

**REVISED SECTION D: Minimum requirement of manpower for the assignment**

**International Experts**

S.N	Position	Qualification Requirement	Experience Requirement	Nos	No. of
					P-M
1	Team Leader/Chief Pavement Design Engineer	B.E./B.Sc. Civil Eng. (Post graduate/Diploma in Aerodrome Eng. – Desirable)	• Overall Experience 15 Yrs.	1	8
			• As a Team Leader/Project Manager for 3 Projects of min 12 months inputs		
			• Overseas Experience 3 projects of min 6 months inputs		
2	Pavement Engineer	B.E./B.Sc. Civil Eng. (Post graduate/Diploma in Airport Pavement Engineering – Desirable)	• Overall Experience 10 Yrs.	1	3
			• As an Airport Pavement Engineer for 3 Projects of min 6 month inputs		
			• Overseas Experience 3 projects of min 3 months inputs		
3	Geotechnical Engineer	B.E./B.Sc. Civil Eng. (M.Sc./Post Graduate Diploma in Geotechnical	• Overall Experience 10 Yrs.	1	1
			• As a Geotechnical Engineer for 2 Projects of min 6 months inputs		

		Engineering – Desirable)	• Overseas Experience 2 projects of min 3 months inputs		
4	Aerodrome safety expert	B.E./B.Sc. in Civil Eng.; Pilot or ATC with Specialized trainings in Safety Mgmt. System – Desirable	<ul style="list-style-type: none"> <li>• Overall Experience 10 Yrs.</li> <li>• As an Aerodrome Safety Expert for 2 projects</li> <li>• Overseas Experience 2 projects of min 3 months inputs</li> </ul>	1	2
5	Procurement & Contract Specialist	B.E./B.Sc. in any Eng. or Bachelor in Relevant Social Sciences (Familiarity with FIDIC, ADB SBD Contracts – Desirable)	<ul style="list-style-type: none"> <li>• Overall Experience 15 Yrs.</li> <li>• As a Contract Specialist / Procurement Specialist for 3 Projects of min 6 month inputs</li> <li>• Overseas Experience 3 projects of min 3 months inputs</li> </ul>	1	2
6	Cost Estimate Specialist/ Quantity surveyor	B.E./B.Sc. in Civil Eng. (Specialized training in Cost Estimating for Structures – Desirable)	<ul style="list-style-type: none"> <li>• Overall Experience 10 Yrs.</li> <li>• As a Cost Estimator for 2 Projects of min 3 month inputs</li> <li>• Overseas Experience 2 projects</li> </ul>	1	1
7	Environmental	B.E./B.Sc. in any Eng. or Bachelor	• Overall Experience 10 Yrs.	1	1

	Engineer	in Relevant Social Sciences (Post Graduate in Environmental Sciences/Management - Desirable)	<ul style="list-style-type: none"> <li>• As an Environmental Engineer for 2 Projects of min 6 months inputs</li> <li>• Overseas Experience 2 projects</li> </ul>		
8	Material Engineer/ QC Engineer	B.E./B.Sc. in Civil Engineering (Specialized training in Quality Control/Materials Testing - Desirable)	<ul style="list-style-type: none"> <li>• Overall Experience 10 Yrs.</li> <li>• As a QA/QC Engineer for 3 Projects of min 6 month inputs</li> <li>• Overseas Experience 3 projects of min 3 month inputs</li> <li>• As a Quantity Surveyor for 2 Projects of min 3 month inputs</li> <li>• Overseas Experience 2 projects</li> </ul>	1	5
	<b>Sub-total</b>				<b>23</b>

## National Experts

S.N.	Position	Qualification Requirement	Experience Requirement	Nos.	No. of
					P-M
1	Resident Engineer (Civil)	B.E./B.Sc. Civil Eng. (Post graduate/ Diploma in Construction Mgmt. - Desirable)	• Overall Experience 10 Yrs.	1	6
			• As a Resident Engineer/ Project Manager for 2 Projects of min 12 month inputs		
			• Experience with Intl. Firms or Intl. Organizations 2 projects of min 3 month inputs		
2	Civil Engineers	B.E./B.Sc. Civil Eng. (Post graduate/ Diploma Course in Civil Eng. - Desirable)	• Overall Experience 7 Yrs.	2	12
			• As a Civil Engineer for 2 Projects of min 6 month inputs		
			• Experience with Intl. Firms or Intl. Organization 1 project		
3	CAD Engineer	B.E./B.Sc. Eng. (Specialized training in CAD - Desirable)	• Overall Experience 5 Yrs.	1	6
			• As a CAD Engineer for 1 Project of min 6 months inputs		
			• Experience in Intl. Firms or Intl. Organization 1 project		
<b>Sub-total</b>					<b>24</b>

## **National Support Staff**

The consultant will provide 63 person-month of National Support Staff consisting of, as follows, to assist in carrying out the services.

- Office Manager	:	7 Months
- Driver (2 Nos.)	:	14 Months
- Sr. Lab Technician	:	7 Months
- Lab boys (2 Nos.)	:	14 Months
- Surveyor	:	7 Months
- Survey Helpers (2 Nos.)	:	14 Months

*The Office Manager should have minimum a Bachelor Degree in Business Administration and relevant minimum 7-year experience in organizing and supervising administrative activities of consulting services.*

### Notes:

- (i) The estimated person-months are indicative, and the actual will vary based on actual duration of works, and will be paid on actual time-basis. As common basis for financial proposal, the Consultants MUST use the staff person-months indicative above.
- (ii) The international inputs shall be provided by the consultant based in the field (i.e. in Paro, Bhutan). However, the consultant may consider providing certain inputs of few positions from the head office or any other location outside Bhutan as required for the purpose of betterment and supports to carry out the services effectively. The consultant shall provide rationale and estimates of such inputs in the technical and financial proposals.
- (iii) The CV and/or qualifications of the following *National Support Staff will not be evaluated* and are not required in the Technical Proposal. However, The CVs of these candidates shall be submitted for Client approval prior to the mobilization.
- (iv) Mobilization of all staff person-months during construction supervision shall be planned and managed for the optimal utilization of inputs corresponding to level of progress of construction activities during entire project period. The Manning Schedule shall be updated/adjusted accordingly time to time.
- (v) Monthly Time sheet of each staffs shall be prepared which show the detail list of the activities performed during the working day(s)

and must be submitted original copy(ies) to the Client during the monthly invoice claimed for the service.