

1. INTRODUCTION

There is a very fertile belt of land in the foot of salt range running parallel to Thal main line upper and Mohajir Branch starting from river Indus on North West to Jhelum River on the east named as Mohar Area. The area is traversed by a Nos. of hill torrents originating from the salt range. As this area was not commandable from existing Thal Project, it had to be left on the mercy of rainfall. A storage dam on one of the biggest hill torrents at Namal provided Rabi supplies for a small area on North West of Mianwali along Mianwali-Talagang Road. A total area of about 2.0 Lac Acres is available between Thal Canal, Mohajir Branch system and salt range with a lift ranging from 22 to 89 ft. Before construction of Jinnah Barrage various proposals were examined from 1872 to 1936 for setting the barrage up stream in the gorge. As this involved running the canal in heavy cutting apart from serious constructional difficulties, it could not attract favour from the Government being economically unfeasible with the result that above mentioned area was deprived off irrigation facilities.

Mohar Lift Irrigation Scheme-A was originally approved by Government of Punjab for RS.29.626Million in 1990.The Scheme was put in operation during 2005-2006.It comprises of one Number Feeder Channel and two distributaries called 1-L/A and 1-R/A Disty. The design capacity of this lift scheme is 100-Cs. The both distributaries runs parallel to salt rang. The inner prism of 1-R/A Disty especially from RD: 17+000-95+000 and 1-L/A Disty from RD: 13+000-30+000 is badly chocked up. More over it is explained that during flood 2006 & 2010, rain water of vicinity entered in to the channel and chocked up its prism. It has become very essential to restore the inner prism of the channel according to its design parameters. Large numbers of hill torrent are crossing the system. As its alignment is lying very close to the toe of hills. Some of them are gigantic in their size and discharge. The safe running of channels requires construction of cross drainage structures for disposal of hill torrent flood water. Pumping machinery of two no pump houses is in deteriorated condition and its efficiency has reduced drastically.

Mohar Lift Irrigation scheme "B" was originally approved by government of the Punjab for Rs.48.065 Million in PDWP meeting held on 16.12.1993.Due to increase in rates as per CSR 1998, indispensable provision of structures as per site requirement, change of NSL due to storm water and increase in the cost of machinery and electrifications, 1st Revised PC-I amounting to Rs.141.660 Million was approved by PWDP in its meeting held on 30.05.2002. The administrative approval of the 1st revised PC-I was given on 26.01.2004 and the work was started as per provision

in the PC-I. Due to unprecedented rainfalls in the year 2006, the executed work was badly damaged and further execution of the work was stopped at site. Keeping in view the position of hill torrents flow in the year 2006, the department moved 2nd revised PC-I amounting to Rs.463.764 Million during the year 2008. The project was discussed in PDWP meeting held on 21.06.2008 and was deferred after detailed discussion. The department was directed to come up in house revision to ascertain sustainability of the scheme. The scheme amounting to Rs.537.798 Million was again submitted and discussed in PDWP meeting held on 06.01.2010 and the project was deferred for sponsors to ensure sustainability of the scheme. The Secretary, Irrigation Department, Government of the Punjab, Lahore constituted a technical committee comprising on two Chief Engineers and Superintending Engineer, Thal Canal Circle, Mianwali, vide office order No. S/8/SO(PROG)2007 dated: 30.11.2011, to probe the facts, right from the original planning to the present status of Mohar Lift Irrigation Scheme-B. This technical committee provided the facts of Mohar Lift Irrigation Scheme-B and recommended that this project should be made part of the next year ADP portfolio with full allocations.

Both lift schemes A&B due to various reasons were unable to fully complete at site and achieve their objective. Mr. Fateh Sher S/O Muhammad Sher a local zamindar filed a write petition No. 87955-17 in Honorable High Court for the completion of scheme. Honorable High Court directed Worthy Chief Engineer, Sargodha to decide the case on behalf of court. The Chief Engineer, Sargodha hereby decides / recommends that the same project title Mohar Lift Irrigation Scheme “B” should be got studies afresh for its feasibility from the consultants before further spending. Superintending Engineer, Thal Canal Circle Mianwali and Executive Engineer, Khushab Canal Division Khushab were directed to prepare PC-II for “Feasibility Studies of Mohar Lift Irrigation Scheme and will make sure that such feasibility scheme should be placed before appropriate forum for further technical decision.

Government of Punjab Planning and Development Board has approved the feasibility studies of Mohar Lift Irrigation Scheme “A & B”. In the minutes / decision of the 9th PDWP Meeting held on 06.10.2020 vide No. 12 (9) PO (COOD-II) P&D/2020, Dated. 09.10.2020 under chairmanship of chairman P&D Board (Copy enclosed). The scheme is included in ADP 2020-21 at GS No. 3080. The administrative Department has issued the administrative approval of above mentioned scheme vide No. SO(PROG)4-1/2019 (Sargodha), dated. 11.12.2020 at a cost Rs. 51.078 Million.

2. OBJECTIVE OF CONSULTANCY

The main objective of consultant’s induction is to conduct feasibility studies, To improve conveyance efficiency, reliability and durability of the system as per proposed discharge by rehabilitating / remodeling Mohar lift Irrigation Scheme “A” & “B”. The main objective of the proposed consultancy services is to analyse the condition of existing civil, electrical and mechanical infrastructure of Mohar lift irrigation scheme A & B with

respect to its age, condition, operation & maintenance and impact of hill torrent flood on existing and proposed canal system/network and propose most suitable and economically viable solution to operationalize the canal network to achieve the objective of irrigation of proposed command area. Objective is to conduct detailed design of all components of Channels including study of command area development, project preparation studies, Engineering, Economic, Environment, Social Studies, Trainings and other related activities needed to develop sustainable canal water in Mohar area. The consultants engaged for carrying out this feasibility study will also take up survey and investigation works to ensure water supply for 41887 Acres Barani land and 0.35 Lac population living in plain and fertile area. The consultants shall be required to use modern and the latest project management tools. They will help better implementation of the project by addressing the problems of the area through proper diagnosis of issue and suggesting effective remedial measures, and to ensure good social and environmental effects. Consultants will also firm up the cost of a work proposal/ project based on results of the feasibility study to finally generate PC-1, based on detailed design of the proposal.

3. SCOPE OF WORK

The scope of the feasibility study is to improve conveyance, efficiency, reliability and durability of the system as per proposed discharge by rehabilitating/remodeling Mohar lift Irrigation Scheme "A" & "B". The consultants shall carryout detail survey of existing civil, electrical and mechanical infrastructure and analyse the condition of existing and proposed network with respect to condition of the structure, need of rehabilitation, suitability of location and alignment with respect to impact of flood water from hill torrents solution for safe disposal of hill torrential water in river Jhelum and shall propose the suitable and most economically viable option to achieve the objective of irrigation of the proposed command area. Consultants shall carryout detail design of all civil, electrical and mechanical component of the proposed project and shall provide the detail construction drawings, cost estimate, BOQ and tender documents of each individual structures (Civil, Electrical, Mechanical) involved in the proposal with reference to actual site condition based on detail topographic survey of each individual site and structure. The drawings, design, specification, documents, environmental and economic studies should be in accordance with the client's requirements, scope of work and strictly adhering to rules and instructions of the Irrigation Department, Government of Punjab.

4. ELIGIBILITY CRITERIA

Following are the details on the basis of which firms will be shortlisted:

i. Pre-Requisite

- a. Valid certificate of registration with Pakistan Engineering Council.
- b. Information regarding legal entity / copy of registration with Securities and Exchange Commission of Pakistan or Registrar of Firms.
- c. National Tax Registration Number with active taxpayer status.
- d. Undertaking by the firm / company on a legal format / affidavit (on original stamp paper), that it is currently not blacklisted by any Federal, Provincial, State or Local Government department and /or by any Government owned Company/Foundation/Authority.

ii. FIRM EXPERIENCE

Firm should provide information regarding:

- a. General experience by providing the list of 08 No. projects/assignments performed in the past 10 years as per Annex-A. Project / Assignments provided must be supported with the completion certificate issued by the procuring agency executing agency of the particular project. The projects without completion certificate will be marked zero.
- b. Relevant experience in the subject field by submitting the details of 03 No. most relevant projects completed in the past 10 years as per Annex-B. Project / Assignments provided must be supported with the completion certificate issued by the procuring agency executing agency of the particular project. The projects without completion certificate will be marked zero.
- c. Detailed description of the Firm Profile by providing its organizational structure, list of permanent staff, quality management system and list of testing equipment/machinery.

iii. HUMAN RESOURCE CAPACITY

- a. List of Key Personnel having expertise in “**FEASIBILITY STUDY AND DETAILED DESIGN OF LIFT IRRIGATION SCHEMES AND PREVENTIVE MEASURES TO PROTECT CANAL INFRASTRUCTURE FROM HILL TORRENT FLOODING**” as per **Annex-C**.
- b. CV's of key personnel as per **Annex-D**.

The Consultants are encouraged to use the expertise available in Pakistan to the extent possible. The consultants are free to propose a staffing plan to meet the objectives and scope of services. If all the required skills are not available within the consulting firms, they are encouraged to make joint ventures with other firms. Following is an indicative list / skills required for carrying out the assignment.

Sr. No.	Position.	Minimum Mandatory Qualification	Preferred Qualification	Job specific experience (Years)
1	Project Manager / Team Leader [Key Staff]	MSc Engineering/ Masters/ M.Phil or equivalent Degree in relevant subject	PhD/Foreign Degree in relevant subject	22 years overall professional experience, 10 years of which will be in relevant field after minimum mandatory qualification
2	Hydraulic Design Engineer [Key Staff]	MSc Engineering/ Masters/ M.Phil or equivalent Degree in relevant subject	PhD/Foreign Degree in relevant subject	17 years overall professional experience, 7 years of which will be in relevant field after minimum mandatory qualification.
3	Structural Design Engineer [Key Staff]	MSc Engineering/ Masters/ M.Phil or equivalent Degree in relevant subject	PhD/Foreign Degree in relevant subject	17 years overall professional experience, 7 years of which will be in relevant field after minimum mandatory qualification.
4	Mechanical Engineer [Key Staff]	MSc Engineering/ Masters/ M.Phil or equivalent Degree in relevant subject	PhD/Foreign Degree in relevant subject	17 years overall professional experience, 7 years of which will be in relevant field after minimum mandatory qualification.
5	Hydrologist [Key Staff]	MSc Engineering/ Masters/ M.Phil or equivalent Degree in relevant subject	PhD/Foreign Degree in relevant subject	17 years overall professional experience, 7 years of which will be in relevant field after minimum mandatory qualification.

iv. Financial Capabilities

Detail of financial capabilities to be provided as per **Annex-E**.

* ***All documents should be in English.***

** ***Any misinformation, false and forged statement will lead to disqualification from being shortlisted/pre-qualified and any other action as per applicable laws.***

*** ***Firms/Companies which may be applying under a joint venture/consortium should submit their documents under a single EOI by clearly indicating the lead firm.***

Criteria, sub-criteria, and point system for the evaluation of Expression of Interest (EOIs) is as follows:		
A1	Firm Experience	Points
a)	Number of Assignments (General)*	10
b)	Number of Assignments (Relevant)**	70
	i. Scope of relevant Assignments	40
	ii. Cost of relevant Assignments	20
	ii. Duration of relevant Assignment	10
c)	Firm Profile	20
	i. Organizational Structure	5
	ii. List of Permanent Staff	5
	iii. Quality Management System***	5

	iv. List of Testing Equipment / Machinery	5
	Total A1	100
A2	Human Resource Capacity	Points
a)	Project Manager / Team Leader	30
b)	Hydraulic Design Engineer	20
c)	Mechanical Engineer	20
d)	Structural Design Engineer	15
e)	Hydrologist	15
	Total A2	100
A3	Financial Capacity****	Points
a)	Annual Turn Over	100
	Total A3	100
Score= A1[50%] + A2[35%] +A3[15%] The minimum score required to be shortlisted is: 65 Points		

08 general assignments completed in the past 10 years to be provided.

** 03 most relevant assignments completed in the past 10 years to be provided. Assignments provided beyond the limit of 03 will be given no weight age.

***Project / Assignment provided must be supported with the completion certificate issued by the procuring agency / executing agency of the particular project.

**** Quality Management System has to be supported by Quality Management Certificates.

***** Financial capacity should be supported by authenticated Audit Financial Statement / reports duly certified. Bank statement shall not be considered in this regard.

5. Firm Detail

Firm should provide its detail as per **Annex-F**. In this PQD the word Firm has been used for both Firm and JV.

6. Client Detail

Chief Engineer, Irrigation

Sargodha Zone

Sargodha

Contact No. 0483-9230445

7. EOI Deadline

The deadline for submission of EOIs is 17th February, 2021 at 12:30 Hrs and will be opened on same date at 13:00 Hrs to the office of Chief Engineer, Irrigation Sargodha Zone at the address given below. However, for clarification/coordination the Firm/Company may contact to:

Chief Engineer, Irrigation

Sargodha Zone

Sargodha

Contact No. 0483-9230445

Annex-A Firm Experience (General)

General ¹									
S. No	Name of Project	Location (Country/Province/Division)	Client	Project Description	Implementation		Total Cost of Project	Cost of Consultancy Services Provided by the Firm	Actual Services Provided by the Consultant
					Start	Completion			
1									
2									
3									
4									
5									

- Provide list of 08 No. general projects/assignments performed in the past 10 years
- Project / Assignment provided must be supported with the completion certificate issued by the procuring agency / executing agency of the particular project.
The projects without completion certificate will be marked zero.
- If consultancy cost of mentioned Project is equal or more than the cost of our project, then cost factor =1.
- If consultancy cost of mentioned Project is between 50% to 100% of our projects, then cost factor=0.65.
- If consultancy cost of mentioned Project is less than 50% of our project, the cost factor =0.3

Annex-B Firm Experience (Relevant)

Relevant ¹									
Sr. No	Name of Project	Location (Country/Province/Division)	Client	Project Description	Implementation		Total Cost of Project	Cost of Consultancy Services Provided by the Firm	Actual Services Provided by the Consultant
					Start	Completion			
1									
2									
3									

- Total (03) most relevant assignments to be submitted which should include feasibility of lift irrigation scheme and hill torrent flood protection works protecting canal infrastructure.
- Assignments provided beyond the limit of 03 will be given no weight age.
- Project / Assignment provided must be supported with the completion certificate issued by the procuring agency / executing agency of the particular project. The project without completion certificate will be marked zero.
- Projects completed in last 10 years will be considered.
- If consultancy cost / duration/ relevancy of mentioned project is equal or more than our project, cost factor =1
- If consultancy cost / duration/ relevancy of mentioned project is between 50 % to 100% compared with our project, cost factor =0.65
- If consultancy cost / duration/ relevancy of mentioned project is less than 50% compared our project, cost factor =0.3

Annex-C (List of Key Personnel)

S. No	Name	Qualification	Total Experience in Years	Position Held	Current Responsibilities

- The list of key personnel should be in accordance with proposed positions mentioned in Human Resource Capacity.
- 30% weight age shall be given to qualification whereas 70% weight age shall be assigned to experience for each proposed resource given in above table.
- Only one human resource can apply in one sector/sub-sector with single firm against each post. Similarly, one human resource can be quoted / entered by single firm and no other firm can quote/enter that human resource in any sector/sub-sector.
- It is mandatory for each proposed resource to fulfill minimum eligibility criteria mentioned under section 4 (iii) of this PQD to be qualified for score assignment
- Monthly salary of each resource to be provided with evidence.

Annex-D (CVs of Key Personnel)

CURRICULUM VITAE (CV)

1. **Name of Personnel:** _____
2. **Current Position in the Firm :** _____
3. **Date of Birth:** _____
4. **Nationality** _____
5. **CNIC No(if Pakistani):** _____ **or Passport No:** _____
6. **Education:**

Degree	Major/Minor	Institution	Date (MM/YYYY)

7. **Membership of Professional Associations:** _____
8. **Other Training** [*Indicate significant training since degrees under 6 - Education were obtained*]:
9. **Languages** [*For each language indicate proficiency: good, fair, or poor in speaking, reading, and writing*]:
10. **Employment Record** [*Starting with present position, list in reverse order every employment held by staff member since graduation, giving for each employment (see format here below)*]:

Employer	Position	From (MM/YYYY)	To (MM/YYYY)

11. Detail of Works Undertaken.

Name of assignment or project: _____

Cost of Project _____ Location: _____

Date of Start: _____ Date of Completion: _____

Client: _____ Main project features: _____

Position held: _____ Activities performed: _____

Actual time spent on the project: _____ in months.

12. Detail of Relevant Works Undertaken.

Name of assignment or project: _____

Cost of Project _____ Location: _____

Date of Start: _____ Date of Completion: _____

Client: _____ Main project features: _____

Position held: _____ Activities performed: _____

Actual time spent on the project: _____ in months.

13. Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

[Signature of the proposed staff] Date: _____
Day/Month/Year

[Counter Signature of authorized signatory] Date: _____
Day/Month/Year

Annex-E (Financial Capabilities)

Year	Annual turnover
2017-2018	
2018-2019	
2019-2020	

- Data provided under the head of financial capabilities must be supported by the authenticated Audited Annual Financial Statements & reports duly certified.
- Annual turnover shall be calculated from the Average annual turnover of past 03 year
- JV's partner's / associates also provide authenticated Audited Annual Financial Statements & reports duly certified. Bank statement shall not be considered in this regard
- If average annual turnover of past 03 years of firm / JV is equal or more than our project cost, cost factor =1
- If average annual turnover of past 03 years of firm / JV is between 50 %to 100% of our project cost, cost factor =0.65
- If average annual turnover of past 03 years of firm / JV is less than 50% of our project cost, cost factor =0.3.

Annex-F (Firm Detail)

Name of Firm	Address	Contact No.	Authorized Personnel Name	Authorized Personnel Contact No.
Lead Firm				
Joint Venture Firm(s)				
Associate Firm(s)				

- In order to assess JVs, pre-requisites must be fulfilled by the lead and as well as partner firms separately.
- In case of a firm outside Pakistan, registration with relevant professional body and exchange commission will be required of their country of origin.
- For evaluation, lead firm shall be assigned 60% weight age in each component such as firm experience, human resource capacity and financial capacity and remaining 40% weight age shall be equally assigned to partner / associate firms (if more than one(1) partner firm is involved).