



GATEWAY TO NATIONAL PROSPERITY

PORT QASIM AUTHORITY
MINISTRY OF MARITIME AFFAIRS
GOVERNMENT OF PAKISTAN
KARACHI - PAKISTAN

INVITATION FOR PREQUALIFICATION OF DREDGING CONTRACTORS
FOR DREDGING OF PORT QASIM NAVIGATION CHANNELS

1. Applications are invited for prequalification of Dredging Works at Port Qasim from national and international dredging firms/companies having sufficient proven experience of execution of dredging works. The scope of work relates to dredging for Deepening, Widening and straightening of existing Navigation Channel and Commissioning of Alternate inner Navigation Channel. In accordance with feasibility study the estimated dredging volume is 34 million cubic meters.
2. This invitation for the prequalification is open to Contractors / Joint Ventures (JV). The applicants must possess valid Registration Certificate / license issued by Pakistan Engineering Council (PEC) in the Category, C-A and FC-A (as applicable) with specialization Code CE03. For foreign firms, formal application to PEC for registration of firms and JV's will suffice whereas license of PEC shall be mandatory before signing of the contract. The applicants shall also be registered with Public Procurement Regulatory Authority (PPRA) Acquisition and Disposal System (E-PADs).
3. Interested Firms / Companies may download the Prequalification Documents from PQA web-site (www.pqa.gov.pk) and PPRA website (www.ppra.org.pk) / E-PADs.
4. The prequalification documents complete in all respects in a sealed envelope clearly marked "**Application for Prequalification for Dredging Works at Port Qasim**" shall be submitted in the office of Director General (P & CW) 2nd Floor Main Admin Building Port Qasim Authority, Bin Qasim, Karachi-75020, by 1130 hours (PST) on 29th July 2024 and the same also has to be uploaded on the E-PADs. The applications shall be opened in the presence of applicants who may like to be present on the same day at 1200 hours (PST). Only the firms / companies and joint ventures prequalified by Port Qasim Authority will be invited to Bid.
5. Port Qasim Authority reserves the right to reject or accept any or all applications as per Public Procurement Regulatory Authority Ordinance and the Public Procurement Rules made thereunder.

(Tipu Sultan Shaikh)
Secretary
Port Qasim Authority,
Bin Qasim, Karachi - Pakistan
75020

**GOVERNMENT OF PAKISTAN
MINISTRY OF MARITIME AFFAIRS
PORT QASIM AUTHORITY
KARACHI
PAKISTAN**



Gateway to National Prosperity

**PRE-QUALIFICATION DOCUMENTS
FOR
DREDGING WORKS AT PORT QASIM**



(JUNE - 2024)

CONTENTS

1. INTRODUCTION	3
1.1. BACKGROUND	3
1.2. THE PROJECT	3
1.3. DREDGING CONTRACT DESCRIPTION	3
1.4. THE PROCESS	4
2. INVITATION FOR PREQUALIFICATION	4
3. INSTRUCTIONS TO APPLICANTS.....	6
3.1. Submission of Applications.....	6
3.2. QUALIFICATION CRITERIA.....	8
3.3. JOINT VENTURE (JV)	13
3.4. CONFLICT OF INTEREST	14
3.5. UPDATING PREQUALIFICATION INFORMATION.....	14
3.6. OTHER FACTORS.....	14
3.7. HSE POLICY & OTHER INFORMATION OF THE APPLICANT	14
4. EVALUATION CRITERIA	16
4.1. Evaluation Criteria	16
ANNEXURE-A	
(LETTER OF APPLICATION).....	19
APPLICATION FORMS	21
Application Form A-1.....	22
Application Form A-2.....	24
Application Form A-3.....	25
Application Form A-4.....	26
Application Form A-5.....	27
Application Form A-6.....	29
Application Form A-7.....	30
Application Form A-8.....	31
Application Form A-9.....	33
Application Form A-10.....	35
Application Form A-11.....	37
Application Form A-12.....	38
Application Form A-13.....	39

ANNEXURE-B	40
PROJECT INFORMATION:.....	41
SITE CONDITIONS.....	41
GEOLOGY	44
ANNEXURE-C: LOCATION MAP & DRAWINGS	45

**Invitation
for Prequalification
of
Dredging Contractors**



GATEWAY TO NATIONAL PROSPERITY

PORT QASIM AUTHORITY (PQA)
MINISTRY OF MARITIME AFFAIRS
GOVERNMENT OF PAKISTAN
KARACHI - PAKISTAN

**INVITATION FOR PREQUALIFICATION OF DREDGING CONTRACTORS FOR
DREDGING OF PORT QASIM NAVIGATION CHANNELS**

1. Applications are invited for prequalification of Dredging Works at Port Qasim from national and international dredging firms/companies having sufficient proven experience of execution of dredging works. The scope of work relates to dredging for Deepening, Widening and straightening of existing Navigation Channel and Commissioning of Alternate inner Navigation Channel. In accordance with feasibility study the estimated dredging volume is 34 million cubic meters.
2. This invitation for the prequalification is open to Contractors / Joint Ventures (JV). The applicants must possess valid Registration Certificate / license issued by Pakistan Engineering Council (PEC) in the Category, C-A and FC-A (as applicable) with specialization Code CE03. For foreign firms, formal application to PEC for registration of firms and JV's will suffice whereas license of PEC shall be mandatory before signing of the contract. The applicants shall also be registered with Public Procurement Regulatory Authority (PPRA) Acquisition and Disposal System (E-PADs).
3. Interested Firms / Companies may download the Prequalification Documents from PQA web-site (www.pqa.gov.pk) and PPRA website (www.ppra.org.pk) / E-PADs.
4. The prequalification documents complete in all respects in a sealed envelope clearly marked "**Application for Prequalification for Dredging Works at Port Qasim**" shall be submitted in the office of Director General (P & CW) 2nd Floor Main Admin Building Port Qasim Authority, Bin Qasim, Karachi-75020, by 1130 hours (PST) on 29th July 2024 and the same also has to be uploaded on the E-PADs. The applications shall be opened in the presence of applicants who may like to be present on the same day at 1200 hours (PST). Only the firms / companies and joint ventures prequalified by Port Qasim Authority will be invited to Bid.
5. Port Qasim Authority reserves the right to reject or accept any or all applications as per Public Procurement Regulatory Authority Ordinance and the Public Procurement Rules made thereunder.

(Tipu Sultan Shaikh)
Secretary
Port Qasim Authority,
Bin Qasim, Karachi - Pakistan 75020

1. INTRODUCTION

1.1. BACKGROUND

Port Qasim Authority (PQA) intends to enhance its capacity to safely handle ships of up to Length Overall (LOA) 370 meters, Beam 56 meters and Draught 14.0 meters in all weather conditions including Qmax LNG carriers as per international standards. Port Qasim has presently has an approximately 45 km long main navigation channel from its outer anchorage up to Marginal Wharf berths. Accordingly, PQA are planning to undertake a dredging project to increase the size (width and depth) of the main channel and to install an additional (Alternate) channel.

Scope of Works

- Port Qasim Approach Channel (17.5 km long) is to be widened to minimum 290m width and dredged at -16.0mCD with further extension seaward to achieve the natural depth of -16.0mCD, side slope of 1V:7H (assumed for the purposes of volume estimation only).
- The main Inner Channel (26.5 km long) is to be widened to minimum 250m width and dredged at -15.0mCD, side slope of 1V:6H (assumed for the purposes of volume estimation only).
- The Alternate / Additional channel (20.5 km long), comprising Chann Waddo, Rakhel and Chara Creeks is to be widened to minimum 250m width and dredged at -13.2mCD, side slope 1V:6H (assumed for the purposes of volume estimation only).

In accordance with feasibility study the estimated dredging volume is 34 million cubic meters.

Your company is invited to submit pre-qualification application and to furnish information in accordance with the prescribed documents, of the Dredging Works at Port Qasim.

Subject to satisfying the prequalification criteria, PQA intends to contract an appropriately qualified dredging company through a competitive tendering process.

1.2. THE PROJECT

The project generally consists of the following works (Main Items):

- Pre-Dredge Survey (In-Survey)
- Dredging;
- Disposal of dredged material
- Measurements and payments
- Side slopes
- Post Dredge Survey (Out-Survey)

1.3. DREDGING CONTRACT DESCRIPTION

The work is to be carried out in accordance with Pakistan Engineering Council (PEC) prescribed bidding document which is based on FIDIC Conditions of Contract. The scope also includes provision of reliable modern and preferably new equipment/dredging tools and survey equipment for measurement of depths and volumes.

The Dredging Contractor will be responsible for the Dredging Works at Port Qasim (comprising the dredging and disposal of dredged material at designated locations) in accordance with the Contract Specifications and drawings.

1.4. THE PREQUALIFICATION PROCESS

The documents for prequalification of Contractors are based on the “STANDARD PROCEDURE FOR PRE-QUALIFICATION OF CONTRACTORS”, First Edition – March 2009, as published by the Pakistan Engineering Council (PEC).

Therefore, following a prescribed process, an open invitation has been publicised in the Press and Electronic media regarding Pre-qualification of Contractors for the Project. This document contains Instructions to Applicants, Qualification Criteria, Mandatory conditions, Evaluation Criteria and Annexures & Forms. This information will form the basis to discover the capabilities of the applicant firms and their ability to prequalify for the subsequent tendering process. Only the prequalified firms shall be allowed to participate further in the bidding process i.e. to obtain a set of bidding document and to submit a bid for the project work. However, a Joint Venture, submitting the bid will be required to provide a No Objection Certificate (NOC) from Competition Commission of Pakistan (CCOP) at the time of submission of Tender Documents. The details of the bidding procedure shall be included in the Bidding Documents.

2. INVITATION FOR PREQUALIFICATION

An invitation to pre-qualification for the dredging works at Port Qasim has been advertised by publication in the newspapers as well as uploaded at PQA & PPRA Websites.

INVITATION FOR PREQUALIFICATION OF DREDGING CONTRACTORS

Applications are invited for prequalification of Dredging Works at Port Qasim from national and international dredging firms/companies having sufficient proven experience of execution of dredging works. The following process shall apply. The scope of work relates to dredging of the following areas:

Scope of Works

- Port Qasim Approach Channel (17.5 km long) is to be widened to minimum 290m width and dredged at -16.0mCD with further extension seaward to achieve the natural depth of -16.0mCD, side slope of 1V:7H (assumed for the purposes of volume estimation only).
- The main Inner Channel (26.5 km long) is to be widened to minimum 250m width and dredged at -15.0mCD, side slope of 1V:6H (assumed for the purposes of volume estimation only).
- The Alternate / Additional channel (20.5 km long), comprising Chann Waddo, Rakhel and Chara Creeks is to be widened to minimum 250m width and dredged at -13.2mCD, side slope 1V:6H (assumed for the purposes of volume estimation only).

In accordance with feasibility study the estimated dredging volume is 34 million cubic meters.

Invitation for PREQUALIFICATION OF DREDGING CONTRACTORS for dredging of Port QASIM NAVIGATION Channels

Applications are invited for prequalification of Dredging Works at Port Qasim from national and international dredging firms/companies having sufficient proven experience of execution of dredging works. The scope of work relates to dredging for Deepening, Widening and straightening of existing Navigation Channel and Commissioning of Alternate inner Navigation Channel. In accordance with feasibility study the estimated dredging volume is 34 million cubic meters.

This invitation for the prequalification is open to Contractors / Joint Ventures (JV). The applicants must

possess valid Registration Certificate / license issued by Pakistan Engineering Council (PEC) in the Category, C-A and FC-A (as applicable) with specialization Code CE03. For foreign firms, formal application to PEC for registration of firms and JV's will suffice whereas license of PEC shall be mandatory before signing of the contract. The applicants shall also be registered with Public Procurement Regulatory Authority (PPRA) Acquisition and Disposal System (E-PADs).

Interested Firms / Companies may download the Prequalification Documents from PQA web-site (www.pqa.gov.pk) and PPRA website (www.ppra.org.pk) / E-PADs.

The prequalification documents complete in all respects in a sealed envelope clearly marked "Application for Prequalification for Dredging Works at Port Qasim" shall be submitted in the office of Director General (P & CW) 2nd Floor Main Admin Building Port Qasim Authority, Bin Qasim, Karachi-75020, by 1130 hours (PST) on 29th July 2024 and the same also has to be uploaded on the E-PADs. The applications shall be opened in the presence of applicants who may like to be present on the same day at 1200 hours (PST). Only the firms / companies and joint ventures prequalified by Port Qasim Authority will be invited to Bid.

Port Qasim Authority reserves the right to reject or accept any or all applications as per Public Procurement Regulatory Authority Ordinance and the Public Procurement Rules made thereunder.

(Tipu Sultan Shaikh)
Secretary
Port Qasim Authority,
Bin Qasim, Karachi - Pakistan 75020

3. INSTRUCTIONS TO APPLICANTS

3.1. Submission of Applications

3.1.1. Applications for pre-qualification (one original and two copies) must be received in sealed envelopes as per below:

The prequalification documents complete in all respects in a sealed envelope clearly marked "Application for Prequalification for Dredging Works at Port Qasim" shall be submitted in the office of Director General (P & CW) 2nd Floor Main Admin Building Port Qasim Authority, Bin Qasim, Karachi-75020, by 1130 hours (PST) on 29th July 2024 and the same also has to be uploaded on the E-PADs.

The applications shall be opened in the presence of applicants who may like to be present on the same day at 1200 hours (PST). Only the firms / companies and joint ventures prequalified by Port Qasim Authority will be invited to Bid.

The application must be signed by a person duly authorized on behalf of the Applicant and be clearly marked "Application for Prequalification" of Dredging Works at Port Qasim. The Employer reserves the right to accept or reject the late applications.

3.1.2. The name and mailing address of the Applicant shall be clearly marked left-hand on the envelope.

3.1.3. The application shall be prepared in English language. Information in any other language shall be accompanied by its translation in English. Employer reserves the rights for Prequalification in case of non-compliance of the above requirement. In the case of translation errors, the English language version shall prevail.

3.1.4. The Applicants must respond to all questions and provide complete information as advised in this document. Any lapses to provide essential information may result in dis-qualification of the Applicant.

3.1.5. A clarification meeting will not be conducted. Clarification required if any, may be asked through E-Mail/Fax not later than 10 days before the deadline for submission of Applications.

3.1.6. The applicant is advised that the extent of previous and current experience in managing and executing similar works will form a significant factor in the evaluation and prequalification of prospective tenderers.

3.1.7. When prequalifying the applicants, great importance will also be attached to the structure of the company(s) or association. An organisation chart showing the company structure, including Parent Group and other holdings applicable to the Contract should be provided. The posts which the members of the Management Board or other controlling body occupy, in their respective employer companies, should also be shown. In all cases, arrangements which lack a strong and clearly identified ownership and management structure will not be accepted. If an association / joint venture intend to

divide work between two or more member companies, the proposed division of work should also be set out.

- 3.1.8. Special emphasis should be given by applicants in providing information concerning their experience relative to projects which had a similar scope and scale, and / or were carried out under similar environmental and geotechnical conditions and / or similar logistical conditions.
- 3.1.9. The Applicant shall demonstrate expertise and experience in both large-scale capital and maintenance marine dredging works. If an applicant is unable to demonstrate extensive expertise and experience in this area, the applicant will be expected to form a suitable association / joint venture partnership before being eligible for prequalifying. The lead company of such an association / joint venture must be an experienced contractor in the key area of expertise (large-scale capital and maintenance marine dredging) and must also be able to demonstrate expertise and experience of leading an association / joint venture.
- 3.1.10. If an association / joint venture is prequalified and submits a tender, the association / joint venture must take all necessary steps to satisfy the Employer that in the event their tender is accepted, the signing of the subsequent Contract binds all the parties in the association / joint venture jointly and severally.
- 3.1.11. Evaluation of the applicants will be done solely on the basis of the information presented by applicants in the appended Prequalification Form, in any attachments to this Form as specifically suggested in the Form, and on the basis of further information obtained by the Employer and / or Consultants at their sole discretion from third parties (including, but not limited to, Bankers, Contractors' References, Owners and Consulting Engineers of works constructed by applicants).
- 3.1.12. The Employer will notify each applicant on the list of applicants if they are prequalified to tender.
- 3.1.13. The Employer has the right, in its sole discretion and without offering any justification, to not prequalify any applicant for any reason whatsoever or which, in the opinion of the Employer, does not meet the requirements for prequalification, or has not submitted adequate evidence of its competence and standards of fitness as required by or implied in the Prequalification Form.
- 3.1.14. Special emphasis should be given by applicants in providing information concerning their experience relative to projects which had a similar scope and / or were carried out under similar environmental and geotechnical conditions and / or similar logistical conditions.
- 3.1.15. Any and all costs incurred by the Applicant during the prequalification process shall be at the applicant's expense and will not be reimbursed by the Employer. The Employer shall not be responsible for any loss or delay in delivery of the applicant's prequalification proposals.

Lack of Information

- 3.1.16. Failure of an Applicant to provide comprehensive and accurate information that is essential for the Employer's evaluation of the Applicant's capabilities and qualification or failure to provide timely clarification or substantiation of the

information supplied results in disqualification of the applicant. Any disqualification will be at the Employer's sole discretion, without offering any justification.

3.2. QUALIFICATION CRITERIA

3.2.1. General

- 1) Pre-qualification will be based on all the criteria given in succeeding paragraphs 3.2.2 to 3.2.6 regarding the Applicant's Financial Soundness, Experience Record, Personnel Capabilities and Equipment Capabilities as demonstrated by the Applicant's responses in the forms attached to this letter. The Employer reserves the right to waive minor deviations, if these don't materially affect the capability of an applicant to perform the contract. Sub-contractor's experience and resources shall not be taken into account in determining the Applicant's compliance with the qualifying criteria. However, Joint Venture experience & resources shall be considered. Consortium or Association of firms will be considered for similar treatment as in case of Joint Venture.
- 2) The Prequalification Forms shall be completed with clear and accurate statements in accordance with the format and sequence of Annexures. Evaluation of the suitability of the Applicant will be based entirely on the Applicant's prequalification submission. Any incomplete statements may be disregarded by the Employer and, in such cases, the particular questions will be deemed by the Employer to be unanswered.
- 3) Keeping in view the complexity of the Project, the procuring agency shall examine the prequalification applications as per following breakup of short listing criteria:

Sr. No.	Category	Marks / Weightage
(1)	Financial Soundness	30
(2)	Experience Record	35
(3)	Personnel Capabilities	10
(4)	Equipment Capabilities	25
	Total	100

Note: The Applicant must secure at least 50% score in each Category and 60% in aggregate.

3.2.2. General Experience..... (35 Marks)

In order to meet the prequalification criteria, it will be necessary for the Applicant to have considerable experience in the planning, administration and management and execution of contracts of a similar scale, nature and scope to that described for the Dredging Works

Contract. The Applicant is required to demonstrate that it will provide the necessary technical and management expertise to successfully complete a contract of this type.

Credit Marks for Experience Record shall be awarded on the basis of following criteria:

Sr. No.	Description	Max. Marks
i)	Projects of similar nature (dredging) and complexity (**) completed over last 10 years	15
<ul style="list-style-type: none"> • 12 marks are given if the applicant has completed 03 projects valuing US\$150 million of similar nature and complexity completed. • For less than 03 projects completed following will be the weightage: 12 x (A / 3) • For more than 03 projects but less than 06 projects completed following weightage shall be applied: 12+ (A/6) x 3 <p>A= number of projects of similar nature and complexity in last ten years</p> <ul style="list-style-type: none"> • Full marks are given in case of 06 projects or more 		
ii)	Projects of similar nature and complexity (**) in hand.	10
<ul style="list-style-type: none"> • 8 marks are given if the applicant has 03 projects valuing US\$150 million of similar nature and complexity in hand which are progressing on time. • For less than 03 projects completed following will be the weightage: 8 x (A / 3) • For more than 03 projects but less than 06 projects in hand following weightage shall be applied: 8+ (A/6) x 2 <p>A= number of projects of similar nature in hand which are progressing on time</p> <ul style="list-style-type: none"> • Full marks are given in case of 06 projects or more 		
iii)	Experience of Works related to project but not basic part	03
<p>Experience of works related to Dredging and Reclamation projects. 01 marks are given for each project if contractor has completed Dredging and Reclamation of US\$ 150 million or more in similar location (SA region, middle east or Pakistan) and similar nature in last five years with a total of 03 marks</p>		
iv)	Enlistment record with Government Organizations and other agencies 1 mark	1
v)	<p>General Information – Satisfactory evidence of:</p> <ul style="list-style-type: none"> ▪ Company & Contact Details: Comprehensive provision as per forms in Annexures (01 mark) ▪ Structure & Organization: Compulsory(*) comprehensive provision as per forms in Annexures (01 mark) ▪ Company Health, Safety, Environment Management & Security Policy document & Safety record of last 5 years & evidence of full-time safety officer in place - (01 mark) (*) ▪ Contractors’ own Quality Assurance, Quality Control System and 	6

	<ul style="list-style-type: none"> Quality officer in place -(01 mark) ▪ Certificate of Quality Assurance Standards from recognized organization (01 mark) ▪ Provision of a Preliminary Method Statement (01 mark) 	
	(*) Compliance with compulsory information is essential for firm to get pre-qualified (**) Similar Nature & Complexity Project: Dredging Work in a combination of open sea and confined sea dredging of at least 25 Million Cub. m valuing over US \$ 150 million. Similar method of dredging, similar location (South Asian region, Middle East or Pakistan), with minimum 60% participation and on time completion is mandatory.	
Total		35

3.2.3 Personnel Capabilities..... (10 Marks)

The applicant must have in his employment suitably qualified personnel to fill the following key management and specialist positions. The applicant will furnish information on a Principal and an Alternate Person for each position (both should meet the specified experience requirements):

S No.	Quality of Key Personnel nominated for Dredging Project Implementation	Educational Qualification	Total Experience (years)	Experience of Dredging Works (years)	No. of Major Dredging Projects executed	Max Marks
1	Project Manager	BE Civil	Min 25	Min 10	Min 5	03
2	Dredging Engineer	Min Graduate & dredging qualified	Min 20	Min 10	Min 8	02
3	Dredging Superintendent	Min Graduate & dredging qualified	Min 15	Min 10	Min 3	02
4	Hydrographer	Min Graduate in relevant Field	Min 12	Min 8	Min 2	01
5	Dredger Captain	Master Mariner	Min 20	Min 08	Min 10	01
6	HSE Officer	Min Graduate in relevant Field	Min 15	Min 05	Min 3	01
Total						10

3.2.4 Equipment Capabilities (25 Marks)

The Applicant shall meet the following minimum criteria:

- a) The mode of acquiring all key sea going equipment i.e. the plant already in the applicant's ownership or will be purchased, leased or hired. In case of ownership, proof of ownership documents. In case of lease and hired, following mandatory documentary supportive evidence and information has to be provided by contractor:
 - Valid lease or Hire Agreement with dredger company
 - Proof of valid maintenance support during entire duration of dredging contract

(02 years)

- b) Technical details (brief specification) and schedule of key/principal equipment considered by the applicant to be necessary for undertaking the Project.
- c) The Applicant is required to demonstrate that, all the proposed key equipment will be reliable/compatible and promptly be available for deployment for the proposed project.
- d) All proposed major sea going equipment are to be backed up with valid certificates & proof issued by Internationally recognized Classification Society or International Association of classification society / members of IACS, implying that the equipment is in good order for functional reliability, maintenance, and working at rated capacity and the present and expected life etc.
- e) The Applicant may also list alternate and additional sea going equipment which he would propose for the project together with equipment.

Credit Marks shall be granted on the basis of the following criteria:

Sr. No	Type & Characteristics	Max. Marks
1)	<p>Fixed Marks-Mandatory & Committed (*) to Port Qasim Dredging Project – 15 marks</p> <ul style="list-style-type: none"> - One Trailer Suction Hopper Dredger (TSHD) of minimum 18,000cu.m/ hopper capacity of max. 10 years Age committed to dredging project. Allocation of marks: Owned: 8 marks with adequate ancillary equipment Rented / leased: 6 marks with adequate ancillary equipment - One Cutter Suction Dredger of minimum 1,500 KW (@ cutter head) power with maximum age 10 years and committed to dredging project with adequate dredge lines and booster support equipment. Allocation of marks: Owned: 7 marks with adequate ancillary equipment Rented / leased: 5 marks with adequate ancillary equipment - Associated Plant & Equipment - Dump barges split type - Work barges self-propelled - Fully equipped survey boat – sea going- - On-Site Repair & Maintenance facilities - Work Boat & Pusher tugs <p>Note: (maximum breakdown replacement 21 days for above equipment) (*) Compliance with compulsory equipment is essential for firm to get pre-qualified</p>	<p>15 marks (* Compulsory confirmation of equipment)</p>
2)	Additional Score	Max. Marks
	- Confirmed availability of standby TSHD dredger of equivalent capacity in case of breakdown of primary equipment	2
	- Primary TSHD offering rainbow discharge option for disposal	2

	- Confirmed availability of standby CSD dredger of equivalent capacity in case of breakdown of primary equipment	2
	- Standby barges and workboats 1 each	1
	- Details of all major marine and land-based construction plant owned by the company.	1
	- Technical details (specification) of general marine and land-based plant and equipment considered by the applicant to be necessary for undertaking the project.	2
Total		25

**3.2.5 Financial Soundness: ----- 30
Marks**

For financial soundness assessment, the applicant are required to submit audited financial statement for the last 05 years and any other document to verify their financial status.

Credit Marks shall be awarded on the basis of the following criteria:

Sr. No	Description	Max. Marks
i)	Working Capital (US \$ 250 million) in last 05 years	10
ii)	Available Bank Credit Line (US \$ 100 million)	10
iii)	Registration with FBR, SRB	03
iv)	Litigation History where decision went against the firm last 05 years or current (no case gives full marks)	03
v)	Blacklisting from any Agency (no blacklisting gives full marks)	02
vi)	Valid License for other related items of Work (PEC marine category & relevant codes, SECP registration, Competitive Commission of Pakistan CCOP)	02
Total		30

Criteria for Bank Credit line and working Capital

Criteria for marks for working Capital

6 Marks are given if the available average working capital for last five years is equal to US \$ 200 million. For limit less than US \$ 200 million = 5x (A/200).

For the limit more than US \$200 million but less than US\$ 250million = 6 + (A/250) x 4

A= Average working capital in last five years.

Full marks are given in case of limit is US\$ 250 million or more.

Criteria for Marks for Bank Credit line

6 Marks are given if the available Bank Credit line limit is equal to US \$ 50 million. For limit less than US \$ 50 million = 6 x (A/50).

For the limit more than \$50 million but less than US\$ 100 million = 6 + (A/100) x 4

A= Available Bank Credit Line Limit

Full marks are given in case of limit is US\$ 100 million or more.

3.3. JOINT VENTURE (JV)

3.3.1. Joint Venture must comply with the following requirements:

- a) Following are minimum qualification requirements:
 - i. The lead partner shall meet not less than Fifty percent (50%) of all qualifying criteria given in paras 3.2 and 3.5 herein.
 - ii. Each of the partners shall meet not less Thirty percent (30%) of all the qualifying criteria given in paras 3.2 and 3.5 herein.
 - iii. The joint venture must collectively satisfy the criteria of paras 3.2, 3.3 and 3.4 for which purpose the relevant figures for each of the partners shall be added together to arrive at the JV's capacity. Individual members must satisfy each of the requirements of paras 3.5 and 3.6 herein.
- b) Any change in a prequalified JV after prequalification, shall be subject to the written approval of the Employer prior to the deadline for submission of bids. Such approval may be denied if:
 - i. Partner(s) withdraw from a JV and remaining partners do not meet the qualifying requirements;
 - ii. The new partners to a JV are not qualified individually or as another JV; or
 - iii. In the opinion of the Employer, a substantial reduction in competition would result.
- c) Bid shall be signed by all members in the JV so as to legally bind all partners, jointly and severally, and any bid shall be submitted with a copy of the JV agreement providing the joint and several liability with respect to the contract.

3.3.2 The prequalification of a JV does not necessarily prequalify any of its partners individually or as a partner in any other JV or association. In case of dissolution of a JV, each one of the constituent firms may prequalify if they meet all the prequalification requirements and any partner of J.V has requested/shall request for the same and then his prequalification shall be subject to the written approval of the Employer.

A Lead Partner shall be one (from within the JV, Associates, Partners etc.) of the partners who is responsible for performing/executing any or all key functions / major components of the proposed contract. The Lead Partner shall be nominated as being in-charge during the Pre-qualification and bidding period and in the event of a successful bid, during contract execution. The Lead Partner shall be authorized to incur liabilities and receive instructions from Employer for and on behalf of any and all Partners of the Joint Venture/ Association / subcontractors; this authorization

shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the Partners.

3.4. CONFLICT OF INTEREST

3.4.1. The applicant (including all members of a JV) must not be associated, nor have been associated in the past with the consultant or any other entity that has prepared the design, specifications and other prequalification and bidding documents for the project, or was proposed as Engineer for the contract over the last five years. Any such association may result in disqualification of the applicant.

3.5. UPDATING PREQUALIFICATION INFORMATION

3.5.1. Applicants shall be required to update the financial, personnel and equipment information used for prequalification at the time of submitting their bids, to confirm their continued compliance with the qualification criteria and verification of the information provided at the time of prequalification. A bid shall be rejected if the Applicant's qualification thresholds are no longer met at the time of bidding.

3.6. OTHER FACTORS

3.6.1. Only firms and JVs that have been prequalified under this procedure shall be invited to bid. A qualified firm or a partner of a qualified JV may participate only in one bid for the contract. If a firm submits more than one bid, singly or as a JV, all bids including that bidder will be rejected. This rule will not apply in respect of bids which include specialist sub-contractors who are used by more than one bidder.

3.6.2. The Employer reserves, at its sole discretion, the right to:

- a) Amend the scope and value of any contract(s) to be bid, in which event the bidder (s) will only bid among those prequalified bidders who meet the requirements of the contract(s) as amended. However, the Employer has to review the disqualified bids who originally do not meet the specified criteria for Pre-qualification.
- b) Reject or accept any application; and
- c) Cancel the pre-qualification process and reject all applications.

The Employer shall neither be liable for any such actions nor be under any obligation to inform the applicants of the grounds for rejection.

3.6.3. Applicants will be informed in writing by fax or mail within 84 calendar days starting from the date for submission of applications of the result of their applications.

3.6.4. This invitation for prequalification is open to all international firms from countries except India & Israel including Indian and Israeli base personnel even though if they possess other citizenships.

3.6.5. The applicant must have registration with Federal Board of Revenue (FBR) and Sind Revenue Board (SRB) before execution of contract.

3.7. HSE POLICY & OTHER INFORMATION OF THE APPLICANT

Information shall be provided in respect of each company forming the applicant:

- a) Company Health, Safety, Environment Management & Security Policy document &

- Safety record of last 5 years & evidence of full-time safety officer in place
- b) Contractors' own Quality Assurance, Quality Control System and Quality officer in place.
 - c) Environmental Policy: The applicant shall provide details of any environmental management systems they hold.
 - d) Certificate of Quality Assurance Standards from recognized organization
 - e) Provision of a Preliminary Method Statement

4. EVALUATION CRITERIA

4.1. Evaluation Criteria

Applicants meeting the minimum requirements mentioned in para 3.2, besides other factors shall be considered for pre-qualification. No compromise shall be made on minimum requirements of 50% score in each category.

ANNEXURE-A
(LETTER OF APPLICATION)

ANNEXURE-A

LETTER OF APPLICATION

(Letterhead paper of the Applicant, or partner responsible for a joint venture, including full postal address, telephone no., fax no., telex no., cable and e-mail address)

Date.....

**Director General (P & CW)
2nd Floor Main Admin Building
Port Qasim Authority, Bin Qasim,
Karachi-75020**

Sir,

1. Being duly authorized to represent and act on behalf of ----- (hereinafter the Applicant), and having reviewed and fully understood all the prequalification information provided, the undersigned hereby apply to be prequalified as a bidder for **Dredging Works at Port Qasim.**
2. Attached to this letter are copies of original documents defining:
 - (a) the Applicant's legal status;
 - (b) the principal place of business; and
 - (c) the place of incorporation (for applicants who are corporations); or
 - (d) the place of registration and the nationality of the owners (for applicant who are in partnerships or individually-owned firms).
3. Port Qasim Authority and its nominated representatives are hereby authorized to conduct any inquiries or investigations to verify the statements, documents, and information submitted in connection with this application, and to seek clarification from our Bankers and Clients regarding any Financial and Technical aspects. This Letter of Application will also serve as authorization to any individual or authorized representative of any institution referred to in the supporting information, to provide such information deemed necessary and requested by Port Qasim Authority to verify statements and information provided in this application, or with regard to the resources, experience, and competence of the Applicant.
4. Port Qasim Authority and its authorized representatives may contact the following persons for further information, if so needed.

General and Managerial Inquiries	
Contact 1	Telephone 1
Contact 2	Telephone 2

Technical and Personnel Inquiries	
Contact 1	Telephone 1
Contact 2	Telephone 2

Financial Inquiries	
Contact 1	Telephone 1
Contact 2	Telephone 2

5. This application is made with the full understanding that:
- (a) Bids by pre-qualified applicants will be subject to verification of all information submitted for pre-qualification at the time of bidding.
 - (b) Port Qasim Authority reserves the right to:
 - i. Amend the scope and value of any component under the project; in such event bids will only be called from prequalified bidders who meet the revised requirements.
 - ii. Reject or accept any application or cancel the pre-qualification process and reject applications and;
 - (c) Port Qasim Authority shall not be liable for any such actions and shall be under no obligation to inform the Applicant of the grounds for actions at 5(b) above.
 - (d) Port Qasim Authority shall not be liable for consequence of, and shall be under no obligation to inform the Applicant of the grounds for actions at 5(b) above.
6. The undersigned declare that the statements made and the information provided in the duly completed application are complete, true and correct in every detail.

Signed
Name
For and on behalf of (name of Applicant or lead partner of a joint venture)

Note:

- 1. For applications by Joint ventures, all the information requested in the prequalification documents is to be provided for the joint venture, if it already exists, and for each party to the joint venture separately. The lead partner should be clearly identified. Each partner in the joint venture shall sign the letter.**
- 2. Application by joint ventures should provide information on a separate sheet information for each party to the application.**

APPLICATION FORMS

General Information

All individual firms and each partner of a joint venture applying for prequalification are requested to complete the information in this form. Nationality information is also to be provided for foreign owners or applicants who are forming part of the Joint Ventures as required under the Pakistan Engineering Council (PEC) Bye-Laws as a Partnership/Joint Venture.

Where the Applicant proposes to use named subcontractors for critical components of the works, or for work contents in excess of 10 percent of the value of the whole works, the following information should also be supplied for the specialist subcontractor(s).

1.	Name of Firm	
2.	Head Office Address	
3.	Telephone	Contact Person: Name: Title:
4.	Fax	Telex
5.	Place of Incorporation/Registration	Year of incorporation/registration

NATIONALITY OF OWNERS		
	NAME	NATIONALITY
1.		

2.		
3.		
4.		
5.		

General Experience Record

Name of Applicant or Partner of a Joint Venture

All individual firms and all partners of a joint venture are requested to complete the information in this form. The information supplied should be the annual turnover of the Applicant (or each member of a joint venture), in terms of the amounts billed to the clients for each year for work in progress or completed over past five years.

Use a separate sheet for each partner of a Joint Venture.

ANNUAL TURNOVER (Dredging Only)

YEAR	TURNOVER (in actual currency)	TURNOVER (in US \$)
1.		
2.		
3.		
4.		
5.		

Joint Venture Summary

Names of all Partners of a Joint Venture
1. Lead Partner
2. Partner
3. Partner
4. Partner

Total value of annual Dredging turnover, in terms of work billed to clients in Million US\$

<i>Annual Turnover Data (Dredging only: Equivalent in US\$, Million)</i>						
Partner	Form A-2 Page no.	Year 1	Year 2	Year 3	Year 4	Year 5
1. Lead Partner						
2. Partner						
3. Partner						
4. Partner						
Total						

Particular Construction Experience Record

(Name of Applicant or partner of a Joint Venture)

To prequalify, the Applicant shall be required to pass the specified requirements applicable to this form, as set out in the: "Instructions to Applicants."

On a separate page, using the format of Application Form A-5, each applicant or partner of a Joint Venture is required to list all contracts of a value as provided in evaluation criteria of a similar nature and complexity to the contract for which the Applicant wishes to qualify, undertaken during the last ten years. The information is to be summarized, using Application Form A-5, for each contract completed or under execution by the Applicant or by each partner of a Joint Venture.

Where the Applicant proposes to use named subcontractor(s) for critical components of the works or for work contents in excess of 10 percent of the value of the whole works, the information in the afore-mentioned forms should also be supplied for each specialist subcontractor.

Details of Contracts of Similar Nature and Complexity

Name of Applicant or partner of a Joint Venture

Use a separate sheet for each contract.

1.	Name of Contract
	Country
2.	Name of Employer
3.	Employer Address
4.	Nature of works and special features relevant to the contract for which the Applicant wishes to prequalify
5.	Contract Role (Tick One) (a) Sole Contractor (b) Sub- Contractor (c) Partner in a Joint Venture
6.	Value of the total contract (in specified currencies) at completion, or at date of award in for a current contract Currency..... Currency..... Currency.....
7.	Completion certificate (To be attached)

8.	Date of Award
9.	Date of Completion
10.	Contract Duration (Years and Months) <p style="text-align: center;">___Years ___Months</p>
11.	Specified Requirements (Annual volume of dredging) ----- ----- -----

Summary Sheet: Current Contract Commitments/Works in Progress

(Name of Applicant or partner of a Joint Venture)

Applicants and each partner to an application should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which substantial Completion Certificate has yet to be issued.

Name Of Contract	Value of Outstanding Work (US\$)	Estimated Completion Date
1.		
2.		
3.		
4.		
5.		
6.		

Personnel Capabilities

Name of Applicant

For specific positions essential to contract implementation, Applicants should provide the names of at least two candidates qualified to meet the specified requirements stated for each position. The data on their experience should be supplied on separate sheets using one Form for each candidate (Application Form A-8)

1.	Title of Position
	Name of Prime Candidate
	Name of Alternate Candidate
2.	Title of Position
	Name of Prime Candidate
	Name of Alternate Candidate
3.	Title of Position
	Name of Prime Candidate
	Name of Alternate Candidate
4.	Title of Position
	Name of Prime Candidate
	Name of Alternate Candidate

Candidate Summary

<i>Name of Applicant</i>

Position		Candidate [Tick appropriate one] <input type="checkbox"/> Principal <input type="checkbox"/> Alternate
Candidate information	1. Name of Candidate	2. Date of Birth
	3. Professional Qualification	
Present employment	4. Name of employer	
	Address of employer	
	Telephone	Contact (manager/personnel officer)
	Fax	Email
	Job title of candidate	Years with present employer

Summarize professional experience over the last 20 years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the Project.

Month/ Dates/Years		Company / Project / Position / Relevant technical and management experience
From	To	

Equipment Capabilities

Name of Applicant:

The Applicant shall provide adequate information to demonstrate clearly that he has the capability to meet the requirements for each and all items of equipment listed in the Instructions to Applicants. A separate Form shall be prepared for each item of equipment listed in para 3.2.4 of the instructions to applicant, or for alternative equipment proposed by the Applicant.

Item of Equipment		
Equipment information	1. Name of manufacturer and country	2. Model and power rating
	3. Capacity	4. Year of manufacture
Current status	5. Current location	
	6. Details of current commitments	
Source	7. Indicate source of the equipment	
	<input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased	

Omit the following information if it is owned by the Applicant or partner.

Owner	8. Name of owner	
	9. Address of owner	
	Telephone	Contact name and title
	Fax	Email
Agreement	Details of rental/lease specific to the Project.	

Financial Capability

(Name of Applicant or partner of a Joint Venture)

Applicants, including each partner of a joint venture, should provide financial information to demonstrate that they meet the requirements stated in the Instructions to Applicants. Each applicant or partner of a joint venture must fill-in this form. If necessary, use separate sheets to provide complete banker information. A copy of the audited balance sheets should be attached.

Banker	Name of banker	
	Address of banker	
	Telephone	Contact name and title
	Fax	E-mail address

Summarize actual assets and liabilities in US\$ for the previous five years, based upon known commitments, projected assets and liabilities in US\$ for the next two years.

Financial Information in US\$ Equivalent	Actual: For Previous five (05) Years					Projected: next two years	
	1	2	3	4	5	6	7
Total Assets							
Current Assets							
Total Liabilities							
Current Liabilities							
Profits Before Taxes							
Profits After Taxes							
Turnover (Gross Revenue)							
Paid-up Capital							
Bank Credit Line							

Specific proposed sources of financing to meet the cash flow of the Project, net of current commitments (Instructions to Applicants, Para 3.2.5)

Source of financing	Amount (Pak Rs. or equivalent)
1.	
2.	
3.	
4.	

Attach audited financial statements for the last five years (for individual applicant or each partner of joint venture).

Firms owned by individuals, and partnerships, may submit their balance sheets certified by a registered accountant, and supported by copies of tax returns, if audits are not required by the laws of their countries of origin in case of foreign firms.

Litigation History

Name of Applicant or partner of a Joint Venture

Applicants, including each of the partners of a joint venture, should provide information on any history of litigation or arbitration resulting from contracts executed in the last five years or currently under execution. A separate sheet should be used for each partner of joint venture.

Year	Award FOR or AGAINST Applicant	Name of client, cause of litigation, and matter in dispute	Disputed amount (current value in US\$)

Application Form A-12

Joint Venture / Association (Applicable to JV / Association)

If the company intends to enter into a Joint Venture / Association for the project, please give the following information otherwise state "Not Applicable"

1. Joint Venture / Association Partners

S. No	Name of the Firm	Address of the firm	Status in the Joint Venture / Association
a			
b			
c			

2. Name of company leading the Joint Venture / Association

Application Form A-13

Integrity Pact

DECLARATION OF FEES, COMMISSIONS AND BROKERAGE ETC - PAYABLE BY THE SUPPLIER / CONTRACTORS OF GOODS, SERVICES & WORKS

(Name of the Applicant), hereby declares its intention not to obtain or induce the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

Without limiting generally of the foregoing, (Name of the Applicant), represents and warrants that it has fully declared the brokerage, commission, fees etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultation fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

(Name of the Applicant), certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, or representation or warranty.

(Name of the Applicant), accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right, interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other rights and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

Notwithstanding any rights and remedies exercised by GoP in this regard, (Name of the Applicant), agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by (Name of the Applicant), as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from Government of Pakistan (GoP).

(Name of Applicant)

Signature-----

Date-----

Annexure-B

- **Project Information**
- **Site Conditions**
- **Geology**

Project Information:

Port Qasim Authority (PQA) intends to enhance its capacity to safely handle ships of minimum Length Overall (LOA) 370 metres, Beam 56 metres and Draught 14.0 metres in all weather conditions including QMax LNG Carriers as per international standards. Port Qasim's existing main navigation channel is approximately 45 Km long, running from its outer anchorage up to the Marginal Wharf berths.

Scope of Works

- Port Qasim Approach Channel (17.5 km long) is to be widened to minimum 290m width and dredged at -16.0mCD with further extension seaward to achieve the natural depth of -16.0mCD, side slope of 1V:7H (assumed for the purposes of volume estimation only).
- The main Inner Channel (26.5 km long) is to be widened to minimum 250m width and dredged at -15.0mCD, side slope of 1V:6H (assumed for the purposes of volume estimation only).
- The Alternate / Additional channel (20.5 km long), comprising Chann Waddo, Rakhel and Chara Creeks is to be widened to minimum 250m width and dredged at -13.2mCD, side slope 1V:6H (assumed for the purposes of volume estimation only).

In accordance with feasibility study the estimated dredging volume is 34 million cubic meters.

SITE CONDITIONS

The following site conditions information is made available to the Applicant for his information, prior to prequalification, such of the data of which the Employer has actual knowledge and possession of and which the Employer reasonably considers to be relevant to sub-surface and hydrological conditions at the Site and the execution of the Works, including environmental aspects. The Applicant shall be responsible for interpreting the site conditions information.

The Employer (for itself, and any relevant consultants and contractors engaged by it) shall accept no responsibility or liability for, and gives no warranties (express or implied) as to the accuracy or completeness of any site conditions information, or any other data relating to the Site, the Works, environmental impact, or the Employer's / other's existing operations or otherwise made available to the Applicant in accordance with this prequalification document.

General

The Port is accessible from Arabian Sea through Phitti Creek or partially from chain of creeks comprising Chann Waddo – Rakhel – Chara Creeks and Korangi-Kadiro Creeks. The main navigation channel leading to Port through Phitti Creek is 45 Km long and can accommodate ships upto 13.0 meters draught.

Marine traffic, other users of PQA navigation channels and adjacent facilities

The port has 13 private terminals including LNG / LPG terminals operating in the main channel. The traffic for these terminals use the Port Qasim Navigational channel. All traffic comply with PQA SOP's (Standard Operating Procedures) in collaboration with Operations Division.

Bathymetry

Presently, thirteen (13) private terminals are established at Port Qasim. The Approach Channel is maintained at 15.3m depth with width 200m and the Inner Channel at 14.0m depth with width minimum 250m.

- **Tidal Levels** at Port Qasim (Pipri)

Name	Abbreviation	Chart Datum (m)
Highest Astronomical Tide	HAT	+4.01
Mean High Water Spring	MHWS	+3.45
Mean High Water Neap	MLHW	+2.66
Mean Sea Level	MSL	+2.03
Mean Low Water Neap	MLWN	+1.40
Mean Low Water Spring	MLWS	+0.62
Lowest Astronomical Tide	LAT	-0.57

- **Meteorological Data**

Weather conditions in this region of the Arabian Sea are governed by the two monsoon seasons, the SW monsoon in summer from May to September and the NE monsoon in winter from December to February.

- **Temperature & Humidity**

Karachi Weather Conditions

Temperature (°C)		Humidity (%)
Maximum mean	Minimum mean	Maximum
30.6	21.1	70

- **Precipitation**

Qasim is located in a dry region; the average yearly rainfall being 203mm. Rain falls mainly in the summer months of July and August. There is also some rainfall during the winter months of December and January, with an average of 12.5mm in January.

- **Wind Climate**

The wind direction during the SW monsoon is mostly south-westerly but varies from south south-west to west with a force generally 4 to 5 on the Beaufort scale. Occasionally, the wind reaches Beaufort Scale 6 to 7 on account of low atmospheric pressure due to disturbances. The NE monsoon wind direction is from north to north-east with a wind force averaging about 2 on the Beaufort scale.

- **Storms**

Cyclones in the Arabian Sea generally occur during the summer months of May and June and during the period between the SW and NE monsoons in the months of October and November.

Cyclones usually hit the coast near Mumbai and Gujarat in India. They then pass overland in a north-westerly direction and, before reaching the coast of Pakistan, then veer off west towards the Arabian Sea where they dissipate. Although Port

Qasim has historically avoided the destructive force of the cyclones, it does suffer from the effects of strong winds and heavy rain from passing cyclones.

Over the 69 years of recorded data, cyclones have struck the Pakistan coast 87 times, of which 47 were severe cyclones.

- **Cyclones Registered in Pakistan**

	J	F	M	A	M	J	J	A	S	O	N	D	Total
Severe	0	0	0	4	10	12	0	0	0	6	14	1	47
Total	3	0	0	4	12	17	4	1	4	17	21	4	87

- Extreme wind speeds recorded between 1864 and 1997 from UK Met Office Data are shown in the table below.

No. of Events	Wind Speed		
	(Beaufort Scale)	(knots)	(m/s)
25	8	40	20
1	9	47	24
1	10	55	28
1	12	100	50

- **Visibility**

Weather in Qasim is generally fine throughout the year with visibility ranging up to 10 nautical miles. Haze generally prevails in the morning, but clears by noon. In the SW monsoon however, the visibility is reduced to about 2 to 5 nautical miles with the sky mostly overcast. In the NE monsoon the sky is generally clear and visibility is often 12 nautical miles or more. In winter, fog can descend on the city reducing visibility to less than 1 nautical mile but it usually dissipates by the afternoon – whilst the frequency and duration of occurrence varies, this may occur approximately 3 to 4 days a month over the winter period.

- **Wave Climate**

Wave conditions at the entrance to the Port Qasim are dominated by south-westerly (180° to 270°) offshore and waves propagating from the Indian Ocean. During southwest monsoon, waves generally 2m to 3m height are observed in the Approach Channel. However, waves in the inner channel are of low height. Only small locally generated waves prevail in the inner channel.

- **Currents**

Tidal currents are relatively high with speeds between 2 knots to 4 knots.

- **Seismic Intensity**

Location of Port Qasim is in seismic zone 2B with PGA of 0.18g

- **Environmental sensitivities / restrictions**

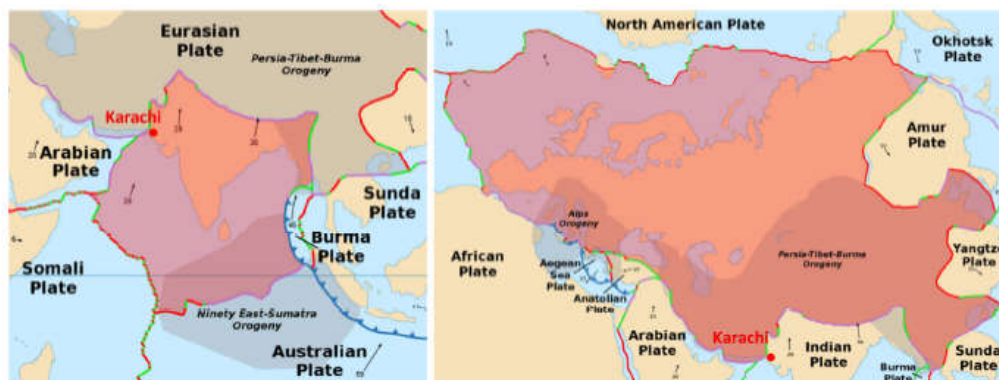
Refer to Feasibility and EIA reports available with Port Qasim Authority

Geology

After examination of report and studies, it is evident that the Port Qasim marine environment is predominantly characterized by narrow creeks, mudflats, and mangroves. The port is located in the Indus River Delta-Arabian Sea mangroves, which is identified as a sensitive eco-region.

A review of various Environmental and Social Impact Assessments in PQA area indicates that the inter-tidal zone is covered by soft clayey silt to varying depths. The on-shore area is covered by dune sand and silty sand and gravel.

Pakistan, geologically overlaps with the Indian and the Eurasian tectonic plates. Karachi, located in the north-western corner of the Indian plate, lies at the boundary of the Eurasian and Arabian plate.



Indian and Eurasian tectonic plates

Early deposition of sediments include silt, sand stone, conglomerate, limestone with low compact and cementing materials. Surface features syncline delta and valley region where anticline ridges are exposed. As per stratigraphic description, Gazij and Manchar inclined two formations gently northeast to southeast in offshore (HEC). The coastal region is found to be of tertiary and post-tertiary origin. Blatter et al (1929) dates it as recent as Eocene.

The region has been formed by the upheaval of land from the Tethys Sea, which once extended up to the northern border of Pakistan but, gradually withdrew with the rising of the Himalayas. The underlying rocks are mostly of marine origin, highly folded, faulted and fissured everywhere (Sidra et al, 2010 Situation Analysis of Sindh Coast Issues and Options).

Current Geotechnical Study: The feasibility study on deepening and widening of PQA main channel and additional channel PQA (2018/2019) included the undertaking of geotechnical investigations. The report is available with PQA..

Further information on any of the above can be obtained from feasibility study at time of bidding.

Annexure-C: Location Map & Drawings

