

PUNJAB STATE EXPRESSWAY PROJECTS

CONSULTANCY SERVICES FOR PREPARATION OF FEASIBILITY CUM PRELIMINARY DESIGN (PROJECT REPORT) FOR MOHALI EXPRESSWAY TO BE EXECUTED AS BUILD, OPERATE, TRANSFER (BOT) TOLL PROJECT ON DESIGN BUILD FINANCE OPERATE (DBFO) PATTERN

REQUEST FOR PROPOSAL
(RFP)

**PUBLIC WORKS DEPARTMENT
(BUILDINGS & ROADS)
GOVERNMENT OF PUNJAB**

February 2008

Punjab Infrastructure Development Board

INVITATION OF PROPOSALS FOR CONSULTANCY SERVICES FOR PREPARATION OF FEASIBILITY-CUM-PRELIMINARY DESIGN (PROJECT REPORT) FOR MOHALI EXPRESSWAY TO BE EXECUTED AS BOT (TOLL) PROJECT ON DBFO PATTERN

1. BRIEF SCOPE OF WORK

- 1.1. Greater Area Mohali Development Authority (GMADA) has entrusted Punjab Infrastructure Development Board (PIDB) with the development, maintenance and management of Mohali Expressway as entrusted to it by the Government. Under PIDB, the Government has decided to develop a fully access controlled expressway between Lalru and Baddi in the States of Punjab and in collaboration with Baddi Barotiwala Nalagarh Development Authority (BBNDA) for portion in Himachal, which will be approximately 65.3 km long and on a new alignment. The project will be eventually constructed on BOT basis on Design - Build - Finance - Operate (DBFO) pattern wherein the design, financing, construction and operating responsibility will be that of the concessionaire and transfer the project road to respective PWD (B&R) of Punjab and Himachal at the expiry of the Concession Period. PIDB now invites proposals from reputed consulting firms for carrying out consultancy services for Preparation of Feasibility cum Preliminary Design Report for Mohali Expressway.
 - 1.2. The Project Report which is primarily a Feasibility-cum-Preliminary Design Report thus prepared shall contain, *inter alia*, the scheme and lay out of the development of the expressway and the project facilities, preliminary design and costing. The report will form the basis on which Project Developers, will prepare an RFP document for inviting bids from private entrepreneurs to award a BOT (Toll) concession. The concession will be on DBFO pattern, wherein the concessionaire shall, in accordance with the Draft Concession Agreement approved by the Government of Punjab, take full responsibility to carry out the detailed design, construction, maintenance and operation of the expressway and the project facilities conforming to the standards specified in the said agreement. The concessionaire will obtain all the finances required for the project, and eventually transfer the project to PWD (B&R) after expiry of the concession period in a state as specified in the concession agreement. The Feasibility Cum Preliminary Design Report would thus provide all the technical details, based on which realistic bids are received from the prospective bidders. The Feasibility-cum-Preliminary Design Report so prepared shall qualify the requirements of the Viability Gap Funding scheme. The consultant shall prepare the requisite information in the prescribed formats as laid down by Planning Commission, Government of India for seeking Viability Gap Funding (VGF) from PPP Cell-Planning Commission, GoI/Ministry of Finance.
 - 1.3. The Feasibility studies have to be completed within 4 months from the signing of the agreement with the consultants. After completion of the feasibility cum preliminary design report, intermittent inputs will be required from the consultant in the form of assistance and coordination with Project Developers in preparation of the bidding documents, answering the technical queries during the pre-bid conferences, and clarifying the technical points that may arise after signing of the concession agreement and prior to the financial close.
2. Qualifying requirements for consultancy firms have been spelt out in the Request for Proposal (RFP) document

3. MODE OF ACCESS FOR RFP DOCUMENT

Invitations are being sent for 'Request for Proposal (RFP) document to those empanelled consultants under Category 1 of NHAI/MOSRTH for road sector projects. 'Request for Proposal (RFP) document' can be downloaded from websites www.pidb.org and www.ilfsindia.com with written confirmation to inform PIDB and the fee for document of Rs. 5000/- (Rupees Five Thousand only) in the form of demand draft favouring '**Punjab Infrastructure Development Board**' and payable at Chandigarh must be furnished in a separate envelope while submitting the proposal.

4. SUBMISSION OF DOCUMENTS

- 4.1 Sealed proposals should reach PIDB at the address for communication not later than 14.00 hrs on 12th March 2008. The technical bids shall be opened on the same day at 15.00 hrs in the presence of bidders who choose to be present.
- 4.2 The conditions/criteria for award of work are stipulated in the RFP document. The proposals can be submitted on photocopies of the RFP document provided it is accompanied by a demand draft of Rs. 5000/- payable at Chandigarh towards the cost of RFP document.
- 4.3 PIDB will not be responsible for any delay in receiving the proposals and reserves the right to accept/reject any or all proposals without assigning any reason thereof. The consultancy firms will be selected as per the guidelines indicated in the RFP document.

5. ADDRESS FOR COMMUNICATION

G.P.S. Mann,
Chief General Manager
Punjab Infrastructure Development Board
SCO 89-90, Sector 34 A, Chandigarh
Phone: (91) 172 2665640, Fax: (91) 172 2665596,
website: www.pidb.org

Letter of Invitation (LOI)

Dear Sir,

Sub: Consultancy Services for Preparation of Feasibility-Cum-Preliminary Design (Project Report) for Mohali Expressway to be executed as BOT (Toll) Project on DBFO Pattern

1. INTRODUCTION

1.1 Department of Public Works PWD (B&R), Government of Punjab, has decided to construct expressways under a separate phase (Interstate Expressway-SE1). The projects will be a Public Private Partnership (PPP) venture in Design – Build – Finance - Operate (DBFO) format. Mohali Expressway is one of the sections envisaged under this project. It is proposed to engage reputed consultants to prepare feasibility cum preliminary design report for Mohali Expressway

The Feasibility-cum-Preliminary Design Report thus prepared shall contain, inter alia, the scheme and lay out of the development of the expressway and the project facilities, preliminary design and costing. The report will form the basis on which Project Developers, will prepare Request for Proposal (RFP) document for inviting bids from private entrepreneurs to award a BOT (Toll) concession. The concession will be on DBFO pattern, wherein the concessionaire shall, in accordance with the Draft Concession Agreement approved by the Government of Punjab, take full responsibility to carryout the detailed design, construction, maintenance and operation of the expressway and the project facilities conforming to the standards specified in the said agreement. The concessionaire will obtain all the finances required for the project, and eventually transfer the project to PIDB after expiry of the concession period in a state as specified in the concession agreement. The Feasibility cum Preliminary Design Report would thus provide all the technical details, based on which realistic bids are received from the prospective bidders.

The Feasibility studies have to be completed within 4 months from the signing of the agreement with the consultants. After completion of the feasibility cum preliminary design report, intermittent inputs will be required from the consultant in the form of assistance and coordination with Project Developers in preparation of the bidding documents, answering the technical queries during the pre-bid conferences, and clarifying the technical points that may arise after signing of the concession agreement and prior to the financial close.

1.2 A brief description of the assignment and its objectives are given in the enclosed Terms of Reference.

1.3 In case you consider that your firm possesses the requisite experience and the capabilities required for undertaking the assignment, you may submit a proposal in response to this invitation. The manner in which the proposals are required to be submitted, evaluated and accepted is explained in the enclosed 'Request for Proposal' (RFP) document.

1.4 You are encouraged to inform yourself fully about the assignment and the local conditions before submitting the proposal by paying a visit to PIDB and the project site, sending written queries to the PIDB. Please note that no costs of any such visit are reimbursable. The Bidders must acquaint themselves with the area as a whole, local site conditions and factors/parameters influencing the site surveys, studies and investigations. A pre bid conference will be held as specified in RFP. Attending pre bid conference is optional and

any clarification / request for consideration shall not be entertained later. PIDB/PWD (B&R) will provide the inputs as available with him and assist the Consultant in obtaining permissions/permits required to carry out surveys/services, site investigations and make available relevant project data and reports

- 1.5 No joint venture/association between firms is allowed.
- 1.6 Financial Proposals of only those consultants which are qualified in accordance with clause 5.1 hereof will be opened. The consultancy services will be awarded to the consultants on the basis of combined Evaluation of Technical and Financial proposals as per Clause 5.1.
- 1.7 Please note that (i) costs of preparing the proposal and of negotiating the contract, including visits to the site and to the PIDB (Client) etc., are not reimbursable as a direct cost of the assignment; and (ii) PIDB is not bound to accept any of the proposals submitted and reserves the right to reject any or all proposals without assigning any reasons. PIDB shall not be responsible or in any way liable for such costs/expenses, regardless of the conduct or outcome of the bidding process
- 1.8 The proposals must be properly signed as detailed below:
 - 1.8.1 i. by the proprietor in case of a proprietary firm
 - ii. by the partner holding the Power of Attorney in case of a firm in partnership (A certified copy of the Power of Attorney shall accompany the proposal).
 - iii. by a duly authorized person holding the Power of Attorney in case of a Limited Company or a corporation (A certified copy of the Power of Attorney shall accompany the proposal).

1.8.2 *deleted*

2. DOCUMENTS

- 2.1 To enable you to prepare a proposal, please find and use the attached Documents listed in the Data Sheet.
- 2.2 Consultants requiring a clarification of the Documents must notify PIDB, in writing, not later than 4 days before the Pre-bid conference. Any request for clarification must be made in writing and sent to the PIDB's address indicated in the Data Sheet through courier or fax. PIDB will respond in writing through fax or courier. Copies of the responses will be sent to all Consultants who have confirmed that they are submitting the proposal on receipt of this RFP document as mentioned in Clause 10. Pre Bid Conference- A Pre-Bid conference shall be held on 29 February 2008 at 1500 hrs in the Conference Room of Punjab Infrastructure Development Board (PIDB), SCO 89-90, Sector 34-A, Chandigarh to discuss various issues raised/ clarifications by Bidders. Attendance of the interested bidders at the Pre-bid conference is not mandatory.
- 2.3 At any time before the submission of proposals, the PIDB may, for any reason, whether at its own initiative or in response to a clarification requested by a Consulting firm, modify the Documents by amendment. The amendment will be notified in writing through fax to all consulting firms who have purchased the RFP document and will be binding on them. PIDB may at its discretion extend the deadline for the submission of proposals.

3. PREPARATION OF PROPOSAL

Your proposal shall be prepared in three separate parts, each to be contained in a separate cover as follows:

Cover 1: Documents in support of Proof of Eligibility

Cover 2: Technical Proposal

Cover 3: Financial Proposal

The information shall be furnished in the formats prescribed in Appendices I, II and III.

3.1 Proof of eligibility

3.1.1 The envelope marked “DOCUMENTS IN SUPPORT OF PROOF OF ELIGIBILITY” shall contain the following in the formats prescribed in **Appendix I of the Data Sheet**.

- (i) Firm’s experience:
- (ii) Firm’s turnover for the last 5 years supported by certified copies of audit reports
- (iii) The number of experienced key personnel in the regular employment with the firm.

3.1.2 The experience claimed in sub para (i) of the above para shall be in respect of completed projects and supported by certificates from clients and shall be more than the minimum specified in the Data Sheet. Certificate should indicate clearly the firms’ Design/DPR experience in expressways/full access controlled highways/4-lane National Highways with details of major structures like bridges, viaducts and interchanges. Scope of services rendered by the firm should be clearly indicated in the experience certificate obtained from the client.

3.1.3 The minimum essential requirement in respect of eligibility has been indicated in the Data Sheet. The proposals found deficient in any aspects of these requirements will not be considered for further evaluation.

3.2 Technical Proposal

3.2.1 The envelope marked the “Technical Proposal” shall contain all the information in the formats prescribed in Appendix II of the Data Sheet.

3.2.2 While submitting the technical proposal, the Consultant shall ensure the following:

- (i) *The composition of the proposed Team and Task Assignment to individual personnel shall be clearly stated*
- (ii) *No such key personnel shall be proposed for any position if the CV of the personnel does not meet the requirements of the TOR*
- (iii) *The key personnel shall remain available for the period indicated in the TOR*
- (iv) *No alternative proposal to any key personnel shall be made and only one CV for each position shall be furnished*
- (v) *Each CV needs to have been recently signed in blue ink by the key personnel and countersigned by the authorized official of the Firm. Photocopy or unsigned/countersigned CVs shall be rejected.*
- (vi) *Each CV shall contain the proof of age and qualification as well as an undertaking from the key personnel about his/her availability for the duration prescribed in the TOR and that he/she will not make himself/herself available for any other assignment during the said period*
- (vii) *The personnel proposed should not have attained the age of 65 years / 70 years as applicable (refer section 9 of the Terms of Reference) at the time of submitting the proposal*
- (viii) *The personnel proposed possess good working knowledge of English Language*
- (ix) *At least 25% of the key personnel are under employment with the firm on the date of*

submission of the proposal

- (x) *deleted*
- (xi) *In case a firm is proposing key personnel from educational/research institutions, a 'No Objection Certificate' from the concerned institution shall be enclosed with his CV*
- (xii) *Work programme, methodology and manning schedule are clearly stated*

3.3.3 Failure to comply with the requirements spelt out in para 3.3.2 shall make the proposal liable to be rejected and the evaluation of financial proposal shall not be undertaken. If an individual key personnel makes an averment regarding his qualification, experience, age, and it turns out to be false, or his commitment regarding availability for the project is not fulfilled at any stage after signing of the agreement, he shall be debarred for any future assignment in PIDB. The firm shall also be liable for its authorized representative counter signing a CV, which is subsequently found to contain false and misleading statements or claims.

3.3.4 The technical proposal must not include any financial information.

3.4 Financial Proposal

3.4.1 The envelope marked the "Financial Proposal" shall contain all the information in the formats prescribed in Appendix III.

3.4.2 While submitting the financial proposal, the Consultant shall ensure the following:

- (i) All the costs associated with the assignment shall be included in the proposal. These shall normally cover remuneration for all the staff (in the field, office etc), accommodation, transportation, equipment, printing of documents, surveys, geo-technical investigations etc. The total amount indicated in the financial proposal shall be without any condition attached or subject to any assumption, and shall be final and binding. In case any assumption or conditions is indicated in the financial proposal, it shall be considered non-responsive and liable to be rejected.
- (ii) The financial proposal shall take into account all types of the tax liabilities and cost of insurance specified in the Data Sheet
- (iii) Costs (including break down of costs) shall be expressed in Indian Rupees
- (iv) Consultants are advised to charge only rental of equipment/ software(s) use so as to economize in their financial bid.

4. SUBMISSION OF PROPOSALS

4.1 *The Applicants shall submit the details on issued/downloaded Application and in bound form with all pages numbered serially and by giving an index of submissions. Applications submitted in other forms like loose form etc shall be rejected. No copies of proposals shall be submitted.*

4.2 You must submit the proposal as indicated in the Data Sheet. Each proposal will be sealed in an outer envelope, which will bear the address and information indicated in the Data Sheet. The envelope must be clearly marked:

"Project Name....."

Do not open, except in presence of the Sectoral Sub Committee (Road Sector) of PIDB

4.2.1 This outer envelope will thus contain three separate envelopes, one clearly marked "DOCUMENTS IN SUPPORT OF PROOF OF ELIGIBILITY", the second envelope clearly marked "Technical Proposal" and the third clearly marked "Financial Proposal".

4.2.2 The technical and financial proposals must be prepared in indelible ink and must be signed

by the authorized representative of the consultants. The letter of authorization must be confirmed by a written power of attorney accompanying the proposals. All pages of the original technical and financial proposals must be numbered and initialed by the person or persons signing the proposal.

- 4.3 The proposal must contain no interlineations or overwriting except as necessary to correct errors made by the Consultants themselves, in which cases such corrections must be initialed by the person or persons signing the proposal.
- 4.4 Your completed proposal must be delivered on or before the time and date stated in the Data Sheet.
- 4.5 Your proposal must be valid for the number of days stated in the Data Sheet from the closing date for submission of proposals.

5. PROPOSAL EVALUATION

- 5.1 A three-stage procedure will be adopted in evaluating the proposal. In the first stage, eligibility of the firm will be ascertained on the basis of experience certificates, firm's turnover and other information required to be submitted in **Appendix I**. The firms failing to meet the minimum requirement will be rejected. In the second stage a technical evaluation will be carried out. Only those technical proposals, which score at least 75 points out of 100 shall be considered for financial evaluation in the third stage. The firms will be ranked using combined technical and financial scores, as indicated in the Data Sheet.

5.2 Evaluation of Technical Proposal

The Sectoral Sub Committee – SSC (Road Sector) of PIDB will carryout evaluation of technical proposals by applying the evaluation criteria and point system specified in the Data Sheet. Each responsive proposal will be assigned a Technical Score (S_T).

5.3 Evaluation of Financial Proposal

- 5.3.1 For financial evaluation, total cost of financial proposal will be considered. The evaluation would not include service tax, which is reimbursable.
- 5.3.2 The SSC will determine whether the financial proposals are complete, unqualified and unconditional. The cost indicated in the financial proposal shall be deemed as final and reflecting the total cost of services. Omissions, if any, in costing any item shall not entitle the firm to be compensated and the liability to fulfill its obligations as per the terms of reference within the total quoted price shall be that of the consultant. After the evaluation of technical proposal is completed, PIDB may notify those consultants whose proposals were considered non-responsive to this RFP and also, the consultants who have scored required 75 points in the technical evaluation. Financial Proposals of non-responsive bids will be returned unopened after completing the selection process. PIDB shall notify the consultants selected by the above process, indicating the date and time for opening the Financial Proposals. The Financial Proposals shall be opened publicly in the presence of the consultants' representatives who choose to attend. The quoted amount shall be read and recorded. The Committee will correct the computational errors, if any, and correct the prices in different currencies to the single currency specified in the Data Sheet. The official selling rates are to be provided by the source indicated in the Data Sheet. The evaluation shall exclude those taxes, duties, fees, levies and other charges imposed under the applicable law as applicable on foreign and domestic inputs. The lowest financial proposal (F_M) will be given a financial score (S_F) of 100 points. The financial scores of other proposals will be computed as follows:

$$SF = 100 \times F_M/F$$

(F = amount of financial proposal converted into the common currency)

5.4 Combined Evaluation of Technical and Financial Proposals

Proposals will finally be ranked according to their combined technical (S_T) and financial (S_F) scores using the weights indicated in the Data Sheet:

$$S = S_T \times T + S_F \times F$$

Where, T and F are weights assigned to technical and financial Proposals respectively as given in the Data Sheet.

6. NEGOTIATIONS

6.1 Prior to the expiration period of proposal validity the first ranked consultant shall be invited for negotiations. The negotiations shall generally not be for reducing the price of the proposal, but will be for reconfirming the obligations of the consultant under the terms of reference. However, the financial proposal is subject to rationalization. Such points as deployment of key personnel, corrections (if any) carried out in the cost of the financial proposal, the manner in which the consultant intends proceeding with the work, etc. shall be discussed during negotiations. In case the consultant fails to reconfirm its commitment, the next ranking consultant shall be called for negotiation. Negotiations will commence with discussion on technical proposal, the proposed methodology (work plan), staffing and any suggestions made to improve the TOR, the staffing and bar charts, which will indicate activities, staff, periods in the field and in the home office, staff months, logistics and reporting. Special attention will be paid to optimize the required outputs from the Consultants within the available budget and to define clearly the inputs required from the PIDB/PWD (B&R) to ensure satisfactory implementation of the Assignment. Changes agreed upon will then be reflected in the Contract agreement.

6.2 Having selected consultants, among other things on the basis of an evaluation of proposed key professional staff, the PIDB expects to negotiate, within the proposal validity period, a contract on the basis of the staff named in the proposal and, prior to contract negotiations except in cases of incapacity of key personnel for reasons of health, and expects that all the key personnel will be available during implementation of the contract. At the time of negotiation, if replacement of any of the key personnel is proposed, the implication of such change will be examined with respect to competitive position of the firm and any replacement will be approved only if the competitive position of the firm does not change. No replacement shall be permitted if the replacing personnel do not meet the minimum laid down criteria. PIDB will not normally consider substitutions during negotiations as the ranking of the consultant is based on the evaluation of the key personnel and any change therein may upset the ranking. The substitution, will, however be permitted, provided all such proposed substitution shall, however, be invariably by equal or better qualified and experienced personnel compared to the originally proposed key personnel.

6.3 *Deleted*

7. PERFORMANCE SECURITY

The consultant will furnish within 15 days of the issue of Letter of Acceptance (LOA), an unconditional irrevocable Bank Guarantee from a Scheduled Bank for an amount equivalent to 5% of the total contract value to be received by the consultant towards Performance Security valid for a period of *six months* beyond the date of completion of services. The Bank Guarantee (shall be extendable till the completion of civil contract works) shall be released by Punjab Infrastructure Development Board upon successful completion of services and rectification of errors if any, found during implementation of services for civil works and satisfactory report by the PWD (B&R).

8. INDEMNITY

The Consultant will indemnify for any direct loss or damage that accrue due to deficiency in services in carrying out Preparation of Feasibility cum Design Report (Project Report). Damages shall be imposed on the consultants for poor performance/deficiency in service as expected from the consultant and as stated in General Conditions of Contract.

9. AWARD OF CONTRACT

9.1 The Contract shall be awarded after successful Negotiations with the successful Consultants. If negotiations (as per para 6 above) fail, the PIDB may invite the second ranked Consultant for negotiations.

9.2 The selected Consultant is expected to commence the Assignment on the date and at the location specified in the Data Sheet.

10. CONFIRMATION

Consultants are expected to inform PIDB by telex / fax on receipt of the letter of invitation and confirm whether or not the Consultant will submit a proposal. A early reply in this regard would be appreciated.

DATA SHEET

(References to corresponding paragraphs of LOI are mentioned alongside)

1. Date and Time of Pre-Proposal Conference

Date: 27.02.2008 (11:00 hours)

Venue: Committee Room, Punjab Infrastructure Development Board, SCO 89-90 Sector 34 A, Chandigarh

(Ref. Para 1.4)

2. The Documents are:

- (i) Terms of Reference (TOR)
- (ii) Appendices
 - i. Appendix-I : Formats for Proof of Eligibility
 - ii. Appendix-II : Formats for Technical Proposal
 - iii. Appendix-III : Formats for Financial Proposal
- (iii) Draft Contract Agreement

(Ref. Para 2.1)

3. Address for Communication:

Managing Director,
Punjab Infrastructure Development Board
SCO 89-90, Sector 34 A, Chandigarh 160022

(Ref. Para 2.2)

4. The address of Project Developer:

W.R. Hari n' Raj, Senior Manager
#159 Sector 27A, Chandigarh – 160019
Phone: 91 172 2640775, Fax: 91 172 2640776

(Ref. Para 2.2, 4.2)

5. Tax liability

PIDB shall reimburse only service tax. Consultant has to assess all other taxes and should build them in their financial proposal. These taxes (other than service tax) should not be provided separately.

(Ref. Para 3.4.2 (ii))

6. The envelopes must be clearly marked:

- i. "ORIGINAL PROPOSAL"
- ii. DOCUMENTS IN PROOF OF ELIGIBILITY & TECHNICAL PROPOSAL or FINANCIAL PROPOSAL as Appropriate; and,
- ii. DO NOT OPEN, EXCEPT IN PRESENCE OF THE SECTORAL SUB COMMITTEE (Road Sector) on the outer envelope.
- iii. Project Name: Consultancy Services for Preparation of Feasibility – Cum – Preliminary Design Report for Mohali Expressway
- v. Name and Address of Consultant

(Ref. para 4.2)

7. The date and time of proposal submission are: 19th March 2008 (up to 1400 hrs)

(Ref. Para 4.4)

8. Proposal Validity period (days): 120 days (Ref. Para 4.5)

9. Evaluation criteria using Quality and Cost Based Selection (QCBS)

(Ref. Para 3 & 5)

10.1 First stage evaluation – Eligibility requirement of experience and the following information shall be provided for evaluation

(Ref. Paras 1.8.3, 3.1 & 5.1)

- i) Firm’s Experience of projects, firm’s turnover during the last five years and the number of key personnel in the regular employment of the firm in Forms I, II and III respectively of Appendix I. The certificates from the Clients in support of the experience claimed in Form I shall be furnished as per the sample format given in Form IV.
- ii) Eligibility criteria for sole applicant firm

S.No.	Project length for which proposals are invited	Minimum experience requirement in preparation of Detailed Project Report for expressway	Annual turnover												
1	Approximately 65 km	Firm should have experience of preparation of Detailed Project Report for expressways of aggregate length of 25 km or more; or minimum three highway projects of minimum 40 km length (at least four lane with central divider/ median) during last five years. .	Annual turnover (average of last 5 years or that of the preceding two years, whichever is higher) of the firm should be equal to or more than Rs. 10 Crore . Following adjustment factors will be used to bring the financial figures to a common base for the purpose of evaluation of annual average turn over. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Year before</th> <th>Multiplying factor</th> </tr> </thead> <tbody> <tr> <td>One</td> <td>1.10</td> </tr> <tr> <td>Two</td> <td>1.21</td> </tr> <tr> <td>Three</td> <td>1.33</td> </tr> <tr> <td>Four</td> <td>1.46</td> </tr> <tr> <td>Five</td> <td>1.61</td> </tr> </tbody> </table>	Year before	Multiplying factor	One	1.10	Two	1.21	Three	1.33	Four	1.46	Five	1.61
Year before	Multiplying factor														
One	1.10														
Two	1.21														
Three	1.33														
Four	1.46														
Five	1.61														

10.2 Second stage: Technical Evaluation

10.2.1 Evaluation of selected key personnel of the firms qualifying in the first stage will be carried out following a marking system. The selected Key Personnel for Evaluation are Team Leader, Sr. Transport Economist cum BOT Expert, Sr. Highway Engineer, Sr. Bridge Engineer, Sr. Traffic & Transportation Engineer, Sr. Material-Cum-Geo Technical Engineer, Sr. Survey Engineer, Sr. Environmental Specialist, Sr. Resettlement & Rehabilitation Specialist, Sr. Quantity Surveyor, Sr. Hydrologist, Sr. Operation System Expert. Each key personnel must score a minimum of 75 marks out of 100.

10.2.2 Rating System

The technical proposal will be evaluated on the basis of Firms Experience, the approach and methodology and the personnel. The criteria to be used for evaluation and working system to be followed shall be as given below:

SI No	Description	Points	Break-up details as given below
1	Firm’s Relevant Experience	20	
2	Adequacy of Approach and Methodology	10	
3	Qualification and Relevant Experience of the Proposed Key Personnel	70	
Total		100	

The number of points to be given under each of the evaluation criteria are:

(i) Firm’s relevant experience		Points
(a)	Specific experience of the firm in preparation of DPRs for expressways	15
(b)	DPR of Bridge/flyover having length more than 500 m	5
Total		20

(ii) Adequacy of Approach and Methodology		Points
(a)	Understanding of TOR	4
(b)	Quality of Approach and Methodology	4
(c)	Work Programme and Manning Schedule	2
Total		10

(iii) Qualification and relevant experience of the proposed key personnel	
Total Points	70

Sr. No.	Key Personnel	Points
1.	Team Leader	20
2.	Sr. Transport Economist cum BOT Expert	10
3.	Sr. Highway Engineer	10
4.	Sr. Bridge Engineer	8
5.	Sr. Traffic & Transportation Engineer	10
6.	Sr. Material-cum-Geo Technical Engineer	8
7.	Sr. Survey Engineer	9
8.	Sr. Environmental Specialist	5
9.	Sr. Resettlement & Rehabilitation Specialist	5
10.	Sr. Quantity Surveyor	5
11.	Sr. Hydrologist	5
12.	Sr. Operation System Expert	5
	Total	100

The weightage points given to evaluation sub-criteria for qualifications and competence of key staff are

Weightage Points for Key Professionals

Description	Weight (%)
General Qualification	25
Employment with firm	5
Relevant Experience and Adequacy for the Project	70
Total	100

11. Third stage -- Evaluation of financial proposal

Financial proposals of all the firms who qualify in Technical Evaluation will be evaluated as follows. The proposal with the lowest adjusted price will be awarded a financial score of 100 marks. Financial scores of other proposals shall be inversely proportional to their quoted prices. The formula used to calculate the financial scores will be:

$$S_F = 100 \times F_m / F$$

S_F is the financial score F_m is the price of the lowest priced proposal

F is the price of the proposal under consideration

- 11.1** Weight for Technical Proposal (T) shall be 80 percent and that for Financial Proposal shall be 20 per cent

(Ref. Para 5.4).

11.2 Combined Evaluation of Technical and Financial Proposals

Proposals will finally be ranked according to their combined technical (S_T) and financial (S_F) scores using the weights indicated in the Data Sheet:

$$S = S_T \times T + S_F \times F$$

Where, T and F are the weights for technical and financial Proposals respectively as given above.

- 12.** Commencement of Assignment (Date, Location): The Consultants shall commence the

services within seven days of the date of effectiveness of the contract at locations as required for the project stretch stated in TOR.

(Ref. Para 9.2)

APPENDIX-I

(Formats for Proof of Eligibility)

(Form-I)

Firm's Experience

S. No.	Name of the Project	Name & address of Client with tel. no.	Total length of expressway/fully access controlled highway/4 lane (km)	Cost of consultancy (in Rs.)	Date of Start and Date of Completion	Experience as sole firm/ lead partner in a JV/ other partner in a JV/ associate	Brief scope of work
1.							
2.							
3.							
4.							
5.							

(Form-II)

Firm's turnover for the last 5 years (certified copies of the audit reports to be enclosed)

S. No.	Financial Year	Turnover (Rs. in crore)
1.	2002-03	
2.	2003-04	
3.	2004-05	
4.	2005-06	
5.	2006-07	
	Total Turnover	
	Average Turnover	
	(1) 5 years average	
	(2) Preceding 2 years average	

(Form-III)

Sl. No.	Number of experienced key personnel in regular employment with the firm	Number of Years
1.		More than 1 year
2.		More than 5 years
3.		More than 10 years

(Form IV)

This is to certify that M/s ----- have satisfactorily completed the Detailed Project Report of -----(name of the project, length) in (location, etc) at a cost of -----. The services commenced on ---- and completed on -----. The services included ----bridges, ---- flyovers, ---- grade separators and ---- interchanges, each having a total length more than 500 m.

Signature and Stamp of Client

Appendix-II
(Formats for Technical Proposal)
(Form-I)
TECHNICAL PROPOSAL

FROM: TO:

Sir:

Subject: Hiring of Consultancy Service for _____

Regarding Technical Proposal

I/We _____ Consultant/ Consultancy firm herewith enclose Technical Proposal for selection of my/our firm/organization as Consultant for _____.

Yours faithfully,

Signature _____

Full Name _____

Designation _____

Address _____

(Authorized Representative)

(Form-II)

DETAILS OF OTHER PROJECTS FOR WHICH TECHNICAL AND FINANCIAL PROPOSALS HAVE BEEN SUBMITTED

Sl. No.	<i>Name of Project</i>	Name of the Agency	Names of Proposed Key Personnel
1			
2			
3			
4			

Appendix-II

(Form-III)

FIRM'S REFERENCES

Relevant Services Carried out Which Best Illustrate Qualifications

The following information should be provided in the format below for each reference assignment for which your firm, either individually as a corporate entity or as one of the major companies within a consortium, was legally contracted by the client stated below:

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 USD) :
Name of Association 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 :		

Signature of Authorised Representative (Certificate from Employer regarding experience should be furnished)

Appendix-II

(FORM-IV)

CONSULTANT NAME:

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

The approach and methodology will be detailed precisely under the following topics.

- 1) Composition of the team [not more than ½ of a page]
- 2) Methodology for services, surveying, data collection and analysis [not more than two pages]
- 3) Quality Assurance system for consultancy assignment [not more than a page]

Note: 1) Marks will be deducted for writing lengthy and out of context approach and methodology for the assignment.

(Form-V)

COMMENTS/ SUGGESTIONS OF CONSULTANT

On the Terms of Reference:

- 1
- 2
- 3
- 4
- 5

On the Data, services and facilities to be provided by the Client indicated in the Terms of Reference.

- 1
- 2
- 3
- 4
- 5

(Form-VI):

Composition of the Team Personnel and the tasks, which would be assigned to each Team Member

1. Technical/Managerial Staff

S.No.	Name	Position	Task Assignment
1			
2			
3			
4			
..			
..			

2. Support Staff

S.No.	Name	Position	Task Assignment
1			
2			
3			
4			
..			
..			

(Form-VII)

Format of Curriculum Vitae (CV) For Proposed Key Staff

- 1 Proposed Position: _____
- 2 Name of Staff: _____
- 3 Date of Birth: _____ **(Please furnish proof of age)**
- 4 Nationality: _____
- 5 Educational Qualification:

(Summarize college/university and other specialized education of staff member, giving names of schools, dates attended and degrees obtained). **(Please furnish proof of qualification)**
- 6 Membership of Professional Societies: _____
- 7 Publications:

(List of details of major technical reports/papers published in recognized national and international journals)
8. Employment Record:

(Starting with present position, list in reversed order, every employment held. List all positions held by staff member since graduation, giving dates, names of employing organization, title of positions held and location of assignments. For experience *period of specific assignment must be clearly mentioned*, also give client references, where appropriate).
9. Summary of the CV (Furnish a summary of the above CV. The information in the summary shall be precise and accurate. The information in the summary will have bearing on the evaluation of the CV).
 - a. Education:
 - i. Field of Graduation and year
 - ii. Field of post graduation and year Any other specific qualification
 - b. Experience
 - i. Total experience in highways: _____ Yrs
 - ii. Responsibilities held :
 - i. _____ Yrs.
 - ii. _____ Yrs.
 - iii. _____ Yrs.

iii. Relevant Experience : _____ Yrs.

c. Permanent Employment with the Firm (Yes/No): If yes, how many years : If no, what is the employment : Arrangement with the firm ?

10. Details of the current assignment and the time duration for which services are required for the current assignment.

Certification :

1 I am willing to work on the project and I will be available for entire duration of the project assignment and I will not engage myself in any other assignment during the currency of my assignment on the project

2 I, the undersigned, certify that to the best of my knowledge and belief, this biodata correctly describes myself my qualification and my experience.

Signature of the Candidate _____

Place _____ Date _____

Signature of the Authorized Representative of the firm _____

Place _____ Date _____

Note: Each page of the CV shall be signed in blue ink by both the staff member and the Authorized Representative of the firm. Photocopies will not be considered for evaluation.

(Form-VIII)

WORK PROGRAM AND TIME SCHEDULE FOR KEY PERSONNEL MONTHS (in the form of Bar Chart)

Sl. No.	Name	Position	Report Due/ Activities	Months												Number of Months
1															Sub Total (1)	
2															Sub Total (2)	
3															Sub Total (3)	
4															Sub Total (4)	
...																

Field Full : Part Time : Reports Due: Activities : Duration :

(Form-IX)

**FIELD INVESTIGATION
(1st, 2nd etc. are months from the date of assignment)**

S. N	Item of Work / Activities	Months											
1													
2													
3													
..													

COMPLETION AND SUBMISSION OF REPORTS

S.No.	Reports	Programme
	(As per TOR)	
1		
2		
3		
4		
..		

(Form – X) Format for furnishing additional information as per TOR

S.No.	Details of activity	<i>To be Carried out / prepared by (Name/Designation)</i>	To be Checked/ Verified by (Name/Designation)
1	Fixation of all TBM's		
2	Physical surveys (give separate details for various studies)		
3	Traffic studies (give separate details for various studies)		
4		
5		
6		

(in column 2 all relevant activities since inception to the completion of study should be covered)

**Appendix-III
(Formats for Financial Proposal)**

**(Form-I)
FINANCIAL PROPOSALS**

FROM: TO:

Sir:

Subject: Hiring of Consultants' Services for

_____ Regarding Price Proposal

I/We _____ Consultant/consultancy firm herewith enclose

*Price

Proposal for selection of my/our firm/organization as Consultant for _____

Yours faithfully, Signature _____ Full Name _____

Designation _____ Address _____ (Authorized Representative)

***The Financial proposal is to be filled strictly as per the format given in RFP.**

(Form-II) Format of Financial Proposal Summary of Cost

No.	Description	Amount
I	Remuneration for Staff (inclusive of per diem allowance)	
II	Supporting Staff (inclusive of per diem allowance)	
III	Transportation	
IV	Duty Travel to Site	
V	Office Rent	
VI	Office Supplies, Utilities and Communication	
VII	Office Furniture and Equipment (Rental)	
VIII	Reports and Document Printing	
IX	Surveys & Investigations	
X	Topographical Survey	
A	Investigations	
B	Providing Assistance to successful DBFO Bidder	
	Total cost net of service tax**	
	Service Tax	
	TOTAL COSTS (Including Service Tax)	

** Total Cost Net of Service Tax shall be considered for financial evaluation

Note: No escalation will be payable during the services

Insurances shall not be allowed separately. These will be incidental to main items. Rates for all items shall be quoted in figures as well as in words.

(Form-III) Estimate of Costs

I. Remuneration for Staff (including per diem allowance)

S.No.	Position	Name	Rate	Staff Months	Amt.
	Professional Staff				
1					
2					
3					
4					
5					
	Sub-Total:				
	Sub-Professional Staff	(To be assessed by Consultant as per requirement of assignment)			
1					
2					
3					
4					
5					
	Sub-Total:				
	TOTAL				

II. Support Staff

No.	Position	Name	Staff Months	Billing Rate()	Amount()
1	Office Manager				
2	Typist				
3	Office Boy				
4	Night Watchman				
				Total :	

III. Transportation (Fixed rates)

S.No	Description	Qty.	Nos. of months	Rate/ Month	Amount
1	The vehicles provided by the Consultants shall include the cost for rental, drivers, operation, maintenance, repairs, insurance, etc. A. For use of consultants				
	Total				

IV. Duty Travel to Site (Fixed rates)

Trips	NO	Rate	Amount

V. Office Rent (Fixed rates) The rent cost includes maintenance, cleaning, repairs, etc. ___ months
 x Total

VI. Office Supplies, Utilities and Communication (Fixed rates)

No. Item	Item	Months	Monthly Rate	Amount in Rs.
1. 2. 3. 4.	Office Supplies Drafting Supplies Computer Running Costs Domestic and International Communication			

TOTAL : -----

VII. Office Furniture and Equipment (Rental)

No.	Description	Unit	Quantity	Rate ()	Amount ()
1	Office Furniture and Equipment		LS		
				Total	

VIII. Reports and Document Printing

No.	Description	No. of Copies	Rate per Copy (Rs.)	Amount (Rs.)
1	Inception Report	6		
2	Draft Feasibility Report	6		
3	Draft Environmental Impact Assessment (EIA) Report	6		
4	Draft Social Impact Assessment Report (SIAR)	6		
5	Draft Resettlement Action Plan (RAP)	6		
6	Feasibility cum Preliminary Design	6		
7	Land Plan Schedule (LPS)	6		
8	Bid documents	6		
9	VGF documents	6		

IX Survey and Investigation

A. Topographical Survey (Fixed Rate)

Item	km	Rate per km (Rs.)	Amount (Rs.)
Topographic Survey including hire charges for equipment (GPS, Total Station, Auto Level etc.,) and supply of survey Teams comprising of project survey filed staff etc. inclusive of cost of materials , laborers and construction of BM, (satellite imagery, aerial photogrammetry if considered necessary) etc. complete			

B. Investigations (Fixed cost)

No.	Description	Quantity	Amount (Rs.)
1	Material Survey and Investigation	L.S.	
2	Sub-grade Investigation	L.S.	
3	Traffic Survey	L.S.	
4	Socio-economic & Census Survey/Studies	L.S.	
5	Land Acquisition Studies	L.S.	
6	Any other investigations/surveys	L.S.	
7	* Sub-Soil Investigation (Boring)	Rate	Qty
	a) Boring in all type of soils (other than hard rock) b) Boring in hard rock		Amount (Rs)
Total			

*Note: * Quantities of borings shall be taken from Financial Proposal Form No.V. For financial evaluation, these quantities and rates quoted by the consultant will be considered. However, Payment shall be made on the actual quantity of boring at rates quoted above by the Consultant, which may be substantially more or less than the estimated quantities.*

(Form –IV)

TENTATIVE QUANTITIES FOR SUB-SOIL INVESTIGATIONS (BORING)

Cumulative Tentative Quantities (in m)

(i) In soils other than hard rock 4,000

(ii) In hard rock 1,000

**CONSULTANCY SERVICES FOR PREPARATION OF FEASIBILITY-CUM-
PRELIMINARY DESIGN REPORT FOR MOHALI EXPRESSWAY TO BE EXECUTED
AS BOT (TOLL) PROJECT ON DBFO PATTERN**

Terms of Reference for Consultancy Services (TOR)

1. General

1.1 Department of Public Works Government of Punjab has decided to take up the development of Mohali Expressway to facilitate high speed travel, which carries one of the highest volumes of commercial traffic along the existing route (Ambala – Zirakpur – Pinjore – Baddi), i.e the National Highway NH 22. The expressway will be a fully access controlled facility constructed on a new alignment. Punjab Infrastructure Development Board (PIDB) has been entrusted with the task of implementation of the project. PIDB has accordingly decided to take up the preparation of feasibility cum preliminary design report for the project by engaging the services of consultants of repute who have considerable experience and exposure in the field of expressway development and operation. These Terms of Reference are for the Technical Consultants for preparation of Feasibility Report-cum-Preliminary Design Report. In preparing the bid documents each of these consultants shall provide quality inputs in their respective fields of specialization and complement the efforts of the other consultants through close co-ordination and mutual interaction. Project Developers will assist PIDB in appraising the project, inviting the bids, answering pre-bid queries and negotiating (if necessary) with the winning bidder

1.2 The time-line for the accomplishment of various activities will be as follows:-

(a)	Between month 0 and 1	Submission of Inception Report
(b)	Between month 1 and 2	Submission of Alignment Plans and Land Plan Schedule
(c)	Between month 2 and 3	Submission of Draft Feasibility Report
(d)	In Month 3 and 4	Submission of Final Feasibility Cum Preliminary Design Report

The consultants are required to adhere to this time line.

1.3 The Technical Consultant shall prepare the plans, L-sections, cross-sections and details of other facilities, which will eventually form part of the concession agreement and the technical schedules to the agreement. The consultant will not be responsible for the detailed design of the project components, but will be fully responsible for the constructability and feasibility of the proposed layouts, preliminary designs and detailing. But for the relative economics of the solutions proposed by the consultant vis-à-vis other solutions, which the concessionaire may propose, the feasibility of these solutions should not be a matter of debate. Where these are questioned by the concessionaire at any stage from the bidding stage to financial close, it will be the consultant’s responsibility to fully defend the solutions proposed by him.

1.4 The consultant shall also be fully responsible for the accuracy of the physical and ground

details, such as alignment, grade, right of way details, abutting land use, and existing features.

- 1.5 While detailed design shall not be the responsibility of the consultant, it shall be fully responsible for recognizing the concern of PIDB to provide on operationally efficient and safe highway within the constraints of site, and for presenting innovative design solutions to be followed by the concessionaire, which fully address these concerns. The consultant shall specify in clear terms the design, construction, operation and maintenance options that would be considered acceptable under the concession agreement. Similarly, the consultant shall also specify as to what kind of options shall not be permissible.
- 1.6 In order for the concessionaire to fully appreciate his responsibility under the concession agreement at the construction, operation and transfer stage and the prospective bidders to prepare realistic bids, the consultants shall provide a complete dimensioned layout of the proposed project superimposed on the detailed site plans. The consultant shall supplement the proposed layout with explanatory drawings, statements, charts, notes, etc. and estimate component-wise preliminary costing. In other words, the Feasibility Report shall contain sufficient information, on one hand based on which the Financial Consultant can accurately appraise the project before the bids are invited, the concessionaire, on the other hand can do his due diligence before tying up the funds for the project.
- 1.7 The Consultant shall assist the Project Developers by furnishing the clarifications, as required for proper appraisal. Once the bid documentation is released, the consultant shall prepare answers to the written queries made by the bidders on the technical aspects of the bid documents. During pre-bid conference, the consultant would be one of the participants and would present and clarify the technical parameters of the project. The consultant shall also assist in drafting the minutes of the pre-bid meetings to be issued by the client. After award of the concession agreement and prior to financial close, the Independent Engineer will be in place. During this period there may a necessity for clarifications on some technical issues. The consultant shall prepare responses to such requests within the framework of the concession agreement.
- 1.8 Government of Punjab has finalized a Draft Concession Agreement (MCA) which will form the basis for invitation of bids. The DCA has Schedules, which will be forming integral part of the Concession Agreement. These Schedules describe the project site, the project facilities, the Standards and Specifications etc. The Consultant shall prepare these Schedules.

2. Objectives

- 2.1 The main objective of the consultancy services is to establish the feasibility of an expressway corridor between Lalru and Baddi on the basis of technical, economic and financial viability of the project and thereafter prepare feasibility cum preliminary design report for construction of the expressway along the selected alignment. Based on the feasibility cum preliminary design report, bidding documents will be prepared for inviting bids for award of BOT concession on DBFO Pattern for the construction, operation and maintenance of the expressway. The proposed expressway shall be minimum 3x2 lane with central median with provision to expansion upto 5x2 lanes at later date as dictated by traffic requirement in future. The expressway will include the service lanes, wherever warranted. The recommendations towards exact Right of way (ROW) shall be included in

the Report. The tentative alignment (as appended) as considered crosses major roads including major highways, major rivers and canals, railway lines and village roads etc. and it is envisaged that suitable proposals with detailed recommendations as regards Interchanges, Flyovers/grade separators, Bridges, ROBs, Under/overpasses shall be included in the Report. The alignment is to be selected in a way that least abadi's/structures are disturbed and/or involved. All field data/studies shall be carried out in coordination with PWD (B&R) and data so collected shall be got authenticated from the said staff. It is to clarify that the Consultants shall review the tentative alignment prepared by PWD (B&R) for selection of final alignment on the basis of technical, economic and financial viability. The detailed studies for Feasibility and Designs shall be undertaken on the approved alignment. The requisite land plans along the approved alignment shall be prepared and submitted immediately on approval of proposed alignment.

- 2.2 Government of Punjab has reserved a corridor for construction of the expressway. As far as possible, the alignment of the expressway should be accommodated within the said corridor.
- 2.3 The expressway is planned for development as a fully access controlled facility. Therefore, all the entry, exits and crossings have to be planned accordingly. Appropriate measures have to be suggested for mitigating the effects of property and community severance and circulation of the local and access traffic. Service roads where necessary shall also be planned and designed.
- 2.4 Drainage pattern of the area should be kept undisturbed, natural environment, human habitation and heritage sites have to be fully protected.
- 2.5 Safety in design, construction and operation of the expressway has to be fully integrated while planning the facility. Infrastructure for user amenities, operation and maintenance, incident management and user information system will be an integral part of the study.
- 2.6 The expressway will be developed as a BOT project. Therefore, a modern automatic toll collection system with state-of-the art technology and Highway Traffic Management system (HTMS), Intelligent Transport System (ITS) etc. will be included in the project.

2.7 **Deliverables**

The consultant shall deliver the following: A.. **Feasibility-cum-preliminary design report (FCPDR)**

This shall consist of the following:

I. Sets of drawings a) various possible alignment options for the choice of the preferred alignment b) a strip plan showing the location and layout of the entire expressway including the facilities c) A set of detailed Alignment Plans, L-sections, cross-sections of the expressway, bridges, culverts, interchange loops and ramps, overpasses/underpasses and approaches which can be used for the purpose of bidding d) detailed layout of facilities and their approach/access from the expressway e) Indicative GADs of structures f) detailed traffic circulation plans for interchanges, facilities, access/cross roads g) A land plan schedule for acquisition of land required for expressway and land required for facilities such as toll plazas, rest/ service areas, control centers etc

II. Investigation Reports

- (a) Soil investigation reports as required for preliminary design of the project.
- (b) Traffic survey report on
 - (i) Classified traffic volume counts and PCUs.
 - (ii) Past trend growth and future growth projections
- (c) Public consultation report
- (d) Social and Environmental Impact Assessment Reports

- III. Preliminary design Report
 - (i) Cross-sectional element and geometry
 - (ii) Traffic and toll forecasting
 - (iii) Pavement design
 - (iv) Drainage design
 - (v) preliminary design and GADs for structures
 - (vi) Traffic operation and safety plan
 - (vii) Highway Traffic Management System
 - (viii) Operation and maintenance system
- IV. Land Plan schedules
 - (i) Land required for construction of expressway
 - (ii) For Additional facilities
- V. Utility Relocation Plans
 - (i) Utility –wise plans
 - (ii) Cost estimates
- VI. Preliminary Costing
 - (a) Preliminary estimation and costing

B. Technical Schedules to the Concession Agreement

Schedules A [Site of the Project], B [Development of the Project Highway], C [Project Facilities], D [Specifications and Standards], G [Project Completion Schedule], K [Maintenance Requirements]

C. Assistance in preparation of BOT bid documents.

- (1) Assisting financial and legal consultant in appraisal
- (2) Preparation of all documentation relating to technical schedules to the concession agreement

D. Assistance in pre-bid meetings and bidding process on technical issues

- (1) Preparation of answers to the bidders' queries
- (2) Preparation of minutes of the pre-bid meetings
- (3) Evaluation of bids

3. Scope of Services

The feasibility of the expressway has to be established by a comprehensive transport demand study for the corridor, assessment of the investment needs for construction of the expressway, revenue generation potential of the facility and financial return from the project if constructed and maintained on a BOT format. The feasibility study will be followed by preparation of Feasibility cum Preliminary Design Report, which shall contain detailed planning of the expressway facility including operational planning, detailed survey and investigation, design and costing. Eventually, the BOT bids under DBFO format will be called on the basis of the Feasibility cum Preliminary Design Report.

The scope of services shall include but not limited to:

A. Feasibility Study

The Consultants shall undertake this study considering various alignment options, transport demand in the corridor, capacity requirements and revenue potential of the expressway and carryout viability analysis for the estimated cost, without limiting to the following:

- i Estimation of total transport demand on the Mohali Expressway alignment, to arrive at the diverted traffic, traffic Assignment of the passenger and freight movement to various alternative routes (e.g., existing route and the expressway route) has to be presented in terms of both total movement as well as individual vehicular movement. Break up of the total of freight has to be broadly commodity-wise. While estimating the traffic on the proposed expressway, the consultants shall take into consideration
 - The traffic generation due to operation of proposed International Airport at Mohali
 - Dversion of traffic from existing NH-22 to proposed Expressway around Mohali from Lalru (NH-22) to NH-95 & NH-21 (after Kharar) and connecting Baddi in Himachal Pradesh.
 - Generation of traffic due to economic activities within the project influence area and the region
- ii Projection of the total as well as individual vehicular traffic using both corridor trend growth and growth based on socioeconomic parameters and elasticity factors including as a result of setting up of international airport at Mohali has to be made. This will include the diverted and generated traffic / induced traffic / developmental traffic.
- iii The split of the total traffic after including for projections as a result of setting up of international airport at Mohali has to be determined. For passenger movement, the split has to be in terms of cars and public transport vehicles (buses) and for freight movement this has to be in terms of Light commercial vehicles, two axle trucks, multi-axle trucks and container tractor/ trailer. Based on the present and projected vehicular traffic and results of diversion analysis, the need for construction of an expressway of adequate capacity and cross-section (i.e. 4 or 6 lane) has to be established based on the capacity norms of IRC/MORTH and other international standards such as AASHTO, TRB etc.
- iv The selection of the expressway alignment has to be done after reviewing the tentative alignment prepared by PWD (B&R)/PIDB and accordingly proposing the alternative/modified alignment considering their relative merits and demerits including technical, safety and cost estimates etc. While identifying and appreciating the proposed alignments all physical and non-physical constraints shall be considered including following:
 - a) Obligatory Points (crossing points on main arterial roads
 - b) Geometric of tentative alignment
 - c) Restrictions due to present land use e.g. abides etc
 - d) Restrictions due to proposed /planned land use
 - e) Environment restrictions
 - f) Presence of services and utilities
 - g) Historical monuments, archaeological and religious sites
 - h) Possible development of Interchanges and Grade separators/Flyover at junctions/crossings
 - i) Possible development of pedestrian subway, vehicular underpasses, cattle crossings etc.
 - j) Drainage conditions and Flood zones
 - k) Geo-technical and geological conditions
 - l) Straight reach of river/drain u/s and d/s of the proposed site to ensure uniform distribution of discharge and velocity.

- v Alignment selection shall not be done without a thorough study of the corridor features through maps, satellite imageries etc. Along the selected alternate alignment/s based on thorough study of satellite images reconnaissance surveys shall be undertaken by walking along the alignments by tracing latitude and longitude using hand held GPS to identify physical and non physical constraints and where required modification in alignment shall be marked. The alignment shall be so arrived and geometrically controlled to allow speed of 120 kmph. The reconnaissance survey shall include in addition to other relevant data:
- a) Assessment of existing land use along the project road
 - b) Type of terrain
 - c) Drainage of the area and study of existing cross drainage works
 - d) Identification of obstructions and encroachments
 - e) Highest subsoil water level
 - f) Highest flood levels and extent of inundation, if any
 - g) Character of embankment foundations, presence of any unstable strata
 - h) Any particular construction problem

The details of proposed structures across existing roads, rivers, canals, railway lines etc. along with entry, exit and approaches shall be duly examined and planned. The aspect of service roads in various reaches for approach shall also be considered and planned. More particularly, the drainage pattern of the corridor has to be carefully studied before selecting the alignment to ensure that the construction of the expressway embankment does not cause heading up, water logging or submergence of human habitation and property. It will be an extremely important aspect of the study to ensure that the surface runoff obstructed by the expressway embankment is properly diverted to the streams where it is destined to, by a system of longitudinal drains discharging into these streams. Environmentally and ecologically sensitive areas, water bodies, forests and heritage structures shall be identified through the satellite imageries and the alignment should not pass through such areas in general. As far as possible, acquisition of agricultural land should be minimized and alignment taken through wasteland. The existing abadi's and habitation areas are least disturbed.

- vi Preliminary cost estimation of the expressway based on the alignment and cross-section shall be done. Through a willingness to pay survey an acceptable toll rate shall be determined. Based on the inputs given by the Consultants, the financial viability of the expressway for the assessed cost and potential revenue shall be verified by Project Developers. The financial support required, if any, for bridging the viability gap shall also be estimated.

B. Preliminary Design

The Consultants shall develop as a part of these services a set of design standards appropriate for expressway which will eventually form Schedule D. Based on these standards, the consultants shall undertake the preliminary design considering the soil and material availability, geometric design standards, hydraulic investigations, operational requirements of the expressway and facilities etc, without limiting to the following:

- vii The detailed topographic survey of the alignment shall be done using total station and GPS and will be produced in both electronic format (in X,Y,Z coordinate system) and hard copies. Plans, longitudinal sections and cross-sections shall be prepared to the scale prescribed in IRC/ MOSRTH standards. All the existing and proposed features, such as land-use, limits of right-of-way, embankment, structures, intersecting roads, existing

utilities, interchange loops and ramps, access roads, wayside amenities, toll plazas, operation and maintenance infrastructure, safety structures, etc, shall be shown on kilometer-wise plans. Control stations will be established along the staked out alignment using Total Station by running a closed traverse. The x, y and z co-ordinates for each station shall be recorded with respect to the values of the traverse stations and all features within 80 m of proposed centerline on either side shall be accurately picked up and properly coded. Longitudinal sections shall be carried out along the centre-line of staked alignment at 50 m interval and at 25 m interval where there is change in horizontal and vertical profile, proposed location of interchanges, Grade Separators/Flyovers, underpasses, pedestrian subways/crossings, cattle crossings, bridges and cross drainage works etc. Cross-sections shall be taken at every 50m-interval upto 80m on both sides from centerline of the staked alignment. At locations of Interchanges, Flyovers/Grade Separator cross sections of adequate width shall be taken. For defined irrigation channels and other drainage or natural streams, cross section shall be taken at proposed location and 250m and 500m in stream direction on upstream and down stream

- viii The width of the right of way for the expressway shall be determined on the basis of the proposed cross section and future expansion needs, Additional land as required for interchanges, structures, way side amenities, toll plazas, and operation and maintenance infrastructure etc. Preparation of Land Plan Schedules for taking up the acquisition by Government of Punjab shall be an important part of the service. These schedules shall be prepared on the basis of revenue maps and shall include the details of survey number coming under acquisition. Land Acquisition Plans (LAP) with width of 100m shall be prepared with due reference to revenue plans showing structures, trees and other relevant features to be acquired. LAP shall include the additional land requirement for the construction of structures/interchanges/grade separators etc. which may be beyond 100m width. Details of revenue record shall be incorporated and land areas to be acquired shall be listed out in terms of revenue record e.g. village, hadbast, khasra nos., and type of land etc. In addition plans shall be prepared showing existing utilities both overhead and underground, details of obstructions and encroachments, and compensatory afforestation etc. in detail
- ix Detailed Soil and material survey shall be carried out after identifying the material sources, preferably after consulting the satellite imageries. The study shall include plans for rehabilitation of borrow areas and quarries from which construction materials will be extracted. Subsoil investigation shall be carried out as per IRC and BIS codes for design of structures.
- x Detailed hydraulic investigations shall be done for the design of drainage and cross drainage structures. Hydraulic design of structures shall be for the maximum floods of 100 year return period. The hydraulic investigations shall supplement the data obtained through satellite imageries. The design discharge shall be determined using various methods (e.g.: Area – velocity method, Catchment area method, Unit Hydrograph method)
- xi The expressway geometry shall be designed for a speed of 120 km per hour. Loops and ramps shall be designed considering the speed differential of the expressway traffic and traffic on the intersecting roads so as to ensure that merge and diverge operations on expressway and intersecting roads are smooth and safe. The geometry of the expressway shall be such that it would have smooth flowing horizontal and vertical alignments with proper combinations of curvature, tangents and grades to enhance the safety and aesthetic aspects of the expressway. Expressway cross-section shall have liberal central reservation, where at least two lane on each carriageway could be added for future expansion, as and

- when traffic warrants such expansion. The cross-section shall include paved shoulders on either side of each of the carriageways, the widths of which shall be decided on the basis of traffic and international best practice. The cross section shall also include the Service Lanes, wherever required along the alignment of the expressway.
- xii Emergency crossovers shall be provided, where the interchange spacing is high, to avoid extreme adverse travel for emergency and law enforcement vehicles. Maintenance crossovers shall also be provided to facilitate maintenance operations. The width of the crossovers shall be sufficient to provide safe turning movements.
- xiii Pavement shall be designed typically for repetition of wheel loads in terms of standard axles over a period of 15 years as per IRC standards. Bridges and culverts shall be designed for IRC loading class 70 R and for seismic forces for appropriate zones as per latest codal practice.
- xiv Wayside amenities shall be proposed at appropriate locations along the expressway and have facilities such as parking, toilet, rest areas, restaurants, fuel station, expressway information and communication facilities, telephones, emergency medical aid facilities etc. The entire complex has to be conveniently laid out and beautifully landscaped.
- xv Toll plazas shall be proposed with adequate number of traffic lanes based on the traffic volume and an acceptable service time of not more than 10 seconds at the toll booth. The analysis shall be carried out through the principles of queuing theory. Dedicated lanes for electronic toll collection and manual toll collection shall be provided. The plazas can be planned on the main line expressway or off- line.
- xvi A dedicated operation and maintenance centre shall be planned at appropriate locations for accommodating the traffic control centre, offices for operation and maintenance staff, a trauma centre, a maintenance base or yard with equipment and material for carrying out emergency maintenance, parking for rescue vehicles (cranes, etc.), patrol vehicles, ambulances, rest places for personnel on night shift duty, a restaurant or canteen, etc.
- xvii All the expressway facilities, such as carriageway, wayside amenities, toll plazas, operation and maintenance bases, shall be planned with focus on safe and efficient operation of the facilities, the essential features of which shall be complete access control, traffic safety and mobility, smooth toll operation, quick response incident management, and maintaining an acceptable level of service. While doing so, the interest of the local communities, who may suffer from property or community severance, denied access and other adverse environmental fall outs of the expressway construction, shall be protected. Community consultation shall therefore, be an essential part of the scope of the consultancy service.
- xviii Highway Traffic Management System (HTMS) & Intelligent Transport System (ITS) shall be designed and proposed along with all requisite safety measures and for the facilitation of users as per best international practices. The integrated traffic management system will help in improving level of service and increasing safety by (a) allowing for prompt detection and removal of expressway incidents and vehicle breakdowns; (b) providing accurate and timely expressway incident and delay information to users and (c) effectively managing peak hour traffic flow through innovative traffic control devices. The expressway management system will comprise of closed circuit televisions, variable message signs, weigh-in-motion systems, classified traffic volume count devices, vehicle detector systems, communication systems, central computer systems, ambulances, patrol vehicles etc.
- xix Environmental Impact Assessment (EIA), Resettlement Action Plan (RAP) and preparation of all documentation for all the clearances, such as environment and forest, utility agencies and other Government or local authorities shall be prepared. Social Impact Assessment and Resettlement Action Plan (RAP) shall contain results of community consultations and address issues like property and community severance, access and easement needs of local

population, loss of livelihood, property etc. These concerns shall be incorporated at the design stage and dealt with in the Resettlement action plan. The Resettlement Action Plan shall include survey results of project affected persons (PAPs) and plan and implementation for compensating and rehabilitating the PAPs in accordance with State Policy on Resettlement and Rehabilitation.

xx Detailed Cost Estimate shall be based on finalized Bill of Quantities (BOQ) and current Schedule of Rates. The cost Estimate so worked out have to be firm unless under unforeseen circumstances. The Bill of Quantities shall have to be based on detailed quantity estimates as arrived from detailed design and dimensions for all elements of structures. The rates adopted shall be the current Schedule of Rates applicable for the area with due reference to quarry site and wherever items are not covered by the schedule, the rate for the same shall be based on detailed analysis of rates. Provision for specific items at site shall be duly supported by description and analysis thereof. It shall also include cost estimate towards development of way side amenities and other facilities etc. along with likely revenues and detailed recommendation and regards their incorporating in the project.

xxi Economic & Financial Analysis

I Economic Analysis

(a) The Consultants shall carry out economic analysis for the project. The analysis should be for each of the sections covered under this TOR. The benefit and cost streams should be worked out for the project using HDM-IV or other internationally recognized life-cycle costing model.

(b) The economic analysis shall cover but be not limited to be following aspects:

- i. *assess the capacity of existing roads from where the traffic is likely to be diverted to proposed road and the effects of capacity constraints on vehicle operating costs (VOC);*
- ii. *calculate VOCs for the existing road (as mentioned above) situation and those for the project;*
- iii. *quantify all economic benefits, including those from reduced congestion, travel distance, road maintenance cost savings and reduced incidence of road accidents; and,*
- iv. *estimate the economic internal rate of return (EIRR) for the project over a 30-year period. In calculating the EIRRs, identify the tradable and non-tradable components of projects costs and the border price value of the tradable components.*
- v. *Saving in time value.*

Economic Internal Rate of Return (EIRR) and Net Present Value (NPV), “with” and “without time and accident savings” should be worked out based on this cost-benefit stream. Furthermore, sensitivity of EIRR and NPV worked out for the different scenarios as given under:

Scenario - I

Base Costs and Base Benefits

<i>Scenario - II</i>	<i>Base Costs plus 15% and Base Benefits</i>
<i>Scenario - III</i>	<i>Base Costs and Base Benefits minus 15%</i>
<i>Scenario - IV</i>	<i>Base Costs plus 15% and Base Benefits minus 15%</i>

The sensitivity scenarios given above are only indicative. The Consultants shall select the sensitivity scenarios taking into account possible construction delays, construction costs overrun, traffic volume, revenue shortfalls, operating costs, exchange rate variations, convertibility of foreign exchange, interest rate volatility, non-compliance or default by contractors, political risks and force majeure.

- (c) The economic analysis shall take into account all on-going and future road and transport infrastructure projects and future development plans in the project area.

II Financial Analysis

- a. The Consultants shall study the financial viability of the project under a commercial format and under different user fee scenarios and funding options. The Consultants shall submit and finalize in consultation with the PIDB/PWD (B&R) officers the format for the analysis and the primary parameters and scenarios that should be taken into account while carrying out the commercial analysis. The financial model so developed shall be the property of PIDB.
- b. The Financial analysis for the project should cover financial internal rate of return, projected income statements, balance sheets and fund flow statements and should bring out all relevant assumptions. The sensitivity analysis should be carried out for a number of probabilistic scenarios. The financial analysis should cover identification, assessment, and mitigating measures for all risks associated with the project. The analysis shall cover, but be not limited to, risks related to construction delays, construction costs overrun, traffic volume, revenue shortfalls, operating costs, exchange rate variations, convertibility of foreign exchange, interest rate volatility, non-compliance or default by contractors, political risks and force majeure

xxii As the reports submitted by the consultant shall from the basis for preparation of the bidding documents, all the essential elements thereof shall be proposed in various sections/stages of the report. These elements shall include, inter-alia,

- (a) Design standards for the expressway components.
- (b) Operation standards including real time traffic information, monitoring, contract, incident management.
- (c) Safety standards including lighting of appropriate areas (interchanges, toll plazas, wayside amenities, operation base, etc.), safety during maintenance operations/incident management, inclement weather, ventilation and lighting of tunnel (if any).
- (d) Maintenance standards for all the facilities, appropriate levels of maintenance, timing/frequency of maintenance interventions.
- (e) Specifications, testing methods and acceptance criteria for design, construction, maintenance and operation.

C. Bidding documents

The Consultant shall prepare the Technical Schedules to the Model Concession Agreement, assist in preparation of bidding documents and framing replies to the queries raised in the pre-bid conference etc, without limiting to the following:

- xxiii The Draft Concession Agreement for finalized by the Government of Punjab shall be the basis for bidding. The Schedules to the Draft Concession Agreement shall be prepared by the consultant in accordance with the provisions of the Feasibility cum Preliminary Design Report, duly incorporating the documents on the alignment, detailed design, construction, operation and maintenance standards, etc
- xxiv The Consultant shall assist PIDB/PWD (B&R) in the pre-bid conference and framing replies to the queries raised therein.
- xxv The financial analysis shall be done by Project Developers The Consultant under these TOR shall provide inputs to Project Developers on construction option, construction maintenance and operation costs, traffic forecast, toll rates, etc, which will be used by Project Developers to financially appraise the project.
- xxvi Consultant shall provide requisite information in the prescribed format as laid down by Planning Commission and assisting the PWD (B&R)/PIDB in seeking Viability Gap Funding (VGF) from PPP Cell-Planning Commission/Ministry of Finance, Govt. of India in conformity to procedure as may be prescribed from time to time.

D. Post-award queries

During the development period of six months (i.e. between signing of the concession agreement and financial close), the Independent Engineer has to review the drawings submitted by the concessionaire. The Consultant shall be required to coordinate with the PWD (B&R) /PIDB and furnish clarifications, if necessary, on whether such drawings confirm to the basic approach followed in the bidding document.

4. Data / survey requirements

Major requirements of data/surveys for the tasks to be accomplished in course of the consulting services are enumerated below, but the surveys shall not be limited to these.

Primary data collection:

- A. Traffic data
 - (i) Origin- destination survey of the vehicular traffic at appropriate locations
 - (ii) Willingness to pay survey for toll charges
 - (iii) Classified traffic volume counts for determining actual vehicular traffic flow along the homogeneous sections of the existing route and possible diversion to the proposed expressway
 - (iv) Classified traffic volume counts for determining actual cross traffic flow along the cross roads/ intersections together with turning movements
 - (v) Vehicle speed distribution and journey time on existing roads having similar origin destinations as that of the proposed expressway – the data shall be considered specifically for carrying out economic analysis.
 - (vi) Speed - flow relationship and the existing level of service
 - (vii) Axle load survey along the existing route and suitably factor the Vehicle Damage Factor while designing the proposed expressway

All surveys shall be carried out in accordance with guidelines specified in IRC: 9-1972, IRC 102-1988, SP19 2001 and International practice.

- B. Deleted
- C. Map Study
 - (ix) Topographic maps
 - (x) Satellite imageries
- D. Topographic survey
 - (xi) Reconnaissance survey
 - (xii) Detailed topographic survey of the right-of-way of the reserved alignment and facility areas including survey of the existing utilities and other physical features using high precision instruments
- E. Hydraulic and Hydrologic surveys
 - (xiii) River/stream course and cross-section
 - (xiv) Bed slopes
 - (xv) Bed and bank materials
 - (xvi) High flood levels, Low water levels and discharge velocity
 - (xvii) Scour/silting
 - (xviii) Rainfall characteristics
- F. Geotechnical survey
 - (xix) Survey for borrow areas and material properties, Availability of Flyash for embankment construction
 - (xx) Subsoil investigation at the location of structures
 - (xxi) Shear, compaction and consolidation characteristics of the soils and other pavement materials
 - (xxii) Survey for ground improvement, if necessary
- G. Market survey
 - (xxiii) Unit costs of construction inputs
 - (xxiv) State of the art traffic management systems
- H. Social surveys
 - (xxv) Resettlement and rehabilitation of Project affected persons
 - (xxvi) Community and property severance
 - (xxvii) Access needs of the communities

Secondary data collection

- (i) Published reports of demographic and socio-economic studies of the region and the corridor, transport studies carried out or published, actual and forecast growth of the economy of the region, elasticities of transport demand
- (ii) Survey of existing toll rates on various facilities
- (iii) Cost and savings functions for traffic diversion and willingness to pay toll
- (iv) Records of floods, earthquakes and other calamities
- (v) Records of accidents
- (vi) Existing and proposed land uses within the corridor
- (vii) Revenue records of land coming within the right-of-way and for facilities
- (viii) Data book of MOSRTH and the Schedule of Rates of the State Governments

- (ix) Environmental features of the corridor and policies on mitigation measures
- (x) Rehabilitation and resettlement policies of the Government, Recommendations for any changes and modifications in Rehabilitation and Resettlement policy of the Government
- (xi) Inputs from Government agencies, local bodies and the NGOs active in the areas regarding present and future development plans in the area

Community consultation

Detailed community consultation shall be carried out and the concerns of the community to be addressed in the proposal

Land Plan Schedules

Detailed Land Plan Schedules shall be prepared indicating the revenue survey numbers and land ownership for facilitating acquisition of land

Environmental clearance

Environmental Impact Assessment shall be prepared and presented to the authorities concerned. Proposals for mitigating measures shall be prepared, and necessary clearances obtained

Analysis and design

Analysis of the data and preliminary design of various features shall be based on the relevant IRC/ BIS codes, MOSRTH guidelines, other acceptable international standards and best Indian and international practices in the field

Quality Assurance Plan (QAP)

A detailed Quality Assurance Plan (QAP) for all surveys, investigation, planning, design and costing shall be prepared and submitted before start of the services. The QAP shall define the personnel responsible for carrying out various tasks/activities and the procedures for checking and approval of the activity.

5. Reports

Reports to be submitted by the consultant under the study shall be as follows:

- (1) Draft Inception Report: This shall contain a quality assurance plan, detailed description of the approach to be followed, study framework and breakdown of major tasks into various modules or subtasks and the manner in which these will be accomplished, status/programme of mobilization of personnel and activity charts.
- (2) Draft feasibility Report: This shall contain
 - (a) Transport and traffic demand studies, projection of traffic on the new expressway, capacity creation needs,
 - (b) *Deleted*
 - (c) Preliminary lay out of the expressway interchanges/flyover/ ROBs/bridges, cross drainage works, fencing, over/underpasses, wayside amenities, toll plaza, operation and maintenance base, expressway information and management system, ITS & HTMS etc,
 - (d) Preliminary design of cross-section and geometry, pavement, bridges and

- structures, interchanges, toll plaza, wayside amenities and parking areas, safety measures, operation and maintenance infrastructure, etc.
- (e) Preliminary costing and phasing of expenditure
 - (f) Willingness to pay survey results and acceptable toll rates
 - (g) Economic analysis using HDM-IV
 - (h) Financial analysis including sensitivity analysis (cost increasing and revenue decreasing scenarios).
- (3) Draft Environmental Impact Assessment (EIA) report: This shall contain potential impact of the project on the environment, identification of mitigation measures, preparation of an Environment Management Plan (EMP) along with organizational structure for implementation and the costing of the measures.
- (4) Draft Social Impact Assessment report:
This shall contain the results of community consultations and address issues like property and community severance, access and easement needs of the local population, loss of employment, livelihood, property, etc. These concerns will have to be (a) incorporated in the detailed planning at the Preliminary Design stage, and (b) shall be separately dealt with in the Resettlement Action Plan.
- (5) Draft Resettlement Action Plan (RAP):
This shall contain the survey results of the Project Affected Persons (PAPs) and include the plan and implementation mechanism for compensating and rehabilitating the PAPs in accordance with the national policy on Resettlement and Rehabilitation.
- (6) Draft Feasibility cum Preliminary Design Report :

This shall contain the complete planning, design and costing of all the facilities both for construction stage as well as operation stage and shall be based on detailed surveys, investigation, proposed technologies, systems and standards, (conforming to IRC, MORT&H, BIS, AASHTO and relevant International standards as amended up to date) as indicated below:

Volume 1: A detailed Report on planning of the expressway and other facilities.
This shall be supported with scale strip plans.

Volume 2: A detailed Report on the operation of the Expressway and other facilities. This shall explain (i) the traffic management system on the expressway including real time traffic management, (ii) safety measures to be provided (e.g. signs including variable message signs, marking, delineations, fencing, Highway Traffic Management System (HTMS), Intelligent Transport System (ITS) etc, (iii) the logistics at each facility (e.g. wayside amenities, toll plazas, etc) and for each activity (e.g., maintenance operation, rescue and relief operation, expressway patrol, access of workers, staff and supplies to various facilities, movements in and out of various parking lots for staff cars, maintenance and patrol vehicles, rescue and relief vehicles, ambulances, etc)

Volume 3: A Design Standard and Preliminary Design Report for various elements indicating the design methodologies, assumptions, standards and the design data. (all the survey data should be given in the appendices)

Volume 4: Typical drawings showing plans, longitudinal sections, cross sections of the expressway, facility layout, General Arrangement of structures,

operation systems layouts, services layouts and drawings, etc. All the drawings shall be properly referenced and shall be in both electronic and hard copy formats.

Volume 5: Preliminary costing of each component, supported with sources for input rates and analyses of rates; breakdown of quantities

Volume 6: This shall include detailed Economic & Financial analysis

Volume 7: Final Environmental Impact Assessment (EIA) Report, Social Impact Assessment Report and Resettlement Action Plan (RAP)

(Each draft version of the reports shall be followed up with the final version after incorporating the modifications and clarifications furnished by the client. The client is expected to take about a month in indicating its response. Notwithstanding the comments of the client, the Consultant shall remain responsible for the quality and accuracy of the submissions made by the Consultants.)

- (7) Land Plan schedule (LPS): This shall contain the details of revenue survey numbers and the names of the owners of the land which would come under acquisition
- (8) Technical Schedules: The technical schedules to the concession agreement shall be prepared by the consultant.
- (9) Bid documents: This shall contain Schedules to the Draft Concession Agreement finalized by PIDB/PWD (B&R) for this work, containing technical details of the expressway facility such as alignment plans, design standards for each component of the expressway facility, operation & maintenance standards as well as O&M Manual for each component of the expressway facility etc. for the purpose of inviting BOT bids.
- (10) VGF documents: This shall include all the requisite documents required for seeking the Viability Gap Funding (VGF) from Planning Commission/PPP Cell-Ministry of Finance in conformity to procedure as may be prescribed from time to time

7. Time period for the service and payment schedule

The total duration for preparation of Feasibility Report-cum Preliminary Design Report shall be 4 months only during which the Consultant shall put in continuous inputs. However, intermittent inputs will be required from the consultant during the bidding process. The consultant shall estimate the cost of these intermittent inputs and build it into their financial proposals. Irrespective of the availability, or otherwise of the key personnel beyond the period of four months, it shall be the responsibility of the consultant to provide these intermittent inputs as per these terms of reference. The Consultant shall be paid 75 % of his fees at the completion of Stage 1 and the remaining on completion of Stage 2 activities as per schedule below:

S. No.	Description	Days	Payment
	STAGE I		
1.	Submission of Inception Report and QAP	7	15%
	Payment 1		15 %
2.	Submission of Final Alignment & Land Acquisition Plans	45	10%
	Payment 2		10%
3.	Submission of Draft Feasibility Report and Social Impact Assessment	60	10 %
4.	Submission of Draft EIA & RAP reports	60	5 %
5.	Submission of Final Feasibility Report	70	5 %
6.	Submission of Final EIA, EMP and R&R reports	75	5 %
	Payment 3		25%
7.	Submission of the Final Project Report	105	20 %
8.	Submission of Bid documents and VGF Documents	120	10 %
9.	Approval of Final Report including all studies/reports/drawings/documents etc.		10 %
	Payment 4		40%
	STAGE II		
10.	Receipt of communication from PPP Cell, GoI regarding VGF		10%
	Payment 5		10%
	TOTAL		100 %

Note: Consultants have to provide a certificate that all the key personnel as envisaged in the Contract Agreement have been actually deployed in the projects. They have to furnish the certificate at the time of submission of their invoice to PIDB from time to time.

8. Project Team and Project Office of the Consultant

The Consultant shall establish a Project Office, which would be able to cover the entire 400 km and other field offices at suitable locations in the corridor, which shall be appropriately equipped, staffed and networked.

9. Qualification and Experience of the Key Personnel

The Consultant shall field a Team of highly experienced and skilled professionals, who can handle the tasks in the most professional manner. The qualification and experience of the key personnel will determine to a large extent the competitiveness in the Quality and Cost based selection procedure.

(i) Team Leader (One):

He would lead the multidisciplinary team of professionals engaged on the project and, therefore, should have a clear perception of the manner in which a quality service can be delivered within the stipulated time. With a clear understanding of the complexities and intricacies of the tasks involved, he should be able to plan, coordinate, guide, inspire and motivate the Team members and those of Sub-

Consultants engaged for the purpose to accomplish the tasks assigned to them. He should be a professional of stature who could command the respect of the team. He shall be responsible to scrutinize the completed Project Report from design, structural, economic, financial, aesthetics, feasible and environmental considerations.

He should have led a team involved in planning and project preparation of access-controlled expressway projects of not less than 25 km or at least 4-lane National Highway/Expressways of aggregate 100km Length. Additional experience in expressway design, construction supervision, and/or operation and management will be an added advantage. He should have proven record as Team Leader for preparation of large project

He should at least be a Graduate in Civil Engineering with not less than 20 years experience. Post-graduate qualification in Highway Engineering, or Traffic and Transportation Engineering, or a related discipline will be an added advantage.

(ii) Senior Transport Economist cum BOT Expert

He would be responsible for transport demand estimation and assignment of the traffic onto the expressway. He would lead the traffic and transport survey team, model the traffic growth and revenue generation, and with capacity and cost inputs from other team members, will carry out the financial analysis and sensitivity analysis.

He should be a Transport Economist of not less than 12 years experience. He should have a proven track record in the field of transport planning, modeling, appraisal of transportation projects, pricing of transport infrastructure, and financial modeling. He should have experience of planning and feasibility study of at least one mega transport project of value not less than Rs.300.0 crores

He should be a Post Graduate in Economics with specialization in transportation, or a Post Graduate in Transportation Engineering with specialization in Transport Economics

(iii) Senior Traffic and Transportation Engineer (One)

He would be responsible for assessing the capacity needs, planning and design of interchanges, over/underpasses, access and service roads, toll plazas, wayside amenities, safety measures, operational infrastructure, lighting, highway traffic management system (HTMS), Intelligent Transport System (ITS), traffic management system, logistics of various operations, etc.

He should be a Traffic Engineer and /or transport planner engaged in planning and design of fully access-controlled expressways of not less than 25 km or at least 4-lane National Highway/Expressways of aggregate 100km Length. Additional experience in the field of design

He should be a Graduate in Civil Engineering having not less than 12 years experience, with Postgraduate qualification in Traffic and Transportation Engineering.

(iv) Senior Survey Engineer (Two)

He would be responsible for the reconnaissance survey, detailed survey of the alignment, right-of-way, rivers/ streams, and way facility locations and transferring the ground data on to the maps.

He should be a Civil Engineer with not less than 12 years of experience of which not less than 5 years should be in an organization/ team involved in topographic survey of major projects. He should have been involved in the topographic survey of at least two major highway projects of length not less than 50 km each. He should be proficient in the use and application of modern survey methods and equipment, like total stations, GPS, interpretation of satellite and remote sensed data.

(v) Senior Highway Engineer (Two):

He should be a Highway Engineer of not less than 12 years experience engaged in planning and design of access controlled expressways of not less than 100 km aggregate length. Additional experience in the field of design, construction or operation of expressways will be an added advantage.

He would be responsible for the planning, layout and geometric design of the expressway, design of pavement, drainage systems, interchanges, toll plazas, safety measures, access control measures, wayside amenities, etc.

He should be a graduate in Civil Engineering with not less than 12 years experience

(vi) Senior Material-cum-Geotechnical Engineer (One)

He would be responsible for all the geotechnical investigations for construction of pavement and structures, identification of borrow areas and quarries, testing and evaluation of the materials to be handled and used in construction.

He should be a geotechnical engineer of not less than 12 years experience engaged in geotechnical investigations, ground improvement techniques, material testing and evaluation for construction of major highway projects of not less than 100 km aggregate length (at least 4-lane National Highway / Expressways). Additional experience as a part of design/supervision team of major highway projects will be an added advantage.

He should be a Post Graduate in geotechnical engineering. Qualification in rock mechanics will be an added advantage.

(vii) Senior Hydrologist (One)

He would be responsible for estimation of discharge of various rivers and streams, their flow patterns, intensity and frequency of flooding, river training and bank protection needs, scouring/silting characteristics of the streams and the bed materials, assessment of requirement and design details of drains for surface and subsurface drainage etc.

He should be a hydrologist having experience of not less than 10 years in the

field of hydrology and hydraulic design of structures, model studies, river training and protection works, etc. He should have experience of hydraulic design of at least three major bridges each of which of length not less than 500m and should be engaged in this field for not less than 5 years. Additional experience on projects of similar complexities will be an added advantage.

He should be a civil engineer with post graduate qualification in hydrology/water resources engineering.

(viii) Senior Quantity Surveyor (Two)

He would be responsible for the estimation of the quantities and costs of various components of the project.

He should be a civil engineer of not less than 12 years experience of which not less than 8 years should be in the estimation of major highway projects of length not less than 100 km aggregate length (at least 4-lane National Highway / Expressways). Additional experience on projects of similar complexities will be an added advantage.

He should be a graduate in civil engineering.

(ix) Senior Bridge Engineer (One)

He would be responsible for preliminary structural design of all bridges and structures and choice of appropriate construction technology.

He should be a civil engineer of not less than 12 years experience in the field of bridge engineering and should have been responsible for the analysis and design of at least three major structures each of which of length not less than 500m in length and should have been engaged in design of elevated highways, interchange structures, reinforced earth retaining walls, earth retaining structures, etc. for a period of not less than 5 years. Additional experience on projects of similar complexities will be an added advantage.

He should be a post graduate in structural/bridge engineering.

(x) Senior Environmental Specialist (One)

He would be responsible for environmental impact assessment, environmental management plan, implementation mechanism and interaction with the concerned authorities. He would also be responsible for preparing documents for obtaining the clearances of the appropriate authorities.

He should have experience in environmental assessment and environment management of major highway projects of at least 100 km aggregate length (at least 4-lane National Highway / Expressways). He should have at least 5 years experience in this field. Additional experience on projects of similar complexities will be an added advantage.

He should be a post graduate in environmental engineering/science.

(xi) Senior Resettlement and Rehabilitation Specialist (One)

He would be responsible for the social impact assessment of the project, addressing the community needs after community consultation, survey of project affected persons and measures to rehabilitate/compensate/assist them.

He should have experience in the field of resettlement and rehabilitation for not less than 5 years and have handled the resettlement and rehabilitation issues in at least three major highway projects each of which of length not less than 10 km (at least 4-lane National Highway / Expressways). Additional experience on projects of similar complexities will be an added advantage. He should be a post graduate in sociology/ social engineering.

(xiii) Senior Operation System Expert (One)

He would be responsible for planning and designing of latest electronic toll system, automatic vehicle counting system, automatic vehicle classification system, installation of traffic control centers, variable message signs, highway communication system, highway traffic management system (HTMS), Intelligent Transport System (ITS) highway communication system etc.

He should be an graduate electronics engineer not less than 10 years professional experience. Out of which he should have minimum 5 years experience in the above-mentioned fields.

The age of the following key personnel should not be more than 65 years at the time of submission of the proposal.

(i) Sr. Survey Engineer (ii) Sr. Highway Engineer (iii) Sr. Bridge Engineer (iv) Sr. Material cum Geotechnical Engineer (v) Sr. Environmental Specialist and (vi) Sr. Resettlement and Rehabilitation Specialist

The age of the other key personnel should not be more than 70 years at the time of submission of the proposal.

10. Manning Schedule: This shall be as follows:

S.No	Key Personnel	Total Time Period (man month)
1	Team Leader	4
2	Sr. Highway Engineer	4
3	Sr. Bridge Engineer	4
4	Sr. Traffic & Transportation Engineer	4
5	Sr. Material-cum-Geo-technical Engineer	4
6	Sr. Survey Engineer	8
7	Sr. Environmental Specialist	4
8	Sr. Resettlement & Rehabilitation Expert	4
9	Sr. Quantity Surveyor	8
10	Sr. Hydrologist	4
11	Sr. Operation System Expert	4
	Total	52

11 The Consultant shall maintain an Attendance Register to be signed by each individual key personnel at site as well as at Head Office. The Consultant shall furnish certificate that all the key personnel as envisaged in the Contract Agreement have been actually deployed in the Project at the time of submission of their bills to the PIDB from time to time.

Appendix -E

DRAFT CONTRACT AGREEMENT

Between

Punjab Infrastructure Development Board
SCO 89-90, Sector 34-A,
Chandigarh

AND

M/s

For

Consultancy Services for preparation of Feasibility cum
Preliminary Design Report For MOHALI Expressway

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Appendix I: Terms of reference containing, inter-alia, the Description of the Services and Reporting Requirements

Appendix II: Consultants' Sub consultants, Key Personnel and Sub Professional Personnel, Task assignment, work programme, manning schedule, qualification requirements of key personnel, schedule for submission of various report.

Appendix III: Minutes of Financial/ Contract Negotiations with the Consultants

Appendix IV: Copy of letter of acceptance

Appendix V: Form of Bank Guarantee for Performance Security

Appendix VI: Form of Bank Guarantee for Advance Payment

CONTRACT FOR CONSULTANTS' SERVICES

Consultancy Services for preparation of Project Report for

MOHALI Expressway

This CONTRACT (hereinafter called the "Contract") is made on the ----- day of the month of -----2008, between, on the one hand, Punjab Infrastructure Development Board, SCO 89-90, Sector 34-A, Chandigarh (hereinafter called the "Client") and, on the other hand,----- (hereinafter called the "Consultants").

WHEREAS

A) the Client has requested the Consultants to provide certain consulting services as defined in the General Conditions attached to this Contract (hereinafter called the "Services");

(B) the Consultants, having represented to the Client that they have the required professional skills, personnel and technical resources, have agreed to provide the Services on the terms and conditions set forth in this Contract;

NOW THEREFORE the parties hereto hereby agree as follows:

1. The following documents attached hereto shall be deemed to form an integral part of this Contract:
 - (a) The General Conditions of Contract (hereinafter called "GC");
 - (b) The Special Conditions of contract (hereinafter called "SC");
 - (c) The following Appendices:
 - Appendix I: Terms of reference containing, inter-alia, the Description of the Services and Reporting Requirements
 - Appendix II: Consultants' Sub consultants, Key Personnel and Sub Professional Personnel, Task assignment, work programme, manning schedule, qualification requirements of key personnel, schedule for submission of various report.
 - Appendix III: Minutes of Financial/ Contract Negotiations with the Consultants
 - Appendix IV: Copy of letter of acceptance
 - Appendix V: Form of Bank Guarantee for Performance Security
 - Appendix VI: Form of Bank Guarantee for Advance Payment
2. The mutual rights and obligations of the Client and the Consultants shall be as set forth in the Contract; in particular:
 - (a) the Consultants shall carry out the Services in accordance with the provisions of the Contract; and

- (b) the Client shall make payments to the Consultants in accordance with the provisions of the Contract.

IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be signed in their respective names as of the day and year first above written.

FOR AND ON BEHALF OF Witness
(Punjab Infrastructure Development Board)

1. Signature

Name
Address

By

Authorized Representative

2. Signature

Name
Address

FOR AND ON BEHALF OF Witness
(Consultant)

1. Signature

Name
Address

By

Authorized Representative

2. Signature

Name
Address

GENERAL CONDITIONS OF CONTRACT

1. GENERAL PROVISIONS

1.1 Definitions

Unless the context otherwise requires, the following terms whenever used in this Contract have the following meanings:

- (a) “Applicable Law means the laws and any other instruments having the force of law in the State of Punjab and India as they may be issued and in force from time to time;
- (b) “Contract” means the Contract signed by the Parties, to which these General Conditions of Contract are attached, together with all the documents listed in Clause 1 of such signed Contract;
- (c) “Effective Date” means the date on which this Contract comes into force and effect pursuant to Clause GC 2.1;
- (d) “Foreign currency” means any currency other than the currency of the Government;
- (e) “GC” means these General Conditions of Contract;
- (f) “Government” means the Government of the Client’s country;
- (g) “Local currency” means the currency of the Client’s country;
- (h) “Member”, in case the Consultants consist of a joint venture of more than one entity, means any of these entities, and “Members” means all of these entities;
- (i) “Personnel” means persons hired by the Consultants or by any Sub consultant as employees and assigned to the performance of the Services or any part thereof;
- (j) “Party” means the Client or the Consultants, as the case may be, and Parties means both of them;
- (k) “Services” means the work to be performed by the Consultants pursuant to this Contract for the purposes of the Project, as described in Appendix A hereto;
- (l) “SC” means the Special Conditions of Contract by which these General Conditions of Contract may be amended or supplemented;
- (m) “Sub-consultant” means any entity to which the Consultants subcontract any part of the Services in accordance with the provisions of Clause GC 3.7;
- (n) “Third Party” means any person or entity other than the Government, the Client, the Consultants or a Sub-consultant.

1.2 Relation between the Parties

Nothing contained herein shall be construed as establishing a relation of master and servant or of agent and principal as between the Client and the Consultants. The Consultants, subject to this Contract, have complete charge of Personnel performing the Services and shall be fully responsible for the Services performed by them or on their behalf hereunder.

1.3 Law Governing the Contract

This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Applicable Law.

1.4 Language

This Contract has been executed in the language specified in the SC, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract.

1.5 Headings

The headings shall not limit, alter or affect the meaning of this Contract.

1.6 Notices

1.6.1 Any notice, request or consent required or permitted to be given or made pursuant to this Contract shall be in writing. Any such notice, request or consent shall be deemed to have been given or made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent by registered mail, telex, telegram or facsimile to such Party at the address specified in the SC.

1.6.2 Notice will be deemed to be effective as specified in the SC.

1.6.3 A party may change its address for notice hereunder by giving the other Party notice of such change pursuant to the provisions listed in the SC with respect to Clause GC

1.7 Location

The Services shall be performed at such locations as are specified in Letter of Acceptance (Appendix-D) hereto and, where the location of a particular task is not so specified, at such locations, whether in India or elsewhere, as the Client may approve.

1.8 Authority of Member in Charge

In case the Consultants consist of a joint venture of more than one entity, the Members hereby authorize the entity specified in the SC to act on their behalf in exercising all the Consultants' rights and obligations towards the Client under this Contract, including without limitation the receiving of instructions and payments from the Client.

1.9 Authorized Representatives

Any action required or permitted to be taken, and any document required or permitted

to be executed, under this Contract by the Client or the Consultants may be taken or executed by the officials specified in the SC.

1.10 **Taxes and Duties**

The Consultant, Sub-Consultants and their personnel shall pay such direct and indirect taxes, duties fees and other impositions levied under the Applicable Law the amount of which is deemed to be included in the Contract Price.

2. **COMMENCEMENT, COMPLETION, MODIFICATION AND TERMINATION OF CONTRACT**

2.1 **Effectiveness of Contract**

This Contract shall come into force and effect on the date of the Client's notice to the Consultants instructing the Consultants to begin carrying out the Services and signing of the Contract by both the parties. This notice shall confirm that the effectiveness conditions, if any, listed in the SC have been met. The date the Contract comes into effect is defined as the Effective Date.

2.2 **Termination of Contract for Failure to Become Effective**

If this Contract has not become effective within such time period after the date of the Contract signed by the Parties as shall be specified in the SC, either Party may, by not less than four (4) weeks' written notice to the other Party, declare this Contract to be null and void, and in the event of such a declaration by either Party, neither Party shall have any claim against the other Party with respect hereto.

2.3 **Commencement of Services**

The Consultants shall begin carrying out the Services not later than 15 days after the Effective Date.

2.4 **Expiration of Contract**

Unless terminated earlier pursuant to Clause GC 2.9 hereof, this Contract shall expire when services have been completed and all payments have been made at the end of such time period after the Effective Date as shall be specified in the SC.

2.5 **Entire Agreement**

This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.

2.6 **Modification**

Modification of the terms and conditions of this Contract, including any modification of the scope of the Services, may only be made by written agreement between the Parties. Pursuant to Clause GC 7.2 hereof, however, each party shall give due consideration to any proposals for modification made by the other Party.

2.7 Force Majeure

2.7.1 Definition

(a) For the purposes of this Contract, “Force Majeure” means an event which is beyond the reasonable control of a Party, and which makes a Party’s performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible in the circumstances, and includes, but is not limited to, war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other adverse weather conditions, strikes, lockouts or other industrial action (except where such strikes, lockouts or other industrial action are within the power of the Party invoking Force Majeure to prevent), confiscation or any other action by government agencies.

(b) Force Majeure shall not include (i) any event which is caused by the negligence or intentional action of a Party or such Party’s Sub-consultants or agents or employees, nor (ii) any event which a diligent Party could reasonably have been expected to both (a) take into account at the time of the conclusion of this Contract ; and (b) avoid or overcome in the carrying out of its obligations hereunder.

(c) Force Majeure shall not include insufficiency of funds or failure to make any payment required hereunder.

2.7.2 No Breach of Contract

The failure of a Party to fulfill any of its obligations hereunder shall not be considered to be a breach of, or default under, this Contract insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event has taken all reasonable precautions, due care and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this Contract.

2.7.3 Measures to be Taken

(a) A party affected by an event of Force Majeure shall take all reasonable measures to remove such Party’s inability to fulfill its obligations hereunder with a minimum of delay.

(b) A party affected by an event of Force Majeure shall notify the other Party of such event as soon as possible, and in any event not later than fourteen (14) days following the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give notice of the restoration of normal conditions as soon as possible.

(c) The Parties shall take all reasonable measures to minimize the consequences of any event of Force Majeure.

2.7.4 Extension of Time

Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

2.7.5 Payments

During the period of their inability to perform the Services as a result of an event of

Force Majeure, the Consultants shall be entitled to be reimbursed for additional costs reasonably and necessarily incurred by them during such period for the purposes of the Services and in reactivating the Services after the end of such period. The amount decided by the Managing Director, Punjab Infrastructure Development Board shall be final and binding.

2.7.6 Consultation

Not later than twenty one (21) days after the Consultants, as the result of an event of Force Majeure, have become unable to perform a material portion of the Services, the Parties shall consult with each other with a view to agreeing on appropriate measures to be taken in the circumstances.

2.8 Suspension

The Client may, by written notice of suspension to the Consultants, suspend all payments to the Consultants hereunder if the Consultants fail to perform any of their obligations under this Contract, including the carrying out of the Services, provided that such notice of suspension (i) shall specify the nature of the failure, and (ii) shall request the Consultants to remedy such failure within a period not exceeding fifteen (15) days after receipt by the Consultants of such notice of suspension.

2.9 Termination

2.9.1 By the Client

The Client may, by not less than thirty (30) days' written notice of termination to the Consultants (except in the event listed in paragraph (f) below, for which there shall be a written notice of not less than sixty (60) days), such notice to be given after the occurrence of any of the events specified in paragraphs (a) through (f) of this Clause 2.9.1, terminate this Contract:

- (a) if the Consultants fail to remedy a failure in the performance of their obligations hereunder, as specified in a notice of suspension pursuant to Clause 2.8 hereinabove, within thirty (30) days of receipt of such notice of suspension or within such further period as the Client may have subsequently approved in writing.
- (b) if the Consultants become (or, if the Consultants consist of more than one entity, if any of their Members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary.
- (c) if the Consultants fail to comply with any final decision reached as a result of arbitration proceedings pursuant to Clause 8 hereof.
- (d) if the Consultants submit to the Client a statement which has a material effect on the rights, obligations or interests of the Client and which the Consultants know to be false.
- (e) if, as the result of Force Majeure, the Consultants are unable to perform a material portion of the Services for a period of not less than thirty (30) days.

(f) if the Consultants, in the judgment of the Client has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

(g) if the Client, in its sole discretion and for any reason whatsoever, decides to terminate this Contract.

2.9.2 **By the Consultants**

The Consultants may, by not less than thirty (30) day's written notice to the Client, such notice to be given after the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause 2.9.2, terminate this Contract:

- (a) if the Client fails to pay any money due to the Consultants pursuant to this Contract and not subject to dispute pursuant to Clause 8 hereof within forty five (45) days after receiving written notice from the Consultants that such payment is overdue;
- (b) if the Client is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Consultants may have subsequently approved in writing) following the receipt by the Client of the Consultants' notice specifying such breach;
- (c) if, as the result of Force Majeure, the Consultant are unable to perform a material portion of the Services for a period of not less than sixty (60) days; or
- (d) if the Client fails to comply with any final decision reached as a result of arbitration pursuant to Clause 8 hereof.

2.9.3 **Cessation of Rights and Obligations**

Upon termination of this Contract pursuant to Clauses 2.2 or 2.9 hereof, or upon expiration of this Contract pursuant to Clause 2.4 hereof, all rights and obligations of the Parties hereunder shall cease, except (i) such rights and obligations as may have accrued on the date of termination or expiration, (ii) the obligation of confidentiality set forth in Clause 3.3 hereof, (iii) the Consultant's obligation to permit inspection, copying and auditing of their accounts and records set forth in Clause 3.6 (ii) hereof, and (iv) any right which a Party may have under the Applicable Law.

2.9.4 **Cessation of Services**

Upon termination of this Contract by notice of either Party to the other pursuant to Clauses 2.9.1 or 2.9.2 hereof, the Consultants shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the Services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum. With respect to documents prepared by the Consultants and equipment and materials furnished by the Client, the Consultants shall proceed as provided, respectively, by Clauses 3.9 or 3.10 hereof.

2.9.5 **Payment upon Termination**

Upon termination of this Contract pursuant to Clauses 2.9.1 or 2.9.2 hereof, the Client shall make the following payments to the Consultants (after offsetting against these payments any amount that may be due from the Consultant to the Client):

- (i) remuneration pursuant to Clause 6 hereof for Services satisfactorily performed prior to the effective date of termination.
- (ii) reimbursable expenditures pursuant to Clause 6 hereof for expenditure actually incurred prior to the effective date of termination; and
- (iii) except in the case of termination pursuant to paragraphs (a) through (d) of Clause 2.9.1 hereof, reimbursement of any reasonable cost incident to the prompt and orderly termination of the Contract including the cost of the return travel of the Consultants' personnel.

2.9.6 Disputes about Events of Termination

If either Party disputes whether an event specified in paragraphs (a) through (e) of Clause 2.9.1 or in Clause 2.9.2 hereof has occurred, such Party may, within forty-five (45) days after receipt of notice of termination from the other Party, refer the matter to arbitration pursuant to Clause 8 hereof, and this Contract shall not be terminated on account of such event except in accordance with the terms of any resulting arbitral award.

3. OBLIGATIONS OF THE CONSULTANTS

3.1 General

3.1.1 Standard of Performance

The Consultants shall perform the Services and carry out their obligations hereunder with all due diligence, efficiency and economy, in accordance with generally accepted professional techniques and practices, and shall observe sound management practices, and employ appropriate advanced technology and safe and effective equipment, machinery, materials and methods. The Consultants shall always act, in respect of any matter relating to this Contract or to the Services, as faithful advisers to the Client, and shall at all times support and safeguard the Client's legitimate interests in any dealings with Sub-consultants or Third Parties.

3.1.2 Law Governing Services

The Consultants shall perform the Services in accordance with the Applicable Law and shall take all practicable steps to ensure that any Sub-consultants, as well as the Personnel and agents of the Consultants and any Sub-consultants, comply with the Applicable Law.

3.2 Conflict of Interests

The Consultants shall hold the Client's interests paramount, without any consideration for future work, and strictly avoid conflict with other assignments or their own corporate interests.

3.2.1 Consultants not to Benefit from Commissions, Discounts, etc.

The remuneration of the Consultants pursuant to Clause 6 hereof shall constitute the Consultants' sole remuneration in connection with this Contract or the Services and the

Consultants shall not accept for their own benefit any trade commission, discount or similar payment in connection with activities pursuant to this Contract or to the Services or in the discharge of their obligations under the Contract, and the Consultants shall use their best efforts to ensure that the Personnel, any Sub-consultants, and agents of either of them similarly shall not receive any such additional remuneration.

3.2.2 Consultants and Affiliates not to be otherwise interested in Project

The Consultants agree that, during the term of this Contract and after its termination, the Consultants and any entity affiliated with the Consultants, as well as any Sub-consultants and any entity affiliated with such Sub-consultants, shall be disqualified from providing goods, works or services (other than the Services and any continuation thereof) resulting from or directly related to the Consultant's Services for the preparation or implementation of the Project.

3.2.3 Prohibition of Conflicting Activities

The Consultants shall not engage, and shall cause their Personnel as well as their Sub-Consultants and their Personnel not to engage, directly, in any business or professional activities which would conflict with the activities assigned to them under this Contract.

3.3 Confidentiality

The Consultants, their Sub-consultants and the Personnel of either of them shall not, either during the term or within three (3) years after the expiration of this Contract, disclose any proprietary or confidential information relation to the Project, the Services, this Contract or the Client's business or operations without the prior written consent of the Client.

3.4 Liability of the Consultants

Subject to additional provisions, if any, set forth in the SC, the Consultants' liability under this Contract shall be as provided by the Applicable Law.

3.5 Insurance to be taken out by the Consultants

The Consultants (i) shall take out and maintain, and shall cause any Sub-consultants to take out and maintain, at their (or the Sub-consultants', as the case may be) own cost but on terms and conditions approved by the Client, insurance against the risks, and for the coverage, as shall be specified in the Special Conditions (SC), and (ii) at the Client's request, shall provide evidence to the Client showing that such insurance has been taken out and maintained and that the current premiums thereof have been paid.

3.6 Accounting, Inspection and Auditing

The Consultants (i) shall keep accurate and systematic accounts and records in respect of the Services hereunder, in accordance with internationally accepted accounting principles and in such form and detail as will clearly identify all relevant time charges and cost, and the bases thereof (including the bases of the Consultants' costs and charges), and (ii) shall permit the Client or its designated

representative periodically, and up to one year from the expiration or termination of this Contact, to inspect the same and make copies thereof as well as to have them audited by auditors appointed by the Client.

3.7 **Consultants' Actions requiring Client's prior Approval**

The Consultants shall obtain the Client's prior approval in writing before taking any of the following actions:

- (a) appointing such members of the Personnel as are not listed in Appendix B;
- (b) entering into a subcontract for the performance of any part of the Services, it being understood (i) that the selection of the Sub-consultants and the terms and conditions of the subcontract shall have been approved in writing by the Client prior to the execution of the subcontract, and (ii) that the Consultants shall remain fully liable for the performance of the Services by the Sub-consultants and its Personnel pursuant to this Contract;
- (c) any other action that may be specified in the SC.

3.8 **Reporting Obligations**

The Consultants shall submit to the Client the reports and documents specified in Appendix A hereto, in the form, in the numbers and within the time periods set forth in the said Appendix. Final Reports shall be delivered in CD ROM in addition to the hard copies specified in the said Appendix.

3.9 **Documents prepared by the Consultants to be the Property of the Client**

All plans, drawings, specifications, designs, reports and other documents prepared by the Consultants in performing the Services shall become and remain the property of the Client, and the Consultants shall, not later than upon termination or expiration of this Contract, deliver all such documents to the Client, together with a detailed inventory thereof.

The Consultants may retain a copy of such documents. Restrictions about the future use of these documents, shall be as specified in the SC.

4. **CONSULTANTS' PERSONNEL**

4.1 **General**

The Consultants shall employ and provide such qualified and experienced Personnel as are required to carry out the Services.

4.2 **Description of Personnel**

- (a) The titles, agreed job descriptions, minimum qualifications and estimated periods of engagement in the carrying out of the Services of each of the Consultants' Key Professional / Sub Professional Personnel are described in Appendix B.

4.3 **Approval of Personnel**

The Key Personnel and Sub-consultants listed by title as well as by name in Appendix B are hereby approved by the Client. In respect of other Key Personnel which the Consultants propose to use in the carrying out of the Services, the Consultants shall submit to the Client for review and approval a copy of their biographical data. If the Client does not object in writing (stating the reasons for the objection) within twenty one (21) calendar days from the date of receipt of such biographical data, such Key Personnel shall be deemed to have been approved by the Client.

4.4 **Removal and/or Replacement of Personnel**

- (a) Except as the Client may otherwise agree, no changes shall be made in the Key Professional / Sub Professional Personnel. If, for any reason beyond the reasonable control of the Consultants, it becomes necessary to replace any of the Personnel, the Consultants shall forthwith provide as a replacement a person of equivalent or better qualifications. The upper limit of substitution on account of various reasons including on health ground should not exceed 25% of the total key personnel as given in Appendix B.
- (b) If the Client (i) finds that any of the Personnel has committed serious misconduct or has been charged with having committed a criminal action, or (ii) has reasonable cause to be dissatisfied with the performance of any of the Personnel, then the Consultants shall, at the Client's written request specifying the grounds thereof, forthwith provide as a replacement a person with qualifications and experience acceptable to the Client.
- (c) Any of the Personnel provided as a replacement under Clauses (a) and (b) above, the rate of remuneration applicable to such person as well as any reimbursable expenditures (including expenditures due to the number of eligible dependents) the Consultants may wish to claim as a result of such replacement, shall be subject to the prior written approval by the Client. Except as the Client may otherwise agree, (i) the Consultants shall bear all additional travel and other costs arising out of or incidental to any removal and/or replacement, and (ii) the remuneration to be paid for any of the Personnel provided as a replacement shall not exceed the remuneration which would have been payable to the personnel replaced. Further for Key Professional Personnel replaced for the second time under clause (a) and (b), the contract amount shall be reduced at a rate of One (1) percent for each replacement.

4.5 **Team Leader**

The Team Leader shall be stationed at a location to be agreed by the Client and shall be available at all time for consultations and meetings with the management. The Team Leader shall work in close coordination with the concerned Engineer's of the Public Works Department, Buildings & Roads Branch and shall arrange for authentication of all the filed data, investigation and information from them.

5. **OBLIGATION OF THE CLIENT**

5.1 **Assistance and Exemptions**

The Client shall use its best efforts to ensure that the Government shall:

- (a) provide the Consultants, Sub-consultants and Personnel with work

permits and such other documents as shall be necessary to enable the Consultants, Sub-consultants or Personnel to perform the Services;

- (b) assist for the Personnel and, if appropriate, their eligible dependents to be provided promptly with all supporting papers for necessary entry and exit visas, residence permits, exchange permits and any other documents required for their stay in India;
- (c) facilitate prompt clearance through customs of any property required for the Services;
- (d) issue to officials, agents and representatives of the Government all such instructions as may be necessary or appropriate for the prompt and effective implementation of the Services;

5.2 Access to Land

The Client on the execution of this Contract shall extend facility to the Consultants to access the Project site for the limited purpose of carrying out of surveys, field studies, site investigations, soil tests, geotechnical investigations etc. As and where asked for by the Consultants, necessary assistance shall be provided by the Engineer's of Public Works Department, Building and Roads Branch.

The Consultants, their Sub-Consultants, and personnel of either of them will ensure that no damage is caused to any land, property and crops etc under any circumstances during the performance of their services under the contract. For any such damage the Consultants shall be fully responsible and where required shall pay suitable compensation to the respective owners.

In the event the Consultants, their Sub-consultants and their personnel are obstructed from undertaking any surveys, field investigations etc. the Client if called upon by the Consultants shall provide necessary assistance.

5.3 Change in the Applicable Law related to Taxes and Duties

If, after the date of this Contract, there is any change in the Applicable Law with respect to taxes and duties which increases or decreases the cost incurred by the Consultants in performing the Services, then the remuneration payable to the Consultants under this Contract shall be increased or decreased accordingly by agreement between the Parties hereto, and corresponding adjustments shall be made in the Contract Price.

5.5 Payment

In consideration of the Services performed by the Consultants under this Contract, the Client shall make to the Consultants such payments and in such manner as is provided by Clause 6 of this Contract.

6. PAYMENT TO THE CONSULTANTS

6.1 Lump-Sum Payment

- (a) The total payment due to the Consultants shall not exceed the Contract Price as stated in SC which is an all inclusive fixed lump-sum covering all costs required to carry out the Services described in Appendix A.

- (b) Except as provided in clause 5.3, the above Contract Price may only be increased as may be otherwise agreed under Clause 2.6.
- (c) Notwithstanding Clause 6.1(b) hereof, if pursuant to alignment approved by the Client, the Contract Price shall be adjusted under clause 6.4.

6.2 Currency of Payment

- (a) The payment shall be made in Indian Rupees.

6.3 Mode of Billing and Payment

Billing and payments in respect of the Services shall be made as follows:-

- (a) *Deleted*
- (b) **Payment Schedule**

The Consultant will be paid stage-wise as a percentage of the contract price as per the schedule given in TOR appended herewith.

- Notes:
- 1. *Deleted*
 - 2. The Consultants shall furnish a certificate that all the Key personnel as Envisaged in the Contract Agreement have been actually deployed in the Project while submission of bills for payment.
 - (c) No payment shall become eligible for the next stage till the Consultant completes to the satisfaction of the Client the work pertaining to the preceding stage. For the work of sub-soil investigations (Boring) at proposed site of structures along approved alignment, namely Bridges, culverts, Flyovers, ROBs, Interchanges, Under/Overpasses proposals shall be got approved from the Client in advance.
 - (d) The Client shall cause the payment of the Consultants in Para 6.3 (b) above as given in schedule of payment within thirty (30) days after the receipt by the Client of bills. Interest at the rate specified in the SC shall become payable as from the above due date on any amount due by, but not paid on, such due date.
 - (e) The final payment under this Clause shall be made only after the final report shall have been submitted by the Consultants and approved as satisfactory by the Client. The services shall be deemed completed and finally accepted by the Client and the final report shall be deemed approved by the Client as satisfactory ninety (90) calendar days after receipt of the final report by the Client unless the Client, within such ninety (90) day period, gives written notice to the Consultants specifying in detail deficiencies in the Services, the final report. The Consultants shall thereupon promptly make any necessary corrections, and upon completion of such corrections, the foregoing process shall be repeated. Any amount which the Client has paid or caused to be paid in accordance with this Clause in excess of the amounts actually payable in accordance with the provisions of this Contract shall be reimbursed by the Consultants to the Client within thirty (30) days after receipt by the Consultants of notice thereof. Any such claim by the Client for reimbursement must be made within twelve (12) calendar months after receipt by the Client of a final report approved by the Client in accordance with the above.

- (f) All payments under this Contract shall be made to the account of the Consultants specified in the SC.

6.4 Eligible payment in case of variation in Project Length

- 1). The length of the project given in the RFP document is only tentative. As the Consultants has to finalize the alignment based on feasibility studies the actual length of the Project is likely to vary and thus may cause increase / decrease of the final bill amount. In this context, any variation (plus/minus) in length up to 8% (eight per cent) of the indicated project length shall not cause any addition / deduction of payment. Variation (plus/minus) beyond initial 8% (eight percent) shall be considered eligible for payment using the average agreed rate/km. The agreed average rate shall be arrived by dividing Contract Price by the indicated project length. For increase in length beyond 8% (eight percent) of the indicated length, additional amount shall be paid using the agreed average rate/km. Similarly, for decrease in length beyond the initial 8% (eight percent) of the indicated length, amount shall be deducted using the agreed average rate/km.
- 2). It is to clarify the only linear length of proposed alignment as finalized shall be considered and no consideration shall be made towards approaching lengths of Interchanges.

7. Responsibility for Accuracy of Project Documents

7.1 General

- 7.1.1 The Consultant shall be responsible for accuracy of the data collected, by him directly or procured from other agencies/authorities, the designs, drawings, estimates and all other details prepared by him as part of these services. He shall indemnify the Authority against any inaccuracy in the work which might surface during implementation of the project. The Consultant will also be responsible for correcting, at his own cost and risk, the drawings including any re-survey / investigations and correcting layout etc. if required during the execution of the Services.
- 7.1.2 The Consultant shall be fully responsible for the accuracy of design and drawings of the bridges and structures. All the designs and drawings for bridges and structures including all their components shall be fully checked by a Senior Bridge Engineer after completion of their designs. All drawings for bridges and structures shall be duly signed by the (a) Designer, (b) Senior Checking Engineer, and (c) Senior Bridge / Structure Expert. The designs and drawings not signed by the three persons mentioned above shall not be accepted. The Consultant shall indemnify the Client against any inaccuracy / deficiency in the designs and drawings of the bridges and structures noticed during the construction and even thereafter and the Client shall bear no responsibility for the accuracy of the designs and drawings submitted by the Consultants.
- 7.1.3 The survey control points established by the Consultant shall be protected by the Consultants till the completion of the Consultancy Services.

7.2. Deleted

7.3. PENALTY

7.3.1 **Penalty for delay**

In case of delay in completion of services, a penalty equal to 0.05% of the contract price per day subject to a maximum 5% (five percent) of the contract value will be imposed and shall be recovered from payments due/performance security. However in case of delay due to reasons beyond the control of the Consultants, suitable extension of time will be granted.

Such Penalty shall be linked to the project milestones, and shall be levied as and when delays occur in the achievement of the milestones.

7.4 **ACTION FOR DEFICIENCY IN SERVICES**

7.4.1 **Consultants liability towards the Client**

The Consultants shall be liable to indemnify the Client for any direct loss or damage accrued or likely to accrue due to deficiency in service rendered by him.

7.4.2 **Warning / Debarring**

In addition to the penalty as mentioned in clause 7.3, warning may be issued to the erring Consultants for minor deficiencies. In the case of major deficiencies in the Feasibility cum Design Report involving time and cost overrun and adverse effect on reputation of Punjab Infrastructure Development Board and Punjab Public Works Department Building & Roads Branch, other penal action including debarring/black listing may also be initiated by Punjab Infrastructure Development Board and Public Works Department, Building & Roads Branch.

8 **FAIRNESS AND GOOD FAITH**

8.1 **Good Faith**

The Parties undertake to act in good faith with respect to each other's rights under this Contract and to adopt all reasonable measures to ensure the realization of the objectives of this Contract.

8.2 **Operation of the Contract**

The Parties recognize that it is impractical in this Contract to provide for every contingency which may arise during the life of the Contract, and the Parties hereby agree that it is their intention that this Contract shall operate fairly as between them, and without detriment to the interest of either of them, and that, if during the term of this Contract either Party believes that this Contract is operating unfairly, the Parties will use their best efforts to agree on such action as may be necessary to remove the cause or causes of such unfairness, but no failure to agree on any action pursuant to this Clause shall give rise to a dispute subject to arbitration in accordance with Clause 9 hereof.

9 **SETTLEMENT OF DISPUTES**

9.1 **Amicable Settlement**

The Parties shall use their best efforts to settle amicably all disputes arising out of or

in connection with this Contract or the interpretation thereof.

9.2 Dispute Settlement

Any dispute between the Parties as to matters arising pursuant to this Contract which cannot be settled amicably within thirty (30) days after receipt by one Party of the other Party's request for such amicable settlement may be submitted by either Party for settlement in accordance with the provisions specified in the SC.

SPECIAL CONDITIONS OF CONTRACT**Number of GC Clause****A. Amendments of, and Supplements to, Clauses in the General Conditions**

1.4 The language is: English

1.6.1 The addresses are:

For the Client:

The Managing Director,
Punjab Infrastructure Development Board,
SCO 89-90, sector 34-A,
CHANDIGARH.

Attention :

Chief General Manager
Punjab Infrastructure Development Board,
SCO 89-90, Sector 34-A,
CHANDIGARH.

For the Consultants:**Attention:**

1.6.2 Notice will be deemed to be effective as follows:

- (a) in the case of personal delivery or registered mail, on delivery;
- (b) in the case of Fax, 24 hours following confirmed transmission.
- (c) In the case of telegrams, 24 hours following confirmed transmission; and
- (d) In the case of facsimiles, 24 hours following confirmed transmission.

1.8 Entity to Act as Member in charge (In case of Joint Venture of Consultants):

- Not Applicable-

1.9 The Authorized Representatives are:

For the Client

Chief General Manager
Punjab Infrastructure Development Board,
SCO 89-90, Sector 34-A,
CHANDIGARH.

For the Consultant:

- 1.10 The Consultants and the Personnel shall pay the taxes, duties, fees, levies and other impositions levied under the existing, amended or enacted laws (prevailing 7 days before the last date of submission of bids) during life of this contract and the Client shall perform such duties in regard to the deduction of such tax as may be lawfully imposed.
- 2.1 **The effectiveness conditions are the following:**
- a) The contract has been approved by the PIDB.
- b) The consultant will furnish with in 15 days of the issue of letter of acceptance, a unconditional Bank Guarantee from a scheduled bank acceptable to Punjab Infrastructure Development Board and payable at Chandigarh/Punjab for an amount equivalent to 10 % of the total contract value to be received by him towards in the form set forth in Appendix E towards Performance Security valid for a period of three years beyond the date of completion of services. The Bank Guarantee (shall be extendable till the completion of civil contract works) shall be released by Punjab Infrastructure Development Board upon successful completion of services and rectification of errors if any, found during implementation of services.
- 2.2 The time period shall be “One month” or such other time period as the parties may agree in writing.
- 2.3 The time period shall be “fifteen days” or such other time period as the Parties may agree in writing.
- 2.4 The time period shall be “_____ months” or such other time period as the parties may agree in writing.
- 3.4 Limitation of the Consultants’ Liability towards the Client
- a) Except in case of negligence or willful misconduct on the part of the Consultants or on the part of any person or firm acting on behalf of the Consultants in carrying out the Services, the Consultants, with respect to damage caused by the Consultants to the Client’s property, shall not be liable to the Client:
- (i) for any indirect or consequential loss or damage; and
- (ii) for any direct loss or damage that exceeds (A) the total payments for Professional Fees and Reimbursable Expenditure made or expected to be made to the Consultants hereunder, or (B) the proceeds the Consultants may be entitled to receive from any insurance maintained by the Consultants to cover such a liability, whichever of (A) or (B) is higher.
- (b) This limitation of liability shall not affect the Consultants’ liability, if any, for damage to Third Parties caused by the Consultants or any person or firm acting on behalf of the Consultants in carrying out the Services.
- 3.5 The risks and the coverages shall be as follows:
- (a) Third Party motor vehicle liability insurance as required under Motor

Vehicles Act, 1988 in respect of motor vehicles operated in India by the Consultants or their Personnel or any Sub-consultants or their Personnel for the period of consultancy.

(b) Third Party liability insurance with a minimum coverage, for Rs. 1.00 million for the period of consultancy.

(c) Professional Liability Insurance (PLI) - Consultant will maintain at its expenses PLI including coverage for errors and omissions caused by Consultant's negligence in the performance of its duties under this agreement from an Insurance Company permitted to offer such policies in India, for a period of five years beyond completion of Consultancy Services commencing from the commencement date of services or as per applicable law whichever is longer (i) For an amount not exceeding total payments for Professional Fees and Reimbursable Expenditures made or expected to be made to the Consultants OR (ii) the proceeds, the Consultants may be entitled to receive from any Insurance maintained by the Consultants to cover such a liability, whichever of (i) or (ii) is higher. The indemnity limit in terms of "Any One Accident" (AOA) and "Aggregate limit on the policy period" (AOP) should not be less than the amount stated in the contract. In case of joint venture or 'in association', the policy should be in the name of joint venture / in association entity and not by the individual partners of the joint venture / association. The policy must not be cancelled midterm without the consent of Punjab Infrastructure Development Board. The Punjab Infrastructure Development Board shall be the beneficiary of the contract amount. The Insurance Company may provide an undertaking in this regard. If the consultants fail to renew or maintain the PLI as specified above, the Client shall be free to take any action as deemed fit including imposing penalty or even black listing of the consultants.

(d) Employer's liability and workers' compensation insurance in respect of the Personnel of the Consultants and of any Sub consultant, in accordance with the relevant provisions of the Applicable Law, as well as, with respect to such Personnel, any such life, health, accident, travel or other insurance as may be appropriate; and

All insurances and policies should start from the date of commencement of services and remain effective as per relevant requirements of contract agreement.

3.9 The Consultants shall not use these documents for purposes unrelated to this Contract without the prior written approval of the Client.

4.5 The person designated as Senior Highway Engineer cum Team Leader in Appendix B shall serve in that capacity, as specified in Clause 4.5.

6.1 (a) Contract Price ; Rs . (Rupees: }

6.1 (d) The interest rate is : @ 12% per annum

6.3 (f) The account is :

9.2 Disputes shall be settled by arbitration in accordance with the following provisions:

9.2.1 Any dispute between the parties which cannot be settled by amicable settlement within thirty (30) days after receipt of by one party of the other party's request for such amicable settlement shall be submitted to

arbitration by sole Arbitrator to be appointed by the Secretary to Govt. of Punjab, Public Works Department, Building and Roads Branch.

- 9.2.2 The arbitration proceedings shall be conducted in accordance with procedure and provisions of the Arbitration & Conciliation Act 1996.
- 9.2.3 The arbitration proceedings shall be held at Chandigarh and the Courts at Chandigarh shall have the jurisdiction.
- 9.2.4 The decision of the sole Arbitrator shall be final and binding and shall be enforceable in any court of competent jurisdiction, and the parties hereby waive any objections to or claims of immunity in respect of such enforcement.

Appendix I

TERMS OF REFERENCE CONTAINING INTE ALIA, THE DESCRIPTION OF SERVICES AND REPORTING REQUIREMENTS

Appendix II

CONSULTANTS' SUB-CONSULTANTS', KEY PERSONNEL AND SUB-PROFESSIONAL PERSONNEL

Appendix III

MINUTES OF CONTRACT NEGOTIATIONS WITH THE CONSULTANT

Appendix IV

COPY OF LETTER OF ACCEPTANCE

LETTER OF ACCEPTANCE

_____ (Date)

To

_____ [Name and address of the Contractor]

Dear Sirs,

This is to notify you that your Bid dated _____ for execution of the _____ (name of the contract and identification number, as given in the Instructions to Bidders) for the Contract Price of Rs. _____ (Rupees _____ only), as corrected and modified in accordance with the Instructions to Bidders¹ is hereby accepted.

You are hereby requested to furnish Performance Security, in the form detailed in Para 34.1 of ITB for an amount equivalent to Rs. _____ within fourteen (14) days of the receipt of this letter of acceptance valid up to ninety (90) days after the completion date of rehabilitation and upgradation works of Project Roads i.e. upto _____ and sign the contract, failing which action as stated in clause 34.4 of ITB will be taken.

Yours faithfully,

Authorized Signature

Name of title of Signatory

Name of agency

Appendix V

FORMAT FOR BANK GUARANTEE FOR PERFORMANCE SECURITY

UNCONDITIONAL AND IRREVOCABLE BANK GUARANTEE

Bank Guarantee No.: _____

Dated: _____

Issuer of Bank Guarantee :

_____ (Name of the Bank)

(hereinafter referred to as the “Bank”)

Beneficiary of Bank Guarantee:

_____,
 on behalf of
 Managing Director,
 Punjab Infrastructure Development Board,
 Chandigarh.

Context of Bank Guarantee:

Performance Security in pursuance of clause 2.1 b of the Contract Agreement dated _____ (hereinafter referred to as the “Agreement”), executed between the _____
 _ acting through _____ (hereinafter referred to as the “Client”) and _____ (hereinafter referred to as the “Consultant”) for Consultancy Services for Preparation for Project Report for Development of Mohali Expressway (hereinafter referred to as the “Work and services”), provided however, such context of the Bank Guarantee or reference to the Agreement in this Bank Guarantee shall in no manner to relied upon at any stage to adversely affect or dilute the unconditional and irrevocable nature of this Bank Guarantee.

Operative part of the Bank Guarantee:

At the request of the Consultant, we _____, _____
 (name and address of the bank), (hereinafter referred to as the “Bank”), do hereby unconditionally and irrevocably affirm and undertake that we are the Guarantor and are responsible to the Client i.e. the beneficiary on behalf of the Consultant, upto a total sum of Rs. _____ (Rupees _____ Only), such sum being payable by us to the Client immediately upon receipt of first written demand from the Client.

We unconditionally and irrevocably undertake to pay to the Client on an immediate basis, upon receipt of first written demand from the Client and without any cavil or argument or delaying tactics or reference by us to Consultant and without any need for the Client to convey to us any reasons for invocation of the Guarantee or to prove the failure to perform the Services as per requirements on the part of the Consultant or to show grounds or reasons for the demand or the sum specified therein, the entire sum or sums within the limits

of Rs. _____ (Rupees _____ Only)

We hereby waive the necessity of the Client demanding the said amount from Consultant prior to serving the Demand Notice upon us.

We further agree and affirm that no change or addition to or other modification to the terms of the Agreement, shall in any way release us from any liability under this unconditional and irrevocable Guarantee and we hereby waive notice of any such change, addition or modification. We further agree with the Client that the Client shall be the sole and the exclusive judge to determine that whether or not any sum or sums are due and payable to him by Consultant, which are recoverable by the Client by invocation of this Guarantee.

This Guarantee will not be discharged due to the change in constitution of the Bank or the Consultant. We undertake not to withdraw or revoke this Guarantee during its currency/ validity period, except with the previous written consent of the Client

We unconditionally and irrevocably undertake to pay to the Client any amount so demanded not exceeding Rs. _____ (Rupees _____ Only) notwithstanding any dispute or disputes raised by Consultant or anyone else in any suit or proceedings before any arbitrator, court, tribunal or other authority, our liability under this Guarantee being absolute, unconditional and unequivocal. The payment so made by us under this Guarantee to the Client, shall be a valid discharge of our liability for payment under this Guarantee and the Consultant shall have no claim against us for making such payment.

This unconditional and irrevocable Guarantee shall remain in full force and effect and shall remain valid until _____

Notwithstanding any clause contained herein:

Our liability under this Bank Guarantee shall not exceed Indian Rs. _____ lakhs (Rupees _____ Lakhs Only).

This unconditional and irrevocable Bank Guarantee shall be effectively valid from _____ to _____.

We are liable to pay the guaranteed amount or any part thereof under this unconditional and irrevocable Bank Guarantee only and only if the Client serves upon us a written claim or demand on or before _____.

 Authorized Signatory
 For Bank

therein, the entire sum or sums within the limits of Rs. _____ (Rupees _____ only)

We hereby waive the necessity of the Client demanding the said amount from Consultant prior to serving the Demand Notice upon us.

We further agree and affirm that no change or addition to or other modification to the terms of the Agreement, shall in any way release us from any liability under this unconditional and irrevocable Guarantee and we hereby waive notice of any such change, addition or modification. We further agree with the Client that the Client shall be the sole and the exclusive judge to determine that whether or not any sum or sums are due and payable to him by Consultant, which are recoverable by the Client by invocation of this Guarantee.

This Guarantee will not be discharged due to the change in constitution of the Bank or the Consultant. We undertake not to withdraw or revoke this Guarantee during its currency/ validity period, except with the previous written consent of the Client (_____ on behalf of Managing Director, Punjab Infrastructure Development Board, Chandigarh).

We unconditionally and irrevocably undertake to pay to the Client (_____ on behalf of Managing Director, Punjab Infrastructure Development Board, Chandigarh) any amount so demanded not exceeding Rs. _____ (Rupees _____ only) notwithstanding any dispute or disputes raised by Consultant or anyone else in any suit or proceedings before any arbitrator, court, tribunal or other authority, our liability under this Guarantee being absolute, unconditional and unequivocal. The payment so made by us under this Guarantee to the Client, shall be a valid discharge of our liability for payment under this Guarantee and the Consultant shall have no claim against us for making such payment.

This unconditional and irrevocable Guarantee shall remain in full force and effect and shall remain valid until _____

Notwithstanding anything contained herein:

Our liability under this Bank Guarantee shall not exceed Indian Rs. _____ lakhs (Rupees _____ Lakhs Only).

This unconditional and irrevocable Bank Guarantee shall be valid w.e.f . _____ to _____.

We are liable to pay the guaranteed amount or any part thereof under this unconditional and irrevocable Bank Guarantee only and only if the Client (i.e. _____ on behalf of Managing Director, Punjab Infrastructure Development Board, Chandigarh) serves upon us a written claim or demand on or before _____.

Authorized Signatory For
Bank