rental of Furniture / Furnishings	L.S			
4.	Cost (rentals) of Office/Other Equipment i. Computers and accessories ii. Photo copy machines iii. Communication equipment iv. Drafting / Engineering equipment v. Surveying instruments (rentals) vi. Transport Vehicles (Rentals) vii. Site visits and Meetings in Islamabad during current Assignment and execution of Works	L.S			
5.	Communication expenses	Month			
6.	Drafting/ Reproduction of Reports	L.S			
7.	Office/ Drafting Supplies	L.S			
8.	Traffic Survey	L.S			
9.	Environmental Survey	L.S			
10.	Soil Investigation Survey	L.S			
11.	Others not covered above to comply with TOR requirement*				
Total					



* Any additional item/ cost quoted against this line item must be supported by solid/ tenable justification(s) detailed in Technical Proposal Submission Form A-4 "Comments on TOR" without indicating financial value therein. The negotiation committee of the Client may negotiate this cost on the basis of justification provided in the form A-4 with the prospective successful bidder in the light of Clause ITC 6.6 of RFP. Moreover, if no justification is given or Client does not agree to the justifications, the Client in both the cases **shall not** include this cost in the total cost offered by the Consultants for this assignment, particularly in case any amount against this line item is deemed to have been covered in other pay items.

SUMMARY OF COST

Sr. No.	Description	Amount (Rs.)
1.	Salary Cost / Remuneration	
1(a).	Sales Tax @ 16% on item 1 above which shall be kept as Provisional Sum in the Contract Agreement	
2.	Direct (Non-Salary) Cost	
3.	Grand Total:	

Note: 1- This cost is supposed to be built up in bid price and if anything is left blank it shall be deemed to be included in the cost.

- 2- The dues and salaries of staff are payable by the consultant in time and not later than 10th of the following month positively. In case of failure to do so Client shall intervene and pay these dues and salaries of the concerned Personnel and recover from the invoice of the consultant at actual charges paid plus 1% of the amount. This will also be accounted for adversely in making assessment of the Consultant in the next evaluation process for selection of consultants with report of such defaults.
- 3- The grand total is inclusive of all the applicable Federal, Provincial and Local taxes. All these taxes (except the Sales Tax) are required to be built in the quoted rates and not be mentioned separately.
- 4- Any Omission or arithmetical error made by the Consultants in entering the amount against item 1(a) shall also be rectified during evaluation of the Financial Proposal.



APPENDIX-A

TERMS OF REFERENCE

(TOR)

CONSULTING SERVICES

MAINTENANCE BACKLOG REDUCTION PROGRAM
(MBRP) & RESURFACING AND STRENGTHENING
PROGRAM (RSP) FOR NHA NETWORK
(SOUTH PACKAGE)

N-5 (Karachi – Sahiwal), N-10, N-25, N-40, N-50,
N-55 (Kotri – Ramak), N-65, N-70, N-120 & M-10



1. Preamble

Transportation network of any country is vitally important to its development as it affects all sectors through economic linkages, ensures safe and timely travel, cut down transportation costs, encourages business activities and hence generates employment opportunities. NHA looks after nearly all of Pakistan's major inter-provincial road links. National Highways represent main transport corridor linking ports to major population centers and to neighboring countries.

The asphalt pavement deterioration is attributed to combined effect of overloading, fatigue, chemical aging and inadequate drainage. For maintenance and preservation of deteriorating road sections, NHA prepares and implement an Annual Maintenance Plan (AMP). During last three AMPs, periodic maintenance and rehabilitation of 2,220 km of NHA network has been planned and under execution. The latest roughness & condition survey reveals that about 1,113 km of NHA network have remaining service life of less than 2 years and about 2,734 km with remaining service life of between 2 to 3.5 years. Out of these, about 550 km will be taken up for maintenance and rehabilitation under AMP 2015-16 which means that about 3,297 km road sections of varying length are priority candidate of structural overlay or rehabilitation within earliest possible time.

2. Objective of the Project:

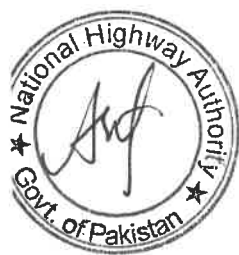
NHA intends to hire the services of reputable consulting firm to analyze the existing pavement condition, road roughness, traffic & Heavy Weight Deflectometer (HWD) data and to evaluate the deteriorated road sections for **Rehabilitation** (candidate sections for Maintenance Backlog Reduction Program) & **Resurfacing** (candidate sections for Resurfacing and Strengthening program). Based on latest road condition & roughness survey data, the list of road sections (with exact location, length and remaining service life) identified as candidate sections for resurfacing (521 km with RSL between 2 to 2.5 years) and rehabilitation (1,113 km with RSL less than 2 years) is at Annex-A.

The consultant will identify road portions having homogeneous conditions and pavement distresses for packaging them into continuous road sections and selecting for most appropriate rehabilitation or resurfacing treatment. The consultant will perform the tasks mentioned in the subsequent sections of this TOR for NHA network falling in the jurisdiction of South & West Zones and submit the reports accordingly in the form acceptable to NHA.

3. Scope of Work

The Scope of Work for this Terms of Reference comprises of following but not limited to:

- 1) Revalidation of Pavement Condition, Roughness and HWD survey data (to be provided by NHA)
- 2) Traffic data analysis
- 3) Axle load survey and assessment report
- 4) Soil Investigation and Drainage assessment
- 5) Road Safety Audit of candidate sections
- 6) Structural (bridge/culvert) condition assessment (i.e. identification of structurally deficient and functionally obsolete structures with in candidate sections)
- 7) Environmental Management Plan
- 8) Submission of pavement design



- 9) Preparation of Engineer's Estimates upon approval of pavement design
- 10) Preparation of BOQ's, contract documents along with tender / construction drawings etc.
- 11) Preparation of PC-I

4. Traffic Survey and analysis

Traffic count forms the basis for capacity analysis, pavement design and economic analysis etc. The consultant is required to carry out classified traffic counts at required locations and on the connected network to develop an understanding of traffic pattern. The study will also entail the estimation of diversion and generated traffic. The consultant shall submit detailed program of traffic count along with locations, duration and repetitions in Inception Report. Same shall be exercised after the approval of the Client.

The hourly traffic count shall include following classifications:

- Non-motorized traffic Animal drawn, bicycle
- Motorized traffic M/cycle, Car/Pickup/Jeep, Minibus/wagon, Bus, 2-Axle, 3- Axle, 4-Axle, 5-Axle, 6-Axle, Tractor trolley

5. Axle Load Survey

Consultant shall undertake axle load survey using portable weighing machine. Consultant shall confirm, in his technical proposal, the availability of such equipment (ownership / rental basis). Sufficient samples of all axle groups shall be weighed. In addition to axle load, tyre pressure shall also be measured. Data shall be annexed in the final report and used in the pavement design.

6. Evaluation of Existing Pavements

NHA will share the latest Pavement Condition, Roughness and HWD survey data with the consultant for revalidation / reassessment. The consultant shall analyze the Functional Capacity of the existing pavement in the form of present IRI and Structural Capacity from HWD data. Based on unit delineation, with coefficient of uniformity not greater than 15%, homogenous sections shall be identified. Consultant shall develop a destructive testing program to obtain in-situ parameters like, compaction, moisture density, gradation, insitu-CBR and layer thicknesses. With all the data, back calculation exercise shall be done to arrive at available strength, to be used in the pavement design.

7. Soil & Material Investigation

Soil & Material investigation shall be done to ascertain the index and engineering properties of soil & rock encountered. The test pits for geotechnical investigation will be dug at an interval of 500 m along the length of road. The consultant is required to seek, interpret and evaluate subsurface and surface data in order to predict the behavior of the soil and materials along, and adjacent to, the existing road pavement. The resulting information should be presented in a logical and intelligible manner so that it can be used correctly and efficiently by a non-specialist.

The consultant is required to carry out following steps:

- ◆ Determine needs of the design



- ◆ Carry out complete ground investigations (as per proposed methodology to be defined in Technical Proposals confirming to ASTM & AASHTO standards)
- ◆ Carry out complete laboratory testing (as per proposed methodology to be defined in Technical Proposals confirming to ASTM & AASHTO standards)
- ◆ Evaluate results for final design

Soil description is necessary for all test pits and boring logs. The descriptions should be standardized so that the main characteristics are given in the same order i.e. Mass Characteristics shall include field strength, moisture content, bedding state, (if applicable) discontinuities and state of weathering. Material Characteristics shall cover color, composition, grading, particle shape, soil name and soil group. Both Unified and AASHTO classification shall be used.

8. Pavement Rehabilitation and Design Report

After the analysis of traffic data and projections for design life of 10 years are done, the condition of existing pavement is available; the consultant shall identify road portions having homogeneous conditions and pavement distresses and packaging them into continuous road sections, which will become part of the project. Based on the existing condition, Remaining Service Life (RSL) and residual pavement strength, the consultant will devise most appropriate Rehabilitation & Resurfacing methodology for each candidate road sections.

The design of pavement should be innovative and reliable based on the historical data and failure trend analysis. The option of flexible, rigid and composite pavement shall be evaluated and cost comparison shall also be carried out. The consultant will analyze generated/projected traffic data, location creating traffic congestions, pedestrian movements and incorporate the findings in the design. The consultant may suggest new initiatives for traffic calming solution and segregation of major traffic with local traffic.

9. Structural Rehabilitation and Design Report

The consultant shall inspect all existing bridges/culverts within the candidate sections and identify structurally deficient and functionally obsolete structures. The consultant will prepare the design for rehabilitation, strengthening and widening of existing structures (as required). The design calculations, drawings and cost estimation for rehabilitation of structures will be provided for review by NHA Structural Expert prior to including in the respective packages.

The consultant may also propose any additional work required to increase the cross-drainage capacity.

10. Traffic Management Plans

Traffic Management / Diversion Plans shall also be provided for candidate sections:

- a. At bridges over waterways
- b. At toll plazas
- c. At Intersections and interchanges
- d. In urban areas including methodology for separating the local and through traffic.
- e. On at-grade railway crossings.

Consultant shall fully define the methodology for construction sequence, diverting traffic and maintaining the diversion roads. A separate bill is to be developed for



construction/maintenance of diversion roads. Further, the Consultant should state the exact scope of work in the Inception Report.

11. Environmental Management Plan

The Consultant shall carry out the environmental impact assessment to propose environmental mitigation measures with particular reference to the technical requirements of sound environmental standards during currency of the projects. The Consultant will prepare a site specific Environmental Management Plan in accordance with Environmental Management Framework to ensure that

- (i) all the environmental mitigation measures required to be implemented are incorporated into the contract documents.
- (ii) the Contractors comply with all necessary requirements contained in the Environmental Management Plan
- (iii) the day-to-day construction activities are carried out in an environmentally sound and sustainable manner;

12. Correctness of Design

Consultant is entrusted with the Scope of Work outlined above. It is required that the consultant should undertake the job in a professional manner to the best of his ability and resources. NHA as Client will vet the design and will approve for construction. The clearance of design by NHA does not absolve the consultant from its obligation to develop correct and cost effective engineering solutions for the Projects. NHA reserves the right to take punitive actions as required at appropriate forum even during construction stage.

13. Highway Rehabilitation Impact Assessment

The consultant will gather all factors at play that will need to be taken into consideration in measuring the impact of the highway rehabilitation projects. The proposed Highway Rehabilitation Impact Indicators should provide quantitative measures that could be compared with similar measures in follow-up studies. The objective of comparing these measures over time is to assess the impact of the highway rehabilitation on the socio-economic profile of the connected areas.

The consultant will submit the proposed list of Highway Rehabilitation Impact Indicators in the inception report along with their base line values to describe the existing state. The indicators may include but not limited to followings:

- a) Transportation Indicators
Road Condition & Roughness, Traffic Count, Vehicle Operating Cost etc.
- b) Social Indicators
Quantitative measures of social welfare, travel time/cost saving and benefits to community amenities etc.
- c) Economic Indicators
Quantifiable information to establish broad estimates about benefits to trade, disposition of agricultural production etc.



14. Location of the Project

The consultant will perform all the tasks specified in the TOR for the road sections falling in South & West Zones of NHA, the details are:

South & West Zones:	National Highway	N-5 (Karachi – Sahiwal), N-10, N-25, N-40, N-50, N-55 (Kotri – Ramak), N-65, N-70 & N-120
	Motorways	M-10

15. Formulation of PC-I

The Consultants shall prepare PC-I of the project including candidate sections on prescribed proforma of Planning Commission in manner acceptable to NHA.

16. Tender Documents

Tender Documents shall comprise of the following: -

a. Volume-I

- Instructions to Bidders.
- Conditions of Contract (Part-I) (General Conditions)
- Conditions of Contract (Part-II), (Conditions of Particular Application).
- Conditions of Contract (Part-III), (Supplementary Conditions)
- Forms and Appendices

b. Volume-II

- General Specifications.

c. Volume-III

- Particular Specifications, Special Provisions and Bills of Quantities.

d. Volume-IV

Drawings as per the following detail:

- Title Sheet
- Sheet Index
- Sheet of Legends & Symbols
- Typical Cross-Sections with locations of applications
- Super-elevation details and Linear Plan
- Road Furniture Details (Guard rails, Pavement Markings & Traffic signs etc)
- Road furniture, location tables
- Retaining walls with location tables
- Intersection Details
- Drawings for Small drainage structures



- Drawings for Large structures

NHA has standardised Volume-I (Part-I) and Volume-II. Consultants shall study and adopt these documents after careful scrutiny and modification as required.

e. Contract Conditions (Legal Part)

NHA has prepared Standard Tender Document sections on instructions to Bidders, conditions of Contract, Bid Forms etc. and has used them for similar project in the past. Consultant shall study these standardised contract conditions and amend them in accordance with the requirements of this project. The Special Conditions of Contract can be added pertaining to the project as supplement to the General Conditions of Contract.

f. Technical Specifications

The consultants shall study the NHA Specifications and prepare particular specification for the project for specified items not covered in the General Specifications.

g. Bill of Quantities

Consultant shall prepare comprehensive Bill of Quantities to be calculated to accuracy of $\pm 5\%$ encompassing all the items of work, properly cross referenced to the Technical Specifications. Standard format of Bill of Quantities shall be adopted.

h. Engineer's Estimate

Consultant shall prepare the Engineer's Estimate of the project based on the detailed design, drawings and final Bill of Quantities, using NHA's Latest Schedule of Rates. Total project value based on fair local market prices, materials, work methodology, machinery and equipment required and on the basis of 90% management efficiency shall also be worked out. For items not specified in NHA's latest CSR, rate analysis shall be provided based upon market price.

Note: The following shall also be submitted/ provided by the design consultants as an integral part of the Bill of Quantities/Engineer's Estimate:

- ◆ Non-CSR item Rate Analysis
- ◆ Special Provisions (SP) item Specifications

17. Final Presentation

Consultant at the end of design shall make a final presentation with following details. At the end of Presentation, one box containing all documents and drawings shall be handed over for record section.

Important Features of Presentation:

- 1) Consultant will describe the results of traffic analysis, axle load survey and existing pavement condition.



- 2) Criteria for pavement evaluation, making homogeneous road sections and selection of corresponding rehabilitation and surfacing strategy.
- 3) Consultant shall clearly explain the traffic management plans.
- 4) Complete description of design criteria and functional requirements.

18. Submission of Documents

All the reports associated with each task shall be submitted as stated in respective sections. In the technical proposal, consultant shall develop a task-wise work programme with submission dates. Failing to provide the same, the proposal shall not be evaluated. However, list of documents to be submitted by the Consultant is hereunder:

<u>Stage-I</u>	
Inception Report	03 Hard + 01 soft copy
Traffic data, axle load survey and pavement condition report including criteria for making homogeneous sections based on existing condition	03Hard + 01 soft copy
<i>Note: The soft copy will also be submitted in the format compatible with document i.e. Word, Excel, CAD, etc. One copy in PDF must be provided along with.</i>	
<u>Stage-II</u>	
Pavement Rehabilitation and Resurfacing Design Report	04 Hard + 01 soft copy
Structural Condition and Rehabilitation Report	04 Hard + 01 soft copy
Highway Safety Audit Report	04 Hard + 01 soft copy
Environmental Management Plan	04 Hard + 01 soft copy
<i>Note: The Consultant shall quote the above mentioned items at k (i-iv) separately in the financial proposal. The soft copy will be submitted in the format in which document has been prepared i.e. Word, Excel, CAD, etc. In addition, one copy in PDF must also be provided along with for each document.</i>	
<u>Stage-III</u>	
Final Design Report (including drawings and detailed Structural/Pavement calculations)	10 Hard + 01 soft copy
Traffic Management Plans	10 Hard + 01 soft copy
Tender Documents (Volume I-IV) (Volume 1~3 : pdf file & Volume IV : pdf + CAD file)	15 Hard + 01 soft copy
Engineer's Estimate	15 Hard + 01 soft copy
BOQ Quantity Breakdown Calculation Report	01 Hard + 01 soft copy
PC-I Proforma	80 Hard + 01 soft copy

19. Provision of Data on Compact Discs

The Consultants shall submit complete set of documents and drawings listed above on three (03) digital CD-ROMs. Files (Word, Excel, Auto Cad, Graphical Images, Photographs etc.) shall be properly indexed/ catalogued for record purposes and use/ reproduction at a later stage by NHA.

20. Commencement of Services



The services shall be commenced immediately after signing of the Contract Agreement.

21. Completion Period

The period of completion of services specified in the TOR shall be **four (04) months** from the commencement of Services.

22. Mode of Payment

Sr. No.	Description	% age of "A"
PHASE-I		
1.	Inception Report	10%
2.	Traffic and Axle load survey report	5%
3.	Pavement Condition Report	5%
4.	Structural Condition Report	5%
4.	Highway Safety Audit Report	5%
5.	Environmental Management Plan	5%
Sub Total (A)		35%
PHASE-II		
1.	Final Tender Documents (volume I – IV Volume 1~3: pdf file & Volume IV: pdf + CAD file)	10%
2.	Final Design Report (including detailed Structural and Pavement Design Backup calculations)	20%
3	Engineer's Estimate as per latest CSR along with backup of quantities	15%
4.	Draft PC-I	10%
5	Final PC-I	10%
Sub Total (B)		65%
TOTAL (A+B)		100%

Note: "A" is to be calculated by deducting all Provisional Sum amounts given under Appendix-E to this Contract from the Contract Price.



Personnel Requirements

Sr. No.	Position	Nos	Months	Proposed Man Months ¹
Key Personnel				
1	Team Leader/Sr. Highway Engineer	1	4	4
2	Senior Pavement Engineer	1	3	3
3	Senior Structure Engineer	1	3	3
4	Hydraulic / Drainage Engineer	1	4	4
5	Highway Safety Expert	1	2	2
6	Contract Engineer	1	2	2
7	Geo Technical Engineer	1	3	3
8	Environmental Engineer	1	2	2
9	Economist	1	3	3
10	Traffic Engineer	1	2	2
11	Material Engineer	1	3	3
	Sub-Total:	11		31
Non-Key Personnel				
12	Survey Engineer	1	3	3
13	Quantity Surveyor	1	3	3
14	CAD Operator	2	4	8
15	Surveyors	6	3	18
	Sub-Total:	10		32
Support Staff				
16	Computer Operators	2	4	8
17	Office Boy	4	4	16
	Sub-Total:	6		24
Total		27		87



¹ The proposed man-months are as per Clients assessment; if the consultant has reservation/opinion/suggestion regarding proposed man-months it may convey same in writing during Pre-Proposal Meeting or even after Pre-Proposal Meeting but before the last date for seeking clarification, for review and decision of NHA which will be communicated to all the prospective bidders.

Route	Section			Effected Length						Total
	No.	From Km	To Km	Length (Km)	RSL < 2 years		RSL 2 - 2.5 years		Total	
					No. of Km	Chainage	No. of Km	Chainage		
N-5 KTHH	1	170	180	11	9	170-177, 180	1	178	10	
	2	186	194	9	4	186, 188-189, 194	3	190, 193, 195	7	
	TOTAL				20	13		4		17
	1	171	179	9	7	171-174, 177-179	1	175	8	
	2	303	308	6	3	305-306, 308	2	303-304	5	
	3	346	356	11	1	347	4	346, 348, 355-356	5	
	4	369	371	3			2	369, 371	2	
	5	518	519	2	2	518-519			2	
	6	579	607	29	21	579-582, 584-588, 591-597, 599-603			21	
	7	608	626	19	4	609-611, 626	1	612	5	
	8	655	658	4	3	655-657	1	658	4	
	9	714	734	21	6	714-718, 725	5	719-721, 723, 734	11	
	10	750	860	111	93	751, 759-768, 771-786, 789-794, 796-811, 813-826, 828-833, 835-857, 860	7	750, 754-756, 812, 827, 834	100	
N-5 NB	11	870	940	71	52	870-874, 876, 878-884, 888, 890-896, 898-902, 904-913, 915, 920-925, 927-928, 932, 934-935, 937-940	11	875, 877, 885-886, 889, 897, 903, 914, 916, 919, 926	63	
	12	973	1054	82	67	973, 975-977, 979, 981, 984, 988-1024, 1031-1037, 1039-1054	6	978, 980, 985-987, 1038	73	
	13	1065	1099	35	35	1065-1099			35	
	TOTAL				403	294		40		334



Route	Section			Effected Length				Total	
	No.	From Km	To Km	Length (Km)	RSL < 2 years		RSL 2 - 2.5 years		
					No. of Km	Chainage	No. of Km		Chainage
N-5 SB	1	309	322	14	2	309, 322	4	316, 318-320	6
	2	328	381	54	12	334-335, 337, 339-341, 348, 350, 352, 358, 363, 371	12	328, 336, 338, 349, 353, 357, 361-362, 366, 379-381	24
	3	403	405	3			2	403, 405	2
	4	517		1			1	517	1
	5	583	606	24	6	586-588, 596-598	6	583, 590, 595, 602, 605-606	12
	6	651	661	11	3	657, 660-661	3	651, 656, 658	6
	7	695	702	8			4	695-697, 702	4
	8	741	764	24	12	741-746, 748-749, 761-764	2	747, 750	14
	9	800	813	14	4	810-813	4	800-802, 805	8
	10	898	912	15	1	906	4	898, 909, 911-912	5
	11	940	952	13	13				13
	12	989	1025	37	26	992, 1001-1025	2	989, 995	28
	13	1031	1059	29	20	1031-1047, 1057-1059	3	1052, 1055-1056	23
	14	1062	1099	38	30	1064-1065, 1067-1070, 1074-1088, 1090-1094, 1096-1099	3	1062, 1072-1073	33
	TOTAL			285	129		50		179
N-10	1	47	55	9	1	47	3	53-55	4
	TOTAL			9	1		3		4
	1	18	28	11	6	18-21, 25-26	3	22-23, 28	9
	2	386		1	1	386	1	435	1
N-25	3	435		1			1		1
	4	458	469	12	5	458, 463, 465-466, 468	3	461, 467, 469	8



Route	Section			Effectuated Length				Total	
	No.	From Km	To Km	Length (Km)	RSL < 2 years		RSL 2 - 2.5 years		
					No. of Km	Chainage	No. of Km		Chainage
	5	529	531	3			2	529, 531	2
	TOTAL			28	12		9		21
	1	20	30	11	5	20, 22, 24, 26-27	4	21, 23, 25, 30	9
	2	63	74	12	3	72-74	1	63	4
	3	99	108	10	5	99, 103, 105, 107-108	3	100, 102, 106	8
	4	280	304	25			9	280, 282, 284, 289-290, 293-295, 304	9
	5	326		1			1	326	1
	6	338		1			1	338	1
	7	367	380	14			5	367, 370-371, 375, 380	5
N-40	8	397	421	25			9	397, 403, 408-411, 413, 418, 421	9
	9	449		1			1	449	1
	10	471	479	9	4	473, 477-479	2	471-472	6
	11	506	513	8			4	506-507, 511, 513	4
	12	565	572	8	2	569, 572	1	565	3
	13	583	591	9			3	583, 584, 591	3
	14	606		1			1	606	1
	TOTAL			135	19		45		64
	1	47	59	13	4	47, 49-50, 52	3	51, 57, 59	7
N-50	2	65	90	26	4	68, 74, 77, 79	7	65-67, 76, 78, 81, 90	11
	TOTAL			39	8		10		18
	1	203	208	6	3	203-205	2	206, 208	5
N-55	2	328	333	6	5	329-333	1	328	6
	3	652	655	4			3	652-653, 655	3



Route	Section			Effected Length				Total		
	No.	From Km	To Km	Length (Km)	RSL < 2 years		RSL 2 - 2.5 years			
					No. of Km	Chainage	No. of Km		Chainage	
N-65	4	672		1			1	672	1	
	5	699		1			1	699	1	
		TOTAL		18			8			16
	1	101	116	16	4	111-112, 114, 116	5	101, 103, 110, 113, 115	9	
	2	124	142	19	4	131-134	4	124, 126, 135, 142	8	
	TOTAL		35	8		9			17	
N-70	1	78					1	78	1	
	2	97	99	3	2	97-98	1	99	3	
	3	124	129	6	5	124, 126-129			5	
	4	157	180	24	1	179	8	157-158, 164, 167, 170-172, 180	9	
		TOTAL		33	8		10			18
N-120 NB	1	30		1	1	30			1	
		TOTAL		1	1		0		1	
M-10	1	50	51	2			2	50-51	2	
		TOTAL		2	0		2		2	
GRAND TOTAL	64			1008	501	190			691	



Annexure-A

ENVIRONMENTAL IMPACT ASSESSMENT OF ROADS/ HIGHWAYS PROJECTS

1. Need for Environmental Impact Assessment (EIA)

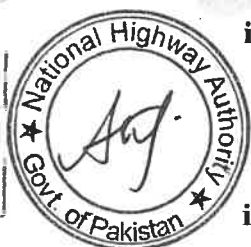
Highway projects are generally undertaken to improve the economic and social welfare of the people. At the same time, they may also create an adverse impact on the surrounding environment. People and property in the direct path of the road works are affected. The environmental and social impact of highway projects include damage to sensitive ecosystems, soil erosion, changes to drainage pattern and thereby groundwater, interference with animal and plant life, loss of productive agricultural lands, resettlement of people, disruption of local economic activities, demographic changes, accelerated urbanization and increase in air pollution. Highway development and operation should, therefore, be planned with careful consideration of the environmental impact. To minimize these adverse effects that may be created by highway development projects, the techniques of EIA become necessary. Identification and assessment of potential environmental impact should be an integral part of the project cycle it should commence early in the planning process to enable a full consideration of alternatives and to avoid later delays and complications.

2. In view of the above, an EIA will be carried out for the Environmental aspects of all stages of the projects i.e. preconstruction, construction and post construction with the following objectives:

- Establishing the environmental baseline in the study area and identifying any significant environmental issue;
- Assessing these impacts and providing for the requisite avoidance, mitigation and compensation measures;
- Integrating the identified environmental issues in the project planning and design;
- Developing appropriate management plans for implementing, monitoring and reporting of the environmental mitigation and enhancement measures suggested;

The EIA studies and reporting requirements to be undertaken this TOR must conform to the guidelines and regulations issued by the Pakistan Environmental Protection Agency (Pak EPA), Ministry of Environment, Govt. of Pakistan (GOP) which comprise mainly of the Pakistan Environmental Protection Act 1997, its implementing regulations, the EIA Guidelines and Review of IEE and EIA Regulations, 2000. These guidelines include the amendments and subsequent rules for the IEE and EIA of projects.

- i) **Regulations and Standards.** Describe the pertinent legislation, regulations and standards, and environmental policies that are relevant and applicable to the proposed project, and identify the appropriate authority jurisdictions that will specifically apply to the project.
- ii) **Project Introduction.** The Consultants should categorize the project (category A or B and IEE or EIA) but may not be limited to the general information, rationale of the project, description of the project, and any revised alignment.



- iii) **Project Description.** The Consultants should provide a brief history of the project, a detailed location and maps with scales (km) of the projects with any alignment (starting point to end point). In the project description the Consultants should also highlight but not limited to bridges information, project components, scope and schedule of operation and construction, construction camps, and construction materials.
- iv) **Description of Environment.** Assemble, evaluate and present baseline data on the relevant environmental characteristics of the project area. In addition to general information, the Consultants should provide methodology for preparing the essential environmental data. The data should emphasize but may not be limited to the information about Physical Environment which could include, meteorology and climate, geology and soil, seismology, air and water quality, noise, topography and drainage patterns, hydrology and/or hydraulic regime, surface and ground water and land use. Ecological Resources should discuss about forests/flora/vegetation profile, crop and horticulture activities, and fauna/wild life and local livestock species (should specify mammals, birds, fish, reptiles and insects), protected and/or endangered wildlife species. Social and Cultural Resources may discuss about the methodology of surveys, settlement pattern, political and administrative setup, population and communities, socioeconomic conditions, protective and sensitive areas, archaeological and cultural sites, health and facilities, educational facilities, industrial/commercial activities, physical and cultural heritage, utilities, railway links or alignment, tourism facilities and potentials and others. Availability of Resources for Construction should also highlight about borrow soils, construction material, water and power availability and any other resources. Hazard vulnerability-identify vulnerability of area to flooding, hurricanes, storm surge, and earthquakes. Characterize the extent and quality of the available data, indicating significant information, deficiencies and any uncertainties associated with the prediction of impacts.
- v) **Environmental Impacts and Mitigation Measures.** Identify any negative positive, direct, indirect, short term and long term impacts of the project, during pre-construction/design, construction and operation phases. Identify any information gaps and evaluate their importance for decision-making. The Consultants must recommend appropriate mitigation and rehabilitation measures for the environmental damage and other impacts identified for specific road corridors, and how they would be implemented with regards to: coordination between highway design and environmental issues, ambient air, water and noise quality, water resources, drainage, mineral resources, flora and fauna, social and cultural environment, historical sites. The Consultants should attempt to identify creative measures that would also have positive social implications, such as participatory tree planting that would also serve as job creation for affected communities. Consultants should identify biological environment, and must discuss about national parks, game reserves and endangered species. Consultants should also identify the impacts and mitigation measures for topography, social / cultural issues, land acquisition and resettlement, community development, borrow open pits, waste disposal, geology and soil, surface and ground water, hydrologic regime, traffic flow, wastage of fertile humus layer, utilities issue and poverty alleviation etc.

However, report should not be limited to the above mentioned constituents of the environmental impacts and their mitigation measures. The consultants should be



more creative according to the specified project alignment. It should also include maps, figures and photographs when necessary.

In order to assess environmental impacts and recommend various mitigation measures to minimize the environmental impacts, identify and develop data.

vi) Development of Environmental Data. Identify EPA NEQS and guidelines and analyze following parameters to develop base line environmental data of the project:

- Ambient air quality.
- Noise levels.
- Water.
- Biological environment.
- Socio economic profiles,

i) AMBIENT AIR QUALITY:

Consultants should monitor the ambient air quality along the selected road site.

The parameters need to be monitored include Ozone (O₃) Carbon monoxide (CO) Sulphur dioxide (SO₂), Nitrogen dioxide (NO₂), and particulate matter (PM₁₀). Acceptable standard analysis methodology should be selected to measure the NEQS parameters.

Air quality data will be collected over a 24-hour period at all the sampling points (a reasonable number of sampling and their analysis should depend upon the road length and other environmental factors which should provide a reasonable image of air quality).

High pollutant concentrations spots should be selected for sampling to assess 'worst-case' scenarios, and measurements will be made in areas with extensive ribbon development and schools/hospitals where traffic will be expected to be a little heavier.

ii) NOISE LEVELS:

Roadside noise level measurements should be taken at a distance of ~ 6 m from the edge of the highway (corresponding roughly to 7.5 m from source vehicles). The noise parameter should be measured for 24 hours at various locations of the specified site. The permissible limit of noise is 85 dBA prescribed by the NEQS for motor vehicles. The NEQS do not prescribe a noise level limit for receptors. (a reasonable number of sampling and their analysis should depend upon the road length and other environmental factors which should provide a reasonable image of noise pollution).

iii) WATER QUALITY:

During field investigations, water samples from various sources in the vicinity of the proposed sections should be analyzed for important parameters with respect to human consumption. Although, NEQS include 32 water criteria pollutants for effluents and 16 NEQS for gaseous emissions, NHA prefer and recommend basic water quality analysis which may include but not limited to pH, turbidity, alkalinity,



TDS, TSS, 5 day BOD at 20°C, COD, OD, total hardness, chloride, sodium nitrates, lead, mercury, arsenic, cadmium, total toxic metals, phenolic compounds as phenols, pesticides / herbicides / fungicides (*in farmland areas*) and *E-coli*. (*a reasonable number of sampling and their analysis should depend upon the road length, other environmental factors which should provide a reasonable representation of water quality*).

Consultants **must identify** standard and recognized laboratories. Consultants should also provide Analytical Laboratory Reports along with methodologies and analytical techniques used for each parameter. The analysis reports must include information, address and contact persons of analytical laboratories.

- vii) **Analysis of Alternatives.** Describe the alternatives examined for the proposed project that would achieve the same objective including the “no change in alignment”. Distinguish the most environmentally friendly alternatives. In case of minor impacts, which can be successfully mitigated within the ROW and without change in alignment, there will be no need for the analysis of alternative. In all other cases, and especially in the case of major or critical issues, a systematic comparison will be undertaken of the proposed design, site technology and operational alternatives in terms of:

- Their potential environmental and social impacts;
- Capital and recurrent costs;
- Suitability under local conditions; and
- Institutional, training and monitoring requirements.

For each alternative, the environmental cost and benefits should be quantified to the possible extent, and economic values should be attached where feasible. The basis for the selection of alternative proposal for the project design must be stated.

- viii) (A) **Public Consultation, Involvement and Disclosure.** During the field surveys the Consultants will organize workshops and formal public consultation sessions at province level to identify main stakeholder, their categories, their views on the existing condition of the project, volume of traffic concern's stemming from the impact of improvement works, as well as safety related issues. If possible, Consultants will assist in inter-agency coordination, and public/NGO participation.

(B) **Grievance Redress Mechanism**

- ix) **Environmental Management Plan (EMP).** Identify and prepare EMP including an implementation schedule and supervision program with associated costs and contracting procedures for the execution of environmental mitigation and social issues for pre-construction, design, construction and implementation phases. The Consultants should describe the objectives of EMP and key environmental and social components, role of functionaries, and road safety. The key components of EMP should emphasize but not limited to:

alignment and shoulder width options, road side safety, structural recommendations, topography, geology and soil, seismic activities, flood hazards, camp sites, borrow pits, archaeological sites, land acquisition and resettlement, local communities their

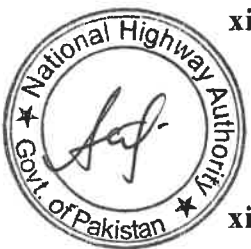


social and cultural heritage, archaeological sites, waste disposal, air and water quality including ground and surface water, noise, flora including roadside vegetation cutting and plantation, fauna including wildlife, endangered species and their protection, traffic management, utilities, use of fertile humus soil recommendation of environmental protection sign boards, and health risk of workers. EMP should identify the training and workshops programs.

- x) **Environmental Monitoring Plan.** Identify the critical issues requiring monitoring to ensure compliance to mitigation and environmental management plans and to measure and monitor the environmental impacts during construction and operation. The objectives of the plan are to monitor the actual impact of the works on the project corridor's physical, biological and socio-economic receptors within the corridor. This will indicate the adequacy of the EIA. The monitoring plan should recommend mitigation measures for any unexpected impact or where the impact level exceeds the limits. The plan should ensure compliance with legal and community obligations including safety on construction sites. Consultants should monitor the rehabilitation of borrow areas and the restoration construction campsites according to EMP report. The monitoring plan should ensure the safe disposal of excess construction materials. Consultants should also evaluate the effectiveness of the mitigation measures proposed in the EMP and recommend improvements if necessary. Apart from regular compliance checks the Consultants should generate a tabular matrix for air, water and noise analysis, asphalt plant emissions, soil erosion and contamination, plantation, safety and traffic rules compliance for construction and operation phases.

Environmental Monitoring Plan will list the procedure through which mitigation measures proposed in EIA will be implemented. It will also include environmental parameter need monitoring, frequency and responsibilities of key players. In case of disagreement with local communities or stakeholders, grievances addressable mechanism shall be part of plan. The management plan will develop the institutional requirement and type of training to enhance the capabilities of staff. The total environmental mitigation, Monitoring, equipment and training cost shall also be included.

- xi) **Economic Assessment.** This section should include the overall cost estimate in relation to the project benefits, environmental costs and total cost of the proposed project. The Consultants should address the cost analysis of training, monitoring activities, environmental analysis and activities, resettlement, land and property acquisition, and mitigation measures.
- xii) **Role of Functionaries and Government Agencies Involvement.** This section should include role of all the functionaries and variable involvement of government agencies or authorities for the project accomplishment.
- xiii) **Recommendation and Conclusions.** An adequate summary should emphasize on the project description and environment, environmental impacts and mitigation measures, alternatives, socio-cultural and socio economics, public consultation and the resulting issues and recommendations, environmental management and monitoring plans, economic assessment, recommendation and conclusions.
- xiv) **Submission of Reports.** The report should be prepared and presented in strict conformity to IEE/EIA regulations, 2000 and Guidelines for preparation and



submission of IEE/EIA 1997 issued under the Pakistan Environmental Protection Act, 1997.

The title page of the report should specify the report name, project name, highway length, scaled maps and / or colored photographs, date of the report, consultant company name, address, phone numbers, e-mail and logos.

The reports should include acronyms list and a copy right certificate in the name of NHA. The reports should include all the key articles but not limited to the executive summary, introduction, description of the project, policy, all legal and administrative framework, description of the project environment, alternative analysis, environmental impacts and mitigation measures, public consultation and resettlement action plan, inter-agency and public/ NGO consultation process, environmental monitoring plans, economic assessment, conclusions and recommendations.

All figures, maps, appendices, tables, photographs, matrices and list of references should be chronologically organized and each page should be numbered.

- (i) Initially Consultants should submit two draft copies of the report to NHA
- (ii) After incorporating the comments from NHA, bureau of Environmental Protection/Provincial EPAs and donor agencies Consultants should finalize the report.
- (iii) Consultants required submitting two hard copies and one soft copy of final EIA report to NHA.
- (iv) Must fill and attach the application form for Environmental approval under Sec (12) of Pakistan Environmental Protection Agency (PEPA) Act 1997 (PEPA- Review of IEE and EIA-Schedule IV regulations, 2000). The form requires information of the description, Location, objective, alternative alignment, topography and land use of the project. In addition it also required information about the land acquisition in acres, environmental quality standard (NEQS) analyzed and measured, source of powers for the project construction and number of labour force (employees) required for the project construction and operation phases.
- (v) The prepared Environmental Impact Assessment (EIA) report will be submitted to the concerned EPA for formal concurrence and will be disclosed to the public, stake holders etc.



*Ten hard copies and two electronic copies (format on CD) of the report are to be submitted should be labeled properly.

Public Hearing:

It will be the responsibility of the Consultants to obtain NOC from the respective EPA, and to prepare documents and presentations for EPA as and when required by EPA with due intimation to NHA.

Consultants' Fee for Services:

The payments to the Consultants for EIA shall be made in the following manner:

Sr. No.	Description	% of A'
(i)	Inception Report for services (within first 7 days of commencement).	10%
(ii)	Submission of draft EIA/IEE report.	30%
(iii)	Submission of final EIA/IEE report (ten hard and two soft copies) to concerned EPA.	20%
(iv)	Submission of final EIA/IEE report after attending all observation and comments of EPA.	20%
(v)	Obtain NOC from concerned EPA including public hearing aspects.	20%
	Total:	100%

Where A' is the total payable amount in respect of EIA Study.

Consulting Service Period:

Consultants shall submit the final report within Three (03) months from the date of Date of Commencement of Services.

