



KARACHI FISHERIES HARBOUR AUTHORITY

Government of Sindh

Ref: KFHA/ADP/ENG/02/22772017

Dated: January 13, 2017

NOTICE INVITING TENDER

1. Karachi Fisheries Harbour Authority (KFHA) invites sealed bids on Item Rate basis from all the interested national bidders on **“Single Stage One Envelope”** procedure under SPPRA Rules 2010 (Amended 2013) for the following work;

Name of work	PEC Category	Tender Fee	Bid Security	Time for completion
Rehabilitation & Renovation of Karachi Fish Harbour – External Services (Part-I) Scope: Demolition works, water supply system, sewage system, fire fighting system, ancillary buildings, external electrical works, main KFHA boundary wall and RCC roads etc.	C-2 or above	Rs. 10,000/-	Rs. 15,000,000/-	730 Calendar Days

2. Eligibility Criteria;

- i) The bidder should provide company profile.
- ii) Valid Registration with Pakistan Engineering Council in Constructor's Category C-2 or above with specialization codes CE01, CE09 & CE10. The bidder to engage specialized firm(s) (with specialized codes as specified) as Joint Venture (JV) for Security & Surveillance System (EE02), High Voltage Installation (EE05) and Specialized Lighting System (EE06).
- iii) No Joint Venture allowed for civil & plumbing works.
- iv) The bidder should have relevant experience of at least (02) Projects (a project comprises building works, water supply / fire fighting system, sewage system, external electrical works and road works) having cost Rs.450 (M) or above for each project completed during last ten (10) years (Letter of Award, completion certificates any other relevant documents to be attached).
- v) The bidders should have an average annual turnover during last three years Rs.800 (M) or above per year as per audited balance sheets from Chartered Accountant firms.
- vi) Bank balance / available bank credit limit (latest) should be at least of Rs.200 (M).
- vii) Income tax returns for the last three years.
- viii) Valid Registration with Income Tax Department, Sindh Revenue Board, Sales Tax Department.
- ix) Affidavit to the effect that the firm has never been blacklisted.

- x) The bidders should submit details of litigation history and arbitration with government agencies and their outcome.
- xi) Affidavit to the effect that all documents / particulars / information furnished are true and correct, if any information found incorrect/misleading, the Procuring Agency reserves the right to reject the bid.
3. **Bidding Documents** will be issued to all interested bidders upon submission of application along with payment of tender fee (*Non-refundable*) in the form of Pay Order in favour of Karachi Fisheries Harbour Authority as per following schedule;
- i) **Issuance:** From date of publication to Feb 03, 2017 (during office hours)
- ii) **Pre-bid Meeting:** Feb 06, 2017 at 11:00 am
- iii) **Submission:** Feb 14, 2017 till 2:00 pm
- iv) **Opening:** Feb 14, 2017 at 3:00 pm
- v) **Place of issuance, pre-bid meeting, submission and opening of bid documents will be;**
Address: Karachi Fish Harbour, West Wharf Road, Karachi
Telephone No.: (021) 99214816 & 99214818
Fax: (021) 32313199
Website: www.karachifishharbour.com
4. The bids must be accompanied by original Bid Security in the amount of Pak Rs.15,000,000/- (Pak Rupees fifteen million) in the form of deposit at call, Pay order or a Bank Guarantee issued by a Scheduled Bank in Pakistan having AA rating or above in favour of Karachi Fisheries Harbour Authority.
5. Bid Validity Period: 90 days
6. In case of Public Holiday/Strike or due to any un-toward incident, the date of submission / opening will be the next working day with same schedule.
7. Advertisement can also be seen on KFHA and SPPRA websites.
8. KFHA will award the contract to the bidder whose bid has been determined to be substantially responsive to the bidding documents, and who has offered the lowest evaluated bid, but not necessarily the lowest submitted price, within the original or extended period of bid validity. Provided that such bidder has been determined to be eligible in accordance with the eligibility criteria given in para 2 and bidding documents.
9. KFHA reserves the right to reject any or all applications subject to relevant provisions of Sindh Public Procurement Rules 2010 (Amended 2013).

Managing Director
Karachi Fisheries Harbour Authority



KARACHI FISHERIES HARBOUR AUTHORITY

Government of Sindh

No. KFHA/782/2015
Dated: August 1-9, 2015

NOTIFICATION

In compliance of the Rules (7 & 8) of Sindh Public Procurement Rules 2010 (Amended 2013), the Procurement Committee for the scheme "Rehabilitation & Renovation of Karachi Fish Harbour – External Services" is constituted consisting of the following:

- | | |
|---|-----------------|
| 1. Director Admin & Finance
Karachi Fisheries Harbour Authority | Convener |
| 2. Director Engineering
Karachi Fisheries Harbour Authority | Member |
| 3. Nominee of the
Works & Services Department, Government of Sindh
Not below the rank of BS-18 | Member |
| ✓ 4. Project Manager (Consultant of the Scheme)
National Engineering Services Pakistan Limited
(NESPAK) | Co-opted Member |

Terms of Reference:

- Prepare Bidding Document;
- Carrying out technical as well as financial evaluation of bids;
- Preparing evaluation report as provided in Rule 45;
- Making recommendations for the award of contract to the competent authority; and
- Perform any other function ancillary and incidental to the above.



(Muhammad Ramzan Awan)
Managing Director

Copy is forwarded for information to:

- The Secretary, Works & Services Department, Govt. of Sindh, Karachi with a request to nominate an officer not below the rank of BS-18.
- The Secretary, Livestock & Fisheries Department, Govt. of Sindh Karachi.
- The Managing Director, Sindh Public Procurement Regulatory Authority, Karachi.
- All Committee Members.

9/9/2015

01/09/2015

02/09/15

O/Copy



KARACHI FISHERIES HARBOUR AUTHORITY

Government of Sindh

No. KFHA/DE/ 834 /2015

Dated: September 14th 2015

NOTIFICATION

In pursuance to Rule 31 of SPPR 2010 (Amended 2013) a Complaint Redressal Committee (CRC) in respect of ADP Scheme "Rehabilitation & Renovation of Karachi Fish Harbour – External Services" is hereby constituted for redressal of grievances and complaints of bidders that may occur during the procurement proceedings. The committee will consist of;

P.S TO MD KFHA
I/W. No: 483
Dated: 16-9-15

- | | |
|--|----------|
| 1. Managing Director
Karachi Fisheries Harbour Authority | Chairman |
| 2. Representative of AG Sindh
(Not below an officer in BS-18) | Member |
| 3. Syed Tahiruddin Faridi
Chief Engineer (Contracts), NESPAK | Member |

(Signature)
18/9/15

Terms of Reference:

TOR's of the committee are as provided under Rule 31 of SPP Rules 2010 (Amended 2013).



OIC

(Signature)
14/9/2015
(Zahoor Hussain Abbasi)
Director Admin & Finance

A Copy is forwarded for information to:

1. The Accountant General, Sindh, Karachi.
2. The Secretary, Livestock & Fisheries Department, Govt. of Sindh Karachi.
3. The Managing Director, Sindh Public Procurement Regulatory Authority, Karachi.
4. All Committee Members.



M. Hafiz
16-9-15

NO P...
Date:



KARACHI FISHERIES HARBOUR AUTHORITY



REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR - EXTERNAL SERVICES (PART-I)

Government of Sindh

BIDDING AND CONTRACT DOCUMENT

VOLUME – I

INSTRUCTIONS TO BIDDERS
BIDDING DATA
FORM OF BID AND APPENDICES TO BID
FORMS
CONDITIONS OF CONTRACT
BILL OF QUANTITIES

November, 2016



NATIONAL ENGINEERING SERVICES PAKISTAN (PVT.) LIMITED

13th Floor, N.I.C. Building, Abbasi Shaheed Road, Off: Shakra-e-Faisal, KARACHI-74400
P. O. Box 5772, KARACHI, Pakistan Ph. No. (021) 99090000, 9925277-84 Fax No. (021) 35651994, 9922536
E-mail: nespakh@gmail.com, Karachi@nespak.com.pk, Website: www.nespak.com.pk



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**INSTRUCTIONS
TO
BIDDERS**

INSTRUCTIONS TO BIDDERS

(Note: These Instructions to Bidders along with bidding data will not be part of the Contract and will cease to have effect once the contract is signed.)

A. GENERAL

IB.1 Scope of Bid

- 1.1 Procuring agency as defined in the bidding data hereinafter called “the procuring agency” wishes to receive bids for the construction and completion of works as described in these bidding documents, and summarized in the bidding data hereinafter referred to as the “Works”.
- 1.2 The successful bidder will be expected to complete the works within the time specified in Appendix-A to Bid.

IB.2 Source of Funds

- 2.1 Procuring agency has received/allocated/] applied for loan/grant/ Federal/ Provincial/Local Government funds from the source(s) indicated in the bidding data in various currencies towards the cost of the project /scheme specified in the bidding data, and it is intended that part of the proceeds of this loan/grant/funds will be applied to eligible payments under the contract for which these bidding documents are issued.

IB.3 Eligible Bidders

- 3.1 This Invitation for Bids is open to all interested bidders who are eligible under provisions of Sindh Public Procurement Rules as mentioned below and the criteria given in the Notice Inviting Tender (NIT)/ Bidding Document.

Firms and individuals, national or international, may be allowed to bid for any project where international competitive bidding is feasible. Any conditions for participation shall be limited to those that are essential to ensure the bidder’s capability to fulfill the contract in question.

- (a) Bidders may be excluded if;
 - (i) as a matter of law or official regulations, commercial relations are prohibited with the bidder’s country by the federal government in case of ICB, or
 - (ii) a firm is blacklisted/ debarred by the procuring agency and the matter has been reported to the Authority, subject to Rule 30 of Sindh Public Procurement Rules 2010.

- (b) Government-owned enterprises or institutions may participate only if they can establish that they are;
 - (i) legally and financially autonomous, and
 - (ii) operate under commercial law.

Provided that where government-owned universities or research centers in the country are of a unique and exceptional nature, and their participation is critical to project implementation, they may be allowed to participate; and

Bidders shall include all those contractors who are registered or incorporated in Pakistan, irrespective of the nationality of their owners and professional staff, or

- (c) Bidders are:-
 - (i) pre-qualified with procuring agency for particular project/scheme;
 - (ii) registered with Pakistan Engineering Council in particular category and discipline,
 - (iii) registered with relevant tax authorities (income/sales tax, wherever applicable)

IB.4 One Bid per Bidder

- 4.1 Each bidder shall submit only one bid either by himself, or as a partner in a joint venture. A bidder who submits or participates in more than one bid (other than alternatives pursuant to Clause IB.16) will be disqualified.

IB.5 Cost of Bidding

- 5.1 The bidders shall bear all costs associated with the preparation and submission of their respective bids, and the procuring agency will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

IB.6 Site Visit

- 6.1 The bidders are advised to visit and examine the site of works and its surroundings and obtain all information that may be necessary for preparing the bid and entering into a contract for construction of the works. All cost in this respect shall be at the bidder's own expense.
- 6.2 The bidders and any of their personnel or agents will be granted permission by the procuring agency to enter upon his premises and lands for the purpose of such inspection, but only upon the express condition that the bidders, their personnel and agents, will release and indemnify the procuring agency, his personnel and agents from and against all liability in respect thereof and will be responsible for death or personal injury, loss of or damage to property and any other loss, damage, costs and expenses incurred as a result of such inspection.

B. BIDDING DOCUMENTS

IB.7 Contents of Bidding Documents (SSP RULE 21)

7.1 The bidding documents, in addition to invitation for bids, are those stated below and should be read in conjunction with any addenda issued in accordance with Clause IB.9.

- a. Instructions to Bidders.
- b. Bidding Data.
- c. General Conditions of Contract, Part-I (GCC).
- d. Special Conditions of Contract, Part-II (SCC)
- e. Specifications.
- f. Form of Bid and Appendices to Bid.
- g. Bill of Quantities (Appendix-D to Bid).
- h. Form of Bid Security.
- i. Form of Contract Agreement.
- j. Forms of Performance Security, Mobilization Advance Guarantee, Integrity Pact and Indenture bond for secured advance.
- k. Drawings.

7.2 The bidders are expected to examine carefully the contents of all the above documents. Failure to comply with the requirements of bid submission will be at the bidder's own risk. Pursuant to Clause IB.26, bids which are not substantially responsive to the requirements of the BD will be rejected.

IB.8 Clarification of Bidding Documents (SSP RULE 23(1)):

Any interested bidder requiring any clarification(s) in respect of the bidding documents may notify the procuring agency in writing at the procuring agency's address indicated in the Invitation for Bids/NIT. Procuring agency will respond to any request for clarification provided they are received at least five calendar days prior to the date of opening of bid.

Provided that any clarification in response to query by any bidder; shall be communicated to all parties who have obtained bidding documents.

IB.9 Addendum/Modification of Bidding Documents:

9.1 At any time prior to the deadline for submission of bids, the procuring agency may, for any reason, whether at his own initiative or in response to a clarification requested by a interested bidder, modify the bidding documents by issuing addendum.

9.2 Any addendum thus issued shall be part of the bidding documents pursuant to sub-clause IB 7.1 hereof and shall be communicated in writing to all bidders. Interested bidders shall acknowledge receipt of each addendum in writing to the procuring agency.

9.3 To afford bidders reasonable time in which to take an addendum into account in preparing their bids, the procuring agency may extend the deadline for submission of bids in accordance with IB.20

C. PREPARATION OF BIDS

IB.10 Language of Bid

10.1 The bid and all correspondence and documents related to the bid exchanged by a bidder and the procuring agency shall be in the language stipulated in the bidding data and Special Conditions of the Contract. Supporting documents and printed literature furnished by the bidders may be in any other language provided the same are accompanied by an accurate translation of the relevant parts in the bid language, in which case, for purposes of evaluation of the bid, the translation in bid language shall prevail.

IB.11 Documents Accompanying the Bid

Each bidder shall:

- (a) submit a written authorization on the letterhead of the bidding firm, authorizing the signatory of the bid to act for and on behalf of the bidder;
- (b) update the information indicated and listed in the bidding data and previously submitted with the application for prequalification, and continue to meet the minimum criteria set out in the prequalification documents, which as a minimum, would include the following :
 - (i) Evidence of access to financial resources along with average annual construction turnover;
 - (ii) Financial predictions for the current year and the following two years, including the effect of known commitments;
 - (iii) Work commitments since prequalification;
 - (iv) Current litigation information; and
 - (v) Availability of critical equipment.

And

- (c) furnish a technical proposal taking into account the various Appendices to Bid specially the following:

Appendix-E to Bid	Proposed Construction Schedule
Appendix-F to Bid	Method of Performing the Work
Appendix-G to Bid	List of Major Equipment
Appendix-K to Bid	Organization Chart for Supervisory Staff

and other pertinent information such as mobilization programme etc;

11.2 Bids submitted by a joint venture of two (2) or more firms shall comply with the following requirements:

- (a) one of the joint venture partners shall be nominated as being in charge; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the joint venture partners;

- (b) the bid, and in case of a successful bid, the Form of Contract Agreement shall be signed by the authorized partner so as to be legally binding on all partners;
- (c) the partner-in-charge shall always be duly authorized to deal with the procuring agency regarding all matters related with and/or incidental to the execution of works as per the terms and Conditions of Contract and in this regard to incur any and all liabilities, receive instructions, give binding undertakings and receive payments on behalf of the joint venture;
- (d) all partners of the joint venture shall at all times and under all circumstances be liable jointly and severally for the execution of the contract in accordance with the contract terms and a statement to this effect shall be included in the authorization mentioned under Sub-Para (a) above as well as in the Form of Bid and in the Form of Contract Agreement (in case of a successful bid);
- (e) a copy of the agreement entered into by the joint venture partners shall be submitted with the bid stating the conditions under which it will function, its period of duration, the persons authorized to represent and obligate it and which persons will be directly responsible for due performance of the contract and can give valid receipts on behalf of the joint venture, the proportionate participation of the several firms forming the joint venture, and any other information necessary to permit a full appraisal of its functioning. No amendments / modifications whatsoever in the joint venture agreement shall be agreed to between the joint venture partners without prior written consent of the procuring agency;
- (f) Submission of an alternative Letter of Intent to execute a Joint Venture Agreement shall be mandatory.

11.3 Bidders shall also submit proposals of work methods and schedule, in sufficient detail to demonstrate the adequacy of the bidder's proposals to meet the technical specifications and the completion time referred to sub- clause IB 1.2 hereof.

IB.12 Bid Prices

- 12.1 Unless stated otherwise in the bidding documents, the contract shall be for the whole of the works as described in IB 1.1 hereof, based on the unit rates or prices submitted by the bidder or percentage quoted above or below on the rates of Composite Schedule of Rates (CSR), as the case may be.
- 12.2 The bidders shall fill in rates and prices for all items of the works described in the Bill of Quantities. Items against which no rate or price is entered by a bidder will not be paid for by the procuring agency when executed and shall be deemed to be covered by rates and prices for other items in the Bill of Quantities. In case of Composite Schedule of Rates, if the bidder fails to mention the percentage above or below, it shall be deemed to be at par with the rates of Composite Schedule of Rates.
- 12.3 The bid price submitted by the contractor shall include all rates and prices including the taxes. All duties, taxes and other levies payable by the contractor

under the contract, or for any other cause during the currency of the execution of the work or otherwise specified in the contract as on the date seven days prior to the deadline for submission of bids.

Additional / reduced duties, taxes and levies due to subsequent additions or changes in legislation shall be reimbursed / deducted as per Sub-Clause 13.7 of the General Conditions of Contract Part-I.

- 12.4 The rates and prices quoted by the bidders are subject to adjustment during the performance of the contract in accordance with the provisions of Clause 13.7 of GCC. The bidders shall furnish the prescribed information for the price adjustment formulae in Appendix-C to Bid, and shall submit with their bids such other supporting information as required under the said Clause. Adjustment in prices quoted by bidders shall be allowed as per Sub-Para 4(ii) of Section C of Instructions to bidders and bidding data.

IB.13 Currencies of Bid and Payment

- 13.1 The unit rates and the prices shall be quoted by the bidder entirely in Pak rupees. A bidder expecting to incur expenditures in other currencies for inputs to the works supplied from outside the procuring agency's country (referred to as the "Foreign Currency Requirements") shall indicate the same in Appendix-B to Bid. The proportion of the bid price (excluding Provisional Sums) needed by him for the payment of such Foreign Currency Requirements either (i) entirely in the currency of the bidder's home country or, (ii) at the bidder's option, entirely in Pak rupees provided always that a bidder expecting to incur expenditures in a currency or currencies other than those stated in (i) and (ii) above for a portion of the foreign currency requirements, and wishing to be paid accordingly, shall indicate the respective portions in the bid.
- 13.2 The rates of exchange to be used by the bidder for currency conversion shall be the selling rates published and authorized by the State Bank of Pakistan prevailing on the date, 07 (seven) days prior to the deadline for submission of bids. For the purpose of payments, the exchange rates used in bid preparation shall apply for the duration of the contract.

IB.14 Bid Validity

- 14.1 Bids shall remain valid for the period stipulated in the bidding data from the date of opening of bid specified in clause IB.23.
- 14.2 In exceptional circumstances, prior to expiry of the original, the procuring agency may request the bidders to extend the period of validity for a specified additional period, which shall not be for more than one third of the original period of bid validity. The request and the responses thereto, shall be made in writing. A bidder may refuse the request without the forfeiture of the bid security. In case, a bidder agreed to the request, shall not be required or permitted to modify the bid, but will be required to extend the validity of the bid security for the period of the extension, and in compliance with Clause IB.15 in all respects.

IB.15 Bid Security

- 15.1 Each bidder shall furnish, as part of the bid, a bid security in the amount stipulated in the bidding data in Pak Rupees or an equivalent amount in a freely convertible currency.
- 15.2 The bid security shall be at the option of the bidder, in the form of deposit at call, Pay order or a bank guarantee issued by a Scheduled Bank in Pakistan or from a foreign bank duly counter guaranteed by a Scheduled Bank in Pakistan in favor of the procuring agency, which should commensurate with the bid validity period. The bank guarantee for bid security shall be acceptable in the manner as provided at Annexure BS-1.
- 15.3 Any bid not accompanied by an acceptable bid security shall be rejected by the procuring agency as non-responsive.
- 15.4 Bid security shall be released to the unsuccessful bidders once the contract has been signed with the successful bidder or the validity period has expired.
- 15.5 The bid security of the successful bidder shall be returned when the bidder has furnished the required Performance Security and signed the Contract Agreement.
- 15.6 The bid security may be forfeited:
 - (a) if the bidder withdraws his bid except as provided in sub- clause IB 22.1;
 - (b) if the bidder does not accept the correction of his bid price pursuant to sub-clause IB 27.2 hereof; or
 - (c) In the case of successful bidder, if he fails within the specified time limit to:
 - (i) furnish the required Performance Security; or
 - (ii) sign the Contract Agreement.

IB.16 Alternate Proposals/Bids

- 16.1 Each bidder shall submit only one bid either by himself, or as a member of a joint venture, until and unless they have been requested or permitted for alternative bid, then he has to purchase separate bidding documents and alternate bid shall be treated as separate bid.
- 16.2 Alternate proposals are allowed only for procurement of works where technical complexity is involved and more than one designs or technical solutions are being offered. Two stage two envelope bidding procedure will be appropriate when alternate proposal is required.
- 16.3 Alternate bid(s) shall contain (a) relevant design calculations; (b) technical specifications; (c) proposed construction methodology; and (d) any other relevant details / conditions, provided that the total sum entered on the Form of Bid shall be that which represents complete compliance with the bidding documents.

IB.17 Pre-Bid Meeting

- 17.1 Procuring agency may, on his own motion or at the request of any bidder, hold a pre-bid meeting to clarify issues and to answer any questions on matters related to the bidding documents. The date, time and venue of pre-bid meeting, if convened, shall be communicated to all bidders. All bidders or their authorized representatives shall be invited to attend such a pre-bid meeting at their own expense.
- 17.2 The bidders are requested to submit questions, if any, in writing so as to reach the Procuring agency not later than seven (7) days before the proposed pre-bid meeting.
- 17.3 Minutes of the pre-bid meeting, including the text of the questions raised and the replies given will be transmitted without delay to all bidders. Any modification of the bidding documents listed in sub- clause IB 7.1 hereof, which may become necessary as a result of the pre-bid meeting shall be made by the procuring agency exclusively through the issue of an Addendum pursuant to Clause IB.9 and not through the minutes of the pre-bid meeting.
- 17.4 Absence at the pre-bid meeting will not be a cause for disqualification of a bidder.

IB.18 Format and Signing of Bid

- 18.1 Bidders are particularly directed that the amount entered on the Form of Bid shall be for performing the contract strictly in accordance with the bidding documents.
- 18.2 All appendices to bid are to be properly completed and signed.
- 18.3 Alteration is not to be made neither in the form of bid nor in the Appendices thereto except in filling up the blanks as directed. If any such alterations be made or if these instructions be not fully complied with, the bid may be rejected.
- 18.4 Each bidder shall prepare by filling out the forms without alterations and shall provide an original copy along with photocopies as per the requirement of the procuring agency specified in the bidding data. The original as well as copies of the document shall be clearly marked as "ORIGINAL" and „COPY", as the case may be. If there is any discrepancy between original and copy (ies) then the original shall prevail.
- 18.5 The original and all copies of the bid shall be typed or written in indelible ink (in the case of copies, Photostats are also acceptable) and shall be signed by a person(s) duly authorized to sign on behalf of the bidder pursuant to sub- clause IB 11.1(a) hereof. All pages of the bid shall be initialed and stamped by the person(s) signing the bid.
- 18.6 The bid shall contain no alterations, omissions or additions, except to comply with instructions issued by the procuring agency, or as are necessary to correct errors made by the bidder. Such corrections shall be initialed by the person(s) signing the bid.
- 18.7 Bidders shall indicate in the space provided in the Form of Bid their full and proper postal addresses at which notices may be legally served on them and to which all correspondence in connection with their bids and the contract is to be sent.
- 18.8 Bidders should retain a copy of the bidding documents as their file copy.

D. SUBMISSION OF BIDS

IB.19 Sealing and Marking of Bids

19.1 Each bidder shall submit his bid as under:

- (a) ORIGINAL and COPIES of the bid shall be separately sealed and put in separate envelopes and marked as such.
- (b) The envelopes containing the ORIGINAL and COPIES shall be put in one sealed envelope and addressed as given in sub – clause IB 19.2 hereof.

19.2 The inner and outer envelopes shall:

- (a) be addressed to the procuring agency at the address provided in the bidding data;
- (b) bear the name and identification number of the contract as defined in the bidding data; and
- (c) provide a warning not to open before the time and date for bid opening, as specified in the bidding data.

19.3 In addition to the identification required in sub- clause IB 19.2 hereof, the inner envelope shall indicate the name and postal address of the bidder to enable the bid to be returned unopened in case it is declared “late” pursuant to Clause IB.21

19.4 If the outer envelope is not sealed and marked as above, the procuring agency will assume no responsibility for the misplacement or premature opening of the Bid.

IB.20 Deadline for Submission of Bids

20.1 (a) Bids must be received by the procuring agency at the address specified not later than the time and date stipulated in the bidding data,

(b) Bids with charges payable will not be accepted, nor will arrangements be undertaken to collect the bids from any delivery point other than that specified above. Bidders shall bear all expenses incurred in the preparation and delivery of bids. No claims shall be entertained for refund of such expenses,

(c) Where delivery of a bid is by mail and the bidder wishes to receive an acknowledgment of receipt of such bid, he shall make a request for such acknowledgment in a separate letter attached to but not included in the sealed bid package,

(d) Upon request, acknowledgment of receipt of bids will be provided to those making delivery in person or by messenger.

20.2 The Procuring Agency may, at its discretion, extend the deadline for submission of bids by issuing an amendment in accordance with IB 09. In such case, all rights and obligations of the procuring agency and the bidders shall remain the same as

mentioned in the original deadline.

IB.21 Late Bids

- (a) any bid received by the procuring agency after the deadline for submission of bids prescribed in to clause IB 20 shall be returned unopened to such bidder.
- (b) delays in the mail, person in transit, or delivery of a bid to the wrong office shall not be accepted as an excuse for failure to deliver a bid at the proper place and time. It shall be the bidder's responsibility to submit the bid in time.

IB.22 Modification, Substitution and Withdrawal of Bids

- 22.1 Any bidder may modify, substitute or withdraw his bid after bid submission provided that the modification, substitution or written notice of withdrawal is received by the procuring agency prior to the deadline for submission of bids.
- 22.2 The modification, substitution, or notice for withdrawal of any bid shall be prepared, sealed, marked and delivered in accordance with the provisions of Clause IB.19 with the outer and inner envelopes additionally marked "MODIFICATION", "SUBSTITUTION" or "WITHDRAWAL" as appropriate.
- 22.3 No bid may be modified by a bidder after the deadline for submission of bids except in accordance with to sub - clauses IB 22.1 and IB 27.2.
- 22.4 Withdrawal of a bid during the interval between the deadlines for submission of bids and the expiration of the period of bid validity specified in the Form of Bid may result in forfeiture of the bid security in pursuance to clause IB 15.

E. BID OPENING AND EVALUATION.

IB.23 Bid Opening

- 23.1 Procuring agency will open the bids, including withdrawals, substitution and modifications made pursuant to Clause IB.22, in the presence of bidder's representatives who choose to attend, at the time, date and location stipulated in the bidding data. The bidders or their representatives who are in attendance shall sign an attendance sheet.
- 23.2 Envelopes marked "MODIFICATION", "SUBSTITUTION" or "WITHDRAWAL" shall be opened and read out first. Bids for which an acceptable notice of withdrawal has been submitted pursuant to clause IB.22 shall not be opened.
- 23.3 Procuring agency shall read aloud the name of the bidder, total bid price and price of any Alternate Proposal(s), if any, discounts, bid modifications, substitution and withdrawals, the presence or absence of bid security, and such other details as the procuring agency may consider appropriate, and total amount of each bid, and of any alternative bids if they have been requested or permitted, shall be read aloud and recorded when opened.
- 23.4 Procuring Agency shall prepare minutes of the bid opening, including the information disclosed to those present in accordance with the sub-clause IB.23.3.

IB.24 Process to be Confidential. (SPP Rule 53)

24.1 Information relating to the examination, clarification, evaluation and comparison of bid and recommendations for the award of a contract shall not be disclosed to bidders or any other person not officially concerned with such process before the announcement of bid evaluation report in accordance with the requirements of Rule 45, which states that Procuring agencies shall announce the results of bid evaluation in the form of a report giving reasons for acceptance or rejection of bids. The report shall be hoisted on website of authority and that of procuring agency if it website exists and intimated to all bidders at least seven (7) days prior to the award of contract. The announcement to all bidders will include table(s) comprising read out prices, discounted prices, price adjustments made, final evaluated prices and recommendations against all the bids evaluated. Any effort by a bidder to influence the procuring agency's processing of bids or award decisions may result in the rejection of such bidder's bid. Whereas, any bidder feeling aggrieved, may lodge a written complaint as per Rule 31; however mere fact of lodging a complaint shall not warrant suspension of the procurement process.

IB.25 Clarification of Bid (SPP Rule 43)

25.1 To assist in the examination, evaluation and comparison of bids, the procuring agency may, at its discretion, ask any bidder for clarification of the bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing but no change in the price or substance of the bid shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by the procuring agency in the evaluation of the bids in accordance with clause IB 28.

IB.26 Examination of Bids and Determination of Responsiveness

26.1 Prior to the detailed evaluation of bids, the procuring agency will determine whether the bidder fulfills all codal requirements of eligibility criteria given in the tender notice such as registration with tax authorities, registration with PEC (where applicable), turnover statement, experience statement, and any other condition mentioned in the NIT and bidding document. If the bidder does not fulfill any of these conditions, it shall not be evaluated further.

26.2 Once found to be fulfilling the eligibility criteria, as mentioned in sub- clause 26.1, the bids of eligible bidders will be evaluated for technical responsiveness as per specification and criteria given in the bidding documents. Technical and financial evaluations may be carried out in accordance with single stage-single one envelope, single stage-two envelopes, two stage or two stage-two envelopes bidding procedures, depending on the selection procedure adopted by the procuring agency.

26.3 A bid will be considered technically responsive if it (i) has been properly signed; (ii) is accompanied by the required bid security; and (iii) conforms to all the terms, conditions and specifications of the bidding documents, without material deviation or reservation. A material deviation or reservation is one (i) which affect in any substantial way the scope, quality or performance of the works; (ii) which limits in any substantial way, inconsistent with the bidding documents, the procuring agency's rights or the bidder's obligations under the contract; or (iii) adoption/rectification

whereof would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

- 26.4 If a bid has major deviations to the commercial requirements and technical specifications will be considered technically non responsive. As a general rule, major deviations are those that if accepted, would not fulfill the purposes for which the bid is requested, or would prevent a fair comparison or affect the ranking of the bids that are compliant with the bidding documents.

(A) Major (material) Deviations include:-

- (i) has been not properly signed;
- (ii) is not accompanied by the bid security of required amount and manner;
- (iii) stipulating price adjustment when fixed price bids were called for;
- (iv) failing to respond to specifications;
- (v) failing to comply with Mile-stones/Critical dates provided in Bidding Documents;
- (vi) sub-contracting contrary to the Conditions of Contract specified in Bidding Documents;
- (vii) refusing to bear important responsibilities and liabilities allocated in the Bidding Documents, such as performance guarantees and insurance coverage;
- (viii) taking exception to critical provisions such as applicable law, taxes and duties and dispute resolution procedures;
- (ix) a material deviation or reservation is one :
 - (a) which affect in any substantial way the scope, quality or performance of the works;
 - (b) adoption/rectification whereof would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

(B) Minor Deviations

Bids that offer deviations acceptable to the Procuring Agency and which can be assigned a monetary value may be considered substantially responsive at least as to the issue of fairness. This value would however be added as an adjustment for evaluation purposes only during the detailed evaluation process.

- 26.5 If a bid is not substantially responsive, it will be rejected by the procuring agency, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

IB.27 Correction of Errors before Financial Evaluation

- 27.1 Bids determined to be substantially responsive will be checked by the procuring agency for any arithmetic errors. Errors will be corrected by the procuring agency as follows:

- (a) where there is a discrepancy between the amounts in figures and in words, the amount in words will govern; and
- (b) where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted

will govern, unless in the opinion of the procuring agency there is an obviously gross misplacement of the decimal point in the unit rate, in which case the line item total as quoted will govern and the unit rate will be corrected.

- 27.2 The amount stated in the Form of Bid will be adjusted by the procuring agency in accordance with the above procedure for the correction of errors and with the concurrence of the bidders. The amount thus corrected shall be considered as binding upon the bidder. If the bidder does not accept the corrected bid price, his bid will be rejected, and the bid security shall be forfeited in accordance with sub- clause IB 15.6(b) hereof.

IB.28 Financial Evaluation and Comparison of Bids

- 28.1 The procuring agency will evaluate and compare only the Bids determined to be substantially responsive in accordance with clause IB 26.
- 28.2 In evaluating the Bids, the procuring agency will determine for each bid the evaluated bid price by adjusting the bid price as follows:
- (a) making any correction for errors pursuant to clause IB 27;
 - (b) excluding provisional sums (if any), for contingencies in the Summary Bill of Quantities, but including competitively priced Day work; and
 - (c) making an appropriate adjustment for any other acceptable variation or deviation.
- 28.3 The estimated effect of the price adjustment provisions of the conditions of contract, applied over the period of execution of the contract, shall not be taken into account in bid evaluation.
- 28.4 If the bid of the successful bidder is seriously unbalanced in relation to the procuring agency's estimate of the cost of work to be performed under the contract, the procuring agency may require the bidder to produce detailed price analyses for any or all items of the Bill of Quantities to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, the procuring agency may require that the amount of the Performance Security set forth in clause IB.32 be increased at the expense of the successful bidder to a level sufficient to protect the procuring agency against financial loss in the event of default of the successful bidder under the contract.
- 28.5 Bidders may be excluded if involved in **“Corrupt and Fraudulent Practices”** means either one or any combination of the practices given below SPP Rule2(q);
- (i) **“Coercive Practice”** means any impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party;
 - (ii) **“Collusive Practice”** means any arrangement between two or more parties to the procurement process or contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, noncompetitive levels for any wrongful gain;

- (iii) **“Corrupt Practice”** means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;
- (iv) **“Fraudulent Practice”** means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- (v) **“Obstructive Practice”** means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract or deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements before investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or acts intended to materially impede the exercise of inspection and audit rights provided for under the Rules.

28.6 Evaluation Report (SPP Rule 45)

After the completion of evaluation process, as described in clauses IB 27 and IB 28, the procuring agency shall announce the results of bid evaluation in the form of report (available on the website of the authority) giving reasons for acceptance and rejection of bid. The report shall be hoisted on website of the authority and that of procuring agencies if its website exists and intimated to all bidders at least seven (7) days prior to the award of contract.

F. AWARD OF CONTRACT

IB.29 Award (SPP Rule 49)

- 29.1 Subject to clauses IB 30 and IB 34 and provision of the rule: The procuring agency shall award the contract to the bidder whose bid has been determined to be substantially responsive to the bidding documents, and who has offered the lowest evaluated bid, but not necessarily the lowest submitted price, within the original or extended period of bid validity. Provided that such bidder has been determined to be eligible in accordance with the provisions of clause IB 03 and qualify pursuant to sub-clause IB 29.2.
- 29.2 Procuring agency, at any stage of the bid evaluation, having credible reasons for or having *prima facie* evidence of any deficiency(ies) in contractor’s capacities, may require the contractor to provide information concerning their professional, technical, financial, legal or managerial competence whether already pre-qualified or not for the said project.

Provided, that such qualification shall only be laid down after recording reasons thereof, in writing. They shall form part of the records of that bid evaluation report.

IB.30 Procuring Agency’s Right to reject all Bids or Annul/Cancellation the Bidding Process (SPP Rule 25)

Notwithstanding clause IB 29 and provision of the rule: (1) A procuring agency reserves may cancel the bidding process at any time prior to the acceptance of a bid or proposal; (2) The procuring agency shall incur no liability towards bidders solely by virtue of its invoking sub–rule (1); (3) Intimation of the cancellation of bidding process shall be given promptly to all bidders and bid security shall be returned along with such intimation; (4) The procuring agency shall, upon request by any of the bidders, communicate to such bidder, grounds for cancellation of the bidding process, but is not required to justify such grounds.

IB.31 Notification/Publication of the Award of Contract (SPP Rule 25).

31.1 Prior to expiry of the period of bid validity, including extension, prescribed by the procuring agency, the procuring agency shall notify the successful bidder in writing (“Letter of Acceptance”) that his bid has been accepted. This letter shall mention the sum which the procuring agency will pay to the contractor in consideration of the execution and completion of the works by the contractor as prescribed by the contract (hereinafter and in the conditions of contract called the “Contract Price”).

31.2 No negotiation with the bidder having evaluated as lowest responsive or any other bidder shall be permitted, however, procuring agency may hold meetings to clarify any item in the bid evaluation report.

31.3 The notification of award and its acceptance by the bidder will constitute the formation of the contract, binding the procuring agency and the bidder till signing of the formal Contract Agreement.

31.4 Upon furnishing by the successful bidder of a Performance Security and signing of the contract, the procuring agency will promptly notify the name of the successful bidder to all bidders and return their bid securities accordingly.

31.5 Within seven days of the award of contract, procuring agency shall publish on the website of the Authority and on its own website, if such a website exists, the results of the bidding process, identify the bid through procurement identifying numbers, and the following information:

- (1) Evaluation Report;
- (2) Form of Contract and letter of Award;
- (3) Bill of Quantities or Schedule of Requirement.

31.6 Debriefing (SPP Rule 51).

- (a) A bidder may ask the procuring agency for reasons for non acceptance of his bid and may request for a debriefing meeting and procuring agency shall give him the reasons for such non acceptance, either in writing or by holding a debriefing meeting with such a bidder.
- (b) The requesting bidder shall bear all the costs of attending such a debriefing.

IB.32 Performance Security (SPP Rule 39)

- 32.1 The successful bidder shall furnish to the procuring agency a Performance Security in the form of pay order or demand draft or bank guarantee, and the amount stipulated in the bidding data and the Conditions of Contract within a period of 28 days after the receipt of Letter of Acceptance.
- 32.2 Failure of the successful bidder to comply with the requirements of Sub-clause IB.32.1 or clauses IB 33 or IB 35 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security.
- 32.3 Validity of performance security shall extend at least ninety days beyond the date of completion of contract, or as mentioned in the bidding data to cover defects liability period or maintenance period subject to final acceptance by the procuring agency.

IB.33 Signing of Contract Agreement (SPP Rule 39)

- 33.1 Within 14 days from the date of furnishing of acceptable Performance Security under the Conditions of Contract, the procuring agency will send the successful bidder the Contract Agreement in the form provided in the bidding documents, incorporating all agreements between the parties.
- 33.2 The formal Agreement between the procuring agency and the successful bidder shall be executed within 14 days of the receipt of the Contract Agreement by the successful bidder from the procuring agency.
- 33.3 A procurement contract shall come into force when the procuring agency requires signs contract, the date on which the signatures of both the procuring agency and the successful bidder are affixed to the written contract. Such affixing of signatures shall take place within the time prescribed in the bidding documents.

Provided that the procuring agency may reduce the maximum time limit for signing of contract, as and when required, and shall be mentioned in the bidding documents.

33.4 Stamp Duty.

The formal Agreement between the Procuring Agency and the successful bidder shall be duly stamped at rate of ----% of bid price (updated from time to time) stated in Letter of Acceptance.

IB.34 General Performance of the Bidders

Procuring agency may in case of consistent poor performance of the contractor and his failure to remedy the underperforming contract may take such action as may be deemed appropriate under the circumstances of the case including the rescinding the contract and/or black listing of such contractor and debarring him from participation in future bidding process.

IB.35 Integrity Pact (SPP Rule 89)

The bidder shall sign and stamp the Integrity Pact provided at Appendix-L to the bidding documents for all Provincial/Local Government procurement contracts exceeding Rupees ten million. Failure to provide such Integrity Pact shall make the bidder non-responsive.

IB.36 Instructions not Part of Contract

Bids shall be prepared and submitted in accordance with these Instructions which are provided to assist bidders in preparing their bids, and do not constitute part of the bid or the Contract Documents.

IB.37 Arbitration (SPP Rule 34)

Any dispute that is not amicably resolved shall be finally settled, unless otherwise specified in the Contract, under the Arbitration Act 1940 updated from time to time and would be held anywhere in the Province of Sindh at the discretion of procuring agency.

BIDDING DATA

Bidding Data

Instructions to Bidders

Clause Reference

1.1 Name and address of the procuring agency:

**Karachi Fisheries Harbour Authority
Fish Harbour West Wharf Road Karachi**

Name of the Project and Summary of the works:

Rehabilitation and Renovation of Karachi Fish Harbour – External Services (Part-I)

The main components of the Works shall consist of, but not limited to the following:

Demolition works, water supply system, sewage system, fire fighting system, ancillary buildings, external electrical works, main KFHA boundary wall, pre-investigation for R.O. plant and roads.

2.1 Name of the Borrower/Source of Financing/Funding Agency:

Government of Sindh through ADP Scheme.

3 Eligible Bidders

3.1 Delete Sub-Clause 3.1 (c) in its entirety and substitute with the following:

- (i) The bidder should provide company profile.
- (ii) Valid Registration with Pakistan Engineering Council in Constructor's Category C-2 or above with specialization codes CE01, CE09 & CE10. The bidder to engage specialized firm(s) (with specialized codes as specified) as Joint Venture (JV) for Security & Surveillance System (EE02), High Voltage Installation (EE05) and Specialized Lighting System (EE06).
- (iii) No Joint Venture allowed for civil & plumbing works.
- (iv) The bidder should have relevant experience of at least two Projects (a project comprise building works, water supply/ fire fighting system, sewage system, external electrical works and road works) having cost Rs. 450 million or above for each project completed during last ten years (Letter of Award, completion certificates and any other relevant documents to be attached).
- (v) The bidders should have an average annual turnover during last three years Rs. 800 million or above per year as per audited balance sheets from Chartered Accountant firms.
- (vi) Bank balance / available bank credit limit (latest) should be at least of Rs. 200 million.

- (vii) Income tax returns for the last three years.
- (viii) Valid Registration with Income Tax Department, Sindh Revenue Board, Sales Tax Department.
- (ix) Affidavit to the effect that the firm has never been blacklisted.
- (x) The bidders should submit details of litigation history and arbitration with government agencies and their outcome.
- (xi) Affidavit to the effect that all documents / particulars / information furnished are true and correct, if any information found incorrect/misleading, the Procuring Agency reserves the right to reject the bid.

6.1 Delete Sub-Clause 6.1 in its entirety and substitute with the following:

The bidders should visit and examine the site of works and its surroundings and obtain all information that may be necessary for preparing the bid and entering into a contract for construction of the works. All cost in this respect shall be at the bidder's own expense. The bidders should also provide the proof of their site visit to the Procuring Agency at the time of Pre-Bid Meeting.

8 Time limit for clarification:

7 days

10.1 Bid language:

English

11.1 Para (b) & (c) of sub-Clause 11.1 are deleted in its entirety and substituted with the following:

“(b) submit the following documents along with the Bidding Documents:

- (i) company profile.
- (ii) valid Pakistan Engineering Council registration certificate.
- (iii) Joint Venture (JV) Agreement with specialized firm(s) having specialized codes EE02, EE05 and EE06.
- (iv) relevant experience for at least two projects (a project comprise building works, water supply/ fire fighting works, sewage system, external electrical works and road works) having cost Rs. 450 million or above for each project completed during last ten years.

The bidders should also provide proof of project cost & completion date of project by documents such as Letter of Intent/ Letter of Award, completion certificate and any other relevant documents.

- (v) audited balance sheets from Chartered Accountant firms for the last three years to

access average annual turnover Rs. 800 million or above.

- (vi) Bank balance / available bank credit limit (latest) should be at least of Rs. 200 million.
- (vii) Income tax returns for the last three years.
- (viii) Valid Registration with Income Tax Department, Sindh Revenue Board, Sales Tax Department.
- (ix) Affidavit to the effect that the firm has never been blacklisted.
- (x) details of litigation history and arbitration with government agencies and their outcome.
- (xi) Affidavit to the effect that all documents / particulars / information furnished are true and correct, if any information found incorrect/misleading, the Procuring Agency reserves the right to reject the bid.
- (xii) Appendix-E to Bid Proposed Construction Schedule.
- (xiii) Appendix-F to Bid Method of Performing the Work.
- (xiv) Appendix-G to Bid List of Major Equipment.
- (xv) Appendix-K to Bid Organization Chart for Supervisory Staff.

and other pertinent information such as estimated progress payments, mobilization programme etc;

12.3 Delete Sub-Clause 12.3 in its entirety and substitute with the following:

The bid price submitted by the bidder shall include all rates and prices including the taxes excluding Sindh Sales Tax (SST) on Construction Services. All duties, taxes and other levies payable by the contractor under the contract, or for any other cause during the currency of the execution of the work or otherwise specified in the contract as on the date seven days prior to the deadline for submission of bids.

Additional / reduced duties, taxes and levies due to subsequent additions or changes in legislation shall be reimbursed / deducted as per Sub-Clause 13.7 of the General Conditions of Contract Part-I.

12.4 Delete the following text from 5th line:

“Adjustment in prices quoted by bidders shall be allowed as per Sub-Para 4(ii) of Section C of Instructions to bidders and bidding data.”

13 Currencies of Bid and payment

13.1 Delete Sub-Clause 13.1 in its entirety and substitute with the following:

The unit rates and the prices shall be quoted by the bidder entirely in Pak. Rupees. The Procuring Agency shall make payment only in Pak Rupees and no foreign currency

payments are admissible. A bidder expecting to incur expenditure in other currencies for inputs to the Works supplied from outside the Procuring Agency's country shall bear all costs and risks for arranging the requirements of such currencies through his own resources.

13.2 Sub-Clause 13.2 is deleted its entirety.

14.1 Period of Bid Validity:

90 calendar days

15.1 Amount of Bid Security:

Pak Rs. 15,000,000 (Pak Rupees fifteen million)

15.2 Form of Bid Security

Delete Sub-Clause 15.2 in its entirety and substitute the following:

The Bid Security shall be in the form of a Bank Guarantee issued by a Scheduled Bank in Pakistan having AA rating or above located at Pakistan in favour of the Procuring Agency. The Bid security shall remain valid for a period of 28 days beyond the Bid Validity date.

16 **Alternate Proposals/Bids**

Delete Sub-Clause 16 in its entirety.

17.1 Venue, time, and date of the pre-bid meeting:

A pre-bid meeting will be held.

Venue: **Karachi Fish Harbour,
West Wharf Road,
Karachi.**

Time: **As notified by Procuring Agency in Notice Inviting Tender.**

Date: **As notified by Procuring Agency in Notice Inviting Tender.**

17.2 Add the following text at the end of the paragraph:

The Bidder shall notify the Procuring Agency of any inconsistencies, errors and omissions found in the Bidding Documents, 3 (three) days prior to the Pre-Bid Meeting.

The Procuring Agency is not responsible for any verbal communications or instructions to the Bidders.

18.4 Number of copies of the bid to be completed and returned:

One original and one copy

19.2 (a) Procuring Agency's address for the purpose of bid submission:

**Karachi Fisheries Harbour Authority
Fish Harbour West Wharf Road Karachi**

(b) Name & Identification Number of the Contract:

Name of the Contract:

Rehabilitation and Renovation of Karachi Fish Harbour – External Services (Part-I)

Identification Number of the Contract:

KFHA/ADP/ENG/02/2016

20.1 (a) Deadline for submission of bids:

Time: **As notified by Procuring Agency in Notice Inviting Tender.**

Date: **As notified by Procuring Agency in Notice Inviting Tender.**

(b) Venue, time, and date of bid opening:

Venue: Office of the Director Admin & Finance, Karachi Fisheries Harbour Authority, West Wharf Road, Karachi, Pakistan.

Time: **As notified by Procuring Agency in Notice Inviting Tender.**

Date: **As notified by Procuring Agency in Notice Inviting Tender.**

32.1 Standard form and amount of Performance Security acceptable to the procuring agency:

Amount equal to 5% of the Contract Price stated in the Letter of Acceptance in the form of un-conditional Bank Guarantee from any scheduled bank (AA Rating or above) in Pakistan.

33. **Signing of Contract Agreement**

33.2 Read “28 days” in place of ‘14 days’ in 2nd line.

33.4 **Stamp duty**

0.35% of Contract Price will be paid by successful bidder as stamp duty stated in the Letter of Acceptance.

34. **General Performance of the Bidders**

Add the following phrase at the end of this Sub-clause:

“In any condition whatsoever, Pakistan Engineering Council (PEC) regulations have to be implemented. Any bidder violating PEC regulations shall be referred to PEC for their decision”.

**FORM OF BID
AND
APPENDICES TO BID**

FORM OF BID

Bid Reference No. KFHA/ADP/ENG/02/2016

Rehabilitation and Renovation of Karachi Fish Harbour – External Services (Part-I)

To:

1. Having examined the Bidding Documents including Instructions to Bidders, Bidding Data, Conditions of Contract, Specifications, Drawings and Bill of Quantities and Addenda Nos. _____ for the execution of the above-named Works, we/I, the undersigned, offer to execute and complete the Works and remedy any defects therein in conformity with the Conditions of Contract, Specifications, Drawings, Bill of Quantities and Addenda for the sum of Rs. _____ (Rupees) _____ or such other sum as may be ascertained in accordance with the said conditions.
2. We/I understand that all the Appendices attached hereto form part of this bid.
3. As security for due performance of the undertakings and obligations of this bid, we/I submit herewith a Bid Security in the amount of Rupees _____ (Rs. _____) drawn in your favour or made payable to procuring agency and valid for a period of _____ days beginning from the date, bid is opened.
4. We/I undertake, if our bid is accepted, to commence the Works and to complete the whole of the Works comprised in the Contract within the time stated in Appendix-A to Bid.
5. We/I agree to abide by this bid for the period of _____ days from the date fixed for opening the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
6. Unless and until a formal Agreement is prepared and executed, this bid, together with your written acceptance thereof, shall constitute a binding contract between us.
7. We do hereby declare that the bid is made without any collusion, comparison of figures or arrangement with any other bidder for the works.
8. We understand that you are not bound to accept the lowest or any bid you may receive.
9. We undertake, if our/my bid is accepted, to execute the Performance Security referred to in Clause 10 of Conditions of Contract for the due performance of the Contract.
10. We confirm, if our bid is accepted, that all partners of the joint venture shall be liable

jointly and severally for the execution of the Contract and the composition or the constitution of the joint venture shall not be altered without the prior consent of the procuring agency.

in the capacity of _____ duly authorized to sign Bids for and on behalf of

Dated this _____ day of _____ 20 _____

Signature: _____

(Name of Bidder in Block Capitals)
(Seal)

Address: _____

Witness:

Signature: _____

Name: _____

Address: _____

Occupation: _____

SPECIAL STIPULATIONS**Clause
Conditions of Contract**

1.	Engineer representing Consulting Firm hired by the procuring agency to issue variation in case of emergency.	3.1	0.5% (half percent) of the contract price stated in the Letter of Acceptance.
2.	Amount of Performance Security	4.2	5% (five percent) of contract price stated in the Letter of Acceptance.
3.	Time for Furnishing Programme	8.3	Within 30 (thirty) calendar days from the date of receipt of Letter of Acceptance.
4.	Minimum amount of Third Party Insurance	18.3	3 % (three percent) of Contract Price per occurrence with number of occurrences unlimited.
5.	Time for Commencement	8.1	Within 14 (fourteen) calendar days from the date of receipt of Engineer's Notice to Commence, this shall be issued within 14 (fourteen) days after signing of Contract Agreement.
6.	Time for Completion	8.2 & 10.2	730 (seven hundred thirty) calendar days from the date of receipt of Engineer's Notice to Commence.
7.	Amount of Liquidity Damages/Delay Damages/Penalties	8.7	0.05% (five one hundredths of one percent) of Contract Price for each day of delay in completion of the Works subject to a maximum of 10% (ten percent) of Contract Price stated in the Letter of Acceptance.
8.	Defects Liability Period	11.1	365 (three hundred sixty five) calendar days from the effective date of Taking Over Certificate.
9.	Percentage of Retention Money	14.3	10% (ten percent) of the amount of Interim/ Running Payment Certificate.
10.	Limit of Retention Money	14.3	5% (five percent) of Contract Price stated in the Letter of Acceptance.
11.	Minimum amount of Interim/Running Payment Certificates	14.2	1% (one percent) of Contract price for first two months and 4% (four percent) of Contract Price for subsequent months.
12.	Time of Payment from delivery of Engineer's Interim/Running Payment Certificate to the procuring agency.	14.7	30 (thirty) calendar days
13.	Mobilization Advance.	14.2	10% (ten percent) of Contract Price stated in the Letter of Acceptance.

FOREIGN CURRENCY REQUIREMENTS

(NOT USED)

**PRICE ADJUSTMENT UNDER CLAUSE 13.8
OF CONDITIONS OF CONTRACT**

A. Weightages or coefficients are used for price adjustment.

The source of indices and the weightages or coefficients for use in the adjustment formula under Clause 13.8 shall be as follows:

Cost Element	Description	Weightages	Applicable index
1	2	3	4
(i)	Fixed Portion	0.68	
(ii)	Local Labor *	0.10	Government of Pakistan (GoP) Federal Bureau of Statistics (FBS) Monthly Statistical Bulletin.
(iii)	Cement – in bags	0.05	“ “ “
(iv)	Reinforcing Steel**	0.05	“ “ “
(v)	High Speed Diesel (HSD)	0.12	“ “ “
	Total	1.00	

Notes:

- 1) The base cost indices or prices shall be those applying 28 days prior to the latest day for submission of bids. Current indices or prices shall be those applying 28 days prior to the last day of the billing period.
- 2) Any fluctuation in the indices or prices of materials other than those given above shall not be subject to adjustment of the Contract Price.
- 3) For item (iii) above, the rate of ordinary Portland cement (referred as “cement” in the said Statistical Bulletin) per bag shall be used.
- 4) For item (iv) the rate of iron bar (referred as “iron bars ½” round M.S” in the said Statistical Bulletin) per tonne shall be used.
- 5) For the purpose of this clause, the rates for Karachi shall be used.

* In the weightage factor of labour, the effect of skilled, semi-skilled and unskilled labour have been taken, however, for the calculation purpose, the base and current price shall be taken from Federal Bureau of Statistics Bulletin for unskilled labour.

** The structural steel has also been included in reinforced steel weightage factor. However, the base and current price shall be taken from Federal Bureau of Statistics Bulletin for Iron bars ½” round (M.S. bars per tonne).

BILL OF QUANTITIES

- A. Detailed Bill of Quantities is attached at the end of this document.**

BILL OF QUANTITIES

B. Daywork Schedule

We understand and agree that for execution of any work on the basis of Daywork the written order of the Engineer is required.

The Contractor will be paid for work in respect of which he is directed by written order of the Engineer to perform as Daywork, on the basis and at the rates and prices set forth herein.

Workmen:

Workmen hours and other costs towards dayworks shall be paid in Pak Rupees only, in accordance with the following schedule:

<u>S.NO.</u>	<u>Type of Workmen</u>	<u>(First Class)</u>	<u>Rate per hour</u> <u>(Rupees)</u>
1.	Carpenter	"	128.00
2.	Mason	"	136.00
3.	Plumber/Fitter	"	123.00
4.	Electrician	"	104.00
5.	Mechanic	"	119.00
6.	Welder	"	117.00
7.	Painter	"	114.00
8.	Black smith/fixer	"	119.00
9.	Machine Operator	"	70.00
10.	Semi skilled	"	104.00
11.	Un skilled	"	84.00

- (1) The above hourly rates include percentage addition of 45% to cover the Contractor's profit, overhead charges, superintendence and insurance; all allowances of workmen and other clerical and office work, the use, repair and sharpening of tools, the use of consumable stores and electrical power; the use of non-mechanical plant and scaffolding, the use of water, lighting and appliances of all descriptions; supervision by Contractor's staff, foremen, gangers, and all other incidental charges whatsoever.
- (2) The Contractor shall carry out all Day Work, within normal working hours unless the Engineer has given written approval to the contrary. Payment of workmen employed on Day Work performed outside normal working hours will be made at overtime rate only if the Engineer has given such approval. Rate for overtime shall be the rate indicated above plus 50% increase for overtime work.

Materials:

Materials to be supplied for Daywork which are actually incorporated into the Works shall be paid for at the invoiced price for locally procured materials of local or foreign origin delivered to Site plus surcharge of 30% for cartage and handling from source to site, wastage and Contractor's overhead and profit.

Any payment made for Daywork shall be final.

Plant:

Any plant used for Daywork shall be charged at the hire rates entered by us in Appendix "G" to the Form of Tender or if not listed herein, at comparable rates.

The hire rate of construction plant and equipment entered in Appendix 'G' shall be applicable only for work done on the basis of Daywork provisions.

PROPOSED CONSTRUCTION SCHEDULE

Pursuant to Sub-Clause 8.2 of the General Conditions of Contract, the Works shall be completed on or before the date stated in Appendix-A to Bid. The bidder shall provide as Appendix-E to Bid, the Construction Schedule in the CPM showing the sequence of Work items and the period of time during which he proposes to complete each Work item in such a manner that his proposed programme for completion of the whole of the Works and parts of the Works may meet procuring agency's completion targets in days noted below and counted from the date of receipt of Engineer's Notice to Commence (Attach sheets as required for the specified form of Construction Schedule):

Description

Time for Completion

Whole Works

730 (seven hundred thirty) calendar days

METHOD OF PERFORMING THE WORK

[The bidder is required to submit a narrative outlining the method of performing the work. The narrative should indicate in detail and include but not be limited to:

1. Organization Chart indicating head office and field office personnel involved in management and supervision, engineering, equipment maintenance and purchasing.
2. Mobilization in Pakistan, the type of facilities including personnel accommodation, office accommodation, provision for maintenance and for storage, communications, security and other services to be used.
3. The method of executing the works, the procedures for installation of equipment and machinery and transportation of equipment and materials to the site.

LIST OF MAJOR EQUIPMENT – RELATED ITEMS

[The bidder will provide on Sheet 2 of this Appendix a list of all major equipment and related items, under separate heading for items owned, to be purchased or to be arranged on lease by him to carry out the works. The information shall include make, type, capacity, and anticipated period of utilization for all equipment which shall be in sufficient detail to demonstrate fully that the equipment will meet all requirements of the Specifications.]

Appendix-G to Bid

LIST OF MAJOR EQUIPMENT (SAMPLE)

Owned Purchase d or	Description of Unit (Make, Model, Year)	Capacity HP Rating	Condition	Present Location or Source	Date of Delivery at Site	Period of Work on Project
1	2	3	4	5	6	7
a. Owned						
b. To be Purchased						
c. To be arranged on Lease						

CONSTRUCTION CAMP AND HOUSING FACILITIES

The Contractor in accordance with Clause 6 of the Conditions of Contract shall provide description of his construction camp's facilities and staff housing requirements.

The Contractor shall be responsible for pumps, electrical power, water and electrical distribution systems, and sewerage system including all fittings, pipes and other items necessary for servicing the Contractor's construction camp.

The bidder shall list or explain his plans for providing these facilities for the service of the contract as follows:

1. Site Preparation (clearing, land preparation, etc.).
2. Provision of Services.
 - a) Power (expected power load, etc.).
 - b) Water (required amount and system proposed).
 - c) Sanitation (sewage disposal system, etc.).
3. Construction of Facilities
 - a) Contractor's Office. Workshop and Work Areas (areas required and proposed layout, type of construction of buildings, etc.).
 - b) Warehouses and Storage Areas (area required, type of construction and layout).
 - c) Housing and Staff Facilities (Plans for housing for proposed staff, layout, type of construction, etc.).
4. Construction Equipment Assembly and Preparation (detailed plans for carrying out this activity).
5. Other Items Proposed (Security services, etc.).

Appendix-I to Bid

LIST OF SUBCONTRACTORS

I/We intend to subcontract the following parts of the work to subcontractors. In my/our opinion, the subcontractors named hereunder are reliable and competent to perform that part of the work for which each is listed.

Enclosed are documentation outlining experience of subcontractors, the curriculum vitae and experience of their key personnel who will be assigned to the contract, equipment to be supplied by them, size, location and type of contracts carried out in the past.

Part of Works (Give Details)	Subcontractor (With Complete Address)
1	2

Appendix-J to Bid

ESTIMATED PROGRESS PAYMENTS

Bidder's estimate of the value of Work which would be executed by him during each of the periods stated below, based on his Programme of the Works and the Rates in the Bill of Quantities, expressed in Pakistani Rupees:

Quarter/ Year/ Period	Amounts (in thousands)
1	2
Ist Quarter	
2 nd Quarter	
3 rd Quarter	
4 th Quarter	
5 th Quarter	
6 th Quarter	
7 th Quarter	
8 th Quarter	
Bid Price	

**ORGANIZATION CHART
FOR THE
SUPERVISORY STAFF AND LABOUR**

(INTEGRITY PACT)

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC; PAYABLE BY CONTRACTORS.

(FOR CONTRACTS WORTH RS. 10.00 MILLION OR MORE)

Contract No. _____ Dated _____
Contract Value: _____
Contract Title: _____

..... [name of Contractor] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Sindh (GoS) or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoS) through any corrupt business practice.

Without limiting the generality of the foregoing, [name of Contractor] 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 or indirectly 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, from Procuring Agency (PA) except that which has been expressly declared pursuant hereto.

[name of Contractor] accepts full responsibility and strict liability 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 PA and has not taken any action or will not take any action to circumvent the above declaration, representation or warranty.

[name of Contractor] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts or taking any action 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 PA under any law, contract or other instrument, be voidable at the option of PA.

Notwithstanding any rights and remedies exercised by PA in this regard, [name of Supplier/Contractor/Consultant] agrees to indemnify PA for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to PA in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by [name of Contractor] 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 PA.

.....
[Procuring Agency]

.....
[Contractor]

FORMS

**BID SECURITY
PERFORMANCE SECURITY
CONTRACT AGREEMENT
MOBILIZATION ADVANCE GUARANTEE
INDENTURE BOND FOR SECURED ADVANCES**

BID SECURITY
(Bank Guarantee)

Security Executed on _____
(Date)

Name of Surety (Bank) with Address: _____
(Scheduled Bank in Pakistan)

Name of Principal (Bidder) with Address _____

Penal Sum of Security Rupees. _____ (Rs. _____)

Bid Reference No. _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the bid and at the request of the said Principal (Bidder) we, the Surety above named, are held and firmly bound unto _____ (hereinafter called the 'Procuring Agency') in the sum stated above for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Bidder has submitted the accompanying bid dated _____ for Bid No. _____ for _____ (Particulars of Bid) to the said Procuring Agency; and

WHEREAS, the Procuring Agency has required as a condition for considering said bid that the **bidder** furnishes a bid security in the above said sum from a Scheduled Bank in Pakistan or from a foreign bank duly counter-guaranteed by a Scheduled Bank in Pakistan, to the procuring agency, conditioned as under:

- (1) that the bid security shall remain in force up to and including the date 28 days after the deadline for validity of bids as stated in the Instructions to bidders or as it may be extended by the procuring agency, notice of which extension(s) to the Surety is hereby waived;
- (2) that the bid security of unsuccessful bidders will be returned by the procuring agency after expiry of its validity or upon signing of the Contract Agreement; and
- (3) that in the event of failure of the successful bidder to execute the proposed Contract Agreement for such work and furnish the required Performance Security, the entire said sum be paid immediately to the said procuring agency pursuant to Clause 15.6 of the Instruction to bidders for the successful bidder's failure to perform.

NOW THEREFORE, if the successful bidder shall, within the period specified therefore, on the prescribed form presented to him for signature enter into a formal Contract with the said procuring agency in accordance with his bid as accepted and furnish within twenty eight (28) days of his being requested to do so, a Performance Security with good and sufficient surety, as may be required, upon the form prescribed by the said procuring agency for the faithful performance and proper fulfillment of the said Contract or in the event of non-withdrawal of the said bid within the time specified for its validity then this obligation shall be void and of no effect, but otherwise to remain in full force and effect.

PROVIDED THAT the Surety shall forthwith pay the procuring agency, the said sum upon first written demand of the procuring agency (without cavil or argument) and without requiring the procuring agency to prove or to show grounds or reasons for such demand,

notice of which shall be sent by the procuring agency by registered post duly addressed to the Surety at its address given above.

PROVIDED ALSO THAT the procuring agency shall be the sole and final judge for deciding whether the Principal (Bidder) has duly performed his obligations to sign the Contract Agreement and to furnish the requisite Performance Security within the time stated above, or has defaulted in fulfilling said requirements and the Surety shall pay without objection the said sum upon demand from the procuring agency forthwith and without any reference to the Principal (Bidder) or any other person.

IN WITNESS WHEREOF, the above bounden Surety has executed the instrument under its seal on the date indicated above, the name and seal of the Surety being hereto affixed and these presents duly signed by its undersigned representative pursuant to authority of its governing body.

SURETY (Bank)

WITNESS:

Signature _____

1. _____

Name _____

Title _____

Corporate Secretary (Seal)

Corporate Guarantor (Seal)

2. _____

Name, Title & Address

**FORM OF PERFORMANCE SECURITY
(Bank Guarantee)**

Guarantee No. _____

Executed on _____

Expiry date _____

[Letter by the Guarantor to the Procuring Agency]

Name of Guarantor (Bank) with address: _____

(Scheduled Bank in Pakistan)

Name of Principal (Contractor) with address: _____

Penal Sum of Security (express in words and figures) _____

Letter of Acceptance No. _____ Dated _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the bidding documents and above said Letter of Acceptance (hereinafter called the Documents) and at the request of the said Principal we, the Guarantor above named, are held and firmly bound unto the _____ (hereinafter called the procuring agency) in the penal sum of the amount stated above for the payment of which sum well and truly to be made to the said procuring agency, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has accepted the procuring agency's above said Letter of Acceptance for _____ (Name of Contract) for the _____ (Name of Project).

NOW THEREFORE, if the Principal (Contractor) shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the said Documents during the original terms of the said Documents and any extensions thereof that may be granted by the procuring agency, with or without notice to the Guarantor, which notice is, hereby, waived and shall also well and truly perform and fulfill all the undertakings, covenants terms and conditions of the Contract and of any and all modifications of said Documents that may hereafter be made, notice of which modifications to the Guarantor being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue till all requirements of Clause 49, Defects Liability, of Conditions of Contract are fulfilled.

Our total liability under this Guarantee is limited to the sum stated above and it is a condition of any liability attaching to us under this Guarantee that the claim for payment in writing shall be received by us within the validity period of this Guarantee, failing which we shall be discharged of our liability, if any, under this Guarantee.

We, _____ (the Guarantor), waiving all objections and defenses under the Contract, do hereby irrevocably and independently guarantee to pay to the procuring agency without delay upon the procuring agency's first written demand without

cavil or arguments and without requiring the procuring agency to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the procuring agency's written declaration that the Principal has refused or failed to perform the obligations under the Contract which payment will be effected by the Guarantor to Procuring Agency's designated Bank & Account Number.

PROVIDED ALSO THAT the procuring agency shall be the sole and final judge for deciding whether the Principal (Contractor) has duly performed his obligations under the Contract or has defaulted in fulfilling said obligations and the Guarantor shall pay without objection any sum or sums up to the amount stated above upon first written demand from the procuring agency forthwith and without any reference to the Principal or any other person.

IN WITNESS WHEREOF, the above-bounden Guarantor has executed this Instrument under its seal on the date indicated above, the name and corporate seal of the Guarantor being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

	_____ Guarantor (Bank)
Witness:	
1. _____	Signature _____
_____	Name _____
Corporate Secretary (Seal)	Title _____
2. _____	
_____	_____
Name, Title & Address	Corporate Guarantor (Seal)

FORM OF CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT (hereinafter called the "Agreement") made on the _____ day of _____ (month) 20____ between

_____ (hereafter called the "Procuring Agency") of the one part and _____ (hereafter called the "Contractor") of the other part.

WHEREAS the Procuring Agency is desirous that certain works, viz _____ should be executed by the Contractor and has accepted a bid by the Contractor for the execution and completion of such works and the remedying of any defects therein.

NOW this Agreement witnesseth-- as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents after incorporating addenda, if any, except those parts relating to Instructions to bidders shall be deemed to form and be read and construed as part of this Agreement, viz:
 - (a) The Contract Agreement;
 - (b) The Letter of Acceptance;
 - (c) The completed Form of Bid;
 - (d) Special Stipulations (Appendix-A to Bid);
 - (e) The Special Conditions of Contract – Part II;
 - (f) The General Conditions – Part I;
 - (g) The priced Bill of Quantities (Appendix-D to Bid);
 - (h) The completed Appendices to Bid (B, C, E to L);
 - (i) The Drawings;
 - (j) The Specifications.
 - (k) _____(any other)
3. In consideration of the payments to be made by the procuring agency to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the procuring agency to execute and complete the works and remedy defects therein in conformity and in all respects with the provisions of the contract.
4. Procuring agency hereby covenants to pay the Contractor, in consideration of the execution and completion of the works as per provisions of the contract, the contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed on the day, month and year first before written in accordance with their respective laws.

Signature of the Contactor

Signature of Procuring Agency

(Seal)

(Seal)

Signed, Sealed and Delivered in the presence of:

Witness:

Witness:

(Name, Title and Address)

(Name, Title and Address)

MOBILIZATION ADVANCE GUARANTEE

Bank Guarantee No. _____ Date _____

WHEREAS _____ (hereinafter called the 'Procuring Agency') has entered into a Contract for _____

(Particulars of Contract)

with _____ (hereinafter called the "Contractor").

AND WHEREAS, the Procuring Agency has agreed to advance to the Contractor, at the Contractor's request, an amount of Rupees _____ (Rs _____) which amount shall be advanced to the Contractor as per provisions of the Contract.

AND WHEREAS, the Procuring Agency has asked the Contractor to furnish Guarantee to secure the mobilization advance for the performance of his obligations under the said Contract.

AND WHEREAS, _____

(Scheduled Bank in Pakistan)

(hereinafter called the "Guarantor") at the request of the Contractor and in consideration of the **procuring agency** agreeing to make the above advance to the Contractor, has agreed to furnish the said Guarantee.

NOW, THEREFORE, the Guarantor hereby guarantees that the Contractor shall use the advance for the purpose of above mentioned Contract and if he fails and commits default in fulfillment of any of his obligations for which the advance payment is made, the Guarantor shall be liable to the procuring agency for payment not exceeding the aforementioned amount.

Notice in writing of any default, of which the procuring agency shall be the sole and final judge, on the part of the Contractor, shall be given by the procuring agency to the Guarantor, and on such first written demand, payment shall be made by the Guarantor of all sums then due under this Guarantee without any reference to the Contractor and without any objection.

This Guarantee shall remain in force until the advance is fully adjusted against payments from the Interim Payment Certificates of the Contractor or until _____ whichever is earlier.

(Date)

The Guarantor's liability under this Guarantee shall not in any case exceed the sum of Rupees _____ (Rs _____).

This Guarantee shall remain valid up to the aforesaid date and shall be null and void after the aforesaid date or earlier if the advance made to the Contractor is fully adjusted against payments from Interim Payment Certificates of the Contractor provided that the Guarantor agrees that the aforesaid period of validity shall be deemed to be extended if on the above mentioned date the advance payment is not fully adjusted.

INDENTURE FOR SECURED ADVANCES.

(For use in cases in which is contract is for finished work and the Contractor has entered into an agreement for the execution of a certain specified quantity of work in a given time).

This INDENTURE made the day of
..... 20..... BETWEEN (hereinafter called "the Contractor" which expression shall where the context so admits or implied be deemed to include his heirs, executors, administrators and assigns) of the one part and THE GOVERNOR OF SINDH (hereinafter called "the Government" of the other part).

WHEREAS by an agreement, dated (hereinafter called the said agreement, the Contractor has agreed to perform the under-mentioned works (hereinafter referred to as the said work):-

(Here enter (the description of the works).¹

AND WHEREAS the Contractor has applied to the
.....for an advance to him of Rupees
(Rs.) on the security of materials absolutely belonging to him and brought by him to the site of the said works the subject of the said agreement for use in the construction of such of the said works as he has undertaken to execute at rates fixed for the finished work (inclusive of the cost of materials and labour and other charge) AND WHEREAS the Government has agreed to advance to the Contractor the sum of Rupees, (Rs.) on the security of materials the quantities and other particulars of which are detailed in Part II of Running Account Bill (B). the said works signed by the Contractor

Fin R.Form.17.A

On and on such covenants and conditions as are hereinafter contained and the Government has reserved to itself the option of marking any further advance or advances on the security of other materials brought by the Contractor to the site of the said works.

NOW THIS INDENTURE WTTNESSETH that in pursuance of the said agreement and in consideration of the sum of Rupees.....
(Rs.) on or before the execution of these presents paid to the Contractor by the Government (the receipt whereof the Contractor doth hereby acknowledge) and of such further advances (if any) as may be made to him as aforesaid (all of which advances are hereinafter collectively referred to as the said amount) the Contractor doth hereby assign unto the Government the said materials by way of security for the said amount

And doth hereby covenant and agree with the Government and declare ay follow :-

(1) That the said sum of Rupees. RS.
.....) so advanced by the Government to the Contractor as aforesaid and all or any further sum or sums which may be advanced as aforesaid shall be employed by the Contractor in or towards expending the execution of the said works and for no other purpose whatsoever.

(2) That the materials detailed in the said Running Account Bill (B) which have been offered to and accepted by (he Government as security for the said amount are

absolutely by the Contractors own property free from encumbrances of any kind and the Contractor will not make any application for or receive a further advance on the security of materials which are not absolutely his own property and free from encumbrances of any kind and the Contractor hereby agrees, at all times, to indemnify and save harmless the Government against all claims whatsoever to any materials in respect of which an advance has been made to him as aforesaid.

(3) That the said materials detailed in the said Running Account Bill (B) and all other materials on the security of which any further advance or advances may hereafter be made as aforesaid (hereinafter called the said materials) shall be used by the Contractor solely in *the* execution of the said works in accordance with the directions of the Divisional Officer (hereinafter called the Divisional Officer) and in the terms of the said agreement.

(4) That the Contractor shall make at his own cost all necessary and adequate arrangement for the proper watch, safe custody and protection against all risks of the said material and that until used in construction as aforesaid the said materials shall remain at the site of the said works in the Contractor's custody and at his own risk and on his own responsibility and shall at all times be open to inspection by (he Divisional Officer or any officer authorized by him. In the event of the said materials of any part (hereof being stolen, destroyed or damaged or becoming deteriorated in a greater degree than is due to reasonable use and wear thereof Contractor will forthwith replace the same with other materials of like quality or repair and make good the same as required by the Divisional Officer and the materials so brought to replace the said materials so repaired and made good shall also be considered as security for the said amount.

(5) That the said materials shall not on any account be removed from the site of the said works except with the written permission of the Divisional Officer or an officer authorized by him in that behalf

(6) That the said amount shall be payable in full when or before the Contractor receives payment, from the Government of the price payable to him for the said works under the terms and provisions of the said agreement PROVIDED THAT if any intermediate payments are made to the Contractor on account of work done then on the occasion of each such payment the Government will be at liberty to make a recovery from the Contractors Bill for such payment by deducting there from in the value of the said materials (then actually used in the construction and in respect of which recovery has not been made previously the value for this purpose being determined in respect of each description of material at the rates at which the amount of the advances made under these presents were calculated.

(7) That if the Contractor shall at any time make any default in the performance or observation in any respect of any of the terms and provisions of the said agreement or of these presents the total amount of the advance or advances that may still be owing to the Government shall immediately on the happening of such default be repayable by the Contractor to the Government together with interest thereon at twelve percent per annum from the date or respective dates of such advance or advances to the date of repayment and with all costs, charges, damages and expenses incurred by the Government in or for the recovery thereof or the

enforcement of this security or otherwise by reason of (he default of the Contractor and any moneys so becoming due and payable shall constitute a debt due from the Contractor to the Government and the Contractor hereby covenants and agrees with the Government to repay and the same respectively to it accordingly.

(8) That the Contractor hereby charges all the said materials with the repayment to the Government of the said sum of Rupees.....

(Rs.) and any further sum or sums which may be advanced as aforesaid and all costs charges damages and expenses payable under these present PROVIDED ALWAYS and it is hereby agreed and declared that not, withstanding anything in the said agreement and without prejudice to the powers contained therein if and whether the covenant for payment and repayment hereinbefore contained shall become enforceable and the money owing shall not be paid to accordingly.

Once there with the Government may at any time thereafter adopt all or any of following courses as it may deem best :-

(a) Seize and utilize the said materials or any part thereof in the completion of the said works on behalf of the Contractor in accordance with the provisions in that behalf contained in the said agreement debiting the Contractor with the actual cost of effecting such completion the amount due in respect of advances under these presents and crediting the Contractor with the value of work done as he had carried it out in accordance with the said agreement and at the rates thereby provided. If the balance is against the Contractor he is to pay the same to the Government on demand.

(b) Remove and sell by public auction the seized materials or any part thereof and out of the moneys arising from the sale retain all the sums aforesaid repayable to the Government under these presents and pay over the surplus (if any) to the Contractor.

(c) Deduct all or any part of the moneys owing out of the security deposit or any sum due to the Contractor under the said agreement.

(9) That except as is expressly provided by the presents interest on the said advance shall not be payable.

(10) That in the event of any conflict between the provisions of these presents and the said agreement the provisions of these presents shall prevail and in the event of any dispute or difference arising over the construction or effect of these presents the settlement of which has not been hereinbefore expressly provided for the same shall be referred to the Superintending Engineer/Executive District Officer/Officer one grade higher to officer signed the agreement Circle whose..... decision shall be final and the provisions of the Arbitration Act 1940 for the time being in force so far as they are applicable shall apply to any such reference.

Signed, sealed and delivered by*

In the presence of



1st witness
2nd witness

Signed, sealed and delivered by*
In the presence of



1st witness
2nd witness

**PART I - GENERAL CONDITIONS
OF CONTRACT**

Notes on the Conditions of Contract

The Conditions of Contract comprise two parts:

- (a) **Part I - General Conditions of Contract**
- (b) **Part II - Particular Conditions of Contract**

Over the years, a number of “model” General Conditions of Contract have evolved. The one used in these Standard Bidding Documents was prepared by the International Federation of Consulting Engineers (Federation Internationale des Ingenieurs-Conseils, or FIDIC), and is commonly known as the FIDIC Conditions of Contract. (The used version is the harmonized Edition March 2006).

The FIDIC Conditions of Contract have been prepared for an ad measurement (unit price or unit rate) type of contract, and cannot be used without major modifications for other types of contract, such as lump sum, turnkey, or target cost contracts.

The standard text of the General Conditions of Contract chosen must be retained intact to facilitate its reading and interpretation by bidders and its review by the procuring agency. Any amendments and additions to the General Conditions, specific to the contract in hand, should be introduced in the Particular Conditions of Contract.

The use of standard conditions of contract for all civil works will ensure comprehensiveness of coverage, better balance of rights or obligations between procuring agency and Contractor, general acceptability of its provisions, and savings in time and cost for bid preparation and review, leading to more economic prices.

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* Add the following text if the bidding documents, as issued, do not include a copy:

“Copies of the FIDIC Conditions of Contract can be obtained from:

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Tel. +41 22 799 49 00;

Fax; +41 22 799 49 01

E-mail: fidic@fidic.org.

Conditions of Contract
for
CONSTRUCTION

**FOR BUILDING AND ENGINEERING
WORKS DESIGNED BY THE EMPLOYER**

Multilateral Development Bank Harmonized Edition
March 2006

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FEDERATION INTERNATIONALE DES INGENIEURS-CONSEILS
INTERNATIONAL FEDERATION OF CONSULTING ENGINEERS
INTERNATIONALE VEREINIGUNG BERATENDER INGENIEURE
FEDERACION INTERNACIONAL DE INGENIEROS CONSULTORES

FIDIC

**PART II - PARTICULAR CONDITIONS
OF CONTRACT**

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PART II - PARTICULAR CONDITIONS OF CONTRACT

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PART II - PARTICULAR CONDITIONS OF CONTRACT

1.1 Definitions

Second line, delete the word “Parts A and B”

1.1.1.4 “Form of Bid” is synonymous with “Letter of Tender”.

1.1.1.4 “Bid” is synonymous with “Tender”.

1.1.1.10 *Delete the word “Part A of the”.*

The following paragraph is added:

1.1.1.11 “Programme” means the programme to be submitted by the Contractor in accordance with Sub-Clause 8.3 and any approved revisions thereto.

1.1.2.2 “Employer” is synonymous with “Procuring Agency”

1.1.2.9 “DB” is synonymous with “Committee”.

1.1.3.1 Replace 28 days by 7 days in LCB and 15 days in ICB.

1.1.3.7 “Defects notification Period” is synonymous with “Defects liability Period”.

1.3 Communications

Add the following addresses at the end of this sub-Clause:

Name and address of the Procuring Agency:

Karachi Fisheries Harbour Authority
Fish Harbour West Wharf Road Karachi

Name and address of the Engineer:

National Engineering Services Pakistan (Pvt.) Limited
13th floor, NICL Building, Abbasi Shaheed Road,
Off: Shakra-e-Faisal, Karachi.

1.4 Law and Language

The Contract shall be subject to the Laws of Islamic Republic of Pakistan.
The Contract Documents shall be drawn up in the English language.
The language for communication shall be English.

1.5 Priority of Documents

The documents listed at (1) to (6) of the Sub-Clause are deleted and substituted with the following:

- (1) The Contract Agreement (if completed);
- (2) The Letter of Acceptance;
- (3) The completed Form of Bid;
- (4) Special Stipulations (Appendix-A to Bid);
- (5) Part II -The Particular Conditions of Contract;
- (6) Part I - The General Conditions;
- (7) The priced Bill of Quantities (Appendix-D to Bid);
- (8) The completed Appendices to Bid (B, C, E to L);
- (9) The Drawings;
- (10) The Specifications;
- (11) Any other documents

In case of discrepancies between drawings, those of larger scale shall govern unless they are superseded by a drawing of later date regardless of scale. All Drawings and Specifications shall be interpreted in conformity with the Contract and these Conditions. Addendum, if any, shall be deemed to have been incorporated at the appropriate places in the documents forming the Contract.

If an ambiguity or discrepancy is found in the documents, the Engineer shall issue any necessary clarification or instruction.

1.6 Contract Agreement

Read “Contractor” in place of “Employer” occurring in last line of the Sub-Clause 1.6.

1.15 Inspections and Audit by the Bank

Delete this Sub-Clause in its entirety.

2.4 Employer’s Financial Arrangements

Delete this Sub-Clause in its entirety.

3.1 Engineer's Duties and Authority.

The following paragraph is added after duties:

Procuring agency shall ensure that the Engineer's Representative/Staff is a professional engineer as defined in the Pakistan Engineering Council Act 1975 (V of 1976).

4.1 Contractor's General Obligation

The third para is deleted in its entirety.

4.2 Performance Security

The first, fourth and fifth paras are deleted in its entirety and replaced the first para with the following text:

The Contractor shall obtain (at his cost) a Performance Security for proper performance. The Performance Security shall be of an amount equal to **5%** of the Contract Price (in Pak Rupees) stated in the Letter of Acceptance. Such Security shall, at the option of the bidder, be in the form of bank guarantee from any Scheduled Bank having AA rating in Pakistan or endorsed by the Head/Regional office of the respective bank located in Pakistan in the name of the Employer.

4.3 Contractor's Representative

The following text is to be added after last line:

The Contractor's authorized representative and his other professional engineers working at site shall register themselves with the Pakistan Engineering Council.

4.8 Safety Procedures

The following text is to be added at the end of this Sub-Clause:

In order to provide for the safety, health and welfare of persons, and for prevention of damage of any kind, all operations for the purposes of or in connection with the Contract shall be carried out in compliance with the Safety Requirements of the Government of Pakistan with such modifications thereto as the Engineer may authorise or direct and the Contractor shall take or cause to be taken such further measures and comply with such further requirements as the Engineer may determine to be reasonably necessary for such purpose.

The Contractor shall make, maintain and submit reports to the Engineer concerning safety, health and welfare of persons and damage to property, as the Engineer may from time to time prescribe.

4.20 Employer's Equipment and Free-Issue Materials

This sub-Clause is deleted in its entirety.

6.7 Health and Safety

The fourth, fifth & sixth paragraphs are deleted in its entirety.

6.10 Records of Contractor's Personnel and Equipment

The following paragraph is added:

The Contractor shall, upon request by the Engineer at any time in relation to any item of hired Contractor's Equipment, forthwith notify the Engineer in writing the name and address of the Owner of the equipment and shall certify that the agreement for the hire thereof contains a provision in accordance with the requirements set forth above.

The following sub-clause 7.9 is added in (GCC):

7.9 Use of Pakistani Materials and Services

The Contractor shall, so far as may be consistent with the contract, make the maximum use of materials, supplies, plant and equipment indigenous to or produced or fabricated in Pakistan and services, available in Pakistan provided such materials, supplies, plant, equipment and services shall be of required standard.

8.1 Commencement of Works

Sub-para (b) is deleted in its entirety.

The last para is deleted and substituted with the following:

The Contractor shall commence the works on site within the period named in Appendix-A to Bid from the date of receipt by him from the Engineer of a written Notice to Commence. Thereafter, the Contractor shall proceed with the works with due expedition and without delay.

8.3 Programme

The following text is to be added after [Commencement of Works]

The programme shall be submitted in the form of:

- a) Critical Path Method (CPM) identifying the critical path/activities.

8.11 Prolonged Suspension

Replace 84 days by 120 days.

12.3 Evaluation

In the last line of second last Para, delete the text “together with profit” and substituted with following:

"using a markup of 25% to cover Contractor's overheads and profit including all taxes excluding Sindh Sales Tax (SST) on Construction Services ".

13.1 Right to vary

In the last line, after the word “Variation”, the word “in writing” is added.

13.3 Variation procedure

In the tenth line, after the words “as soon as practicable” following is added: “and within a period not exceeding one-eighth of the completion time”

13.4 Payment in Applicable Currencies

All the payments shall be in Pak Rupees.

13.8 Adjustment for changes in cost

This Sub-clause is deleted in its entirety and substituted with the following:

The amounts payable to the Contractor, pursuant to Sub-Clause 14.1, shall be adjusted in respect of the rise or fall in the cost of labour, materials, and other inputs to the Works, by applying to such amount the formula prescribed in this Sub-Clause.

(a) Other Changes in Cost

To the extent that full compensation for any rise or fall in costs to the Contractor is not covered by the provisions of this or other Clauses in the Contract, the unit rates and prices included in the Contract shall be deemed

to include amounts to cover the contingency of such other rise or fall of costs.

(b) Adjustment Formula

The adjustment to the monthly statements in respect of changes in cost shall be determined from the following formula:-

$$P_n = A + b \frac{L_n}{L_o} + c \frac{M_n}{M_o} + d \frac{E_n}{E_o} + \dots$$

Where:

P_n is a price adjustment factor to be applied to the amount for the payment of the work carried out in the subject month, determined in accordance with the value of the Permanent Works executed subject to adjustment;

A is a constant, specified in Appendix-C to Bid, representing the nonadjustable portion in contractual payments;

b, c, d, \dots , are weightages or coefficients representing the estimated proportion of each cost element (labour, cement and reinforcing steel etc.) in the Works or Sections thereof, the sum of A, b, c, d, \dots , shall be one;

L_n, M_n, E_n, \dots , are the current cost indices or reference prices of the cost elements for month “ n ”, determined pursuant to Sub-Clause 13.8(d), applicable to each cost element; and

L_o, M_o, E_o, \dots , are the base cost indices or reference prices corresponding to the above cost elements at the date specified in Sub-Clause 13.8(d).

(c) Sources of Indices/Prices and Weightages

The sources of indices/price shall be those listed in Appendix-C to Bid, as approved by the Engineer. As the proposed basis for price adjustment, the Contractor shall have submitted with his bid the tabulation of Weightages and Source of Indices/Prices if different than those given in Appendix-C to Bid, which shall be subject to approval by the Engineer.

(d) Base, Current, and Provisional Indices/Prices

The base cost indices or prices shall be those prevailing on the day 28 days prior to the latest date for submission of bids. Current indices or prices shall be those prevailing on the day 28 days prior to the last day of the period to which a particular monthly statement is related. If at any time the current indices or prices are not available, provisional indices or prices as determined by the Engineer will be used, subject to subsequent correction of the amounts paid to the Contractor when the current indices or prices become

available.

(e) Adjustment after Completion

If the Contractor fails to complete the Works within the Time for Completion prescribed under Sub-Clause 8.2, adjustment of prices thereafter until the date of completion of the Works shall be made using either the indices or prices relating to the prescribed time for completion, or the current indices or prices, whichever is more favorable to the Employer, provided that if an extension of time is granted pursuant to Sub-Clause 8.4, the above provision shall apply only to adjustments made after the expiry of such extension of time.

(f) Weightages

The weightages for each of the factors of cost given in Appendix-C to Bid shall be adjusted if, in the opinion of the Engineer, they have been rendered unreasonable, unbalanced, or inapplicable as a result of varied or additional work executed or instructed under Clause 13. Such adjustment(s) shall have to be agreed in the variation order.

14.1 The Contract Price

In the first line of Sub-para (b) after the text “pay all taxes” substitute the following text:

“excluding Sindh Sales Tax (SST) on Construction Services”.

Sub-para (d) is deleted.

14.2 Advance Payment

This sub-Clause is deleted in its entirety and substituted with following:

Advance Payment/Mobilization Advance shall be made available to the Contractor by the procuring agency on following conditions:

Mobilization Advance/Advance Payment

- (i) Mobilization advance up to 10 % of the Contract Price may be paid by the procuring agency to the Contractor on following conditions:
 - a. on submission by the Contractor of a mobilization advance guarantee for the full amount of the advance in the specified form, from a Scheduled Bank in Pakistan, acceptable to the procuring agency;

- b. Contractor shall pay interest on the mobilization advance at the rate of 10% per annum on the advance; and
- (ii) This Advance including the interest shall be recovered in 15 equal installments from the 5th Interim Payment Certificate (IPC) inclusive of the interest thereon shall be recovered from each IPC and the balance together with interest be recovered before the stipulated completion date of work.

14.5 Plants and Materials intended for Works

Add the following paragraph as sub-clause 14.5 (d) for Secured Advance on cement, steel reinforcement & aggregates and sub-clauses (a), (b) and (c) will be applicable for plants only :-

- (I) The Contractor shall be entitled to receive from the procuring agency Secured Advance against an INDENTURE BOND given in Forms acceptable to the procuring agency of such sum as the Engineer may consider proper in respect of cement, steel reinforcement & aggregates brought at the site but not yet incorporated in the Permanent Works provided that:
 - (i) The materials are in accordance with the specifications for the permanent works;
 - (ii) Such materials have been delivered to the site and are properly stored and protected against loss or damage or deterioration to the satisfaction and verification of the Engineer/Assistant Engineer but at the risk and cost of the Contractor;
 - (iii) The Contractor's records of the requirements, orders, receipts and use of materials are kept in a form approved by the Engineer, and such records shall be available for inspection by the Engineer;
 - (iv) The Contractor shall submit with his monthly statement the estimated value of the materials on site together with such documents as may be required by the Engineer for the purpose of valuation of materials and providing evidence of ownership and payment therefore;
 - (v) Ownership of such materials shall be deemed to vest in the procuring agency and these materials shall not be removed from the site or otherwise disposed of without written permission of the procuring agency;
 - (vi) The sum payable for such materials on site shall not exceed 75

% of the (i) landed cost of imported materials, or (ii) ex-factory / ex-warehouse price of locally manufactured or produced materials, or (iii) market price of stands other materials;

- (vii) Secured Advance shall not be allowed unless and until the previous advance, if any, is fully recovered;
- (viii) Detailed account of advances must be kept in part II of running account bill or a separate statement; and
- (ix) Secured Advance may be permitted only against materials/quantities anticipated to be consumed / utilized on the work within a period of 3 months from the date of issue of secured advance and in no case for full quantities of materials for the entire work/contract.

(II) Recovery of Secured Advance:

Secured Advance paid on cement, steel reinforcement & aggregates to the Contractor under the above provisions shall be effected from the monthly payments on actual consumption basis, but not later than period specified in the rules not more than three months (even if unutilized).

14.7 Payment

This sub-Clause is deleted in its entirety and substituted with the following:

The Procuring Agency shall pay to the Contractor:

- (a) the first installment of the mobilization advance payment within 30 days after issuing the Letter of Acceptance or within 21 days after receiving the documents in accordance with Sub-Clause 4.2 [Performance Security] and Sub-Clause 14.2 [Advance Payment], whichever is later;
- (b) The amount due to the Contractor under any Interim Payment Certificate issued by the Engineer pursuant to this Clause, or to any other terms of the Contract, shall, subject to Clause 8.7, be paid by the Procuring Agency to the Contractor within 30 days after such Interim Payment Certificate has been delivered to the Procuring Agency, or, in the case of the Final Certificate referred to in Sub Clause 14.13, within 30 days after such Final Payment Certificate has been delivered to the Procuring Agency; Provided that the Interim Payment shall be caused in 42 days and Final Payment in 56 days in case of foreign funded project. The provisions of this Sub-Clause are without prejudice to the Contractor's entitlement under Clause 16.

14.8 Delayed Payment

This sub-Clause is deleted in its entirety.

14.15 Currencies of Payment

This sub-Clause is deleted in its entirety.

15.2 Termination by Employer

The following Para is added at the end of the sub-clause:

Provided further, that in addition to the action taken by the procuring agency against the Contractor under this Sub-Clause, the procuring agency may also refer the case of default of the Contractor to Pakistan Engineering Council for punitive action under the Construction and Operation of Engineering Works Bye-Laws 1987, as amended from time to time.

15.6 Corrupt and fraudulent Practices

This sub-Clause is deleted in its entirety and substituted with following:

If the Procuring Agency determines that the Contractor has engaged in corrupt, fraudulent, collusive or coercive practices, in competing for or in executing the Contract, then the Procuring Agency may, after giving 14 days notice to the Contractor, terminate the Contractor's employment under the Contract and expel him from the Site, and the provisions of Clause 15 shall apply as if such expulsion had been made under Sub-Clause 15.2.

Should any employee of the Contractor be determined to have engaged in corrupt, fraudulent or coercive practice during the execution of the work then that employee shall be removed in accordance with Sub-Clause 6.9.

If the Contractor or any of his Subcontractors, agents or servants is found to have violated or involved in violation of the Integrity Pact signed by the Contractor as Appendix-L to his Bid, then the procuring agency shall be entitled to:

- (a) recover from the Contractor an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by the Contractor or any of his Subcontractors, agents or servants;
- (b) terminate the Contract; and
- (c) recover from the Contractor any loss or damage to the procuring agency as a result of such termination or of any other corrupt

business practices of the Contractor or any of his Subcontractors, agents or servants.

The termination under sub-para (b) of this Sub-Clause shall proceed in the manner prescribed under Sub-Clauses 15.2 & 15.5 and the payment under Sub-Clause 15.4 shall be made after having deducted the amounts due to the procuring agency under Sub-Para (a) and (c) of this Sub-Clause.

16.4 Payment on Termination

Sub-paragraph (c) is deleted.

17.3 Employer's/ Procuring Agency's Risks

Sub-Clause 17.3 (h) is deleted.

18.1 General Requirements for Insurances

The following text is added in this Sub-Clause:

The Contractor shall be obliged to place all insurances relating to the contract (including, but not limited to, the insurances referred to in Sub-Clauses 18.1,18.2,18.3,18.4) with Insurance Company having at least AA rating from PACRA/JCR in favour of the Employer/Procuring Agency valid for a period 28 days after beyond the Bid Validity date. Costs of such insurances shall be borne by the Contractor.

19.6 Optional Termination, Payment and Release

Sub-clauses (c), (d) and (e) are deleted.

20.2 Appointment of the Dispute Board

The second line of first paragraph is deleted and replaced with the following:

The parties shall appoint a DB within 15 days after arising of dispute.

20.3 Failure to Agree on the Composition of the Dispute Board

The appointing entity or official shall be "Secretary Livestock and Fisheries Department, GoS".

20.6 Arbitration

This sub-Clause is deleted in its entirety and substituted with the following:

Any dispute in respect of which:

- (a) the decision, of the Dispute Board has not become final and binding pursuant to Sub- Clause 20.2, and`
- (b) amicable settlement has not been reached within the period stated in Sub-Clause 20.5, shall be finally settled, under the provisions of the Arbitration Act, 1940 as amended or any statutory modification/Rules of Conciliation And Arbitration PEC Islamabad or re-enactment thereof for the time being in force.

The place of arbitration shall be **Karachi**, in Sindh Province.

LIST OF BIDDING DRAWINGS

LIST OF BIDDING DRAWINGS

FOR LIST OF BIDDING DRAWINGS, REFER VOLUME-III

BILL OF QUANTITIES

BILL OF QUANTITIES

Preamble

1. The Bill of Quantities shall be read in conjunction with the Conditions of Contract, Specifications and Drawings.
2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work executed and measured by the Contractor and verified by the Engineer and valued at the rates and prices entered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix as per the Contract (in case of item not mentioned in Bill of Quantities).
3. The rates and prices entered in the priced Bill of Quantities shall, except insofar as it is otherwise provided under the contract include all costs of Contractor's plant, labour, supervision, materials, execution, insurance, profit, taxes excluding Sindh Sales Tax (SST) on Construction Services and duties, together with all general risks, liabilities and obligations set out or implied in the contract. Furthermore all duties, taxes and other levies payable by the Contractor under the contract, or for any other cause, as on the date 14 days prior to deadline for submission of Bids in case of ICB/NCB respectively, shall be included in the rates and prices and the total bid price submitted by the bidder.
4. A rate or price shall be entered against each item in the priced Bill of Quantities, whether quantities are stated or not. The cost of items against which the Contractor will have failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities and shall not be paid separately.
5. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities, and where no items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related items of the works.
6. General directions and description of work and materials are not necessarily repeated nor summarized in the Bill of Quantities. References to the relevant sections of the bidding documents shall be made before entering prices against each item in the priced Bill of Quantities.
7. Provisional sums included and so designated in the Bill of Quantities shall be expended in whole or in part at the direction and discretion of the Engineer in accordance with sub-clause 13.5 of Part I, General Conditions of Contract.

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

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**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)**

SUMMARY OF COST

CODE	DESCRIPTION	AMOUNT IN PAK.RUPEES
------	-------------	----------------------

01 **Demolition Works.**

Sub-Total

02 **Water Supply System**

2a. **External Piping Network**

C. Civil Works

P. Piping Works

Sub-Total

2b. **Underground Water Tank, Pump Room**

C. Civil Works

P. Piping Works

E. Electrical Works

Sub-Total

2c. **Water Tower**

C. Civil Works

P. Plumbing Works

E. Electrical Works

Sub-Total

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)**

SUMMARY OF COST

CODE	DESCRIPTION	AMOUNT IN PAK.RUPEES
03	<u>Sewage System.</u>	
	3a. <u>External Sewage Network</u>	
	C. Civil Works	_____
	P. Piping Works	_____
	Sub-Total	
	3b. <u>Sewage Lift Station 1&2</u>	
	C. Civil Works	_____
	P. Piping Works	_____
	E. Electrical Works	_____
	Sub-Total	
04	<u>Fire Fighting System</u>	
	C. Civil Works	_____
	P. Piping Works	_____
	E. Electrical Works	_____
	Sub-Total	
05	<u>Ancillary Buildings</u>	
	5a. <u>Guard Room 1&2</u>	
	C. Civil Works	_____
	E. Electrical Works	_____
	Sub-Total	

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)**

SUMMARY OF COST

CODE	DESCRIPTION	AMOUNT IN PAK.RUPEES
5b.	<u>Security Room</u>	
C.	Civil Works	_____
E.	Electrical Works	_____
Sub-Total		
5c.	<u>Toilet Block</u>	
C.	Civil Works	_____
P.	Plumbing Works	_____
E.	Electrical Works	_____
Sub-Total		
5d.	<u>Public Toilet Block (3.Nos)</u>	
C.	Civil Works	_____
P.	Plumbing Works	_____
E.	Electrical Works	_____
Sub-Total		
5e.	<u>Gate Houses (Main KFH Boundary Wall Gates).</u>	
C.	Civil Works	_____
P.	Plumbing Works	_____
E.	Electrical Works	_____
Sub-Total		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)**

SUMMARY OF COST

CODE	DESCRIPTION	AMOUNT IN PAK.RUPEES
5f.	<u>Boundary Wall (Water Works)</u>	
C.	Civil Works	_____
Sub-Total		
06	<u>External Electrical Work</u>	
E.	Electrical Works	_____
Sub-Total		
6a.	<u>Existing FCS Sub-Station Extension & Modifications</u>	
C.	Civil Works	_____
E.	Electrical Works	_____
M.	Mechanical Works	_____
Sub-Total		
6b.	<u>New Sub-Station</u>	
C.	Civil Works	_____
E.	Electrical Works	_____
M.	Mechanical Works	_____
Sub-Total		
6c.	<u>CCTV System for Harbour.</u>	_____
Sub-Total		

REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)

SUMMARY OF COST

CODE	DESCRIPTION	AMOUNT IN PAK.RUPEES
6d.	<u>Electrical Manhole</u>	
C.	Civil Works	
Sub-Total		
07	<u>Main KFHA Boundary Wall</u>	
C.	Civil Works	
Sub-Total		
08	<u>Pre investigation for R.O.Plant</u>	
Sub-Total		
09	<u>Roads</u>	
Sub-Total		
GRAND TOTAL OF ALL CODES		

Grand Total Amount in Words:-.....

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.01 DEMOLITION WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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C. CIVIL WORKS**DEMOLITION WORKS**

Ref. Sec.No. 0200

01-1C Demolition/ cutting of following existing structures/ buildings including disposal of demolished/ dismantled materials to designated places, complete in all respect as shown on the drawings, specifications and as directed by the Engineer.

1) Toilets No. 2

1) Water Works consisting:

a) Water Tower Job 1

b) Underground Water Tank Job 1

c) Office Job 2

d) Pump Room Job 1

2) High Mast Tower including foundations & gear control rooms. No. 11

3) Perimeter Boundary Wall including gates. RM 2400

01-2C Demolition of existing asphalt pavement road including base, sub-base and disposal of dismantled material to designated places complete in all respect as shown on the drawings, specifications and as directed by the Engineer.

Sq.m 22,100

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.01 DEMOLITION WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
01-3C	Demolition/ removal of Existing Structures, kerb stones, footpaths etc. falling within the ROW including disposal of dismantled/ removed materials to designated places as shown on the drawings or as directed by the Engineer.	Job	1		
01-4C	Demolition of existing reinforced concrete pavement including base, sub-base and disposal of dismantled material to designated places complete in all respect as shown on the drawings, specifications and as directed by the Engineer.	Job	1		
Total Amount					_____
Carried over to summary of cost					_____

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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02a. External Piping Works.

C. CIVIL WORKS

EARTHWORKS

Ref.Spec. No.1100

02a-1C	Excavation of trenches in all kinds of sub-surface material up to following depths including dewatering and disposal of surplus/rejected excavated material to designated places.				
	a) 0 - 2 meter	Cu.m.	4155		
02a-2C	Fill & backfill with selected material obtained from required excavation.				
		Cu.m.	3695		
02a-3C	Fine sand bedding including compaction.				
		Cu.m.	385		

PLAIN AND REINFORCED CONCRETE

Ref. Sec.No. 2300, 2100

02a-4C	Class 'E' concrete using specified cement in foundations.				
		Cu.m.	5		
02a-5C	Class 'B' reinforced concrete using specified cement in following manholes/ chambers structures complete in all respect as shown on the drawings.				
	a) Base Slab	Cu.m.	7		
	b) Walls	Cu.m.	32		
	c) Top Slab	Cu.m.	7		
02a-6C	Class 'C' plain concrete using specified cement including M.S. anchor bars in thrust blocks.				
		Cu.m.	5		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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02a-7C RCC Class 'B' cover of following sizes including fixing complete in all respects as shown on the drawing and specifications.

a) 600 mm x 600 mm No. 22

REINFORCEMENT

Ref. Sec.No. 2200

02a-8C Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615. tonne 5

CAST IRON COVERS WITH FRAME & LADDER RUNGS

Ref.Sec. 5233

02a-9C 20mm dia. M.s. galvanised ladder rungs including fixing and fixing accessories complete in all respect as shown on the drawings. No 105

STEEL PIPE & FITTINGS

Ref.Sec. 5214

02a-10C Steel pipe conforming to API 5L (8mm wall thickness) sleeves on road crossings.

i) 250mm Rm 41

ii) 150mm Rm 41

THRUST BORING

Ref.Sec. 5820

02a-11C Thrust Boring below road for providing dia. Following dia steel pipe conforming to API 5L (8mm wall thickness) sleeves for pipe crossings.

i) 250mm Rm 41

ii) 150mm Rm 41

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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WATER PROOFING AND BUILT-UP ROOFING

Ref. Sec.No.6411

02a-12C Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.

Sq.m. 155

Total Amount

Carried over to summary of cost

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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02a. External Water Supply Network

P. PIPING WORKS

POLY ETHYLENE PIPES & PIPE FITTINGS

Ref. Spec. No. 5213

02a-1P P.E. Pipes PN-10 (SDR 17) conforming to ISO-4427:1996 and fittings conforming to ISO-3458 of following diameters as shown on drawing and as specified.

a) 200 mm	Rm	100
b) 150 mm	Rm	1,350
c) 100 mm	Rm	1,850
d) 75 mm	Rm	350

VALVES AND APPURTENANCES

Ref. Spec. No. 5220

02a-2P Cast iron flanged gate valve of the following diameters conforming to BS 5163 or equivalent, PN 10 as shown on drawing and as specified.

a) 150 mm	No.	8
b) 100 mm	No.	10
c) 75 mm	No.	1

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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02a-3P Cast iron flanged single acting air valve including approved isolating valves of the following diameters as per AWWA C512 or BS equivalent, PN-10 of Western European or Japan origin as shown on drawings and as specified.

a) 50 mm	No.	1		
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Total Amount _____
Carried over to summary of cost _____

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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02b. Under ground Water Tank,Pump Room.

C. CIVIL WORKS

EARTHWORKS

Ref.Spec. No.1100

02b-1C	Excavation of trenches in all kinds of sub-surface material up to following depths including dewatering and disposal of surplus/rejected excavated material to designated places.				
	a) 0 - 2 meter	Cu.m.	1425		
	b) 2 - 4 meter	Cu.m.	1500		
02b-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	450		

STONE SOLING

Ref. Sec.No. 1330

02b-3C	400mm thick compacted stone soling.	Sq.m.	710		
02b-4C	100mm thick compacted stone soling.	Sq.m.	85		

TERMITE CONTROL TREATMENT

Ref.Spec. No.1600

02b-5C	Termite control treatment.	Sq.m.	710		
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REINFORCEMENT

Ref. Sec.No. 2200

02b-6C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	100		
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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
<u>PLAIN AND REINFORCED CONCRETE</u>					
Ref. Sec.No. 2300, 2100					
02b-7C	Class 'E' concrete using specified cement in foundations.	Cu.m.	70		
02b-8C	Class 'C' plain cement concrete floor using ordinary Portland cement in Ramp etc.	Cu.m.	3		
02b-9C	Class 'D' plain cement concrete using ordinary Portland cement in plinth protection including bitumen seal.	Cu.m.	1		
02b-10C	Class 'A' fair faced reinforced concrete in following sub- structures using specified cement including water proofing admixture BETOCRETE-C16 and Polypropylene fibrous (Duracrete 25mm Fibrillated DCF-25/13 or approved equivalent) complete in all respect as shown on the drawings & specifications.				
	a) Base slab including pads	Cu.m.	455		
	b) Column	Cu.m.	23		
	c) Walls	Cu.m.	90		
	d) Slab including beams	Cu.m.	207		
02b-11C	Class 'B' reinforced concrete in following super structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Beams	Cu.m.	30		
	b) Columns	Cu.m.	50		
	c) Screed over double tee roof	Cu.m.	60		
	d) Slab & Projection	Cu.m.	18		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	d) Purdi	Cu.m.	4		
	<u>PRECAST PRESTRESSED CONCRETE UNIT DOUBLE TEE ROOF SYSTEM</u>				
	Ref. Sec.No. 2550				
02b-12C	Precast prestressed fairfaced Class 'A1' reinforced concrete double & single tee roof as per design including steel reinforcement, steel strands for prestressing, and steel embedding parts complete in all respect as shown on the drawings and specifications.	Sq.m.	550		
	<u>BLOCK MASONRY</u>				
	Ref. Sec.No. 4100				
02b-13C	Reinforced block masonry of the following thicknesses set in 1:6 cement sand mortar.				
	a) 200mm thick solid	Cu.m.	50		
	<u>CEMENT PLASTER</u>				
	Ref. Sec.No. 6521				
02b-14C	12mm thick 1:4 cement sand plaster to specified interior surfaces.	Sq.m.	885		
02b-15C	20mm thick 1:4 cement sand plaster to specified exterior surfaces.	Sq.m.	280		
02b-16C	20mm thick, 1:4 cement sand smooth Water proof plaster to specified surfaces.	Sq.m.	990		
	<u>FLOOR AND WALL FINISHES</u>				
	Ref. Sec.No. 6600				
02b-17C	100mm thick Class 'D' cement concrete sub-	Sq.m.	15		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
02b-18C	Chequered tile floor using of size 300x300x25mm thick in approved colour laid in approved pattern set in specified cement sand mortar including Class 'C' cement concrete screed base complete in all respect as shown on the drawings & specifications.	Sq.m.	86		
<u>WATER PROOFING AND BUILT-UP ROOFING</u>					
Ref. Sec.No.6411					
02b-19C	Water proofing and built-up roofing over slab as per specifications and as shown on the drawings.	Sq.m.	580		
02b-20C	Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.	Sq.m.	640		
02b-21C	Water proofing at construction joint comprising swellable thermoplastic expensive water stop (INDU-FLEX-CJ13 or equivalent), Crystallin water proof slurry (AQUAFIN-1C or equivalent) @ 1kg./Sq.m. to specified concrete surfaces and polypropylene based tape (ASO-JOINT-TAPE 2000 or equivalent) embedded between two layers of polymer modified cementitious coating (AQUAFIN-2C or equivalent) complete in all respect as shown on the drawings and specifications.	R.m.	100		
02b-22C	Flexible cementitious surface water proofing (Aquafin 2K/M, Product of Schomburg Germany or approved equivalent) to specified surfaces complete in all respect as shown on the drawings and as per manufacturer's instruction.	Sq.m.	1,100.0		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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CAST IRON COVERS WITH FRAME & LADDER RUNGS

Ref. Sec.No. 5233

02b-23C	20mm dia. M.s. galvanised ladder rungs including fixing and fixing accessories complete in all respect as shown on the drawings.	No	42		
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STRUCTURAL STEEL WORKS

Ref.Spec. No. 3000

02b-24C	Steel doors and ventilators as per design including specified paint system, hardwares and all accessories complete in all respect as shown on the drawings & specifications.	Kg.	3,000		
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PAINTING

Ref.Spec. No. 6700

02b-25C	Distemper paint to specified surfaces on ceiling including sealer primer.	Sq.m.	335		
02b-26C	Three coats of Aqua matt emulsion paint to specified interior surfaces including Aqua primer and surface preparation complete in all respect as shown on the drawings and specifications.	Sq.m.	550		
02b-27C	Three coats of (comprising Aqua primer X, Aqua flex ,Aqua shield or approved equivalent) of approved quality, colour & shade applied upto desired finish to specified exterior surfaces including primer and surface preparation complete in all respect as per specifications.	Sq.m.	280		

Total Amount
Carried over to summary of cost

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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02b. Under-ground Water Tank,Pump Room**P. PIPING / PLUMBING WORKS****STEEL PIPES & PIPE FITTINGS**

Ref. Spec. No. 5214 and 5280

02b-1P Black steel pipes including fittings of the following diameters conforming to API 5L Grade 42 as shown on the drawings, as specified or as directed by the Engineer.

a) 300 mm	Rm	40
b) 150 mm	Rm	50
c) 75 mm	Rm	3

02b-2P Galvanized mild steel U-turned vent pipes of following diameters:

a) 100 mm	No.	4
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CAST IRON COVER WITH FRAMES & LADDER RUNGS

Ref. Spec. No. 5233

02b-3P Galvanized M.S. ladder rungs 20 mm dia. as specified.

No.	32
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VALVES AND APPURTENANCES

Ref. Spec. No. 5220

02b-4P Cast iron flanged gate valve on fire water line of the following diameters conforming to BS 5163 or equivalent, PN 16 of Western European or Japan origin as shown on drawing and as specified.

a) 300 mm	No.	2
b) 150 mm	No.	3
c) 75 mm	No.	1

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
02b-5P	Cast iron flanged gate valve on potable water line of the following diameters conforming to BS 5163 or equivalent, PN 10 of Western European or Japan origin as shown on drawing and as specified.				
	a) 150 mm	No.	5		
02b-6P	Cast iron flanged check valves on fire water line of the following diameter conforming to BS 5153 or equivalent PN 16 of Western European or Japan origin as shown on drawing and as specified.				
	a) 150 mm	No.	3		
	b) 75 mm	No.	1		
02b-7P	Cast iron flanged check valves on potable water line of the following diameter conforming to BS 5153 or equivalent PN 10 of Western European or Japan origin as shown on drawing and as specified.				
	a) 150 mm	No.	3		
02b-8P	Surge relief valve of following diameters including all accessories as shown on the drawings and as specified:				
	a) 100 mm	No.	1		
	b) 75 mm	No.	1		
02b-9P	Float valve shall be of copper alloy piston type & conform to BS 1212 including float shall be of copper conforming to BS 1968.				
	a) 75 mm	No.	1		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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PUMPING MACHINERY AND ACCESSORIES

Ref. Spec. No. 5240

02b-10P	Deep well turbine potable water pump and motor of the following capacity and head including all accessories, pressure guage, pressure switch, etc.				
	a) Q = 140 US GPM H = 3.5 bars	No.	3		
02b-11P	Deep well turbine fire water pump and motor of the following capacity and head including all accessories, pressure guage, pressure switch, etc.				
	a) Q = 500 US GPM H = 10 bars	No.	3		
02b-12P	Deep well turbine fire water jockey pump and motor of the following capacity and head including all accessories.				
	a) Q = 50 US GPM H = 11 bars	No.	1		
02b-13P	Water level indicator as specified.	No.	1		
02b-14P	Girder and pulley block arrangement for 3 ton lifting capacity as shown on drawings and as specified.	No.	1		
02b-15P	Pipe support as shown on drawing.	No.	20		

MISCELLANEOUS STEEL WORKS

Ref. Spec. No. 3100

02b-16P	6.4 mm thick hinged steel cover and frame of the following sizes, complete in all respect:				
	a) 1000 mm x 1000 mm (4 No.)	Kg	250		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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02b-17P Mild steel overflow funnel of following size:

a) Dia. 100 x 150

No. 1

Total Amount

Carried over to summary of cost

KARACH FISH HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES

CODE NO. 02: WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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02b. UG Tank, Pump Room and RO.

E. ELECTRICAL WORKS

Supply, installation, testing and commissioning of the following items of work (unless specifically stated otherwise) including all material, labour, tools, plant, accessories, related civil works, etc., required for proper completion of each item as per specifications (Section-8001 "General Specifications for Electrical Works" shall be applicable to all BOQ items).

MOTOR CONTROL CENTRES

Ref. Sec. No. 8132, 8133,8135,8240

02b-1E Following MCC (as per single line diagram shown on drawing.) including all control wiring, foundation, mounting arrangement, related civil works and all accessories, etc., complete in all respects.

a) MCC-PW Job 1

LIGHT FIXTURES

Ref. Spec. Sec. 8150, 8212, 8240

02b-2E Following lighting fixtures with fluorescent or compact fluorescent or incandescent lamps or as per lighting fixture schedule installed on surface or on false ceiling complete with all accessories such as lamps, lamp holders, ballast, starters, capacitors, as applicable, etc. and all relevant installation material as approved by the Engineer.

a) Type A1
 Surface mounted batten light fixture body made of cold rolled steel (CRC) sheet pretreated, painted and stove enameled in white color with 1X36W fluorescent lamp. Diffuser made of clear prismatic pattern acrylic sheet. No. 30

REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES

CODE NO. 02: WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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LOW TENSION CABLES

Ref. Spec. Sec. 8212

02b-3E Following sizes single core/multi core PVC insulated and PVC sheathed, unarmoured copper conductor cables in already installed surface mounted/concealed PVC conduit or underground PVC pipe or on cable tray, for power and miscellaneous wiring including all

a) 3 core 6 sq.mm PVC/PVC RM 40

WIRING

Ref. Sec. 8212,8220,8230,8240,8290

02b-4E Wiring of Distribution Board (DB) to contactor controlled, first light point with 3(1x2.5 sq.mm) single core copper conductor, PVC cable including appropriate size concealed PVC conduits and all accessories etc., complete in all respect.

No. 3

02b-5E Wiring from light point to point (Contactor controlled) with 3(1x2.5 sq.mm) single core copper conductor PVC cable including appropriate size concealed PVC conduit and all accessories etc., complete in all respect.

No. 27

02b-6E Wiring of 16A, 250 Volt socket outlets with single core, copper conductor, PVC cable complete with appropriate size surface mounted GI conduit and all accessories, etc. including two coats of suitable weather resistant matt finish paint on entire length of surface GI conduits and all accessories.

a) From Distribution Board (DB) to outlet with 3(1x2.5 sq.mm) cable. No. 2

b) From outlet to outlet with 3(1x2.5 sq.mm) cable. No. 8

REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES

CODE NO. 02: WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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WIRING ACCESSORIES

Ref. Spec. Sec.8220

02b-7E	16 Amp, 250 Volt, 2 pin + earth, schuko socket outlet with sheet steel surface back box and all accessories.	No.	10		
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EARTHING

Ref. Spec. Sec. 8212, 8240

02b-8E	Following sizes of single core PVC insulated copper conductor cable as earth continuity conductor (ECC) installed on surface or on already installed cable tray or on already installed pipes/conduits or in trench etc.				
	a) 6 sq. mm.	RM	40		
02b-9E	600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x70 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.	No.	1		

MISCELLANEOUS ITEMS

Ref. Spec. Sec. 8290

02b-10E	Following sizes perforated G.I. sheet cable trays including cover, joints, bend, mounting brackets hanger complete with all accessories:				
	a) 100mmX50mm	RM	15		
	a) 300mmX75mm	RM	10		

Total Amount _____
Carried over to summary of cost _____

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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02c. Water Tower.

C. CIVIL WORKS

EARTHWORKS

Ref.Spec. No.1100

02c-1C	Excavation of trenches in all kinds of sub-surface material up to following depths including dewatering and disposal of surplus/rejected excavated material to designated places.				
	a) 0 - 2 meter	Cu.m.	145		
	b) 2 - 4 meter	Cu.m.	20		
02c-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	90		

STONE SOLING

Ref. Sec.No. 1330

02c-3C	150mm thick compacted stone soling.	Sq.m.	65		
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TERMITE CONTROL TREATMENT

Ref.Spec. No.1600

02c-4C	Termite control treatment.	Sq.m.	65		
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PILING WORKS

Ref. Sec.No. 1520

02c-5C	Load test on selected working pile onshore upto 195 tonnes as per ASTM 1143-81 (1987).	No.	1		
02c-6C	Drilling of boreholes upto following depth for piles 780mm diameter in all kinds of sub-surface material including disposal of drilled material to designated places.				
	a) 0 - 17 meters	R.m.	325		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
02c-7C	Class 'A' reinforced concrete piles 760mm diametre using specified cement including water proofing admixture BETOCRETE- C16 or equivalent and Polypropylene fibrous (Duracrete 25mm Fibrillated DCF-25/13 or approved equivalent) excluding the cost of reinforcement.	R.m.	290		
02c-8C	Permanent steel liner (780mm dia.) 10mm wall thickness including specified paint system and driving etc. complete in all respect as shown on the drawings and specifications.	R.m.	165		
<u>REINFORCEMENT</u>					
Ref. Sec.No. 2200					
02c-9C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	65		
<u>PLAIN AND REINFORCED CONCRETE</u>					
Ref. Sec.No. 2300, 2100					
02c-10C	Class 'E' concrete using specified cement in foundations.	Cu.m.	7		
02c-11C	Class 'A' reinforced concrete in pile caps using specified cement including Polypropylene fibrous (Duracrete 25mm Fibrillated DCF-25 or approved equivalent) complete in all respect as shown on the drawings & specifications.	Cu.m.	66		
02c-12C	Class 'B' reinforced concrete in following sub-structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Plinth Beams	Cu.m.	4		
02c-13C	Class 'A' fair faced reinforced concrete as per design in Over Head Water Tank using specified cement including water proofing admixture BETOCRETE C-16 and Polypropylene fibrous (Duracrete 25mm Fibrillated DCF-25 or approved equivalent) complete in all respect as shown on the drawings and specifications.				
	a) Walls	Cu.m.	75		

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CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	b) Slabs	Cu.m.	40		
	c) Beams	Cu.m.	10		
02c-14C	Class 'B' fair faced reinforced concrete in following super structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Columns	Cu.m.	82		
	b) Staircase	Cu.m.	14		
	c) Beams	Cu.m.	18		
02c-15C	200mm wide Pvc Water stop.	R.m.	40		
	<u>FLOOR AND WALL FINISHES</u>				
	Ref. Sec.No. 6600				
02c-16C	150mm thick Class 'D' cement concrete sub-floor	Sq.m.	65		
02c-17C	50mm thick Class 'C' cement concrete floor steel trowelled finished laid in panels.	Sq.m.	65		
	<u>CEMENT PLASTER</u>				
	Ref. Sec.No. 6521				
02c-18C	20mm thick, 1:4 cement sand smooth Water proof plaster to specified surfaces.	Sq.m.	290		
	<u>STRUCTURAL STEEL WORKS</u>				
	Ref.Spec. No. 3000				
02c-19C	Staircase handrailing as per design comprising 40mm nominal dia Schedule 40 m.s. pipe handrail, middle rail and balustrades etc. including specified painting and all accessories complete in all respect as shown on the drawings and as directed by the Engineer.				
	a) Floor mounted	R.m.	125		
02c-20C	Structural steel monkey ladder works including anchor bolts, embedding and specified painting/ coating complete in all respect as per specifications and as shown on the drawings.				
		Kg	1,000		

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EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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MISCELLANEOUS STEEL WORKS

Ref.Spec. No. 3100

02c-21C	6.4mm thick hinged steel cover and frame of the following sizes,complete in all respect as per specifications and as shown on the drawings	Kg	60		
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CAST IRON COVERS WITH FRAME & LADDER RUNGS

Ref. Sec.No. 5233

02c-22C	20mm dia. M.s. galvanised ladder rungs including fixing and fixing accessories complete in all respect as shown on the drawings.	No	50		
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WATER PROOFING AND BUILT-UP ROOFING

Ref. Sec.No. 6411

02c-23C	Water proofing and built-up roofing over slab as per specifications and as shown on the drawings.	Sq.m.	90		
02c-24C	Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.	Sq.m.	115		

PAINTING

Ref.Spec. No. 6700

02c-25C	Three coats of (comprising Aqua primer X, Aqua flex ,Aqua shield or approved equivalent) of approved quality, colour & shade applied upto desired finish to specified exterior surfaces including primer and surface preparation complete in all respect as per specifications.	Sq.m.	500		
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Total Amount
Carried over to summary of cost

**KARACHI FISHERIES HARBOUR AUTHORITY
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CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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02c. Water Tower**P. PIPING / PLUMBING WORKS****STEEL PIPES & PIPE FITTINGS**

Ref. Spec. No. 3100, 5214 and 5280

02c-1P	Black steel pipes including fittings of the following diameters conforming to API 5L Grade 42 as shown on the drawings, as specified or as directed by the Engineer.				
	a) 200 mm	Rm	40		
	b) 150 mm	Rm	110		
02c-2P	Galvanized mild steel U-turned vent pipes of following diameters:				
	a) 100 mm	No.	2		
02c-3P	Removeable brass dome strainer of following diameters:				
	a) 150 mm	No.	1		
02c-4P	Black steel bell mouth inlet with flange of following diameters:				
	a) 150 mm	No.	1		
02c-5P	Brass bucket strainer with flange of following diameters:				
	a) 200 mm	No.	1		
02c-6P	M.S. puddle flange of following diameters:				
	a) 200 mm	No.	1		
	b) 150 mm	No.	4		
	c) 100 mm	No.	2		

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BILL OF QUANTITIES**

CODE NO.02 WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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VALVES AND APPURTENANCES

Ref. Spec. No. 5220

02c-7P Cast iron flanged gate valve of the following diameters conforming to BS 5163 or equivalent, PN 10 of Western European or Japan origin as shown on drawing and as specified.

a) 200 mm No. 1

b) 150 mm No. 1

PUMPING MACHINERY AND ACCESSORIES

Ref. Spec. No. 5240

02c-8P Water level indicator with level switches in overhead water tank for start/stop of pumps as specified.

No. 1

02c-9P Level switches in overhead water tank for start/stop of pumps as specified.

No. 4

Total Amount

Carried over to summary of cost

**KARACHI FISHERIES HARBOUR AUTHORITY
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EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 02: WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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02c. Water Tower.

E. ELECTRICAL WORKS

Supply, installation, testing and commissioning of the following items of work (unless specifically stated otherwise) including all material, labour, tools, plant, accessories, related civil works, etc., required for proper completion of each item as per specifications (Section-8001 "General Specifications for Electrical Works" shall be applicable to all BOQ

L.T. DISTRIBUTION BOARDS

Ref. Spec. Sec. 8133, 8212, 8240

02c-1E Following LT Distribution Boards (as per single line diagrams), recessed/surface mounted including all accessories, related civil works etc. complete in all respects.

a) DB-WT Job 1

LIGHT FIXTURES

Ref. Spec. Sec. 8150, 8212, 8240

02c-2E Following lighting fixtures with fluorescent or compact fluorescent or incandescent lamps or as per lighting fixture schedule installed on surface or on false ceiling complete with all accessories such as lamps, lamp holders, ballast, starters, capacitors, as applicable, etc. and all relevant installation material as approved by the Engineer.

a) Type W3
Surface mounted light fixture body made of non-corrosive, high pressure die-cast aluminium, stove enameled, painted in white color with 2X11W compact florescent lamp along with clear polycarbonate diffuser. No. 18

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EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 02: WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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b)	Type OB Philips make type Obstruction light XGP-388 (OBSTIVION) or equivalent with low intensity long life led lamps, flasher, glass cover, photo switch and sensor, junction box, etc. IP65 with 2-meter-high suitable G.I. pipe.	No.	1		
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WIRING

Ref. Sec. 8212,8220,8230,8240,8290

02c-3E	Wiring of light circuits from distribution board (DB) to point/switch including wiring between switches on the same circuit with 3(1x2.5sq.mm) single core copper conductor PVC cable complete with appropriate size concealed PVC/surface G.I conduit and all accessories, etc., including two coats of matching weather resistant paint on entire length of surface GI conduits.complete in all respects.	No.	2		
02c-4E	Wiring from light/fan/exhaust fan point to switch with 3(1x1.5sq.mm) single core copper conductor, PVC cable in appropriate size concealed PVC/surface G.I conduit, including ceiling rose, 10 Amps weather proof light control gang switch, sheet steel surface back box, 3 core flexible cable and all accessories, etc., including two coats of matching weather resistant paint on entire length of surface GI conduits. complete in all respect.	No.	1		
02c-5E	Wiring of Distribution Board (DB) to contactor controlled, first light point with 3(1x2.5 sq.mm) single core copper conductor, PVC cable including appropriate size surface GI conduits and all accessories including two coats of matching weather resistant paint on entire length of surface GI conduits etc., complete in all respect.	No.	6		

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BILL OF QUANTITIES**

CODE NO. 02: WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
02c-6E	Wiring from light point to point (Contactor controlled) with 3(1x2.5 sq.mm) single core copper conductor PVC cable including appropriate size surface GI conduit and all accessories including two coats of matching weather resistant paint on entire length of surface GI conduits etc., complete in all respect.	No.	12		
02c-7E	Wiring of two way light points including wiring between the switches and 10A light control two way gang switch as required with 3(1x1.5 sq.mm) single core copper conductor PVC cable, including appropriate size surface GI conduit, ceiling rose, 10 Amps two way light control gang switch, sheet steel back box, 3 core flexible cable and all accessories including two coats of matching weather resistant paint on entire length of surface GI conduits etc., complete in all respect.	No.	2		
02c-8E	Wiring of 16A, 250 Volt socket outlets with single core, copper conductor, PVC cable complete with appropriate size surface mounted GI conduit and all accessories, etc. including two coats of suitable weather resistant matt finish paint on entire length of surface GI conduits and all accessories.				
	a) From Distribution Board (DB) to outlet with 3(1x2.5 sq.mm) cable.	No.	1		
<u>WIRING ACCESSORIES</u>					
Ref. Spec. Sec.8220					
02c-9E	16 Amp, 250 Volt, 2 pin + earth, schuko socket outlet with sheet steel surface back box and all accessories.	No.	1		

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BILL OF QUANTITIES**

CODE NO. 02: WATER SUPPLY SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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EARTHING

Ref. Spec. Sec. 8212, 8240

02c-10E 600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x70 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect. No. 1

02c-11E 19 mm dia, 3 meter long copper clad steel Rod type earth electrode including 2x70 sq.mm PVC copper conductor cable as earthing lead, clamp with nuts and bolts, R.C.C. inspection chamber with medium duty C.I cover, excavation, backfilling, and all accessories, etc., as shown on the drawings, complete in all respects. No. 2

LIGHTNING PROTECTION

Ref. Spec. Sec. 8212, 8250

02c-12E 2 meter high, 15 mm dia Air terminal No. 1

02c-13E 25mmx3mm bare copper strip as roof/down conductor installed on surface including copper clamps and all mounting accessories etc. RM 200

02c-14E Test point for lightning system on down conductors and comprising 1/4" size copper terminals at 5'-0 above finished ground level protected with copper cover firmly fixed on column, complete in all respects. No. 2

02c-15E Cad welding of the copper conductor with copper conductor and copper conductor with mild steel. Job 1

Total Amount _____
Carried over to summary of cost _____

**KARACHI FISHERIES HARBOUR AUTHORITY
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CODE NO.03 SEWAGE SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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03a.External Sewage Network**C. CIVIL WORKS****EARTHWORKS**

Ref.Spec. No.1100

03a-1C	Excavation of trenches in all kinds of sub-surface material up to following depths including dewatering and disposal of surplus/rejected excavated material to designated places.				
	a) 0 - 2 meter	Cu.m.	9155		
	b) 2 - 4 meter	Cu.m.	3305		
03a-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	10270		
03a-3C	Fine sand bedding including compaction.	Cu.m.	650		

PLAIN AND REINFORCED CONCRETE

Ref. Sec.No. 2300, 2100

03a-4C	Class 'E' concrete using specified cement in foundations.	Cu.m.	42		
03a-5C	Class 'B' reinforced concrete using specified cement in following manholes/ chambers structures complete in all respect as shown on the drawings.				
	a) Base Slab	Cu.m.	70		
	b) Walls	Cu.m.	545		
	c) Top Slab	Cu.m.	70		
03a-6C	Class 'C' plain concrete using specified cement including M.S. anchor bars in thrust blocks.	Cu.m.	5		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.03 SEWAGE SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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THRUST BORING

Ref.Sec. 5820

03a-11C Thrust Boring below road for providing dia. Following dia steel pipe conforming to API 5L (8mm wall thickness) sleeves for pipe crossings.

i) 300mm	Rm	166
ii) 350mm	Rm	27
iii) 400mm	Rm	27
iv) 450mm	Rm	39
v) 550mm	Rm	12

WATER PROOFING AND BUILT-UP ROOFING

Ref. Sec.No. 6411

03a-12C Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.

Sq.m. 2,550

Total Amount

Carried over to summary of cost

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CODE NO.03 SEWAGE SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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03a. External Sewage Network**P. PIPING WORKS****uPVC PIPES & PIPE FITTINGS**

Ref. Spec. No. 5218 and 5280

03a-1P uPVC sewage pipes & fittings conforming to BS 3505 & BS 4346 of class B as specified of following pipe diameters:

a) 200 mm	R.m.	2,060
b) 250 mm	R.m.	650
c) 300 mm	R.m.	220
d) 350 mm	R.m.	360
e) 450 mm	R.m.	260
f) 550 mm	R.m.	620
g) 600 mm	R.m.	60

Total Amount
Carried over to summary of cost

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CODE NO.03 SEWAGE SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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03b.Sewage Lift Station 1&2**C. CIVIL WORKS****EARTHWORKS**

Ref.Spec. No.1100

03b-1C	Excavation in all kinds of sub-surface materials upto following depths including dewatering and disposal of surplus/ rejected excavated materials to designated places.				
	a) 0 - 2 metere	Cu.m.	230		
	b) 2 - 4 metere	Cu.m.	454		
	c) 4 - 6 metere	Cu.m.	65		
03b-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	560		

STONE SOLING

Ref. Sec.No. 1330

03b-3C	100mm thick compacted stone soling.	Sq.m.	100		
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TERMITE CONTROL TREATMENT

Ref.Spec. No.1600

03b-4C	Termite control treatment.	Sq.m.	100		
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REINFORCEMENT

Ref. Sec.No. 2200

03b-5C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	30		
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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
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CODE NO.03 SEWAGE SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
<u>PLAIN AND REINFORCED CONCRETE</u>					
Ref. Sec.No. 2300, 2100					
03b-6C	Class 'E' concrete using specified cement in foundations.	Cu.m.	40		
03b-7C	Class 'D' concrete using specified cement in steps & foundations etc.	Cu.m.	2		
03b-8C	Class 'D' plain cement concrete using ordinary Portland cement in plinth protection including bitumen seal.	Sq.m	100		
03b-9C	Class 'B' reinforced concrete in following sub-structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Foundations/Grade Slab	Cu.m.	62		
	b) Wall	Cu.m.	130		
	c) Pads	Cu.m.	2		
03b-10C	Class 'B' reinforced concrete in following super structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Columns	Cu.m.	10		
	b) Beams & lintels	Cu.m.	10		
	c) Slabs & projections	Cu.m.	14		
	d) Purdi	Cu.m.	4		
	e) Precast Planks	Cu.m.	4		

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CODE NO.03 SEWAGE SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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STRUCTURAL STEEL WORKS

Ref.Spec. No. 3000

03b-11C	Mild steel Louvered Door,grill & Ventilators as per design including fixing and specified paint system complete in all respect as shown on the drawings and specifications.	Kg.	3,810		
03b-12C	Structural steel comprising angles, plates, chequered plates,Grating bars etc. including hot dipped galvanizing, fabrication, erection, embedding and painting complete in all respect as shown on the drawings.	Kg.	550		
03b-13C	Structural steel monkey ladder works including anchor bolts, embedding and specified painting/ coating complete in all respect as per specifications and as shown on the drawings.	Kg	600		
03b-14C	Handrailing as per design comprising 65mm nominal dia hot dipped galvanizing pipe handrail, middle rail and ballustrades etc. including specified painting and all accessories complete in all respect as shown on the drawings and as directed by the Engineer.	R.m	12		

BLOCK MASONRY

Ref. Sec.No. 4100

03b-15C	Reinforced block masonry of the following thicknesses set in 1:6 cement sand mortar.				
	a) 150mm thick solid	Cu.m.	22		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
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CODE NO.03 SEWAGE SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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CAST IRON COVERS WITH FRAME & LADDER RUNGS

Ref.Sec. 5233

03b-16C Cast iron cover with frame of following sizes including fixing. (Medium duty)

a) 750 mm x 750 mm No. 2

03b-17C 20mm dia. M.s. galvanised ladder rungs including fixing and fixing accessories complete in all respect as shown on the drawings.

No 20

CEMENT PLASTER

Ref. Sec.No. 6521

03b-18C 12mm thick 1:4 cement sand plaster to specified interior surfaces.

Sq.m. 272

03b-19C 20mm thick 1:4 cement sand plaster to specified exterior surfaces.

Sq.m. 316

FLOOR AND WALL FINISHES

Ref. Sec.No. 6600

03b-20C 75mm thick Class 'C' cement concrete floor.

Sq.m. 50

03b-21C Cement concrete skirting 100mm high including rough base plaster complete in all respect as shown on the drawings & specifications.

Sq.m. 4

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
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CODE NO.03 SEWAGE SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
03b-22C	Chequered tile floor using of size 300x300x25mm thick in approved colour laid in approved pattern set in specified cement sand mortar including Class 'C' cement concrete screed base complete in all respect as shown on the drawings & specifications.	Sq.m.	100		

WATER PROOFING AND BUILT-UP ROOFING

Ref. Sec.No. 6411

03b-23C	Water proofing and built-up roofing over slab as per specifications and as shown on the drawings.	Sq.m.	130		
03b-24C	Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.	Sq.m.	200		

PAINTING

Ref.Spec. No. 6700

03b-25C	Distemper paint to specified surfaces on ceiling including sealer primer.	Sq.m.	52		
03b-26C	Matt finish paint of approved make, quality, colour/ shade including wall sealer, primer, surfaces preparation to specified interior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	220		
03b-27C	Weather resistant paint of approved make, quality, colour/ shade including surfaces preparation to specified exterior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	308		

Total Amount
Carried over to summary of cost

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CODE NO.03 SEWAGE SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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03b. Sewage Lift Station 1 & 2**P. PIPING / PLUMBING WORKS****MS PIPES & PIPE FITTINGS**

Ref. Spec. No. 5214

03b-1P Black steel pipes including fittings of the following diameters conforming to API 5L Grade 42 as shown on the drawings, as specified or as directed by the Engineer.

a) 450 mm (6.4mm thick)	RM	6
b) 350 mm (6.4mm thick)	RM	6
c) 250 mm (6.4mm thick)	RM	1
d) 200 mm (6.4mm thick)	RM	1

VALVES AND APPURTENANCES

Ref. Spec. No. 5220

03b-2P Cast iron flanged gate valve of the following diameters conforming to BS 5163 or equivalent, PN 10 of Western European or Japan origin as shown on drawing and as specified.

a) 450 mm	No.	1
b) 350 mm	No.	1
c) 250 mm	RM	3
d) 200 mm	RM	3

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.03 SEWAGE SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
03b-3P	Cast iron flanged check valve of the following diameters conforming to BS 5163 or equivalent, PN 10 of Western European or Japan origin as shown on drawing and as specified.				
	a) 250 mm	No.	3		
	b) 200 mm	No.	3		
<u>PUMPING MACHINERY AND ACCESSORIES</u>					
Ref. Spec. No. 5240					
03b-4P	Submersible sewage pump (with cutter) and motor of the following capacity and head with level switches, electric cable, control panel, lifting arrangement, flexible pipe, (as per recommendation of manufacturer) etc. including all accessories required for installation, maintenance and operation (complete in all respects). (two duty & one standby).				
	a) Discharge = 800 GPM Head = 10 meters	No.	3		
	b) Discharge = 650 GPM Head = 10 meters	No.	3		
03b-5P	Water level indicator with level switches for start/stop of pumps inside the wetwell at designated levels.	No.	4		
03b-6P	Girder and pulley block arrangement for the following lifting capacities.				
	a) 6 tonnes	No.	1		
	b) 5 tonnes	No.	1		
03b-7P	1.5 meter stainless steel sluice gate with gear handle to be fixed as per Manufacturer's requirements and as shown on the drawing.	No.	2		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.03 SEWAGE SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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STAINLESS STEEL MATERIAL & FINISHES

Ref. Spec. No. 3010

03b-8P	Stainless steel bar rack comprising of rectangular steel sections, stainless steel plate, stainless steel bolts and stainless steel angle etc. complete as shown on drawings.	Kg.	120		
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Total Amount

Carried over to summary of cost

KARACH FISH HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES

CODE NO. 03: SEWAGE NETWORK SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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03b. Sewage Lift Station 1 & 2.

E. ELECTRICAL WORKS

Supply, installation, testing and commissioning of the following items of work (unless specifically stated otherwise) including all material, labour, tools, plant, accessories, related civil works, etc., required for proper completion of each item as per specifications (Section-8001 "General Specifications for Electrical Works" shall be applicable to all BOQ items).

MOTOR CONTROL CENTRES

Ref. Sec. No. 8132, 8133,8135,8240

03b-1E Following MCC (as per single line diagram shown on drawing.) including all control wiring, foundation, mounting arrangement, related civil works and all accessories, etc., complete in all respects.

a) MCC-SP (1 & 2) Job 2

LIGHT FIXTURES

Ref. Spec. Sec. 8150, 8212, 8240

03b-2E Following lighting fixtures with fluorescent or compact fluorescent or incandescent lamps or as per lighting fixture schedule installed on surface or on false ceiling complete with all accessories such as lamps, lamp holders, ballast, starters, capacitors, as applicable, etc. and all relevant installation material as approved by the Engineer.

a) Type A1
 Surface mounted batten light fixture body made of cold rolled steel (CRC) sheet pretreated, painted and stove enameled in white color with 1X36W fluorescent lamp. Diffuser made of clear prismatic pattern acrylic sheet. No. 6

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 03: SEWAGE NETWORK SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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b)	Type W1 Surface mounted light fixture body made of non-corrosive, high pressure die-cast aluminium, stove enameled, painted in white color with 1X11W compact florescent lamp along with clear polycarbonate	No.	2		
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WIRING

Ref. Sec. 8212,8220,8230,8240,8290

03b-3E	Wiring of light circuits from distribution board (DB) to point/switch including wiring between switches on the same circuit with 3(1x2.5sq.mm) single core copper conductor PVC cable complete with appropriate size surface/concealed PVC conduit and all accessories etc., complete in all respect.	No.	2		
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03b-4E	Wiring from light/exhaust fan point to switch with 3(1x1.5 sq.mm) single core copper conductor PVC cable, including appropriate size surface/concealed PVC conduit, ceiling rose, 10 Amps light control gang switch, sheet steel back box, 3 core flexible cable and all accessories etc., complete in all respect.	No.	4		
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03b-5E	Same as item No. 03b-4E, but wiring from point to point.	No.	2		
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03b-6E Wiring of 16A, 250 Volt socket outlets with single core, copper conductor, PVC cable complete with appropriate size surface mounted GI conduit and all accessories, etc. including two coats of suitable weather resistant matt finish paint on entire length of surface GI conduits and all accessories.

a)	From Distribution Board (DB) to outlet with 3(1x2.5 sq.mm) cable.	No.	2		
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b)	From outlet to outlet with 3(1x2.5 sq.mm) cable.	No.	2		
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**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 03: SEWAGE NETWORK SYSTEM.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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WIRING ACCESSORIES

Ref. Spec. Sec.8220

03b-7E 16 Amp, 250 Volt, 2 pin + earth, schuko socket outlet with sheet steel surface back box and all accessories.

No. 4

EARTHING

Ref. Spec. Sec. 8212, 8240

03b-8E 600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x70 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.

No. 2

Total Amount _____
Carried over to summary of cost _____

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)**

CODE NO.04 FIRE FIGHTING SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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C. CIVIL WORKS

EARTHWORKS

Ref.Spec. No.1100

04-1C	Excavation of trenches in all kinds of sub-surface material up to following depths including dewatering and disposal of surplus/rejected excavated material to designated places.				
	a) 0 - 2 meter	Cu.m.	9060		
04-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	8011		
04-3C	Fine sand bedding including compaction.	Cu.m.	25		

PLAIN AND REINFORCED CONCRETE

Ref. Sec.No. 2300, 2100

04-4C	Class 'E' concrete using specified cement in foundations.	Cu.m.	10		
04-5C	Class 'B' reinforced concrete using specified cement in following manholes/ chambers structures complete in all respect as shown on the drawings.				
	a) Base Slab	Cu.m.	16		
	b) Walls	Cu.m.	60		
	c) Top Slab	Cu.m.	16		
04-6C	Class 'C' plain concrete using specified cement including M.S. anchor bars in thrust blocks.	Cu.m.	5		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)**

CODE NO.04 FIRE FIGHTING SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
04-7C	RCC Class 'B' cover of following sizes including fixing complete in all respects as shown on the drawing and specifications.				
	a) 600 mm x 600 mm	No.	31		
	<u>REINFORCEMENT</u>				
	Ref. Sec.No. 2200				
04-8C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	0.1		
	<u>CAST IRON COVERS WITH FRAME & LADDER RUNGS</u>				
	Ref.Sec. 5233				
04-9C	20mm dia. M.s. galvanised ladder rungs including fixing and fixing accessories complete in all respect as shown on the drawings.	No	160		
	<u>STEEL PIPE & FITTINGS</u>				
	Ref.Sec. 5214				
04-10C	Steel pipe conforming to API 5L (8mm wall thickness) sleeves on road crossings.				
	i) 300mm	Rm	58		
	ii) 350mm	Rm	34		
	<u>THRUST BORING</u>				
	Ref.Sec. 5820				
04-11C	Thrust Boring below road for providing dia. Following dia steel pipe conforming to API 5L (8mm wall thickness) sleeves for pipe crossings.				
	i) 300mm	Rm	58		
	ii) 350mm	Rm	34		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)**

CODE NO.04 FIRE FIGHTING SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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WATER PROOFING AND BUILT-UP ROOFING

Ref. Sec.No.6411

04-12C	Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.	Sq.m.	300		
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Total Amount

Carried over to summary of cost

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.04 FIRE FIGHTING SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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P. PIPING WORKS**POLY ETHYLENE PIPES & PIPE FITTINGS**

Ref. Spec. No. 5213

04-1P P.E. Pipes PN-16 conforming to ISO-4427:1996 and fittings conforming to ISO-3458 of following diameters as shown on drawing and as specified.

a) 300 mm	Rm	170
b) 250 mm	Rm	1,900
c) 200 mm	Rm	3,350
d) 75 mm	Rm	20

FIRE HYDRANTS

Ref. Spec. No. 5220

04-2P Above ground fire hydrant with two 65mm dia. outlet and one 100mm dia. outlet, valves, chain etc. including all fitting and accessories complete in all respect as shown on the drawings, as specified and as directed by the Engineer.

No.	26
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04-3P Below ground fire hydrant with 65mm dia. outlet, valves, chain etc. including all fitting and accessories complete in all respect as shown on the drawings, as specified and as directed by the Engineer.

No.	28
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**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.04 FIRE FIGHTING SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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VALVES AND APPURTENANCES

Ref. Spec. No. 5220

04-4P Cast iron flanged gate valve of the following diameters conforming to BS 5163 or equivalent, PN 16 as shown on drawing and as specified.

a) 300 mm	No.	4
b) 250 mm	No.	16
c) 200 mm	No.	9

04-5P Cast iron flanged single acting air valve including approved isolating valves of the following diameters as per AWWA C512 or BS equivalent, PN-16 of Western European or Japan origin as shown on drawings and as specified.

a) 50 mm	No.	1
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Total Amount
Carried over to summary of cost

KARACH FISH HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES

CODE NO. 04: FIRE FIGHTING SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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E. ELECTRICAL WORKS

Supply, installation, testing and commissioning of the following items of work (unless specifically stated otherwise) including all material, labour, tools, plant, accessories, related civil works, etc., required for proper completion of each item as per specifications (Section-8001 "General Specifications for Electrical Works" shall be applicable to all BOQ items).

MOTOR CONTROL CENTRES

Ref. Sec. No. 8132, 8133,8135,8240

04-1E Following MCC (as per single line diagram shown on drawing.) including all control wiring, foundation, mounting arrangement, related civil works and all accessories, etc., complete in all respects.

a) MCC-FW	Job	1
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LOW TENSION CABLES

Ref. Spec. Sec. 8212

04-2E Following sizes single core/multi core PVC insulated and PVC sheathed, unarmoured copper conductor cables in already installed surface mounted/concealed PVC conduit or underground PVC pipe or on cable tray, for power and miscellaneous wiring including all

a) 3 core 16 sq.mm PVC/PVC	RM	24
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b) 3 core 150 sq.mm PVC/PVC	RM	84
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EARTHING

Ref. Spec. Sec. 8212, 8240

04-3E Following sizes of single core PVC insulated copper conductor cable as earth continuity conductor (ECC) installed on surface or on already installed cable tray or on already installed pipes/conduits or in trench etc.

a) 16 sq. mm.	RM	12
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b) 70 sq. mm.	RM	42
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**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 04: FIRE FIGHTING SYSTEM

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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04-4E	600 mm x 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x70 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.	Nos.	1		
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MISCELLANEOUS ITEMS

Ref. Spec. Sec. 8290

04-5E Following sizes of perforated G.I. sheet cable trays with cover including joints, bend, mounting brackets hanger complete with all accessories.

a)	100 mm x 50 mm	RM	20
b)	750 mm x 100 mm	RM	15

Total Amount _____
Carried over to summary of cost _____

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05a. Guard Room 1 & 2

C. CIVIL WORKS

EARTHWORKS

Ref.Spec. No.1100

05a-1C	Excavation in all kinds of sub-surface materials upto following depths including dewatering and disposal of surplus/ rejected excavated materials to designated places.				
	a) 0 - 2 metere	Cu.m.	28		
	b) 2 - 4 metere	Cu.m.	5		
05a-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	25		

STONE SOLING

Ref. Sec.No. 1330

05a-3C	100mm thick compacted stone soling.	Sq.m.	21		
05a-4C	150mm thick compacted stone soling.	Sq.m.	15		
05a-5C	300mm thick compacted stone soling.	Sq.m.	12		

TERMITE CONTROL TREATMENT

Ref.Spec. No.1600

05a-6C	Termite control treatment.	Sq.m.	48		
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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
<u>REINFORCEMENT</u>					
Ref. Sec.No. 2200					
05a-7C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	2		
<u>PLAIN AND REINFORCED CONCRETE</u>					
Ref. Sec.No. 2300, 2100					
05a-8C	Class 'E' concrete using specified cement in foundations.	Cu.m.	3		
05a-9C	Class 'D' concrete using specified cement in steps & foundations etc.	Cu.m.	4		
05a-10C	Class 'D' plain cement concrete using ordinary Portland cement in plinth protection including bitumen seal.	Cu.m.	2		
05a-11C	Class 'B' reinforced concrete in following sub-structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Foundations	Cu.m.	4		
	b) Plinth beam	Cu.m.	2		
	c) Column upto plinth	Cu.m.	1		
05a-12C	Class 'B' reinforced concrete in following super structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Columns	Cu.m.	2		
	b) Beams & lintels	Cu.m.	2		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	c) Slabs & projections	Cu.m.	5		
	d) Purdi	Cu.m.	2		
<u>ALUMINIUM WORKS</u>					
Ref. Sec.No. 6220, 6250					
05a-13C	Anodized aluminium glazed sliding windows including 5mm thick clear glass and hardware set as per schedule complete in all respect as shown on the drawings.	Sq.m.	4		
<u>BLOCK MASONRY</u>					
Ref. Sec.No. 4100					
05a-14C	Reinforced block masonry of the following thicknesses set in 1:6 cement sand mortar.				
	a) 150mm thick solid	Cu.m.	7		
<u>CEMENT PLASTER</u>					
Ref. Sec.No. 6521					
05a-15C	12mm thick 1:4 cement sand plaster to specified interior surfaces.	Sq.m.	90		
05a-16C	20mm thick 1:4 cement sand plaster to specified exterior surfaces.	Sq.m.	110		
<u>FLOOR AND WALL FINISHES</u>					
Ref. Sec.No. 6600					
05a-17C	100mm thick Class 'D' cement concrete sub-floor.	Sq.m.	15		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
05a-18C	Porcelain tile floor using of size 600x600mm in approved colour laid in approved pattern set in specified cement sand mortar including Class 'C' cement concrete screed base complete in all respect as shown on the drawings & specifications.	Sq.m.	16		
05a-19C	Porcelain tile skirting 100mm high using tile of approved size, colour and quality laid in approved pattern including rough base plaster complete in all respect as shown on the drawings & specifications.	Sq.m.	3		
05a-20C	Chequered tile floor using of size 300x300x25mm thick in approved colour laid in approved pattern set in specified cement sand mortar including Class 'C' cement concrete screed base complete in all respect as shown on the drawings & specifications.	Sq.m.	21		
<u>WATER PROOFING AND BUILT-UP ROOFING</u>					
Ref. Sec.No. 6411					
05a-21C	Water proofing and built-up roofing over slab as per specifications and as shown on the drawings.	Sq.m.	35		
05a-22C	Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.	Sq.m.	52		
<u>CARPENTRY & JOINERY</u>					
Ref.Spec. No. 4600, 6700					
05a-23C	Wooden doors of the following types including hardwares set as per schedule and paint complete in all respect as shown on the drawings:	Sq.m.	5		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	<u>PAINTING</u>				
	Ref.Spec. No. 6700				
05a-24C	Distemper paint to specified surfaces on ceiling including sealer primer.	Sq.m.	25		
05a-25C	Matt enamel paint of approved make, quality, colour/ shade including wall sealer, primer, surfaces preparation to specified interior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	70		
05a-26C	Weather resistant paint of approved make, quality, colour/ shade including surfaces preparation to specified exterior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	110		
	Total Amount				_____
	Carried over to summary of cost				_____

KARACHI FISHRIES HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES

CODE NO. 05: ANCILLARY BUILDING

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05a. Guard Room 1 & 2.

E. ELECTRICAL WORKS

Supply, installation, testing and commissioning of the following items of work (unless specifically stated otherwise) including all material, labour, tools, plant, accessories, related civil works, etc., required for proper completion of each item as per specifications (Section-8001 "General Specifications for Electrical Works" shall be applicable to all BOQ

LT DISTRIBUTION BOARDS

Ref. Spec. Sec. 8133, 8212, 8240

05a-1E Following LT Distribution Boards (as per single line diagrams), recessed/surface mounted including all accessories, related civil works etc. complete in all respects.

a) DB-GR-1 & 2 Job 2

LIGHT FIXTURES

Ref. Spec. Sec. 8150,8240

05a-2E Following lighting fixtures with fluorescent or compact fluorescent or incandescent lamps or as per lighting fixture schedule installed on surface or on false ceiling complete with all accessories such as lamps, lamp holders, ballast, starters, capacitors, as applicable, etc. and all relevant installation material as approved by the Engineer.

a) Type A1
 Surface mounted batten light fixture body made of cold rolled steel (CRC) sheet pretreated, painted and stove enameled in white color with 1X36W fluorescent lamp. Diffuser made of clear prismatic pattern acrylic sheet. No. 4

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 05: ANCILLARY BUILDING

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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	b) Type W1 Surface mounted light fixture body made of non-corrosive, high pressure die-cast aluminium, stove enameled, painted in white color with 1X11W compact florescent lamp along with clear polycarbonate diffuser.	No.	2		
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WIRING

Ref. Sec. 8212,8220,8230,8240,8290

05a-3E	Wiring of light circuits from distribution board (DB) to point/switch including wiring between switches on the same circuit with 3(1x2.5sq.mm) single core copper conductor PVC cable complete with appropriate size surface/ concealed PVC conduit and all accessories etc., complete in all respect.	No.	2		
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05a-4E	Wiring from light/exhaust fan point to switch with 3(1x1.5 sq.mm) single core copper conductor PVC cable, including appropriate size surface/ concealed PVC conduit, ceiling rose, 10 Amps light control gang switch, sheet steel back box, 3 core flexible cable and all accessories etc., complete in all respect.	No.	6		
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05a-5E	Wiring of 16A socket outlets with single core, copper conductor PVC cable complete with appropriate size concealed / surface PVC conduit and all accessories etc., complete in all respects.				
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	a) From Distribution Board (DB) to outlet with 3(1x2.5 sq.mm.) cable.	No.	2		
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	b) From outlet to outlet with 3(1x2.5 sq.mm.) cable.	No.	2		
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WIRING ACCESSORIES

Ref. Spec. Sec.8220, 8290

05a-6E	16 amps, 250 volts, 2 pin + earth Schuko socket outlet, with sheet steel back box and all accessories.	No.	4		
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**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 05: ANCILLARY BUILDING

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
<u>EARTHING</u>					
Ref. Spec. Sec. 8212, 8240					
05a-7E	600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x70 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.	No.	2		
<u>MISCELLANEOUS</u>					
Ref. Spec. Sec. 8290					
05a-8E	56" sweep, single phase, 250V, ceiling fan including fan speed regulators / dimmers, fan hook and all mounting accessories, as required, complete in all respects.	No.	2		
<u>TELEPHONE SYSTEM SYSTEM</u>					
Ref. Spec. Sec. 8001, 8230, 8290, 8335					
05a-9E	25mm Dia PVC conduit installed concealed including all mounting and installation accessories.	RM.	10		
05a-10E	Two Port Cat6A UTP RJ45 telecommunication wall outlet with sheet steel back box and face plate including all installation accessories.	No.	2		
05a-11E	Wiring of RJ45 telecommunication wall outlet from relevant telephone junction box with CAT6A UTP LSZH cable in already installed PVC conduit.	No.	4		
05a-12E	10 pair Intermediate Disconnection Module (IDC) with mounting frame including all installation accessories.	No.	2		
05a-13E	16 SWG telephone junction box of appropriate size for installation of 10 pair Intermediate disconnection module (IDC) with mounting frame including all installation and mounting accessories.	No.	2		
Total Amount					
Carried over to summary of cost					

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05b. Security Room

C. CIVIL WORKS

EARTHWORKS

Ref.Spec. No.1100

05b-1C	Excavation in all kinds of sub-surface materials upto following depths including dewatering and disposal of surplus/ rejected excavated materials to designated places.				
	a) 0 - 2 metere	Cu.m.	52		
	b) 2 - 4 metere	Cu.m.	9		
05b-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	47		

STONE SOLING

Ref. Sec.No. 1330

05b-3C	100mm thick compacted stone soling.	Sq.m.	35		
05b-4C	150mm thick compacted stone soling.	Sq.m.	30		
05b-5C	300mm thick compacted stone soling.	Sq.m.	25		

TERMITE CONTROL TREATMENT

Ref.Spec. No.1600

05b-6C	Termite control treatment.	Sq.m.	87		
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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
<u>REINFORCEMENT</u>					
Ref. Sec.No. 2200					
05b-7C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	4		
<u>PLAIN AND REINFORCED CONCRETE</u>					
Ref. Sec.No. 2300, 2100					
05b-8C	Class 'E' concrete using specified cement in foundations.	Cu.m.	4		
05b-9C	Class 'D' concrete using specified cement in foundations.	Cu.m.	4		
05b-10C	Class 'D' plain cement concrete using ordinary Portland cement in plinth protection including bitumen seal.	Cu.m.	4		
05b-11C	Class 'B' reinforced concrete in following sub-structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Foundations	Cu.m.	7		
	b) Plinth beam	Cu.m.	4		
	c) Column upto plinth	Cu.m.	3		
05b-12C	Class 'B' reinforced concrete in following super structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Columns	Cu.m.	3		
	b) Beams & lintels	Cu.m.	4		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	c) Slabs & projections	Cu.m.	7		
	d) Purdi	Cu.m.	2		
	<u>ALUMINIUM WORKS</u>				
	Ref. Sec.No. 6220, 6250				
05b-13C	Anodized aluminium glazed sliding windows including 5mm thick clear glass and hardware set as per schedule complete in all respect as shown on the drawings.	Sq.m.	6		
	<u>BLOCK MASONRY</u>				
	Ref. Sec.No. 4100				
05b-14C	Reinforced block masonry of the following thicknesses set in 1:6 cement sand mortar.				
	a) 150mm thick solid	Cu.m.	13		
	<u>CEMENT PLASTER</u>				
	Ref. Sec.No. 6521				
05b-15C	12mm thick 1:4 cement sand plaster to specified interior surfaces.	Sq.m.	165		
05b-16C	20mm thick 1:4 cement sand plaster to specified exterior surfaces.	Sq.m.	160		
	<u>FLOOR AND WALL FINISHES</u>				
	Ref. Sec.No. 6600				
05b-17C	100mm thick Class 'D' cement concrete sub-floor.	Sq.m.	30		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
05b-18C	Porcelain tile floor using of size 600x600mm in approved colour laid in approved pattern set in specified cement sand mortar including Class 'C' cement concrete screed base complete in all respect as shown on the drawings & specifications.	Sq.m.	29		
05b-19C	Porcelain tile skirting 100mm high using tile of approved size, colour and quality laid in approved pattern including rough base plaster complete in all respect as shown on the drawings & specifications.	Sq.m.	5		
05b-20C	Chequered tile floor using of size 300x300x25mm thick in approved colour laid in approved pattern set in specified cement sand mortar including Class 'C' cement concrete screed base complete in all respect as shown on the drawings & specifications.	Sq.m.	35		
<u>WATER PROOFING AND BUILT-UP ROOFING</u>					
Ref. Sec.No. 6411					
05b-21C	Water proofing and built-up roofing over slab as per specifications and as shown on the drawings.	Sq.m.	48		
05b-22C	Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.	Sq.m.	85		
<u>CARPENTRY & JOINERY</u>					
Ref.Spec. No. 4600, 6700					
05b-23C	Wooden doors of the following types including hardwares set as per schedule and paint complete in all respect as shown on the drawings:	Sq.m.	9		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	<u>PAINTING</u>				
	Ref.Spec. No. 6700				
05b-24C	Distemper paint to specified surfaces on ceiling including sealer primer.	Sq.m.	31		
05b-25C	Matt enamel paint of approved make, quality, colour/ shade including wall sealer, primer, surfaces preparation to specified interior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	131		
05b-26C	Weather resistant paint of approved make, quality, colour/ shade including surfaces preparation to specified exterior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	160		
	Total Amount				_____
	Carried over to summary of cost				_____

KARACHI FISHRIES HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES

CODE NO. 05: ANCILLARY BUILDING

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05b.Security Room.

E. ELECTRICAL WORKS

Supply, installation, testing and commissioning of the following items of work (unless specifically stated otherwise) including all material, labour, tools, plant, accessories, related civil works, etc., required for proper completion of each item as per specifications (Section-8001 "General Specifications for Electrical Works" shall be applicable to all BOQ

LT DISTRIBUTION BOARDS

Ref. Spec. Sec. 8133, 8212, 8240

05b-1E Following LT Distribution Boards (as per single line diagrams), recessed/surface mounted including all accessories, related civil works etc. complete in all respects.

a) DB-SR Job 1

LIGHT FIXTURES

Ref. Spec. Sec. 8150,8240

05b-2E Following lighting fixtures with fluorescent or compact fluorescent or incandescent lamps or as per lighting fixture schedule installed on surface or on false ceiling complete with all accessories such as lamps, lamp holders, ballast, starters, capacitors, as applicable, etc. and all relevant installation material as approved by the Engineer.

a) Type A1
 Surface mounted batten light fixture body made of cold rolled steel (CRC) sheet pretreated, painted and stove enameled in white color with 1X36W fluorescent lamp. Diffuser made of clear prismatic pattern acrylic sheet. No. 8

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 05: ANCILLARY BUILDING

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	b) Type W1 Surface mounted light fixture body made of non-corrosive, high pressure die-cast aluminium, stove enameled, painted in white color with 1X11W compact florescent lamp along with clear polycarbonate diffuser.	No.	4		
<u>WIRING</u>					
Ref. Sec. 8212,8220,8230,8240,8290					
05b-3E	Wiring of light circuits from distribution board (DB) to point/switch including wiring between switches on the same circuit with 3(1x2.5sq.mm) single core copper conductor PVC cable complete with appropriate size surface/ concealed PVC conduit and all accessories etc., complete in all respect.	No.	3		
05b-4E	Wiring from light/exhaust fan point to switch with 3(1x1.5 sq.mm) single core copper conductor PVC cable, including appropriate size surface/ concealed PVC conduit, ceiling rose, 10 Amps light control gang switch, sheet steel back box, 3 core flexible cable and all accessories etc., complete in all respect.	No.	12		
05b-5E	Same as item No. 05b-4E, but wiring from point to point.	No.	4		
05b-6E	Wiring of 16A socket outlets with single core, copper conductor PVC cable complete with appropriate size concealed / surface PVC conduit and all accessories etc., complete in all respects.				
	a) From Distribution Board (DB) to outlet with 3(1x2.5 sq.mm.) cable.	No.	2		
	b) From outlet to outlet with 3(1x2.5 sq.mm.) cable.	No.	10		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 05: ANCILLARY BUILDING

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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WIRING ACCESSORIES

Ref. Spec. Sec.8220, 8290

05b-7E	16 Amp, 250 Volt, 2 pin + earth, schuko socket outlet, with sheet steel back box and all accessories.	No.	12		
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EARTHING

Ref. Spec. Sec. 8212, 8240

05b-8E	600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x70 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.	No.	1		
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MISCELLANEOUS

Ref. Spec. Sec. 8290

05b-9E	56" sweep, single phase, 250V, ceiling fan including fan speed regulators / dimmers, fan hook and all mounting accessories, as required, complete in all respects.	No.	4		
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TELEPHONE SYSTEM SYSTEM

Ref. Spec. Sec. 8001, 8230, 8290, 8335

05b-10E	25mm Dia PVC conduit installed concealed including all mounting and installation accessories.	RM.	40		
05b-11E	Two Port Cat6A UTP RJ45 telecommunication wall outlet with sheet steel back box and face plate including all installation accessories.	No.	4		
05b-12E	Wiring of RJ45 telecommunication wall outlet from relevant telephone junction box with CAT6A UTP LSZH cable in already installed PVC conduit.	No.	8		
05b-13E	10 pair Intermediate Disconnection Module (IDC) with mounting frame including all installation accessories.	No.	4		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 05: ANCILLARY BUILDING

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05b-14E 16 SWG telephone junction box of appropriate size for installation of 40 pair Intermediate disconnection module (IDC) with mounting frame including all installation and mounting accessories.

No. 1

Total Amount _____
Carried over to summary of cost _____

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05c. Toilet Block.**C. CIVIL WORKS****EARTHWORKS**

Ref.Spec. No.1100

05c-1C	Excavation in all kinds of sub-surface materials upto following depths including dewatering and disposal of surplus/ rejected excavated materials to designated places.				
	a) 0 - 2 metere	Cu.m.	44		
	b) 2 - 4 metere	Cu.m.	9		
05c-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	42		

STONE SOLING

Ref. Sec.No. 1330

05c-3C	100mm thick compacted stone soling.	Sq.m.	21		
05c-4C	150mm thick compacted stone soling.	Sq.m.	15		
05c-5C	300mm thick compacted stone soling.	Sq.m.	21		

TERMITE CONTROL TREATMENT

Ref.Spec. No.1600

05c-6C	Termite control treatment.	Sq.m.	57		
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REINFORCEMENT

Ref. Sec.No. 2200

05c-7C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	3		
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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
<u>PLAIN AND REINFORCED CONCRETE</u>					
Ref. Sec.No. 2300, 2100					
05c-8C	Class 'E' concrete using specified cement in foundations.	Cu.m.	3		
05c-9C	Class 'D' concrete using specified cement in steps & foundations.	Cu.m.	3		
05c-10C	Class 'D' plain cement concrete using ordinary Portland cement in plinth protection including bitumen seal.	Cu.m.	2		
05c-11C	Class 'B' reinforced concrete in following sub-structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Foundations	Cu.m.	7		
	b) Plinth beam	Cu.m.	2		
	c) Column upto plinth	Cu.m.	1		
05c-12C	Class 'B' reinforced concrete in following super structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Columns	Cu.m.	2		
	b) Beams & lintels	Cu.m.	2		
	c) Slabs & projections	Cu.m.	5		
	d) Purdi	Cu.m.	3		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
<u>ALUMINIUM WORKS</u>					
Ref. Sec.No. 6220, 6250					
05c-13C	Anodized aluminium glazed sliding Ventilators including 5mm thick clear glass and hardware set as per schedule complete in all respect as shown on the drawings.	Sq.m.	2		
<u>BLOCK MASONRY</u>					
Ref. Sec.No. 4100					
05c-14C	Reinforced block masonry of the following thicknesses set in 1:6 cement sand mortar.				
	a) 200mm thick solid	Cu.m.	7		
	b) 100mm thick solid	Cu.m.	2		
<u>CEMENT PLASTER</u>					
Ref. Sec.No. 6521					
05c-15C	12mm thick 1:4 cement sand plaster to specified interior surfaces.	Sq.m.	40		
05c-16C	20mm thick 1:4 cement sand plaster to specified exterior surfaces.	Sq.m.	126		
<u>FLOOR AND WALL FINISHES</u>					
Ref. Sec.No. 6600					
05c-17C	100mm thick Class 'D' cement concrete sub-floor.	Sq.m.	15		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
05c-18C	Porcelain tile floor matt finish using of size 300x300mm in approved colour laid in approved pattern set in specified cement sand mortar including Class 'C' cement concrete screed base complete in all respect as shown on the drawings & specifications.	Sq.m.	15		
05c-19C	Porcelain tile dado using tile of size 200x300mm, approved colour and quality laid in approved pattern including rough base plaster complete in all respect as shown on the drawings & specifications.	Sq.m.	48		
05c-20C	Chequered tile floor using of size 300x300x25mm thick in approved colour laid in approved pattern set in specified cement sand mortar including Class 'C' cement concrete screed base complete in all respect as shown on the drawings & specifications.	Sq.m.	21		
<u>WATER PROOFING AND BUILT-UP ROOFING</u>					
Ref. Sec.No. 6411					
05c-21C	Water proofing and built-up roofing over slab as per specifications and as shown on the drawings.	Sq.m.	37		
05c-22C	Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.	Sq.m.	62		
<u>CARPENTRY & JOINERY</u>					
Ref.Spec. No. 4600, 6700					
05c-23C	Wooden doors of the following types including hardwares set as per schedule and paint complete in all respect as shown on the drawings:	Sq.m.	7		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	<u>PAINTING</u>				
	Ref.Spec. No. 6700				
05c-24C	Distemper paint to specified surfaces on ceiling including sealer primer.	Sq.m.	27		
05c-25C	Matt enamel paint of approved make, quality, colour/ shade including wall sealer, primer, surfaces preparation to specified interior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	14		
05c-26C	Weather resistant paint of approved make, quality, colour/ shade including surfaces preparation to specified exterior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	126		
	Total Amount				_____
	Carried over to summary of cost				_____

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.05c Toilet Block

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05 P. PLUMBING WORKS**WATER SUPPLY**

Ref: Spec. No. 5100, 5180

05c-1P PPR cold & hot water pipes SDR 6 (PN 20) conforming to DIN 8077 & DIN 8078 & fittings SDR 6 (PN20) conforming to DIN 16962 of following diameters.

a) 15 mm	RM	4
b) 20 mm	RM	6
c) 25 mm	RM	6
d) 40 mm	RM	6

05c-2P C.P. brass bib cock of the following diameter with perinial spray including all accessories:

a) 15 mm	No.	3
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05c-3P Bronze gate valves of the following diameters as specified.

a) 40 mm	No.	1
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05c-4P Electric Water Heater of following capacities:

a) 5 gallons	No.	1
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05c-5P Fiber Glass Water tank of 800 gallons capacity as specified on drawing.

No.	1
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PLUMBING FIXTURES

Ref: Spec. No. 5100

05c-6P Wash basin counter type with all other accessories.

No.	3
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05c-7P Western water closet with flushing cistern & all other accessories.

No.	2
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**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.05c Toilet Block

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
05c-8P	Eastern water closet with all other accessories.	No.	1		
05c-9P	Imported Belgium glass mirror.	Sq.M.	3		
05c-10P	Toilet Paper Holder as specified.	No.	2		
05c-11P	Towel rail as specified.	No.	1		
<u>SANITARY DRAINAGE</u>					
Ref: Spec. No. 5100 & 5180					
05c-12P	uPVC soil, waste and vent pipes conforming to ASTM D-1785 of Schedule 40 & fittings D-2466 of Schedule 40 including fittings compatible with pipe of following diameter as specified: (for unexpose piping).				
	a) 100 mm	RM	6		
	b) 75 mm	RM	10		
	c) 32 mm	RM	3		
05c-13P	uPVC floor drains of the following diameter:				
	a) 75 mm	No.	1		
05c-14P	uPVC floor traps of the following diameter:				
	a) 75 mm	No.	2		
05c-15P	uPVC floor clean out of following diameter:				
	a) 75 mm	No.	1		
	b) 100 mm	No.	1		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.05c Toilet Block

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05c-16P Cast iron gully trap in block work chamber of the following size including C.I cover & Frame(light duty)complete as shown on the drawing & as specified.

a) 300 mm x 300 mm No. 1

Total Amount

Carried over to summary of cost

**KARACHI FISHRIES HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 05: ANCILLARY BUILDING

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05c. Toilet Block.

E. ELECTRICAL WORKS

Supply, installation, testing and commissioning of the following items of work (unless specifically stated otherwise) including all material, labour, tools, plant, accessories, related civil works, etc., required for proper completion of each item as per specifications (Section-8001 "General Specifications for Electrical Works" shall be applicable to all BOQ

LT DISTRIBUTION BOARDS

Ref. Spec. Sec. 8133, 8212, 8240

05c-1E Following LT Distribution Boards (as per single line diagrams), recessed/surface mounted including all accessories, related civil works etc. complete in all respects.

a) DB-TOILET Job 1

LIGHT FIXTURES

Ref. Spec. Sec. 8150,8240

05c-2E Following lighting fixtures with fluorescent or compact fluorescent or incandescent lamps or as per lighting fixture schedule installed on surface or on false ceiling complete with all accessories such as lamps, lamp holders, ballast, starters, capacitors, as applicable, etc. and all relevant installation material as approved by the Engineer.

a) Type A1
Surface mounted batten light fixture body made of cold rolled steel (CRC) sheet pretreated, painted and stove enameled in white color with 1X36W fluorescent lamp. No. 1

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 05: ANCILLARY BUILDING

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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- b) Type A3
Surface mounted batten light fixture body made of cold rolled steel (CRC) sheet pretreated, painted and stove enameled in white color with 1X18W fluorescent lamp. Diffuser made of clear prismatic pattern acrylic sheet. No. 2
- c) Type D1
Surface mounted down lighter. Reflector made of highly polished specular aluminium finishes, white polycarbonate outer ring with 1X18W compact fluorescent lamp with glass cover. No. 3
- d) Type W1
Surface mounted light fixture body made of non-corrosive, high pressure die-cast aluminium, stove enameled, painted in white color with 1X11W compact florescent lamp along with clear polycarbonate diffuser. No. 1

WIRING

Ref. Sec. 8212,8220,8230,8240,8290

- 05c-3E Wiring of light circuits from distribution board (DB) to point/switch including wiring between switches on the same circuit with 3(1x2.5sq.mm) single core copper conductor PVC cable complete with appropriate size surface/ concealed PVC conduit and all accessories etc., complete in all respect. No. 1
- 05c-4E Wiring from light/exhaust fan point to switch with 3(1x1.5 sq.mm) single core copper conductor PVC cable, including appropriate size surface/ concealed PVC conduit, ceiling rose, 10 Amps light control gang switch, sheet steel back box, 3 core flexible cable and all accessories etc., complete in all respect. No. 7
- 05c-5E Same as item No. 05c-4E, but wiring from point to point. No. 3

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 05: ANCILLARY BUILDING

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
05c-6E	Wiring of 16A socket outlets with single core, copper conductor PVC cable complete with appropriate size concealed / surface PVC conduit and all accessories etc., complete in all respects.				
	a) From Distribution Board (DB) to outlet with 3(1x2.5 sq.mm.) cable.	No.	1		
<u>WIRING ACCESSORIES</u>					
Ref. Spec. Sec.8220, 8290					
05c-7E	16 Amp, 250 Volt, 2 pin + earth, schuko socket outlet, with sheet steel back box and all accessories.	No.	1		
<u>EARTHING</u>					
Ref. Spec. Sec. 8212, 8240					
05c-8E	600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x70 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.	No.	1		
<u>MISCELLANEOUS</u>					
Ref. Spec. Sec. 8290					
05c-9E	8" dia single phase, 250V exhaust fans with back draft dampers, anti-vermin screen, mounting accessories etc., including making opening in wall and making surface good, complete in all respects.	No.	3		
				Total Amount	
				Carried over to summary of cost	

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05d. Public Toilet (3.Nos).

C. CIVIL WORKS

EARTHWORKS

Ref.Spec. No.1100

05d-1C	Excavation in all kinds of sub-surface materials upto following depths including dewatering and disposal of surplus/ rejected excavated materials to designated places.				
	a) 0 - 2 metere	Cu.m.	135		
	b) 2 - 4 metere	Cu.m.	28		
05d-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	120		

STONE SOLING

Ref. Sec.No. 1330

05d-3C	100mm thick compacted stone soling.	Sq.m.	85		
05d-4C	150mm thick compacted stone soling.	Sq.m.	112		
05d-5C	300mm thick compacted stone soling.	Sq.m.	60		

TERMITE CONTROL TREATMENT

Ref.Spec. No.1600

05d-6C	Termite control treatment.	Sq.m.	255		
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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
<u>REINFORCEMENT</u>					
Ref. Sec.No. 2200					
05d-7C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	11		
<u>PLAIN AND REINFORCED CONCRETE</u>					
Ref. Sec.No. 2300, 2100					
05d-8C	Class 'E' concrete using specified cement in foundations.	Cu.m.	13		
05d-9C	Class 'D' concrete using specified cement in steps & foundations.	Cu.m.	9		
05d-10C	Class 'D' plain cement concrete using ordinary Portland cement in plinth protection including bitumen seal.	Cu.m.	6		
05d-11C	Class 'B' reinforced concrete in following sub-structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Foundations	Cu.m.	18		
	b) Plinth beam	Cu.m.	14		
	c) Column upto plinth	Cu.m.	4		
05d-12C	Class 'B' reinforced concrete in following super structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Columns	Cu.m.	5		
	b) Beams & lintels	Cu.m.	14		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	c) Slabs & projections	Cu.m.	30		
	d) Purdi	Cu.m.	5		
<u>ALUMINIUM WORKS</u>					
Ref. Sec.No. 6220, 6250					
05d-13C	Anodized aluminium glazed sliding Windows,Ventilators including 5mm thick clear glass and hardware set as per schedule complete in all respect as shown on the drawings.	Sq.m.	18		
<u>BLOCK MASONRY</u>					
Ref. Sec.No. 4100					
05d-14C	Reinforced block masonry of the following thicknesses set in 1:6 cement sand mortar.				
	a) 150mm thick solid	Cu.m.	43		
<u>CEMENT PLASTER</u>					
Ref. Sec.No. 6521					
05d-15C	12mm thick 1:4 cement sand plaster to specified interior surfaces.	Sq.m.	180		
05d-16C	20mm thick 1:4 cement sand plaster to specified exterior surfaces.	Sq.m.	396		
<u>FLOOR AND WALL FINISHES</u>					
Ref. Sec.No. 6600					
05d-17C	100mm thick Class 'D' cement concrete sub-floor.	Sq.m.	112		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
05d-18C	Porcelain tile floor matt finish using of size 300x300mm in approved colour laid in approved pattern set in specified cement sand mortar including Class 'C' cement concrete screed base complete in all respect as shown on the drawings & specifications.	Sq.m.	125		
05d-19C	Porcelain tile dado using tile of size 200x300mm, approved colour and quality laid in approved pattern including rough base plaster complete in all respect as shown on the drawings & specifications.	Sq.m.	260		
05c-20C	Chequered tile floor using of size 300x300x25mm thick in approved colour laid in approved pattern set in specified cement sand mortar including Class 'C' cement concrete screed base complete in all respect as shown on the drawings & specifications.	Sq.m.	85		
<u>WATER PROOFING AND BUILT-UP ROOFING</u>					
Ref. Sec.No. 6411					
05c-21C	Water proofing and built-up roofing over slab as per specifications and as shown on the drawings.	Sq.m.	190		
05d-22C	Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.	Sq.m.	295		
<u>CARPENTRY & JOINERY</u>					
Ref.Spec. No. 4600, 6700					
05d-23C	Wooden doors of the following types including hardwares set as per schedule and paint complete in all respect as shown on the drawings:	Sq.m.	45		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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PAINTING

Ref.Spec. No. 6700

05d-24C	Distemper paint to specified surfaces on ceiling including sealer primer.	Sq.m.	148		
05d-25C	Matt enamel paint of approved make, quality, colour/ shade including wall sealer, primer, surfaces preparation to specified interior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	30		
05d-26C	Weather resistant paint of approved make, quality, colour/ shade including surfaces preparation to specified exterior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	396		

Total Amount
Carried over to summary of cost

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.05d Public Toilet

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05 P. PLUMBING WORKS**WATER SUPPLY**

Ref: Spec. No. 5100, 5180

05d-1P	PPR cold & hot water pipes SDR 6 (PN 20) conforming to DIN 8077 & DIN 8078 & fittings SDR 6 (PN20) conforming to DIN 16962 of following diameters.				
	a) 15 mm	RM	49		
	b) 20 mm	RM	30		
	c) 25 mm	RM	21		
	d) 40 mm	RM	35		
05d-2P	C.P. brass bib cock of the following diameter with perinial spray including all accessories:				
	a) 15 mm	No.	24		
05d-3P	Bronze gate valves of the following diameters as specified.				
	a) 40 mm	No.	12		
05d-4P	Electric Water Heater of following capacities:				
	a) 10 gallons	No.	3		
05d-5P	Fiber Glass Water tank of 800 gallons capacity as specified on drawing.	No.	3		
<u>PLUMBING FIXTURES</u>					
Ref: Spec. No. 5100					
05d-6P	Wash basin counter type with all other accessories.	No.	24		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.05d Public Toilet

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
05d-7P	Eastern water closet with all other accessories.	No.	24		
05d-8P	Imported Belgium glass mirror.	Sq.M.	24		
05d-9P	Toilet Paper Holder as specified	No.	24		
05d-10P	Towel rail as specified.	No.	6		
05d-11P	Janitor Sink with all other accessories as specified.	No.	3		
<u>SANITARY DRAINAGE</u>					
Ref: Spec. No. 5100 & 5180					
05d-12P	uPVC soil, waste and vent pipes conforming to ASTM D-1785 of Schedule 40 & fittings D-2466 of Schedule 40 including fittings compatible with pipe of following diameter as specified: (for unexpose piping).				
	a) 100 mm	RM	55		
	b) 75 mm	RM	39		
	c) 32 mm	RM	21		
05d-13P	uPVC floor drains of the following diameter:				
	a) 75 mm	No.	9		
05d-14P	uPVC floor traps of the following diameter:				
	a) 75 mm	No.	3		
05d-15P	uPVC floor clean out of following diameter:				
	a) 75 mm	No.	6		
	b) 100 mm	No.	6		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.05d Public Toilet

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05d-16P Cast iron gully trap in block work chamber of the following size including C.I cover & Frame(light duty)complete as shown on the drawing & as specified.

a) 300 mm x 300 mm

No. 3

Total Amount

Carried over to summary of cost

KARACHI FISHRIES HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES

CODE NO. 05: ANCILLARY BUILDING

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05d. Public Toilets.

E. ELECTRICAL WORKS

Supply, installation, testing and commissioning of the following items of work (unless specifically stated otherwise) including all material, labour, tools, plant, accessories, related civil works, etc., required for proper completion of each item as per specifications (Section-8001 "General Specifications for Electrical Works" shall be applicable to all BOQ items).

LT DISTRIBUTION BOARDS

Ref. Spec. Sec. 8133, 8212, 8240

05d-1E Following LT Distribution Boards (as per single line diagrams), recessed/surface mounted including all accessories, related civil works etc. complete in all respects.

a) DB-PT(1-3) Job 3

LIGHT FIXTURES

Ref. Spec. Sec. 8150,8240

05d-2E Following lighting fixtures with fluorescent or compact fluorescent or incandescent lamps or as per lighting fixture schedule installed on surface or on false ceiling complete with all accessories such as lamps, lamp holders, ballast, starters, capacitors, as applicable, etc. and all relevant installation material as approved by the Engineer.

a) Type A1
 Surface mounted batten light fixture body made of cold rolled steel (CRC) sheet pretreated, painted and stove enameled in white color with 1X36W fluorescent lamp. Diffuser made of clear prismatic pattern acrylic sheet. No. 15

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 05: ANCILLARY BUILDING

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	b) Type A3 Surface mounted batten light fixture body made of cold rolled steel (CRC) sheet pretreated, painted and stove enameled in white color with 1X18W fluorescent lamp. Diffuser made of clear prismatic pattern acrylic sheet.	No.	12		
	c) Type D1 Surface mounted down lighter. Reflector made of highly polished specular aluminium finishes, white polycarbonate outer ring with 1X18W compact fluorescent lamp.	No.	27		
	d) Type W1 Surface mounted light fixture body made of non-corrosive, high pressure die-cast aluminium, stove enameled, painted in white color with 1X11W compact florescent lamp along with clear polycarbonate diffuser.	No.	3		
<u>WIRING</u>					
Ref. Sec. 8212,8220,8230,8240,8290					
05d-3E	Wiring of light circuits from distribution board (DB) to point/switch including wiring between switches on the same circuit with 3(1x2.5sq.mm) single core copper conductor PVC cable complete with appropriate size surface/ concealed PVC conduit and all accessories etc., complete in all respect.	No.	12		
05d-4E	Wiring from light/exhaust fan point to switch with 3(1x1.5 sq.mm) single core copper conductor PVC cable, including appropriate size surface/ concealed PVC conduit, ceiling rose, 10 Amps light control gang switch, sheet steel back box, 3 core flexible cable and all accessories etc., complete in all respect.	No.	51		
05d-5E	Same as item No. 05b-4E, but wiring from point to point.	No.	30		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO. 05: ANCILLARY BUILDING

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
05d-6E	Wiring of 16A socket outlets with single core, copper conductor PVC cable complete with appropriate size concealed / surface PVC conduit and all accessories etc., complete in all respects.				
	a) From Distribution Board (DB) to outlet with 3(1x2.5 sq.mm.) cable.	No.	3		
	a) From outlet to outlet with 3(1x2.5 sq.mm) cable.	No.	3		
	<u>WIRING ACCESSORIES</u>				
	Ref. Spec. Sec.8220, 8290				
05d-7E	16 Amp, 250 Volt, 2 pin + earth, schuko socket outlet, with sheet steel back box and all accessories.	No.	6		
	<u>EARTHING</u>				
	Ref. Spec. Sec. 8212, 8240				
05d-8E	600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x70 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.	No.	3		
	<u>MISCELLANEOUS</u>				
	Ref. Spec. Sec. 8290				
05d-9E	8" dia single phase, 250V exhaust fans with back draft dampers, anti-vermin screen, mounting accessories etc., including making opening in wall and making surface good, complete in all respects.	No.	24		
				Total Amount	
				Carried over to summary of cost	

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05e. Gate Houses(5.Nos)**C. CIVIL WORKS****EARTHWORKS**

Ref.Spec. No.1100

05e-1C	Excavation in all kinds of sub-surface materials upto following depths including dewatering and disposal of surplus/ rejected excavated materials to designated places.				
	a) 0 - 2 metere	Cu.m.	100		
	b) 2 - 4 metere	Cu.m.	20		
05e-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	85		

STONE SOLING

Ref. Sec.No. 1330

05e-3C	100mm thick compacted stone soling.	Sq.m.	56		
05e-4C	150mm thick compacted stone soling.	Sq.m.	62		
05e-5C	300mm thick compacted stone soling.	Sq.m.	42		

TERMITE CONTROL TREATMENT

Ref.Spec. No.1600

05e-6C	Termite control treatment.	Sq.m.	160		
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REINFORCEMENT

Ref. Sec.No. 2200

05e-7C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	8		
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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
<u>PLAIN AND REINFORCED CONCRETE</u>					
Ref. Sec.No. 2300, 2100					
05e-8C	Class 'E' concrete using specified cement in foundations.	Cu.m.	10		
05e-9C	Class 'D' concrete using specified cement in steps & foundations etc.	Cu.m.	9		
05e-10C	Class 'D' plain cement concrete using ordinary Portland cement in plinth protection including bitumen seal.	Cu.m.	4		
05e-11C	Class 'B' reinforced concrete in following sub-structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Foundations	Cu.m.	12		
	b) Plinth beam	Cu.m.	8		
	c) Column upto plinth	Cu.m.	6		
05e-12C	Class 'B' reinforced concrete in following super structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Columns	Cu.m.	6		
	b) Beams & lintels	Cu.m.	9		
	c) Slabs & projections	Cu.m.	17		
	d) Purdi	Cu.m.	5		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
<u>ALUMINIUM WORKS</u>					
Ref. Sec.No. 6220, 6250					
05e-13C	Anodized aluminium glazed sliding Windows,Ventilators including 5mm thick clear glass and hardware set as per schedule complete in all respect as shown on the drawings.	Sq.m.	25		
<u>BLOCK MASONRY</u>					
Ref. Sec.No. 4100					
05e-14C	Reinforced block masonry of the following thicknesses set in 1:6 cement sand mortar.				
	a) 150mm thick solid	Cu.m.	25		
<u>CEMENT PLASTER</u>					
Ref. Sec.No. 6521					
05e-15C	12mm thick 1:4 cement sand plaster to specified interior surfaces.	Sq.m.	255		
05e-16C	20mm thick 1:4 cement sand plaster to specified exterior surfaces.	Sq.m.	365		
<u>FLOOR AND WALL FINISHES</u>					
Ref. Sec.No. 6600					
05e-17C	100mm thick Class 'D' cement concrete sub-floor.	Sq.m.	62		
05e-18C	Porcelain tile floor using of size 600x600mm in approved colour laid in approved pattern set in specified cement sand mortar including Class 'C' cement concrete screed base complete in all respect as shown on the drawings & specifications.	Sq.m.	48		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
05e-19C	Porcelain tile floor matt finish using of size 300x300mm in approved colour laid in approved pattern set in specified cement sand mortar including Class 'C' cement concrete screed base complete in all respect as shown on the drawings & specifications.	Sq.m.	11		
05e-20C	Porcelain tile dado using tile of size 200x300mm, approved colour and quality laid in approved pattern including rough base plaster complete in all respect as shown on the drawings & specifications.	Sq.m.	34		
05e-21C	Porcelain tile skirting 100mm high using tile of approved size, colour and quality laid in approved pattern including rough base plaster complete in all respect as shown on the drawings & specifications.	Sq.m.	6		
05e-22C	Chequered tile floor using of size 300x300x25mm thick in approved colour laid in approved pattern set in specified cement sand mortar including Class 'C' cement concrete screed base complete in all respect as shown on the drawings & specifications.	Sq.m.	56		
<u>WATER PROOFING AND BUILT-UP ROOFING</u>					
Ref. Sec.No. 6411					
05e-23C	Water proofing and built-up roofing over slab as per specifications and as shown on the drawings.	Sq.m.	110		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
05e-24C	Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.	Sq.m.	235		
<u>CARPENTRY & JOINERY</u>					
Ref.Spec. No. 4600, 6700					
05e-25C	Wooden doors of the following types including hardwares set as per schedule and paint complete in all respect as shown on the drawings:	Sq.m.	18		
<u>PAINTING</u>					
Ref.Spec. No. 6700					
05e-26C	Distemper paint to specified surfaces on ceiling including sealer primer.	Sq.m.	84		
05e-27C	Matt enamel paint of approved make, quality, colour/ shade including wall sealer, primer, surfaces preparation to specified interior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	175		
05e-28C	Weather resistant paint of approved make, quality, colour/ shade including surfaces preparation to specified exterior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	365		
Total Amount					_____
Carried over to summary of cost					_____

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.05e Gate House

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05 P. PLUMBING WORKS**WATER SUPPLY**

Ref: Spec. No. 5100, 5180

05e-1P	PPR cold & hot water pipes SDR 6 (PN 20) conforming to DIN 8077 & DIN 8078 & fittings SDR 6 (PN20) conforming to DIN 16962 of following diameters.				
	a) 15 mm	RM	25		
	b) 25 mm	RM	30		
05e-2P	C.P. brass bib cock of the following diameter with perinial spray including all accessories:				
	a) 15 mm	No.	5		
05e-3P	Fiber Glass Water tank of 500 gallons capacity as specified on drawing.	No.	5		

PLUMBING FIXTURES

Ref: Spec. No. 5100

05e-4P	Wash basin padestal type with all other accessories.	No.	3		
05e-5P	Wash basin counter type with all other accessories.	No.	3		
05e-6P	Westren water closet with all other accessories.	No.	5		
05e-7P	Imported Belgium glass mirror.	Sq.M.	5		
05e-8P	Toilet Paper Holder as specified	No.	5		
05e-9P	Towel rail as specified.	No.	5		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART - I)
BILL OF QUANTITIES**

CODE NO.05e Gate House

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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SANITARY DRAINAGE

Ref: Spec. No. 5100 & 5180

05e-10P uPVC soil, waste and vent pipes conforming to ASTM D-1785 of Schedule 40 & fittings D-2466 of Schedule 40 including fittings compatible with pipe of following diameter as specified: (for unexpose piping).

a) 100 mm	RM	15
b) 75 mm	RM	10
c) 32 mm	RM	5

05e-11P uPVC floor drains of the following diameter:

a) 75 mm	No.	5
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05e-12P uPVC floor clean out of following diameter:

a) 75 mm	No.	5
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05e-13P Cast iron gully trap in block work chamber of the following size including C.I cover & Frame(light duty)complete as shown on the drawing & as specified.

a) 300 mm x 300 mm	No.	5
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Total Amount
Carried over to summary of cost

KARACHI FISHRIES HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES

CODE NO. 05: ANCILLARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05e. Gate Houses (Main KFH Boundary Wall Gates).

E. ELECTRICAL WORKS

Supply, installation, testing and commissioning of the following items of work (unless specifically stated otherwise) including all material, labour, tools, plant, accessories, related civil works, etc., required for proper completion of each item as per specifications (Section-8001 "General Specifications for Electrical Works" shall be applicable to all BOQ

LT DISTRIBUTION BOARDS

Ref. Spec. Sec. 8133, 8212, 8240

05e-1E Following LT Distribution Boards (as per single line diagrams), recessed/surface mounted including all accessories, related civil works etc. complete in all respects.

a) DB-GH(1-4 & 6)	Job	5
b) DB-GH5	Job	1

LIGHT FIXTURES

Ref. Spec. Sec. 8150,8240

05e-2E Following lighting fixtures with fluorescent or compact fluorescent or incandescent lamps or as per lighting fixture schedule installed on surface or on false ceiling complete with all accessories such as lamps, lamp holders, ballast, starters, capacitors, as applicable, etc. and all relevant installation material as approved by the Engineer.

a) Type A1 Surface mounted batten light fixture body made of cold rolled steel (CRC) sheet pretreated, painted and stove enameled in white color with 1X36W fluorescent lamp. Diffuser made of clear prismatic pattern acrylic sheet.	No.	12
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**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO. 05: ANCILLARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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b) Type D1

Surface mounted down lighter. Reflector made of highly polished specular aluminium finishes, white polycarbonate outer ring with 1X18W compact fluorescent lamp.

No. 12

WIRING

Ref. Sec. 8212,8220,8230,8240,8290

05e-3E Wiring of light circuits from distribution board (DB) to point/switch including wiring between switches on the same circuit with 3(1x2.5sq.mm) single core copper conductor PVC cable complete with appropriate size surface/ concealed PVC conduit and all accessories etc., complete in all respect.

No. 6

05e-4E Wiring from light/exhaust fan point to switch with 3(1x1.5 sq.mm) single core copper conductor PVC cable, including appropriate size surface/ concealed PVC conduit, ceiling rose, 10 Amps light control gang switch, sheet steel back box, 3 core flexible cable and all accessories etc., complete in all respect.

No. 30

05e-5E Same as item No. 05e-4E, but wiring from point to point.

No. 6

05e-6E Wiring of 16A socket outlets with single core, copper conductor PVC cable complete with appropriate size concealed / surface PVC conduit and all accessories etc., complete in all respects.

a) From Distribution Board (DB) to outlet with 3(1x2.5 sq.mm.) cable.

No. 6

b) From outlet to outlet with 3(1x2.5 sq.mm) cable.

No. 12

WIRING ACCESSORIES

Ref. Spec. Sec.8220, 8290

05e-7E 16 Amp, 250 Volt, 2 pin + earth, schuko socket outlet, with sheet steel back box and all accessories.

No. 18

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO. 05: ANCILLARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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EARTHING

Ref. Spec. Sec. 8212, 8240

05e-8E	600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x70 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.	No.	6		
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MISCELLANEOUS

Ref. Spec. Sec. 8290

05e-9E	56" sweep, single phase, 250V, ceiling fan including fan speed regulators / dimmers, fan hook and all mounting accessories, as required, complete in all respects.	No.	6		
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05e-10	8" dia single phase, 250V exhaust fans with back draft dampers, anti-vermin screen, mounting accessories etc., including making opening in wall and making surface good, complete in all respects.	No.	6		
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TELEPHONE SYSTEM SYSTEM

Ref. Spec. Sec. 8001, 8230, 8290, 8335

05e-11E	25mm Dia PVC conduit installed concealed including all mounting and installation accessories.	RM.	25		
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05e-12	Two Port Cat6A UTP RJ45 telecommunication wall outlet with sheet steel back box and face plate including all installation accessories.	No.	5		
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05e-13	Wiring of RJ45 telecommunication wall outlet from relevant telephone junction box with CAT6A UTP LSZH cable in already installed PVC conduit.	No.	10		
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05e-14	10 pair Intermediate Disconnection Module (IDC) with mounting frame including all installation accessories.	No.	5		
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**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO. 05: ANCILLARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05e-15| 16 SWG telephone junction box of appropriate size for installation of 10 pair Intermediate disconnection module (IDC) with mounting frame including all installation and mounting accessories.

No. 5

Total Amount _____
Carried over to summary of cost _____

KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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05f. Boundary Wall (Water Works)

C. CIVIL WORKS

EARTHWORKS

Ref.Spec. No.1100

05f-1C	Excavation of trenches in all kinds of sub-surface material up to following depths including dewatering and disposal of surplus/rejected excavated material to designated places.				
	a) 0 - 2 meter	Cu.m.	312		
05f-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	145		

REINFORCEMENT

Ref. Sec.No. 2200

05f-3C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	13		
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PLAIN AND REINFORCED CONCRETE

Ref. Sec.No. 2300, 2100

05f-4C	Class 'E' concrete using specified cement in foundations.	Cu.m.	35		
05f-5C	Class 'D' concrete using specified cement in situ etc.	Cu.m.	34		
05f-6C	Class 'B' reinforced concrete in following sub-structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Foundations	Cu.m.	48		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	b) Plinth Beams	Cu.m.	30		
	c) Columns upto plinth	Cu.m.	8		
05f-7C	Class 'B' reinforced concrete in columns above plinth using specified cement complete in all respect as shown on the drawings.	Cu.m.	20		
05f-8C	Precast Class 'B' reinforced concrete coping as per design using specified cement set in specified cement sand mortar complete in all respect as shown on the drawings.	Cu.m.	3		

STRUCTURAL STEEL WORKS

Ref.Spec. No. 3000

05f-9C	Mild steel gate as per design including fixing and specified paint system complete in all respect as shown on the drawings and specifications.	Kg.	2,100
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Unit Rate in words

BLOCK MASONRY

Ref. Sec.No. 4100

05f-10C	150mm thick Reinforced block masonry set in 1:6 cement sand mortar.	Cu.m.	85
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WATER PROOFING AND BUILT-UP ROOFING

Ref. Sec.No. 6411

05f-11C	Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.	Sq.m.	720
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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.05 ANCILLIARY BUILDINGS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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CEMENT PLASTER

Ref. Sec.No. 6521

05f-12C	20mm thick 1:4 cement sand plaster to specified exterior surfaces.	Sq.m.	1,450		
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PAINTING

Ref.Spec. No. 6700

05f-13C	Weather resistant paint of approved make, quality, colour/ shade including surfaces preparation to specified exterior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	1,450		
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Total Amount _____
Carried over to summary of cost _____

KARACH FISH HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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E. ELECTRICAL WORKS

Supply, installation, testing and commissioning of the following items of work (unless specifically stated otherwise) including all material, labour, tools, plant, accessories, related civil works, etc., required for proper completion of each item as per specifications (Section-8001 "General Specifications for Electrical Works" shall be applicable to all BOQ items).

LT OUTDOOR DISTRIBUTORS

Ref. Spec. Sec. 8132, 8212, 8240

06-1E Following LT Outdoor Distributors (as per single line diagrams), recessed/surface mounted or floor standing type, accommodating control gear(provided by others) for flood lights installed on respective mast, (applicable for High Mast Distributors only) including all accessories, kWh energy meter, pedestal mounting arrangement, foundation, related civil works etc. complete in all respects.

a) OD-LM(1-5)	Job	5
b) OD-LM(6-7)	Job	2
c) OD-LM(8-11)	Job	4
d) OD-EXT-1	Job	1
e) OD-EXT-2	Job	1
f) OD-EXT-3	Job	1
g) OD-EXT-K-III	Job	1
h) OD-EXT-K-IV	Job	1
i) OD-EXT-K-V	Job	1
j) OD-P(1-5)	Job	1

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
k)	OD-P(6-11)	Job	1		
l)	OD-R(1-15)	Job	1		
m)	OD-R(16-20)	Job	1		
n)	OD-ST(1 & 2)	Job	1		
o)	OD-ST-3	Job	1		
p)	OD-T(21-25)	Job	1		
q)	OD-T(26-30)	Job	1		
r)	OD-T(31-35)	Job	1		
s)	OD-T(36-41)	Job	1		
t)	OD-U(1,2,4-6)	Job	1		
u)	OD-U(7-11)	Job	1		
v)	OD-U(12-15/A)	Job	1		
w)	OD-U16	Job	1		
x)	OD-U3(1-5)	Job	1		
y)	OD-U3(6-10)	Job	1		
z)	OD-U3(11-15)	Job	1		
aa)	OD-U3(16-20)	Job	1		
ab)	OD-U3(21-25)	Job	1		
ac)	OD-U(26-31)	Job	1		
ad)	OD-U(32-37)	Job	1		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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LIGHT FIXTURES

Ref. Spec. Sec. 8150, 8212, 8240

06-2E Following lighting fixtures with fluorescent or compact fluorescent or incandescent lamps or as per lighting fixture schedule installed on surface or on false ceiling complete with all accessories such as lamps, lamp holders, ballast, starters, capacitors, as applicable, etc. and all relevant installation material as approved by the Engineer.

- | | | | | | |
|----|--|-----|----|--|--|
| a) | Type-L1
Flood light fixture with non-corrosive, gravity-casting aluminium housing, lamp holder and maintenance cover with 1x1000W SON-T lamp, mounting brackets and rubber gasket. IP-66 rated. | No. | 80 | | |
| b) | Type-P1
Road light fixture with non-corrosive, high-pressure die-cast aluminium housing and spigot, high purity aluminium reflector, clear glass toughened bowl and silicon rubber gasket with 1X250W SON-T lamp IP66 rated. | No. | 32 | | |
| c) | Type-W2
Flood light fixture, rugged pressure die-casted aluminum housing with corrosion resistant powder coating, with 1x400W SON-T lamp, integrated energy saving copper ballast, electronic semi-parallel ignitor and capacitor. IP66 | No. | 34 | | |

HIGH TENSION CABLE

Ref. Sec. No. 8211

06-3E	15kV, 3 core 95 sq. mm, Copper conductor, XLPE/PVC/SWA/PVC cables installed on surface, completed cable trenches or already installed pipes.	RM	865		
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**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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06-4E	15 kV Straight through joints suitable for 3 core 95 sq.mm copper conductor, XLPE/PVC/SWA/PVC 15 kV cables including all accessories, complete in all respects:	No.	3		
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LOW TENSION CABLES

Ref. Spec. Sec. 8212

06-5E	Following sizes single core/multi core PVC insulated and PVC sheathed, unarmoured copper conductor cables in already installed surface mounted/concealed PVC conduit or underground PVC pipe or on cable tray, for power and miscellaneous wiring including all				
	a) 3-1/2 core 70 sq.mm PVC/PVC	RM	155		
	b) 3-1/2 core 95 sq.mm PVC/PVC	RM	100		
	c) 3-1/2 core 150 sq.mm PVC/PVC	RM	190		
	d) 4 core 6 sq.mm PVC/PVC	RM	2050		
	e) 4 core 10 sq.mm PVC/PVC	RM	3400		
	f) 4 core 25 sq.mm PVC/PVC	RM	2480		
	g) 4 core 35 sq.mm PVC/PVC	RM	2260		
	h) 4 core 50 sq.mm PVC/PVC	RM	2975		
	i) 4 core 70 sq.mm PVC/PVC	RM	4150		
	j) 4 core 120 sq.mm PVC/PVC	RM	225		
	k) 4 core 150 sq.mm PVC/PVC	RM	600		
	l) 4 core 240 sq.mm PVC/PVC	RM	310		

REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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WIRING

Ref. Sec. 8212,8220,8230,8240,8290

06-6E	Wiring of CCTV camera circuits from nearest outdoor distributor (OD) to point including wiring between point on the same circuit with 3 core 2.5 sq.mm copper conductor PVC/PVC cable complete with appropriate size concealed uPVC conduit and all accessories etc., complete in all respect.	No.	66		
06-7E	Wiring of the 12 meter high street lighting columns from cable connections box to light fixture with 3 core 2.5 sq. mm PVC/PVC cable through hollow of the column, including all accessories, complete in all respects:	No.	32		
06-8E	Wiring of Distribution Board (DB) to timer/contacter controlled, first light point with 3(1x2.5 sq.mm) single core copper conductor, PVC cable including appropriate size surface/ concealed PVC conduits and all accessories etc., complete in all respect.	No.	18		
06-9E	Wiring from light point to point (timer/contacter controlled) with 3(1x2.5 sq.mm) single core copper conductor PVC cable including appropriate size surface/ concealed PVC conduit and all accessories etc., complete in all respect.	No.	16		
06-10E	Wiring of flood lights on 25 meter High Mast from Outdoor LT Distributor / Control Gear Box for High Mast to the light fixture with 3 core 6.0 sq. mm PVC/PVC cable including all accessories, etc., complete in all respects.	No.	80		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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CONDUITS & PIPES

Ref. Spec. Sec. 8230

06-11E Following sizes (internal diameter) of underground class 'D' PVC pipe with accessories including pull wire, excavation and backfilling etc., complete in all respects.

a) 200 mm dia	RM	1580
b) 150 mm dia	RM	3050
c) 100 mm dia	RM	18140

EARTHING

Ref. Spec. Sec. 8212, 8240

06-12E Following sizes of single core PVC insulated copper conductor cable as earth continuity conductor (ECC) installed on surface or on already installed cable tray or on already installed pipes/conduits or in trench etc.

a) 6 sq. mm.	RM	2050
b) 10 sq. mm.	RM	3400
c) 16 sq. mm.	RM	4740
d) 25 sq. mm.	RM	2975
e) 35 sq. mm.	RM	4305
f) 50 sq.mm.	RM	100
g) 70 sq.mm.	RM	1325

06-13E 600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x70 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.

No.	43
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**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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MISCELLANEOUS ITEMS

Ref. Spec. Sec. 8290

06-14E	Base Hinged type G.I lighting mast (25 M high) suitable for installation of 8 nos. 1000 watts flood light fixture including mast cap, base plate, anchor bolts, clamps, flood lights fixing arrangement, support frame for flood lights, connection box, and all other accessories, RCC foundation and all related civil works, High Performance Marine Painted, numbering, etc., complete in all respects:	No.	11		
06-15E	Hydraulic counterbalance unit to lower 25 M high lighting mast including all accessories, complete in all respect.	No.	1		
06-16E	12 meter high, Hot Dipped Galvanized, High Performance Marine Painted galvanized steel lighting columns, including pole cap, base plate, shim plates, clamps, cable connection box with terminals, one mcb for each light fixtures and all other accessories, RCC foundation and all related civil works, numbering, etc. complete in all respects.	No.	32		
06-17E	Removing of Existing mast, flood light fixtures and LT cables with care, dismantling of foundation and handing over the mast, flood light fixtures and LT cables to KFHA as per direction of the engineer incharge complete in all respect .	Job	11		

Total Amount _____
Carried over to summary of cost _____

KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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06a. Existing FCS Sub-Station Extension & Modifications.

C. CIVIL WORKS

EARTHWORKS

Ref.Spec. No.1100

06a-1C	Excavation in all kinds of sub-surface materials upto following depths including dewatering and disposal of surplus/ rejected excavated materials to designated places.				
	a) 0 - 2 metre	Cu.m.	135		
	b) 2 - 4 metre	Cu.m.	7		
06a-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	85		
06a-3C	Gravel fill including compaction.	Cu.m.	2		
06a-4C	Fine Dry Sand fill including compaction.	Cu.m.	3		

STONE SOLING

Ref. Sec.No. 1330

06a-5C	100mm thick compacted stone soling.	Sq.m.	35		
06a-6C	150mm thick compacted stone soling.	Sq.m.	27		

TERMITE CONTROL TREATMENT

Ref.Spec. No.1600

06a-7C	Termite control treatment.	Sq.m.	62		
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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
<u>REINFORCEMENT</u>					
Ref. Sec.No. 2200					
06a-8C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	10		
<u>PLAIN AND REINFORCED CONCRETE</u>					
Ref. Sec.No. 2300, 2100					
06a-9C	Class 'E' concrete using specified cement in foundations.	Cu.m.	15		
06a-10C	Class 'D' concrete using specified cement in steps & foundations etc.	Cu.m.	1		
06a-11C	Class 'D' plain cement concrete using ordinary Portland cement in plinth protection including bitumen seal.	Sq.m.	35		
06a-12C	Class 'B' reinforced concrete in following sub-structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Foundations(Walls)	Cu.m.	10		
	b) Column upto plinth	Cu.m.	2		
	c) Pads	Cu.m.	4		
06a-13C	Class 'B' reinforced concrete using specified cement in following Underground Fuel tank structures complete in all respect as shown on the drawings.				
	a) Base Slab	Cu.m.	23		
	b) Walls	Cu.m.	12		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	c) Top Slab	Cu.m.	23		
06a-14C	Class 'B' reinforced concrete in following sub-structures using specified cement including Polypropylene fibrous (Duracrete 25mm Fibrillated DCF-25 or approved equivalent) complete in all respect as shown on the drawings & specifications.				
	a) Grade Slab	Cu.m.	13		
	b) Trenches	Cu.m.	6		
06a-15C	Class 'B' reinforced concrete in following super structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Columns	Cu.m.	4		
	b) Beams & lintels	Cu.m.	3		
	c) Slabs & projections	Cu.m.	9		
	d) Purdi	Cu.m.	2		
	e) Precast water spout.	Cu.m.	1		
<u>STRUCTURAL STEEL WORKS</u>					
Ref.Spec. No. 3000					
06a-16C	Mild steel Louvered Door as per design including fixing and specified paint system complete in all respect as shown on the drawings and specifications.	Kg.	1,425		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
06a-17C	Structural steel comprising angles, plates, chequered plates, bars etc. including hot dipped galvanizing, fabrication, erection, embedding and painting complete in all respect as shown on the drawings.	Kg.	2,100		
<u>MISCELLANEOUS STEEL WORKS</u>					
Ref.Spec. No. 3100					
06a-18C	6.4mm thick hinged steel cover and frame of the following sizes,complete in all respect as per specifications and as shown on the drawings	Kg	30		
<u>BLOCK MASONRY</u>					
Ref. Sec.No. 4100					
06a-19C	Reinforced block masonry of the following thicknesses set in 1:6 cement sand mortar.				
	a) 150mm thick solid	Cu.m.	20		
<u>uPVC PIPE AND FITTINGS</u>					
Ref.Sec. 5100					
06a-20C	Providing and laying Class 'D' PVC pipes/pipe sleeves of the following diameters complete in all respect as shown on the drawing.				
	a) 150mm diameter.	R.m.	5		
	b) 100mm diameter.	R.m.	10		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
<u>CAST IRON COVERS WITH FRAME & LADDER RUNGS</u>					
Ref.Sec. 5233					
06a-21C	Cast iron cover with frame of following sizes including fixing. (Medium duty)				
	a) 750 mm x 750 mm	No.	1		
06a-22C	20mm dia. M.s. galvanised ladder rungs including fixing and fixing accessories complete in all respect as shown on the drawings.	No	5		
<u>CEMENT PLASTER</u>					
Ref. Sec.No. 6521					
06a-23C	12mm thick 1:4 cement sand plaster to specified interior surfaces.	Sq.m.	185		
06a-24C	20mm thick 1:4 cement sand plaster to specified exterior surfaces.	Sq.m.	125		
<u>FLOOR AND WALL FINISHES</u>					
Ref. Sec.No. 6600					
06a-25C	75mm thick Class 'C' cement concrete floor.	Sq.m.	92		
06a-26C	Cement concrete skirting 100mm high including rough base plaster complete in all respect as shown on the drawings & specifications.	Sq.m.	8		
<u>WATER PROOFING AND BUILT-UP ROOFING</u>					
Ref. Sec.No. 6411					
06a-27C	Water proofing and built-up roofing over slab as per specifications and as shown on the drawings.	Sq.m.	195		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
06a-28C	Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.	Sq.m.	195		
<u>PAINTING</u>					
Ref.Spec. No. 6700					
06a-29C	Distemper paint to specified surfaces on ceiling including sealer primer.	Sq.m.	75		
06a-30C	Matt finish paint of approved make, quality, colour/ shade including wall sealer, primer, surfaces preparation to specified interior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	110		
06a-31C	Weather resistant paint of approved make, quality, colour/ shade including surfaces preparation to specified exterior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	125		
Total Amount					_____
Carried over to summary of cost					_____

KARACH FISH HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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06a. Existing FCS Sub-Station Extension & Modifications.

E. ELECTRICAL WORKS

Supply, installation, testing and commissioning of the following items of work (unless specifically stated otherwise) including all material, labour, tools, plant, accessories, related civil works, etc., required for proper completion of each item as per specifications (Section-8001 "General Specifications for Electrical Works" shall be applicable to all BOQ items).

LOW VOLTAGE D.G.SETS

Ref. Spec. Sec. 8111, 8212, 8240

06a-1E	150 kVA, 415 volt, 50 Hz, Prime Power Rating, LV D.G. set including control / Instrument Panels and all control wiring to L.T. switchboard, fuel day tank and all piping accessories, complete with foundation of set, related civil works etc. complete in all respect.	Job	1		
06a-2E	Automatic Transfer Switch/Auto Mains Failure (ATS/AMF) Panel 250A - 4 Pole for the above D.G. set complete with all controls as required.	Job	1		
06a-3E	Spare parts for D.G. Set as per Appendix-II to Bill of Quantities.	Lot	1		

INDOOR POWER TRANSFORMER

Ref. Spec. Sec. 8121, 8211, 8212, 8240

06a-4E	750 kVA, 11/0.415 kV indoor power transformer including control wiring to the HT/LT switchboards with all accessories, complete in all respect.	Job	1		
06a-5E	Spare parts for Indoor Power Transformer as per Appendix-II to Bill of Quantities.	Lot	1		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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H.T SWITCHBOARD

Ref. Spec. Sec. 8131, 8211, 8212, 8240

06a-6E	HT SWITCHBOARD "HT-1" (as per single line diagram shown on the drawing), including all control wiring, foundation, related civil works and all accessories, complete in all respects.	Job	1		
06a-7E	Rubber insulation Mat, one meter wide, 6mm thick for laying in front of H.T. Switchboard suitable to provide insulation for 15 kV working.	RM	3		
06a-8E	Danger boards having signs and designation on the external doors and wall mounted shock / first aid charts in H.T. Power Transformer, LV DG Set and L.T. Rooms of the Substation.	Job	1		
06a-9E	Spare parts for H.T Switchboard as per Appendix-II to Bill of Quantities.	Lot	1		

L.T. SWITCHBOARDS

Ref, Spec. Sec. 8132, 8133, 8212, 8240

06a-10E	Following L.T. Switchboard (as per single line diagram shown on drawings) including all control wiring, pedestal mounting arrangement, foundation, related civil works and all accessories, etc. complete in all respects:				
	a) LT-NFS including PFI Panel	Job	1		
	b) ELT-NFS	Job	1		

L.T. DISTRIBUTION BOARDS

Ref. Spec. Sec. 8133, 8212, 8240

06a-11E	Following LT Distribution Boards (as per single line diagrams), including all accessories, related civil works etc. complete in all respects.				
	a) DB-NFS	Job	1		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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LIGHT FIXTURES

Ref. Spec. Sec. 8150, 8212, 8240

06a-12E Following lighting fixtures with fluorescent or compact fluorescent or incandescent lamps or as per lighting fixture schedule installed on surface or on false ceiling complete with all accessories such as lamps, lamp holders, ballast, starters, capacitors, as applicable, etc. and all relevant installation material as approved by the Engineer.

- | | | | | |
|----|---|-----|----|--|
| a) | Type A2
Surface mounted light fixture body made of poly carbonate in grey color with 2X36W fluorescent lamp transparent diffuser made of transparent polycarbonate, IP-66 rated. | No. | 12 | |
| b) | Type W1
Surface mounted light fixture body made of non-corrosive, high pressure die-cast aluminium, stove enameled, painted in white color with 1X11W compact florescent lamp along with clear polycarbonate | No. | 4 | |

HIGH TENSION CABLE

Ref. Sec. No. 8211

- | | | | | |
|---------|--|-----|----|--|
| 06a-13E | 15kV, 3 core 95 sq. mm, Copper conductor, XLPE/PVC/SWA/PVC cables installed on surface , completed cable trenches or already installed pipes. | RM | 20 | |
| 06a-14E | 15 kV termination kits suitable for 3 core, 95 sq. mm. copper conductor, XLPE/PVC/SWA/PVC 15 kV cable with colour sleeves and all other accessories, installed at: | | | |
| a) | H.T Switchboard. | No. | 2 | |
| b) | Transformer including cable termination support. | No. | 1 | |

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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LOW TENSION CABLES

Ref. Spec. Sec. 8212

06a-15E Following sizes single core/multi core PVC insulated and PVC sheathed, unarmoured copper conductor cables in already installed surface mounted/concealed PVC conduit or underground PVC pipe or on cable tray, for power and miscellaneous wiring including all

a) 1 core 400 sq.mm PVC/PVC	RM	165
b) 1 core 240 sq.mm PVC/PVC	RM	132
c) 4 core 25 sq.mm PVC/PVC	RM	15
d) 4 core 240 sq.mm PVC/PVC	RM	40

WIRING

Ref. Sec. 8212,8220,8230,8240,8290

06a-16E Wiring of light circuits from distribution board (DB) to point/switch including wiring between switches on the same circuit with 3(1x2.5 sq.mm) single core copper conductor PVC cable complete with appropriate size concealed PVC conduit and all accessories etc., complete in all respect.

No. 2

06a-17E Wiring from light/exhaust fan point to switch with 3(1x1.5 sq.mm) single core copper conductor PVC cable, including appropriate size concealed PVC conduit, ceiling rose, 10 Amps light control gang switch, sheet steel back box, 3 core flexible cable and all accessories etc., complete in all respect.

No. 11

06a-18E Same as above item 06a-17E but wiring from point to point.

No. 5

REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
06a-19E	Wiring of 16A, 250 Volt socket outlets with following sizes single core, copper conductor PVC cable including appropriate size concealed PVC conduit and all accessories etc., complete in all respects.				
	a) From Distribution Board (DB) to outlet with 3(1x2.5 sq.mm) cable.	No.	2		
	b) From outlet to outlet.	No.	12		
<u>WIRING ACCESSORIES</u>					
Ref. Spec. Sec.8220					
06a-20E	16 Amps, 250 Volt, 2 pin + earth, schuko socket outlet with sheet steel back box and all accessories.	No.	14		
<u>EARTHING</u>					
Ref. Spec. Sec. 8212, 8240					
06a-21E	Following sizes of single core PVC insulated copper conductor cable as earth continuity conductor (ECC) installed on surface or on already installed cable tray or on already installed pipes/conduits or in trench etc.				
	a) 16 sq. mm.	RM	15		
	b) 70 sq. mm.	RM	24		
06a-22E	600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x70 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.	No.	2		
06a-23E	600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x95 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.	No.	3		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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06a-24E	600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x120 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.	No.	1		
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06a-25E	Earth connecting point.	No.	6		
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Total Amount	
Carried over to summary of cost	

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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**06a. Existing FCS Sub-Station
Extension & Modifications.**

M. MECHANICAL WORKS

FUEL STORAGE & SUPPLY SYSTEM

Ref. Spec. Nos. 8470 & 9000

06a-1M	Design, fabrication, supply, installation, testing and commissioning of 5,000 liters capacity fuel storage tank, manufactured as per DIN 6608 / ASME Section VIII, Div. 1 with internal & external coating, manhole cover, dip stick and connection nozzles complete in all respect as per specifications and drawings.	Nos.	1		
06a-2M	Supply, installation, testing and commissioning of fuel piping system (above ground / buried), painting / coating / wrapping of pipes complete with fittings, accessories, valves, strainers, pipe supports, fuel filling hose couplings, over flow, vent with bird / insect screen, drain valves including all related piping from fuel storage tank to D.G. set and associated civil works (cutting, chipping, making holes etc.) complete in all respect as per specifications and drawings.	Job	1		
06a-3M	Supply, installation, testing & commissioning of fuel transfer pumps for transfer of diesel fuel from underground tank to generator's day tanks. This pumping system should include but not limited to: - Two (02) nos. electrically driven positive displacement gear pump with explosion proof motors (Flow rate = 50 l/min) - Electric control panel for motors control.	Job	1		
06a-4M	Supply, installation, testing & commissioning of following items as per specifications & a) Level sensors (low + high) for underground fuel storage tank with audible and visual alarm.				

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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b) Level sensors (low + high) for generator's day tanks

c) Hand selector switch for manual operation of pumps

d) Audible alarms and sounders as per specifications and drawings

e) Fuel Monitoring Panel (Integrated with Pump Control Panle)

f) Control cabling with conduits as per drawings and site conditions

Job 1

Total Amount _____
Carried over to summary of cost _____

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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06b.New Sub-Station.

C. CIVIL WORKS

EARTHWORKS

Ref.Spec. No.1100

06b-1C	Excavation in all kinds of sub-surface materials upto following depths including dewatering and disposal of surplus/ rejected excavated materials to designated places.				
	a) 0 - 2 metere	Cu.m.	170		
	b) 2 - 4 metere	Cu.m.	20		
06b-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	142		
06b-3C	Gravel fill including compaction.	Cu.m.	3		
06b-4C	Fine Dry Sand fill including compaction.	Cu.m.	6		

STONE SOLING

Ref. Sec.No. 1330

06b-5C	100mm thick compacted stone soling.	Sq.m.	35		
06b-6C	150mm thick compacted stone soling.	Sq.m.	25		
06b-7C	300mm thick compacted stone soling.	Sq.m.	50		

TERMITE CONTROL TREATMENT

Ref.Spec. No.1600

06b-8C	Termite control treatment.	Sq.m.	110		
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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
<u>REINFORCEMENT</u>					
Ref. Sec.No. 2200					
06b-9C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	14		
<u>PLAIN AND REINFORCED CONCRETE</u>					
Ref. Sec.No. 2300, 2100					
06b-10C	Class 'E' concrete using specified cement in foundations.	Cu.m.	20		
06b-11C	Class 'D' concrete using specified cement in steps & foundations etc.	Cu.m.	7		
06b-12C	Class 'D' plain cement concrete using ordinary Portland cement in plinth protection including bitumen seal.	Cu.m.	3		
06b-13C	Class 'B' reinforced concrete in following sub-structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Foundations	Cu.m.	18		
	b) Plinth Beam	Cu.m.	6		
	c) Column upto plinth	Cu.m.	3		
	d) Pads	Cu.m.	4		
06b-14C	Class 'B' reinforced concrete in following sub-structures using specified cement including Polypropylene fibrous (Duracrete 25mm Fibrillated DCF-25 or approved equivalent) complete in all respect as shown on the drawings & specifications.				
	a) Grade Slab	Cu.m.	11		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	b) Trenches	Cu.m.	10		
06b-15C	Class 'B' reinforced concrete using specified cement in following Underground Fuel tank structures complete in all respect as shown on the drawings.				
	a) Base Slab	Cu.m.	12		
	b) Walls	Cu.m.	10		
	c) Top Slab	Cu.m.	10		
06b-16C	Class 'B' reinforced concrete in following super structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Columns	Cu.m.	5		
	b) Beams & lintels	Cu.m.	5		
	c) Slabs & projections	Cu.m.	17		
	d) Purdi	Cu.m.	2		
	e) Precast water spout.	Cu.m.	1		
	f) Precast Planks	Cu.m.	2		
<u>STRUCTURAL STEEL WORKS</u>					
Ref.Spec. No. 3000					
06b-17C	Mild steel Louvered Door & Ventilators as per design including fixing and specified paint system complete in all respect as shown on the drawings and specifications.	Kg.	1,304		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
06b-18C	Structural steel comprising angles, plates, chequered plates, bars etc. including hot dipped galvanizing, fabrication, erection, embedding and painting complete in all respect as shown on the drawings.	Kg.	2,600		
<u>MISCELLANEOUS STEEL WORKS</u>					
Ref.Spec. No. 3100					
06b-19C	6.4mm thick hinged steel cover and frame of the following sizes,complete in all respect as per specifications and as shown on the drawings.	Kg	30		
<u>BLOCK MASONRY</u>					
Ref. Sec.No. 4100					
06b-20C	Reinforced block masonry of the following thicknesses set in 1:6 cement sand mortar.				
	a) 150mm thick solid	Cu.m.	26		
<u>uPVC PIPE AND FITTINGS</u>					
Ref.Sec. 5100					
06b-21C	Providing and laying Class 'D' PVC pipes/pipe sleeves of the following diameters complete in all respect as shown on the drawing.				
	a) 150mm diameter.	R.m.	5		
	b) 100mm diameter.	R.m.	10		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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CAST IRON COVERS WITH FRAME & LADDER RUNGS

Ref.Sec. 5233

06b-22C Cast iron cover with frame of following sizes including fixing. (Medium duty)

a) 750 mm x 750 mm No. 1

06b-23C 20mm dia. M.s. galvanised ladder rungs including fixing and fixing accessories complete in all respect as shown on the drawings. No 5

CEMENT PLASTER

Ref. Sec.No. 6521

06b-24C 12mm thick 1:4 cement sand plaster to specified interior surfaces. Sq.m. 380

06b-25C 20mm thick 1:4 cement sand plaster to specified exterior surfaces. Sq.m. 185

FLOOR AND WALL FINISHES

Ref. Sec.No. 6600

06b-26C 75mm thick Class 'C' cement concrete floor. Sq.m. 80

06b-27C 150mm thick Class 'D' ordinary portland cement concrete ramp floor. Sq.m. 2

06b-28C Cement concrete skirting 100mm high including rough base plaster complete in all respect as shown on the drawings & specifications. Sq.m. 6

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
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BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
06b-29C	Chequered tile floor using of size 300x300x25mm thick in approved colour laid in approved pattern set in specified cement sand mortar including Class 'C' cement concrete screed base complete in all respect as shown on the drawings & specifications.	Sq.m.	35		
<u>WATER PROOFING AND BUILT-UP ROOFING</u>					
Ref. Sec.No. 6411					
06b-30C	Water proofing and built-up roofing over slab as per specifications and as shown on the drawings.	Sq.m.	110		
06b-31C	Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.	Sq.m.	205		
<u>PAINTING</u>					
Ref.Spec. No. 6700					
06b-32C	Distemper paint to specified surfaces on ceiling including sealer primer.	Sq.m.	88		
06b-33C	Matt finish paint of approved make, quality, colour/ shade including wall sealer, primer, surfaces preparation to specified interior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	290		
06b-34C	Weather resistant paint of approved make, quality, colour/ shade including surfaces preparation to specified exterior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	185		

Total Amount
Carried over to summary of cost

KARACH FISH HARBOUR AUTHORITY
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BILL OF QUANTITIES

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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06b. New Sub-Station.

E. ELECTRICAL WORKS

Supply, installation, testing and commissioning of the following items of work (unless specifically stated otherwise) including all material, labour, tools, plant, accessories, related civil works, etc., required for proper completion of each item as per specifications (Section-8001 "General Specifications for Electrical Works" shall be applicable to all BOQ items).

LOW VOLTAGE D.G.SETS

Ref. Spec. Sec. 8111, 8212, 8240

06b-1E	300 kVA, 415 volt, 50 Hz, Prime Power Rating, LV D.G. set including control / Instrument Panels and all control wiring to L.T. switchboard, fuel day tank and all piping accessories, complete with foundation of set, related civil works etc. complete in all respect.	Job	1		
06b-2E	Automatic Transfer Switch/Auto Mains Failure (ATS/AMF) Panel 500A - 4 Pole for the above D.G. set complete with all controls as required.	Job	1		
06b-3E	Spare parts for D.G. Set as per Appendix-II to Bill of Quantities.	Lot	1		

INDOOR POWER TRANSFORMER

Ref. Spec. Sec. 8121, 8211, 8212, 8240

06b-4E	1250 kVA, 11/0.415 kV indoor power transformer including control wiring to the HT/LT switchboards with all accessories, complete in all respect.	Job	1		
06b-5E	Spare parts for Indoor Power Transformer as per Appendix-II to Bill of Quantities.	Lot	1		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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H.T SWITCHBOARD

Ref. Spec. Sec. 8131, 8211, 8212, 8240

06b-6E	HT SWITCHBOARD"HT-2" (as per single line diagram shown on the drawing), including all control wiring, foundation, related civil works and all accessories, complete in all respects.	Job	1		
06b-7E	Rubber insulation Mat, one meter wide, 6mm thick for laying in front of H.T. Switchboard suitable to provide insulation for 15 kV working.	RM	3		
06b-8E	Danger boards having signs and designation on the external doors and wall mounted shock / first aid charts in H.T. Power Transformer, LV DG Set and L.T. Rooms of the Substation.	Job	1		
06b-9E	Spare parts for H.T Switchboard as per Appendix-II to Bill of Quantities.	Lot	1		

L.T. SWITCHBOARDS

Ref. Spec. Sec. 8132, 8133, 8212, 8240

06b-10E	Following L.T. Switchboard (as per single line diagram shown on drawings) including all control wiring, pedestal mounting arrangement, foundation, related civil works and all accessories, etc. complete in all respects:				
a)	LT-NS including PFI Panel	Job	1		
b)	ELT-NS	Job	1		

L.T. DISTRIBUTION BOARDS

Ref. Spec. Sec. 8133, 8212, 8240

06b-11E	Following LT Distribution Boards (as per single line diagrams), including all accessories, related civil works etc. complete in all respects.				
a)	DB-NS	Job	1		

REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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LIGHT FIXTURES

Ref. Spec. Sec. 8150, 8212, 8240

06b-12E Following lighting fixtures with fluorescent or compact fluorescent or incandescent lamps or as per lighting fixture schedule installed on surface or on false ceiling complete with all accessories such as lamps, lamp holders, ballast, starters, capacitors, as applicable, etc. and all relevant installation material as approved by the Engineer.

- | | | | | |
|----|---|-----|----|--|
| a) | Type A2
Surface mounted light fixture body made of poly carbonate in grey color with 2X36W fluorescent lamp transparent diffuser made of transparent polycarbonate, IP-66 rated. | No. | 10 | |
| b) | Type W1
Surface mounted light fixture body made of non-corrosive, high pressure die-cast aluminium, stove enameled, painted in white color with 1X11W compact florescent lamp along with clear polycarbonate | No. | 4 | |

HIGH TENSION CABLE

Ref. Sec. No. 8211

- | | | | | |
|---------|--|-----|----|--|
| 06b-13E | 15kV, 3 core 95 sq. mm, Copper conductor, XLPE/PVC/SWA/PVC cables installed on surface , completed cable trenches or already installed pipes. | RM | 20 | |
| 06b-14E | 15 kV termination kits suitable for 3 core, 95 sq. mm. copper conductor, XLPE/PVC/SWA/PVC 15 kV cable with colour sleeves and all other accessories, installed at: | | | |
| a) | H.T Switchboard. | No. | 2 | |
| b) | Transformer including cable termination support. | No. | 1 | |

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EXTERNAL SERVICES (PART-I)
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Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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LOW TENSION CABLES

Ref. Spec. Sec. 8212

06b-15E Following sizes single core/multi core PVC insulated and PVC sheathed, unarmoured copper conductor cables in already installed surface mounted/concealed PVC conduit or underground PVC pipe or on cable tray, for power and miscellaneous wiring including all

a)	1 core 500 sq.mm PVC/PVC	RM	308		
b)	4 core 25 sq.mm PVC/PVC	RM	15		
c)	4 core 240 sq.mm PVC/PVC	RM	70		

WIRING

Ref. Sec. 8212,8220,8230,8240,8290

06b-16E Wiring of light circuits from distribution board (DB) to point/switch including wiring between switches on the same circuit with 3(1x2.5 sq.mm) single core copper conductor PVC cable complete with appropriate size concealed PVC conduit and all accessories etc., complete in all respect.

No. 2

06b-17E Wiring from light/exhaust fan point to switch with 3(1x1.5 sq.mm) single core copper conductor PVC cable, including appropriate size concealed PVC conduit, ceiling rose, 10 Amps light control gang switch, sheet steel back box, 3 core flexible cable and all accessories etc., complete in all respect.

No. 10

06b-18E Same as above item 06b-17E but wiring from point to point.

No. 4

REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES

CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
06b-19E	Wiring of 16A, 250 Volt socket outlets with following sizes single core, copper conductor PVC cable including appropriate size concealed PVC conduit and all accessories etc., complete in all respects.				
	a) From Distribution Board (DB) to outlet with 3(1x2.5 sq.mm) cable.	No.	2		
	b) From outlet to outlet.	No.	8		
<u>WIRING ACCESSORIES</u>					
Ref. Spec. Sec.8220					
06b-20E	16 Amps, 250 Volt, 2 pin + earth, schuko socket outlet with sheet steel back box and all accessories.	No.	10		
<u>EARTHING</u>					
Ref. Spec. Sec. 8212, 8240					
06b-21E	Following sizes of single core PVC insulated copper conductor cable as earth continuity conductor (ECC) installed on surface or on already installed cable tray or on already installed pipes/conduits or in trench etc.				
	a) 16 sq. mm.	RM	15		
	b) 70 sq. mm.	RM	140		
06b-22E	600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x70 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.	No.	2		
06b-23E	600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x95 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.	No.	3		

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CODE NO.06: EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
06b-24E	600 mmx 600 mm x 3 mm tin plated copper Plate type earth electrode including 2x120 sq.mm PVC copper conductor cable as earthing lead, inspection chamber with medium duty C.I cover, 50 mm dia medium duty G.I pipe as shown on drawings, complete in all respect.	No.	1		
06b-25E	Earth connecting point.	No.	6		
				Total Amount	_____
				Carried over to summary of cost	_____

**KARACHI FISHERIES HARBOUR AUTHORITY
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CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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06b. New Sub-Station

M. MECHANICAL WORKS

FUEL STORAGE & SUPPLY SYSTEM

Ref. Spec. Nos. 8470 & 9000

06b-1M	Design, fabrication, supply, installation, testing and commissioning of 7,000 liters capacity fuel storage tank, manufactured as per DIN 6608 / ASME Section VIII, Div. 1 with internal & external coating, manhole cover, dip stick and connection nozzles complete in all respect as per specifications and drawings.	Nos.	1		
06b-2M	Supply, installation, testing and commissioning of fuel piping system (above ground / buried), painting / coating / wrapping of pipes complete with fittings, accessories, valves, strainers, pipe supports, fuel filling hose couplings, over flow, vent with bird / insect screen, drain valves including all related piping from fuel storage tank to D.G. set and associated civil works (cutting, chipping, making holes etc.) complete in all respect as per specifications and drawings.	Job	1		
06b-3M	Supply, installation, testing & commissioning of fuel transfer pumps for transfer of diesel fuel from underground tank to generator's day tanks. This pumping system should include but not limited to: - Two (02) nos. electrically driven positive displacement gear pump with explosion proof motors (Flow rate = 100 l/min) - Electric control panel for motors control.	Job	1		
06b-4M	Supply, installation, testing & commissioning of following items as per specifications & a) Level sensors (low + high) for underground fuel storage tank with audible and visual alarm.				

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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b) Level sensors (low + high) for generator's day tanks

c) Hand selector switch for manual operation of pumps

d) Audible alarms and sounders as per specifications and drawings

e) Fuel Monitoring Panel (Integrated with Pump Control Panle)

f) Control cabling with conduits as per drawings and site conditions

Job 1

Total Amount _____

Carried over to summary of cost _____

KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES

CODE NO.06 EXTERNAL ELECTRICAL WORKS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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06c. CCTV System for Harbour.**E. ELECTRICAL WORKS**

Supply, installation, testing and commissioning of the following items of work (unless specifically stated otherwise) including all material, labour, tools, plant, accessories, etc., required for proper completion of each item as per specification in Section-8335 "Internet Protocol Closed Circuit Television System CCTV" shall be applicable to all relevant BOQ items.

IP CCTV SYSTEM

Ref. Spec. Sec. 8001, 8230, 8290, 8335

06c-1E	1/3" IP fixed bullet high definition colour CMOS camera with varifocal lens (2.8-12mm), 1920x1080 Resolution, built in IR LED and H.264 video compression including weather Proof IP66 enclosere and all installation & mounting accessories.	No.	60		
06c-2E	1/3" IP PTZ Dome high definition CMOS colour camera with varifocal lens (4.5-135mm) 30x optical & 12x digital zoom, 1920x1080 Resolution, built in IR LED, H.264 video compression, washer, wiper and sun sheild including weather Proof IP66 enclosere and all mounting & installation accessories.	No.	6		
06c-3E	6 x 42 inch size LED Mosaic Video Wall with all essential interconnecting cables and mounting accessories complete in all respect.	Job	1		
06c-4E	Operator console for housing LED Displays, Computer, UPS & PTZ controller with all installation and mounting accessories.	No.	1		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
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CODE NO.06 EXTERNAL ELECTRICAL WORKS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
06c-5E	PTZ Controller with Keyboard including all installation accessories.	No.	2		
06c-6E	Latest Generation Computer comprising CPU with license operating system, licensed Windows & CCTV Software, Keyboard, Mouse & 2 No.19" LED Screen with all essential interconnecting cables as required for system operation.	No.	2		
06c-7E	Central Management Server / Matrix Viewer including latest operating windows, latest SQL server, camera management application software, license covering 66 operating video channels and 2 user clients system expandable upto 80 video channels in future complete in all respect.	Job	1		
06c-8E	Network video storage on H.264 Compression Standard for 66 cameras for 30 days with 25% expansion capacity complete in all respect.	Job	1		
06c-9E	Layer-3 Industrial Ethernet Switch with supervisor, dual power supply, having loaded 3 x 1 GbE SFP ports & 24 x 10/100 Base-T Ethernet ports with fans and power sockets as required complete in all respect. (CISCO catalyst 3650 or equivalent)	No.	1		
06c-10E	Layer-3 Managed Distribution Access Switch with supervisor, dual power supply, having loaded 24 x 100 BASE-LX ports & 2 x 1 GbE SFP uplink ports with fans and power sockets as required complete in all respect. (CISCO catalyst 3850 or equivalent)	No.	3		
06c-11E	Cat6A UTP Giga Speed loaded with RJ45 sockets 24 port modular patch panels, 19" rack installed in floor/wall mounted cabinet including built-in rear cable management with all mounting accessories.	No.	1		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
06c-12E	19" Rack mounted Front Cable Management with all installation accessories.	No.	1		
06c-13E	Following types Duplex LC loaded Single mode module rack mountable fibre optic patch panel with pigtailed and splice trays including all installation accessories				
a)	12 port	No.	1		
b)	24 port	No.	6		
06c-14E	27 U (800 mm x 600 mm) 19" Rack with Plexiglass door including Hoops, side management, cable trays, fan tray, required power sockets, Power cabling in PVC concealed conduit from relevant UPS Power DB complete in all respect.	No.	2		
06c-15E	Following type CAT6A UTP LSZH Giga Speed patch cord with RJ45 connectors at both ends.				
a)	1 meter (3ft.) long	No.	77		
b)	3 meter (10ft.) long	No.	11		
06c-16E	Following types Fiber Duplex Patch Cord Single Mode (OS2) with required connectors at both ends.				
a)	1 meter (3ft.), Single Mode (OS2)	No.	135		
b)	3 meter (10ft.), Single Mode (OS2)	No.	3		
06c-17E	Media Converter from CAT6A copper cable to single mode fiber optic cable with connectors and internal power supply including all mounting and installation accessories.	No.	66		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
06c-18E	Micro optical distribution frame with loaded 12 single mode fiber pigtails, cassette and LC connectors suitable for installing in enclosure including all installation accessories. (IP54 Rated)	No.	39		
06c-19E	Following type 9um / 125um Singlemode (OS2) fiber optic armoured PE jacket cable in already installed Class "D" uPVC conduit.				
a)	4 Core	RM.	9,000		
b)	8 Core	RM.	13,800		
c)	12 Core	RM.	1,350		
06c-20E	Weatherproof enclosure NEMA type 4 IP66 rated for housing 3 No. Media converter and 1 No. Micro ODF with 220VAC power supply and 6 No. Universal power sockets including all mounting and installation accessories.	No.	39		
06c-21E	Two Port Cat6A UTP RJ45 surface mounted telecommunication wall outlet with plastic back box and face plate including all installation accessories.	No.	10		
06c-22E	Wiring of RJ45 telecommunication wall outlet from relevant telephone junction box / Ethernet data rack with CAT6A UTP LSZH cable in already installed uPVC dura duct.	RM.	200		
06c-23E	Following type U-shaped channel body uPVC dura duct with removable snap-on cover including all mounting and installation accessories.				
a)	25mm x 16mm	RM.	50		
b)	25mm x 25mm	RM.	50		

**REHABILITATION & RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART-I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS.

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
06c-24E	5 KVA Uninterruptable Power Supply (UPS) with 30 minute backup, 1 phase input, 1 phase output, 230 volts, 50 Hz, including static by pass, manual by pass switch, input/output panels with all interconnecting wiring, batteries with enclosure, battery breaker etc. complete in all respects as approved by the Engineer:	No.	1		
06c-25E	50 mm (internal diameter of underground Class 'D' uPVC pipe with accessories including pull wire, excavation and backfilling etc., complete in all respect.	RM.		9,500	
06c-26E	5 Meter high pole including pole cap, base plate, shim plates, clamps and all other accessories, RCC foundation and all related civil works, numbering, etc. complete in all respects.	No.	9		
06c-27E	Employer's personal training for operation and maintainance.	Job	1		
				Total Amount	
				Carried over to summary of cost	

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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06d. Electrical Manhole

C. CIVIL WORKS

EARTHWORKS

Ref.Spec. No.1100

06d-1C	Excavation of trenches in all kinds of sub-surface material up to following depths including dewatering and disposal of surplus/rejected excavated material to designated places.				
	a) 0 - 2 meter	Cu.m.	830		
	b) 2 - 4 meter	Cu.m.	25		
06d-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	180		

PLAIN AND REINFORCED CONCRETE

Ref. Sec.No. 2300, 2100

06d-3C	Class 'E' concrete using specified cement in foundations.	Cu.m.	50		
06d-4C	Class 'B' reinforced concrete using specified cement in following manholes/ chambers structures complete in all respect as shown on the drawings.				
	a) Base Slab	Cu.m.	80		
	b) Walls	Cu.m.	215		
	c) Top Slab	Cu.m.	70		

REINFORCEMENT

Ref. Sec.No. 2200

06d-5C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	35		
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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.06 EXTERNAL ELECTRICAL WORKS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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C.I COVERS WITH FRAME

Ref.Sec. 5233

06d-6C Cast iron cover with frame of following sizes including fixing. (Medium duty)

a) 600 mm x 600 mm No. 129

b) 450 mm x 450 mm No. 72

06d-7C 20mm dia. M.s. galvanised ladder rungs including fixing and fixing accessories complete in all respect as shown on the drawings.

No 570

WATER PROOFING AND BUILT-UP ROOFING

Ref. Sec.No.6411

06d-8C Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.

Sq.m. 1,475

Total Amount

Carried over to summary of cost

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.07 MAIN KFH BOUNDARY WALL

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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07. Boundary Wall

C. CIVIL WORKS

EARTHWORKS

Ref.Spec. No.1100

07-1C	Excavation of trenches in all kinds of sub-surface material up to following depths including dewatering and disposal of surplus/rejected excavated material to designated places.				
	a) 0 - 2 meter	Cu.m.	1,250		
07-2C	Fill & backfill with selected material obtained from required excavation.	Cu.m.	665		

REINFORCEMENT

Ref. Sec.No. 2200

07-3C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	60		
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PLAIN AND REINFORCED CONCRETE

Ref. Sec.No. 2300, 2100

07-4C	Class 'E' concrete using specified cement in foundations.	Cu.m.	170		
07-5C	Class 'D' concrete using specified cement in situ etc.	Cu.m.	165		
07-6C	Class 'B' reinforced concrete in following sub-structures using specified cement complete in all respect as shown on the drawings & specifications.				
	a) Foundations	Cu.m.	230		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
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CODE NO.07 MAIN KFH BOUNDARY WALL

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
	b) Plinth Beams	Cu.m.	190		
	c) Columns upto plinth	Cu.m.	35		
07-7C	Class 'B' reinforced concrete in columns above plinth using specified cement complete in all respect as shown on the drawings.	Cu.m.	115		
07-8C	Precast Class 'B' reinforced concrete coping as per design using specified cement set in specified cement sand mortar complete in all respect as shown on the drawings.	Cu.m.	95		
<u>STRUCTURAL STEEL WORKS</u>					
Ref.Spec. No. 3000					
07-9C	Mild steel gate as per design including fixing and specified paint system complete in all respect as shown on the drawings and specifications.	Kg.	1,570		
<u>BLOCK MASONRY</u>					
Ref. Sec.No. 4100					
05f-10C	150mm thick Reinforced block masonry set in 1:6 cement sand mortar.	Cu.m.	510		
<u>WATER PROOFING AND BUILT-UP ROOFING</u>					
Ref. Sec.No. 6411					
07-11C	Two coats of hot bitumen grade 10/20 applied at the rate of 1 kg./Sq.m. per coat to all exposed structural concrete surfaces in contact with earth.	Sq.m.	3,900		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
EXTERNAL SERVICES (PART- I)
BILL OF QUANTITIES**

CODE NO.07 MAIN KFH BOUNDARY WALL

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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CEMENT PLASTER

Ref. Sec.No. 6521

07-12C	20mm thick 1:4 cement sand plaster to specified exterior surfaces.	Sq.m.	6,800		
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PAINTING

Ref.Spec. No. 6700

07-13C	Weather resistant paint of approved make, quality, colour/ shade including surfaces preparation to specified exterior surfaces complete in all respect as shown on the drawings and specifications.	Sq.m.	6,800		
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Total Amount _____
Carried over to summary of cost _____

**KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.08 PRE INVESTIGATION FOR R.O. PLANT

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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EARTHWORKS

Ref. Sec.No. 1100

08-1 Soil Electrical Resistivity Survey for ground water/aquifer study at different locations as per site requirement and engineer's instructions complete in all respects along with complete ERS report.

No. 5

Total Amount

Carried over to summary of cost

KARACHI FISHERIES HARBOUR AUTHORITY
REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES

CODE NO.09 ROADS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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C. CIVIL WORKS**EARTHWORKS**

Ref. Sec.No. 1100

09-1C	Excavation/ cutting in all kinds of sub-surface material including disposal of surplus/ rejected excavated materials to designated places.	Cu.m.	25,765		
09-2C	Selected earthfill including compaction 95% modified (AASHTO T-180, Method-D) complete in all respect as shown on the drawings, specifications and as directed by the Engineer.	Cu.m.	1,000		
09-3C	Selected fill with improved soil having CBR \geq 15% at 95% modified (AASHTO T-180, Method-D) including compaction complete in all respect in conformity with the lines, levels and grades as shown on the drawings, specifications and as directed by the Engineer.	Cu.m.	8,080		

SUBGRADE PREPARATION

Ref. Sec.No. 7111

09-4C	Subgrade preparation including compaction 95% modified (AASHTO T-180, Method-D) ,	Sq.m.	44,500		
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AGGREGATE SUBBASE & AGGREGATE BASE COURSE

Ref. Sec.No. 7120

09-5C	Aggregate base Course, 200mm thick.	Cu.m.	8,725		
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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.09 ROADS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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09-6C	Aggregate base Course, 150mm thick.	Cu.m.	130		
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CEMENT CONCRETE PAVEMENT

Ref. Sec.No. 7170

09-7C	Concrete pavement of flexural strength 4.50 Mpa, using sulphate resistant cement, including all types of expansion, contraction construction joints and dowel bars, complete in all respect.	Cu.m.	4,800		
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09-8C	Rehabilitation/ repair of existing concrete roads comprising cleaning and jet washing of existing top surface, repair of cracks by using polysulphide joint sealant and backer rod etc. complete in all respect as shown on the drawings, specifications and as directed by the Engineer.	Sq.m.	26,140		
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REINFORCEMENT

Ref. Sec.No. 2200

09-9C	Grade 60 deformed hot rolled billet steel bars conforming to ASTM A-615.	tonne	33		
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09-10C	Welded wire fabric mesh type A193, BRC or approved equivalent including fixing.	Sq.m.	24,000		
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PLAIN AND REINFORCED CONCRETE

Ref. Sec.No. 2300,2200

09-11C	Class 'E' plain concrete using ordinary Portland cement.	Cu.m.	1,485		
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09-12C	150 micron thick polyethylene sheet conforming to ASTM E-154 complete in all respect as shown on the drawings.	Sq.m.	27,000		
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**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.09 ROADS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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CONCRETE PAVERS

Ref. Sec. 2510

09-13C	Concrete paving blocks (7700 PSI) 80mm thick of size 8"x4" (200x100mm) laid in approved pattern including 2" thick (50mm) sand cushion complete in all respect as shown on the drawings.	Sq.m.	18,635		
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MISCELLANEOUS ROAD WORKS

Ref. Sec.No. 7190

09-14C	Precast fairfaced Class 'B' reinforced cement concrete Kerb stone as per design using sulphate resistant cement set in 1:4 cement sand mortar including earthworks, Class 'E' concrete etc. complete in all respect as shown on the drawings. (excluding the cost of steel reinforcement)				
	a) Kerb stone with drain gutter	R.M.	3,270		
	b) Kerb stone	R.M.	1,060		

FLOOR FINISHES

Ref. Sec.No. 6600

09-15C	75mm thick Class 'C' cement concrete pavement over footpath.	Sq.m.	880		
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TRAFFIC MARKING & PAVEMENT STUDS

Ref. Sec.No. 7370

09-16C	Pavement markings as shown on the drawings using thermoplastic paint complete in all respect as per specifications and as directed by the Engineer.				
	a) Lane marking	Sq.m.	1,110		

**REHABILITATION AND RENOVATION OF KARACHI FISH HARBOUR
PHASE-I (EXTERNAL SERVICES)
BILL OF QUANTITIES**

CODE NO.09 ROADS

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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	b) Zebra Crossing	Sq.m.	1,515		
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09-17C	Reflectorized road studs (heavy duty) as shown on the drawings and as per specifications complete in all respect.	No.	1,380		
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TRAFFIC SIGNS

Ref. Sec.No. 7380

09-18C Traffic sign boards (permanent) of the following types including reflective sheeting (diamond grade), posts, foundations earthwork and related civil work etc. as shown on the drawings complete in all respect.

	a) Triangular	No.	4		
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	b) Circular	No.	2		
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Total Amount _____
Carried over to summary of cost _____

APPENDICES

APPENDIX – I TO BILL OF QUANTITIES

LIST OF ELECTRICAL EQUIPMENT MANUFACTURERS ON WHICH THE BID IS BASED

(To be filled in and signed by the Bidder)*

The Material's and Equipment's required in the Bid shall be selected from the following recommended / approved manufacturer's / supplier's. The Bidder shall procure the required materials and equipment's for this project from the following recommended / approved manufacturers / suppliers or their authorized dealer's / agent's. The Bidder shall also provide the letter of authenticity. Other makes may be accepted provided the quality and performance of such equipments in the sole opinion of the Engineer are atleast equal to or better than the equipment offered by the recommended manufacture list here under:-

The Engineer has the right to reject any of the alternate manufacturer proposed by the bidder/contractor other than listed manufacturer, without assigning any reason thereof.

SR. NO.	EQUIPMENT. / MATERIAL.	NAME OF MANUFACTURER.
1.	Diesel Generator Set.	CATERPILLAR CUMMINS PERKINS Diesel Engine and STAMFORD Alternator OR APPROVED EQUIVALENT
2.	Indoor Power Transformer.	PAK ELECTRON LIMITED (PEL.) JOHNSON & PHILLIPS(J&P) OR APPROVED EQUIVALENT
3.	H.T. Switch Boards.	SIEMENS PAK ELECTRON LIMITED (PEL.) (AREVA)SCHNEIDER ELECTRIC OR APPROVED EQUIVALENT
4.	L.T. Switch Boards. / ATS/AMF Panel/ L.T. Distribution Board./ Motor Control Centre. (M.C.C.) / Load Break Switch. / M.C.B. in weather proof Metallic Enclosure.	SIEMENS PAK ELECTRON LIMITED(PEL.) (AREVA)SCHNEIDER ELECTRIC SUNBEAM LIBRA ENGINEERING OR APPROVED EQUIVALENT
5.	Air Circuit Breakers. (A.C.B.) / Molded Case Circuit Breakers. (M.C.C.B.) / Miniature Circuit Breakers. (M.C.B.)	SCHNEIDER ELECTRIC TERASAKI GE ABB SIEMENS OR APPROVED EQUIVALENT
6.	Air Break Magnetic Contactors.	SCHNEIDER ELECTRIC SIEMENS

Bidder's Seal and Signature

SR. NO.	EQUIPMENT. / MATERIAL.	NAME OF MANUFACTURER.
		GE ABB OR APPROVED EQUIVALENT
7.	Voltmeter. / Ammeter.	REVALCO SACI OR APPROVED EQUIVALENT
8.	C.T.(Current Transformer)	REVALCO FICO CIRCUTOR OR APPROVED EQUIVALENT
9.	Auto-Off-Manual Selector Switches. / A.S.S. / V.S.S.	BRETER KRAUS & NAIMER BREMAS OR APPROVED EQUIVALENT
10.	Control & Protection Relays.	ZAHRA FINDER EMIRAL OR APPROVED EQUIVALENT
11.	P.F.I. (Power Factor Improvement) Capacitors.	SHIZUKI NOKIAN AMBER OR APPROVED EQUIVALENT
12.	Power Factor Controller.	NOKIAN LOVATO CIRCUTOR OR APPROVED EQUIVALENT
13.	H.R.C. (High Repturing Capacity.) Fuses.	DF ELECTRIC KALEPORSELEN ETI OR APPROVED EQUIVALENT
14.	Indication Lights. / ON. / OFF. Push Buttons. / Lockable Mushroom Switches.	SCHNEIDER ELECTRIC MARUYASU LOVATO OR APPROVED EQUIVALENT
15.	Automatic Time Switches.	PANASONIC FUJI OR APPROVED EQUIVALENT
16.	LT Surge Arrestors.	SIEMENS ABB SCHNEIDER ELECTRIC OR APPROVED EQUIVALENT
17.	Light Fixture for Indoor / External Illumination.	PHILIPS GE

Bidder's Seal and Signature

SR. NO.	EQUIPMENT. / MATERIAL.	NAME OF MANUFACTURER.
		OR APPROVED EQUIVALENT
18.	HT cables.	PAKISTAN CABLES NEWAGE CABLES OR APPROVED EQUIVALENT PIONEER CABLES OR APPROVED EQUIVALENT
19.	HT Termination Kits / HT Straight Through joint kits.	RAYCHEM 3M OR APPROVED EQUIVALENT
20.	Single & Multi Core L.T. Cables.	PAKISTAN CABLES NEWAGE CABLES PIONEER CABLES FAST CABLES OR APPROVED EQUIVALENT
21.	Light Control Switches. / Fan Dimmers. / Switch Socket Outlets. / Spur outlets.	CLIPSAL BY SCHNEIDER ELECTRIC MK PHILIPS OR APPROVED EQUIVALENT
22.	Back Boxes. / Fan Hook.	HUSSAIN & CO JEI OR APPROVED EQUIVALENT
23.	PVC Conduits & Accessories. / uPVC Pipes & accessories.	DADEX GALCO CIVIC OR APPROVED EQUIVALENT
24.	Medium duty G.I. Conduits & Accessories.	INTERNATIONAL INDUSTRIES LIMITED STEELEX OR APPROVED EQUIVALENT
25.	Earthing / Lightning Protection System.	FURSE ERICO DUAL MESSIEN OR APPROVED EQUIVALENT
26.	G.I. Perforated Cable tray. / G.I. Cable ladder. / G.I. Solid Bottom Cable Trunking.	ASHRAF FABRICATION & ENGINEERING INDUSTRIES EZZI ENGINEERING OR APPROVED EQUIVALENT
27.	High Mast / Lighting Column.	PETITJEAN VALMONT ABACUS

Bidder's Seal and Signature

SR. NO.	EQUIPMENT. / MATERIAL.	NAME OF MANUFACTURER.
		OR APPROVED EQUIVALENT
28.	Ceiling Fans/ Exhaust Fans.	PAK FANS ROYAL FANS MILLAT FANS OR APPROVED EQUIVALENT
29.	Connectors.	TYCO ELECTRONICS MOLEX AMPHENOL BJB OR APPROVED EQUIVALENT
30.	Ceiling Rose.	CLIPSAL BY SCHNEIDER ELECTRIC OR APPROVED EQUIVALENT
31.	Structured Cabling Network	3M SCHNEIDER ELECTRIC PANDUIT OR APPROVED EQUIVALENT
32.	Ethernet Switches	CISCO HP OR APPROVED EQUIVALENT
33.	Desktop Computers.	DELL HP OR APPROVED EQUIVALENT
34.	CCTV System.	PELCO HONEYWELL BOSCH OR APPROVED EQUIVALENT

Bidder's Seal and Signature

The Bidder shall fill name of only one manufacturer for each equipment/material on which the Bid is based. He shall be bound to supply the equipment from the same manufacturer. In case, the Bidder gives names of more than one manufacturer against any equipment, the Engineer is authorized to ask the Bidder to supply the equipment from any one of them.

The names of the Manufacturer for each equipment/material filled in this Appendix by each Bidder shall be reviewed at the evaluation stage and if it is noted that any of the equipment/material offered by the Bidder does not meet the specification requirements or it is of unacceptable quality, the Engineer reserves the right to ask the Bidder before signing of the Contract to replace the manufacturer meeting the quality and specification requirements.

The Bidder must fill the following list of Equipment/Material.

SR. NO.	EQUIPMENT. / MATERIAL.	NAME OF MANUFACTURER.	COUNTRY OF ORIGIN.
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1. Diesel Generator Set
2. Indoor Power Transformer
3. H.T. Switch Boards
4. L.T. Switch Boards. / ATS /AMF panel/
L.T. Distribution Board./
Motor Control Centre. (M.C.C.) /
Load Break Switch. /
M.C.B. in weather proof Metallic
Enclosure.
5. Air Circuit Breakers.
(A.C.B.) / Molded Case Circuit
Breakers. (M.C.C.B.)/ Miniature
Circuit Breakers. (M.C.B.)
6. Air Break Magnetic Contactors.
7. Voltmeter. / Ammeter.
8. C.T. (Current Transformer.)
9. Auto-Off-Manual Selector
Switchs. / A.S.S. / V.S.S.
10. Control & Protection Relays.
11. P.F.I. (Power Factor
Improvement) Capacitors.

Bidder's Seal and Signature

SR. NO.	EQUIPMENT/MATERIAL	NAME OF MANUFACTURER	COUNTRY OF ORIGIN
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12. Power Factor Controller.
13. H.R.C. (High Repturing Capacity.) Fuses.
14. Indication Lights. / ON. / OFF.
Push Buttons. / Lockable
Mushroom Switches.
15. Automatic Time Switches.
16. LT Surge Arrestors.
17. Light Fixture For Indoor / External
Illumination.
18. H.T Cables.
19. H.T Termination Kits.
20. Single & Multi Core L.T. Cables.
21. Light Control Switches. /
Fan Dimmers. / Switch Socket
Outlets. / Spur outlets.
22. Back Boxes. / Fan Hook.
23. PVC Conduits & Accessories. /
uPVC Pipes & accessories.
24. Medium duty G.I. Conduits &
Accessories.
25. Earthing / Lighting Protection
System
26. G.I. Perforated Cable tray. /
G.I. Cable ladder. /
G.I. Solid Bottom Cable Trunking.

Bidder's Seal and Signature

SR. NO.	EQUIPMENT/MATERIAL	NAME OF MANUFACTURER	COUNTRY OF ORIGIN
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27. High Mast / Lighting Column.

28. Ceiling Fans / Exhaust .

29. Connectors.

30. Ceiling Rose.

31. Structured Cabling Network.

32. Ethernet Switches.

33. Desktop Computers.

34. CCTV System.

Bidder's Seal and Signature

APPENDIX – II TO BILL OF QUANTITIES

SPARE PARTS OF ELECTRICAL ITEMS

(To be filled in by the Bidder)

The following spare parts required in accordance with the Bid will be supplied. The Quantities of spare parts marked with aesterics (*) shall be as recommended by the equipment manufacturer and the Bidder shall enter here the actual recommended quantities in numbers.

Sr. No.	Name of Spare Parts	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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1 Diesel Generator Set

As recommended by the manufacturer for 2000 hours of operation. The minimum spares but not limited to the following shall be provided:

1.1 Diesel Engine for 150kVA DG Set

1.1.1	Air filter	No.	4		
1.1.2	Oil filter	No.	4		
1.1.3	Fuel filter	No.	4		
1.1.4	Driving filter	Set	4		

1.2 Generator for 150 kVA DG Set

1.2.1	Set of diodes for excitation system	Set	4		
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1.3 * Additional spares, if any recommended by the manufacturer

**Total amount carried over to "Rate"
column of BOQ item No. 06a-3E**

Bidder's Seal and Signature

Sr. No.	Name of Spare Parts	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
1.	Power Transformer				
1.1	Silica Gel in Sealed pack	10 kG			
1.2	Dial type thermometer	1 No.			
1.3	Pressure release safety valve	1 No.			
1.4	Additional spares, if any recommended by the manufacturer (*)				
Total amount carried over to BOQ item No. 06a-5E					

Bidder's Seal and Signature

APPENDIX – II TO BILL OF QUANTITIES

SPARE PARTS OF ELECTRICAL ITEMS

(To be filled in by the Bidder)

The following spare parts required in accordance with the Bid will be supplied. The Quantities of spare parts marked with aesterics (*) shall be as recommended by the equipment manufacturer and the Bidder shall enter here the actual recommended quantities in numbers.

Sr. No.	Name of Spare Parts	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
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1 Diesel Generator Set

As recommended by the manufacturer for 2000 hours of operation. The minimum spares but not limited to the following shall be provided:

1.1 Diesel Engine for 300kVA DG Set

1.1.1	Air filter	No.	4		
1.1.2	Oil filter	No.	4		
1.1.3	Fuel filter	No.	4		
1.1.4	Driving filter	Set	4		

1.2 Generator for 300 kVA DG Set

1.2.1	Set of diodes for excitation system	Set	4		
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1.3 * Additional spares, if any recommended by the manufacturer

**Total amount carried over to "Rate"
column of BOQ item No. 06b-3E**

Bidder's Seal and Signature

Sr. No.	Name of Spare Parts	Unit	Quantity	Rate (Rs.)	Amount (Rs.)
1.	Power Transformer				
1.1	Silica Gel in Sealed pack	10 kG			
1.2	Dial type thermometer	1 No.			
1.3	Pressure release safety valve	1 No.			
1.4	Additional spares, if any recommended by the manufacturer (*)				
Total amount carried over to BOQ item No. 06b-5E					

Bidder's Seal and Signature

APPENDIX – III TO BILL OF QUANTITIES

SPECIAL TOOLS FOR ELECTRICAL WORKS (To be filled in by the Bidder)**

The following tools required in accordance with the Bid will be supplied. No separate payment will be made for this item of work.

SR. NO	NAME OF SPECIAL TOOLS	QUANTITY	MANUFACTURER
1.	Hi Pot Test Equipment	1 No.	
2.	0-1000 V Megger	1 No.	
3.	0-2500A Clamp on ammeter/Voltmeter	1 No.	
4.	AVO Meter	1 No.	
5.	Phase Sequence Meter	1 No.	
6.	Earth Resistance Tester	1 No.	
7.	HT VCB trolley racking handles	2 Nos.	
8.	Fuse pullers of all fuse sizes	1 Set	
9.	Any other tools recommended by the manufacturers of various equipment to be installed.	***	

Bidder's Seal and Signature

** Additional sheets to be attached if necessary. Each sheet to be signed and sealed

APPENDIX – IV TO BILL OF QUANTITIES

(To be filled-in and signed by the Bidder)*

DEVIATIONS FROM SPECIFICATION OF ELECTRICAL WORKS

(To be filled in by the Bidder)*

The Bid submitted contains the following deviations from the Specification of Electrical works**. State specifically if the Bid does not contain any deviation.

SR. NO	REF. OF BOQ ITEM NO.(s)	DESCRIPTION OF DEVIATION(s)	REASON(s)

Bidder's Seal and Signature

** Additional sheets to be attached if necessary. Each sheet to be signed and sealed