



NED University of Engineering & Technology
University Road, Karachi-75270, Pakistan

Tel #: 92-21-99261261-8, Ext.: 2291 Fax #: 92-21-99261255
E-mail: ddff@neduet.edu.pk Website: http://www.neduet.edu.pk

Director Procurement

"SAY NO TO CORRUPTION"

- 1. NED University of Engineering & Technology** invites sealed bids from reputable and well experienced firms/ companies for works detailed below:

Sr. No.	Name of Work	Estimated cost (Rs. in million)	Bid Security	Tender Fee (Rs.)	Time of completion
1	Construction of Academic Block I & Norwegian Centre	85.438	2%	3,000	15 months
2	Construction of Academic Block II & Maintenance Shed for Light Vehicles	102.873	2%	3,000	15 months

2. Eligibility:

- Valid registration with Pakistan Engineering Council (PEC) in category C-4 and above, Specialization code CE-10.
- Registered with Sindh Revenue Board and FBR.

3. Qualification

Bidders are required to submit the following documents with their bid

- Proof of Registration with PEC, SRB and FBR
- List of at least two Similar assignment each with cost Rs. 30 million or above, completed over the past 08 years with completion Certificate.
- Details of Tools and Plants owned / hired by firm
- Financial Statement (Summary) and Income tax returns for the last 3 years
- List of Litigation (if any) their nature and status / outcomes.
- Affidavit that firm has never been black listed.

4. Method of Procurement : Single stage, One envelop procedure

5. Bidding/ Tender Documents:

- Issuance: Documents will be issued from 04-12-2017 to 20-12-2017
- Submission: Last date of submission of bids is 21-12-2017 up to 11:00 a.m.
- Opening: Bids will be open on 21-12-2017 at 11:30 a.m.
- Place: Place of issuance and submission of bids is as under:
Address: Directorate of Procurement, NED University Main Campus
Telephone # 021-99261261-68 (Ext: 2291)

6. Funding position: Funds are available under HEC approved Development Project.

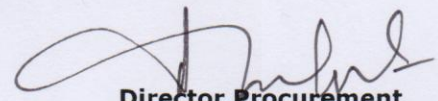
7. Terms & Conditions:

(a) Under following conditions bid will be rejected:

- Conditional, electronic and telegraphic bids/ tenders:
- Bids not accompanied by bid security of required amount and form;
- Bids received after specified date and time
- Black listed firms.

(b) Bid validity period: 90 days.

(c) Procuring Agency reserves the right to reject all or any bids subject to the relevant provisions of Sindh Public Procurement Rules 2010 (amended 2013).


Director Procurement
30/Nov/2017



ACADEMIC BLOCK - I & NORWEGIAN CENTRE

N. E. D. U. E. T, KARACHI



TENDER DOCUMENT VOLUME - I

GENERAL CONDITIONS OF CONTRACT
SPECIAL PROVISIONS

 **SHAHZAD
ASSOCIATES**

CONSULTING ARCHITECTS, ENGINEERS & PLANNERS

KARACHI OFFICE :- 2ND FLOOR, FARZANA BUILDING, SHAHEED-E-MILLAT ROAD.

KARACHI. TEL: 4348591 - 4388857, FAX: (92 - 021) 4530754, E-MAIL: shahzadarch@yahoo.com

ISLAMABAD OFFICE :- 66, STREET NO. 59, 1/8-3, ISLAMABAD. PH: 444741

QUETTA OFFICE: 4-B, 1ST FLOOR, HASSAN APARTMENTS, PATEL BAGH, QUETTA. PH: 839033

INVITATION FOR BID



NED UNIVERSITY

of Engineering & Technology

DIRECTOR
PROCUREMENT

University Road, Karachi-75270. Tel: 9926 1261-68 Ext 2471 & 2291
Fax: 9926-1255 Email: ddff@neduet.edu.pk Web: www.neduet.edu.pk

NOTICE INVITING TENDERS

No. PC/NED/CE-1114122/1330 **Say NO to Corruption**

NED University of Engineering & Technology invites **Sealed Bids** from Reputable and Well Experienced Firms/ Companies for the Works detailed below:

1. CONSTRUCTION OF ACADEMIC BLOCK I & NORWEGIAN CENTRE		Estimated Cost 85.438 Millions
Bid Security	Tender Fee (Rs.)	Time of Completion
2%	3,000/-	15 Months
2. CONSTRUCTION OF ACADEMIC BLOCK II & MAINTENANCE SHED FOR LIGHT VEHICLES		Estimated Cost 102.873 Millions
Bid Security	Tender Fee (Rs.)	Time of Completion
2%	3,000/-	15 Months

ELIGIBILITY:

- Valid registration with Pakistan Engineering Council (PEC) in category C-4 and above, Specialization code CE-10
- Registered with Sindh Revenue Board and FBR

QUALIFICATION

Bidders are required to submit the following Documents with their Bid

- Proof of Registration with PEC, SRB and FBR
- List of at least two Similar assignment each with cost Rs. 30 Million or above, completed over the Past 08 Years with Completion Certificate.
- Details of Tools and Plants owned / hired by Firm
- Financial Statement (Summary) and Income Tax Returns for the Last 3 Years
- List of Litigation (if any) their nature and status / outcomes
- Affidavit that Firm has never been Black Listed

METHOD OF PROCUREMENT: Single Stage, One Envelope procedure

BIDDING / TENDER DOCUMENTS:

- Issuance:** Documents will be issued from **04th DEC 2017** to **20th DECEMBER 2017**
- Submission:** Last Date of Submission of Bids is **21st DEC 2017** up to **11:00 am**
- Opening:** Bids will be open on **21st DEC 2017** at **11:30 am**
- Place:** **Place of Issuance & Submission of Bids** is as under:
Address: **Directorate of Procurement, NED University**
Main Campus, Tel # 021-99261261-68 (Ext: 2291)

FUNDING POSITION: Funds are available under HEC approved Development Project

TERMS & CONDITIONS:

- Under the following Conditions, Bid can be rejected:**
 - Conditional, Electronic and Telegraphic Bids / Tenders
 - Bids not accompanied by Bid Security of required amount & form
 - Bids received after Specified Date and Time
 - Black Listed Firms/Companies
- Bid Validity Period: **90 Days**
- The **Procuring Agency** reserves the right to reject all or any Bid subject to the relevant provisions of Sindh Public Procurement Rules 2010 amended up to date

Director Procurement

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INSTRUCTIONS TO BIDDERS

INSTRUCTIONS TO BIDDERS

A. GENERAL

IB.1 Scope of Bid

- 1.1 The Employer as defined below hereinafter called "the Employer" wishes to receive bids for the construction and completion of works as described below and summarized referred to as the "Works".

Name and address of the Employer:

The Employer is "NED University of Engineering & Technology, University Road, Karachi-75270"

Phone: (9221) 9926-1261-8 Ext: 2291 Fax No. (9221) 9926-1255

Name of the Project & Summary of the Works:

Construction of Academic Block I & Norwegian Centre

The works involves Construction of Academic Block I & Norwegian Centre and other allied work including execution of Civil, Electrical, Plumbing and allied works in accordance with the Design, Drawings, Technical Specifications, Bill of Quantities and instructions of the Client / Consultant with special emphasis on Quantity and Quality control ethics.

- 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 The Employer has arranged funds from HEC and it is intended that part of the proceeds of this 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 bidders meeting the following requirements:
- a. Duly licensed by the Pakistan Engineering Council (PEC) in the category C-04 and their license should be valid for the Current calendar year.

- b. Technically and Financially capable firms having adequate managerial capacity.
- c. Duly Security Cleared / Approved / Pre-Qualified by the NED UET, Karachi.
- d. As described in Bidding Data.

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 Employer 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 for themselves on their own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. Site visit will be organized by the Employer and will be held on _____ 2017. The prospective bidders will coordinate, in advance of the date of Site visit, with employer for time and place of gathering and other arrangements before proceeding to the Site. All costs in respect of Site Visit 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 Employer 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 Employer, 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.

- 6.3 The Bidder shall, before submitting his Bid, satisfy himself in all respects including the following:
- a). The existing facilities in the vicinity of the Site of Work, the hydrological and climatological conditions, the form and nature of the Site of Work.
 - b). The quantities and nature of the work and materials necessary for completion of the works.
 - c). The means of access to the site of work and exit from the site.
 - d). The available accommodation on land for Contractor's camp within or outside the site of work.
 - e). All necessary information as to risks, contingencies and other circumstances, which may influence or affect the Bid prices.
 - f). The type and nature of soil existing in area of work.
 - g). The existing condition at Site.

6.4 Each Bidder shall also enquire and satisfy himself as to the source, the quantity of supply, the sufficiency of and the means of obtaining and transporting all plant, material, labour, fuel, water, electricity and other materials or things required for in connection with the Works.

In preparing the Bid, The Bidder shall also consider his obligation to adequately store all materials and maintain existing facilities and all Temporary Works during the period of their usage.

The Bidder must make local inquiries as to the physical conditions prevailing at the Site and obtain his own information on all matters and things that may in any way influence him in making the Bid and fixing the rates and prices in the Bill of Quantities. He must also satisfy himself as to the risks, obligation and responsibilities to be undertaken in accordance to the Contract to be entered into by him should his Bid be accepted.

The Bidder shall make his own investigations, enquiries and assessments, on all matters, of all conditions of existing constructions at the site and its vicinity, to his satisfaction before submitting his Bid.

B. BIDDING DOCUMENTS

IB.7 Contents of Bidding Documents

- 7.1 The Bidding Documents are those stated below and should be read in conjunction with any addenda issued in accordance with clause IB.9.

Volume: I

Invitation for Bids
 Instructions to Bidders
 Form of Bid and Appendices
 Forms - Bids Security, Performance Security, Mobilization Advance,
 Security and Contract Agreement
 Conditions of Contract - Part I, General Conditions
 Conditions of Contract - Part II, Particular Conditions
 List of Bidding Drawings

Volume: II

Specifications - Special and Technical Provisions

Volume: III

Bill of Quantities / Scheduled of Prices

Volume: IV

Tender Drawings of Civil, Plumbing and Electrical Works

- 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 Bidding Documents will be rejected.

IB.8 Clarification of Bidding Documents

- 8.1 Any prospective bidder requiring any clarification (s) in respect of the Bidding Documents may notify the Employer in writing at the Employer's address indicated in the Invitation for Bids. The Employer will respond to any request for clarification which he receives earlier than **07 (Seven) Days** prior to the deadline for submission of bids.

Copies of the Employer's response will be forwarded to all purchasers of the Bidding Documents, including a description of the enquiry but without identifying its source.

IB.9 Amendment of Bidding Documents

- 9.1 At any time prior to the deadline for submission of bids, the Employer may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective 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 7.1 hereof and shall be communicated in writing to all purchasers of the Bidding Documents. Prospective bidders shall acknowledge receipt of each addendum in writing to the Employer.
- 9.3 To afford prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may extend the deadline for submission of bids in accordance with Clause 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 Employer shall be in the **English** language and Particular Conditions of 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

- 11.1 Each bidder shall:
- (a) Submit a written power of attorney authorizing the signatory of the bid to act for and on behalf of the bidder;
 - (b) The bidder to submit a technical proposal in sufficient detail to demonstrate the adequacy of Bid in meeting requirements for timely Completion of works and taking into account the various appendices to Bid specified into instructions to bidder.

Update the information indicated with the application for prequalification, and continues 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 alongwith average annual construction turnover;
- (ii) Financial predictions for the current year and the two following 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) The bid and in case of a successful bid, the Form of Contract Agreement shall be signed so as to be legally binding on all partners.
- (b) 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.

- (c) The partner-in-charge shall always be duly authorized to deal with the Employer 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 (b) above as well as in the Form of Bid and in the Form of Contract Agreement (in case of a successful bid); and
- (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 Employer.

11.3 Bidders shall also submit proposals of work methods and schedule, in sufficient detail to demonstrate the adequacy of the Bidders' proposals to meet the technical specifications and the completion time referred to in Sub-Clause 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 Sub-Clause 1.1 hereof, based on the unit rates and / or prices submitted by the bidder.

- 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 Employer when executed and shall be deemed covered by rates and prices for other items in the Bill of Quantities.
- 12.3 All duties, taxes and other levies payable by the Contractor under the Contract, or for any other cause, as on the date 28 days prior to the deadline for submission of bids shall be included in the rates and prices and the total Bid Price submitted by a bidder.

Additional / reduced duties, taxes and levies due to subsequent additions or changes in legislation shall be reimbursed / deducted as per Sub-Clause 70.2 of the General Conditions of Contract Part-I.

- (a). The Bidder by the act of submitting a Bid, acknowledges that he has inspected the Site of Works and determined the general characteristics and conditions. The Employer will not assume any responsibility for information, interpretations and deductions the Bidders may make from the information furnished by the Employer or the Engineer. No verbal agreement conversation with any officer, employee or agent of the Employer or the Engineer before, during or after the execution of the Contract shall effect or modify any of the terms or obligations contained or implied in the Contract.
- b). The attention of the Bidder is drawn to the fact that local regulations require special formalities to be complied with in connection with the ordering, purchasing, and importing of materials from outside Pakistan. Bidder will be deemed to have obtained full information about all such matters and to have allowed in his Bid for all delays, additional costs and financing charges that may arise directly or indirectly there from.
- c). Any neglect or failure on the part of the Bidder to obtain reliable information on the spot or elsewhere upon the foregoing or any other matters affecting the

execution and completion of the Works, the rates, total amounts and the Contract shall not relieve the Bidder whose bid is accepted from any risks or liabilities or from the responsibility of completing and handling over the acceptably completed works.

- d). The rates and prices set down by the Bidder against all the items in the Bill of Quantities are to be the full inclusive value of the finished work described thereunder and shall be deemed to include all costs of performing the Works including the taxes and duties, profits and costs of accepting the general risks, liabilities and obligations of every kind set forth or implied in the Contract.

- 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 70 of the Conditions of Contract. 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.

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. The Employer 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 Employer's country shall bear all costs and risks for arranging the requirements of such currencies through his own resources.

IB.14 Bid Validity

- 14.1 Bids shall remain valid for the **90 Days** after the Date of Bid Opening specified in Clause IB.23.
- 14.2 In exceptional circumstances, prior to expiry of the original bid validity period, the Employer may request that the bidders extend the period of validity for a specified

additional period which shall in no case be more than the original bid validity period. The request and the responses thereto shall be made in writing. A bidder may refuse the request without forfeiting his Bid Security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his 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 his bid, a Bid Security of minimum 2% of Bid Price in the form of Pay order / Bank Draft / Banker's cheque 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 (A Rated) in Pakistan or from a foreign bank duly counter guaranteed by a Scheduled Bank (A Rated) in Pakistan in favour of the Employer valid for a period 28 days beyond the Bid Validity date.
- 15.3 Any bid not accompanied by an acceptable Bid Security shall be rejected by the Employer as non-responsive.
- 15.4 The bid securities of unsuccessful bidders will be returned as promptly as possible, but not later than 28 days after the expiration of the period of Bid Validity.
- 15.5 The Bid Security of the successful bidder will 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 22.1;
 - (b) if the bidder does not accept the correction of his Bid Price pursuant to Sub-Clause 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 by Bidder

Alternate proposals by Bidders are not invited. Bidders will only quote for the design / drawings, as provided in the Bidding Documents.

IB.17 Pre-Bid Meeting

- 17.1 The Employer may, on his own motion or at the request of any prospective bidder(s), 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. All prospective bidders or their authorized representatives shall be invited to attend such a pre-bid meeting.

Venue, time and date of the Pre-Bid Meeting:

The Pre-Bid meeting will be held in the office of the Director Works & Services, Karachi at ____ AM on _____ 2017.

Phone: (92-21) 9924-4112-7 Fax No: 9924-4118

- 17.2 The bidders are requested to submit questions, if any, in writing so as to reach the Employer not later than seven (7) days before the proposed pre-bid meeting.

(a) **Errors, Omissions and Queries:**

The Bidder shall notify "the Employer" of any inconsistencies, errors and omissions found in the Bid Documents, prior to the Bid opening date. Withholding of any such information which will later materially affect the contract price during construction may be considered as sufficient grounds for rejection of the Bid. All queries shall be directed to **The Project Director Mega (IV) NED UET, Karachi**

- (b) The **NED UET, Karachi** is not responsible for any verbal communications or instructions to the Bidders or accuracy of the Bid Documents.

- 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 purchasers of the Bidding Documents. Any modification of the Bidding Documents listed in Sub-Clause 7.1 hereof which may become necessary as a result of the pre-bid meeting shall be made by the Employer 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 duly signed and stamped.

- 18.3 No alteration is to be made 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 completely and without alterations **One (1) original and Two (2) Copies**, of the documents comprising the bid as described in Clause IB.7 and clearly mark them "ORIGINAL" and "COPY" as appropriate. In the event of discrepancy between them, 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 or persons duly authorized to sign on behalf of the bidder pursuant to

Sub- Clause 11.1(a) hereof. All pages of the bid shall be initialed and stamped by the person or persons signing the bid.

- 18.6 The bid shall contain no alterations, omissions or additions, except to comply with instructions issued by the Employer, or as are necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person or persons signing the bid. "Over-Writing, erasures, use of whitening, fluid and correction tape for making corrections is not permitted. Non compliance of these instructions may be construed as sufficient ground to render the bid non-responsive"
- 18.7 Bidders shall indicate in the space provided in the Form of Bid their full and proper 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.

Bids shall be prepared and submitted on the form of "the Bid" provided. All blank spaces must be filled in and completed form must be without interlineations or alteration of the original wording. Bids with incomplete and / or unsigned Form of Bid may be rejected / considered Non Responsive. The bidder shall stamp and sign each page of Bid Documents for the purpose of identification and acknowledgement of acceptance thereof.

The Bids must conform in all respects to the Bid Documents.

- 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 each copy of the Bid shall be separately sealed and put in separate envelopes and marked as such.

- (b) The envelopes containing the ORIGINAL and copies will be put in one sealed envelope and addressed / identified as given in Sub- Clause 19.2 hereof.

19.2 The inner and outer envelopes shall:

- (a) be addressed to The Project Director Mega (IV) NED UET, Karachi-75270

Phone: (92-21) 9926-1261-8, Fax No: 9926-1255

- (b) bear the Contract Name: (i). Construction of Academic Block I & Norwegian Centre
- (c) provide a warning not to open before the time and date for bid opening.

19.3 In addition to the identification required in Sub- Clause 19.2 hereof, the inner envelope shall indicate the name and 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 Employer will assume no responsibility for the misplacement or premature opening of the Bid.

19.4(a) **Single Stage – One Envelope Procedure**

- (a) Notice Inviting Tenders and bidding documents of this method shall contain the following eligibility criteria;
 - (i) relevant experience;
 - (ii) turn-over of at least last three years;
 - (iii) registration with Income Tax, Sales Tax, SRB and Pakistan Engineering Council (where applicable);
 - (iii) any other factor deemed to be relevant by the procuring agency subject to provision of Rule 44;
- (b) each bid shall comprise one single envelope containing the financial proposal and required information mentioned at clause (a) above;

- (c) all bids received shall be opened and evaluated in the manner prescribed in the Notice Inviting Tenders or bidding document.

IB.20 Deadline for Submission of Bids

- 20.1 (a) Bids must be received by the Employer at the address specified no later than the time and date stipulated in the Invitation for Bid.
 - (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 will 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 Employer may, at his discretion, extend the deadline for submission of bids by issuing an amendment in accordance with Clause IB.9, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.

IB.21 Late Bids

- 21.1 (a) Any bid received by the Employer after the deadline for submission of bids prescribed in Clause IB.20 will be returned unopened to such bidder.
- (b) Delays in the mail, delays of 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 determine the manner in which timely delivery of his bid will be accomplished either in person, by messenger or by mail.

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 Employer 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 Sub-Clauses 22.1 and 27.2.
- 22.4 Withdrawal of a bid during the interval between the deadline 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 The Employer will open the bids, including withdrawals, substitution and modifications made pursuant to Clause IB.22, in the presence of bidders' representatives who choose to attend, at the time, date and location stipulated in the Invitations for Bids. The bidders' representatives who are present shall sign a register evidencing their attendance.
- 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 The bidder's name, total Bid Price and price of any Alternate Proposal(s), any discounts, bid modifications, substitution and withdrawals, the presence or absence of Bid Security, the amount of Bid Security and such other details as the Employer may consider appropriate, will be announced by the Employer at the opening of bids.

- 23.4 The Consultant on behalf of Employer shall prepare minutes of the bid opening, including the information disclosed to those present in accordance with the Sub-Clause 23.3.

IB.24 Process to be Confidential

- 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. Any effort by a bidder to influence the Employer's processing of bids or award decisions may result in the rejection of such bidder's bid.

IB.25 Clarification of Bids

- 25.1 To assist in the examination, evaluation and comparison of bids, the Employer may, at his discretion, ask any bidder for clarification of his 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 Employer 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 Employer will determine whether each bid is substantially responsive to the requirements of the Bidding Documents.
- 26.2 A substantially responsive bid is one which (i) meets the eligibility criteria; (ii) has been properly signed; (iii) is accompanied by the required Bid Security; and (iv) 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 Employer'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.

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

IB.27 Correction of Errors

- 27.1 Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer 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 Employer 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 Employer in accordance with the above procedure for the correction of errors and with the concurrence of the bidder, 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 15.6(b) hereof.

IB.28 Evaluation and Comparison of Bids

- 28.1 The Consultant on behalf of the Employer 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 Employer 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 and the provision, if any, for contingencies in the Summary Bill of Quantities, but including competitively priced Daywork; 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 Employer's estimate of the cost of work to be performed under the Contract, the Employer 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 Employer may take action under Sub-Clause 28.5 or 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 Employer against financial loss in the event of default of the successful bidder under the Contract.
- 28.5 A bid with highly inflated or unworkable rates of any BOQ items may be considered non-conforming and rejected. The Employer may also disqualify such bidder from participating in the subsequent bids who submits such unbalanced and / or unworkable rates of major items of work.

F. AWARD OF CONTRACT

IB.29 Award

- 29.1 Subject to Clauses IB.30 and IB.34, the Employer 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 Price, provided that such bidder has been determined to be eligible in accordance with the provisions of Clause IB.3 and qualify pursuant to Sub-Clause IB 29.2.

- 29.2 The Employer at any stage of the bid evaluation, having credible reasons for or *prima facie* evidence of any defect in supplier's or bidder's capacities, may require the suppliers or contractors to provide additional information concerning their professional, technical, financial, legal or managerial competence whether already pre-qualified or not.

IB.30 Employer's Right to Accept any Bid and to Reject any or all Bids

- 30.1 Notwithstanding Clause IB.29, the Employer reserves the right to accept or reject any Bid, and to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected bidders or any obligation.

IB.31 Notification of Award

- 31.1 Prior to expiration of the period of bid validity prescribed by the Employer, the Employer will notify the successful bidder in writing ("Letter of Acceptance") that his Bid has been accepted. This letter shall name the sum which the Employer will pay 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, Employer may have clarification meetings to get 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 Employer and the bidder till signing of the formal Contract Agreement.
- 31.3 Upon furnishing by the successful bidder of acceptable Performance Security, the Employer will promptly notify the other bidders that their Bids have been unsuccessful and return their bid securities.

IB.32 Performance Security

- 32.1 The Performance Security shall be equal to an amount of 10% of the Contract Price stated in the Letter of Acceptance. Such Security shall be in the form of unconditional, irrevocable Bank Guarantee from any Scheduled Bank of Pakistan acceptable to the Employer unconditional, irrevocable Bank Guarantee from a Bank located outside Pakistan duly counter - guaranteed by a Scheduled Bank of Pakistan, in favour of Employer, valid for a period (upto the completion of the Project) after the date of issue of Defect Liability Certificate.
- 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.

IB.33 Signing of Contract Agreement

- 33.1 Within 14 days from the date of furnishing of acceptable Performance Security under the Conditions of Contract, the Employer 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 Employer and the successful bidder shall be executed within 14 days of the receipt of the duly completed Contract Agreement by the successful bidder from the Employer.

IB.34 General Performance of the Bidders

The Employer reserves the right to obtain information regarding performance of the bidders on their previously awarded contracts/works. The Employer may in case of consistent poor performance of any Bidder as reported by the employers of the previously awarded contracts, interalia, reject his bid and/or refer the case to the Pakistan Engineering Council (PEC). Upon such reference, PEC in accordance with its rules, procedures and relevant laws of the land take such action as may be deemed appropriate under the circumstances of the case including black listing of such Bidder and debarring him from participation in future bidding for similar works.

IB.35 Integrity Pact

The Bidder shall sign and stamp the Integrity Pact provided at Appendix-L to Bid in the Bidding Documents for all Federal 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.

BIDDING DATA

BIDDING DATA

1.1 Name and address of the Employer:

The Employer is NED University of Engineering & Technology, Karachi-75270.

Phone: (9221) 9926-1261-8 Ext: 2259 Fax No: (9221) 9926-1255

Name of the Project & Summary of the Works:

Construction of Academic Block I & Norwegian Centre

The works involves Construction of Academic Block I & Norwegian and other allied work including execution of Civil, Electrical, Plumbing and allied works in accordance with the Design, Drawings, Technical Specifications, Bill of Quantities and instructions of the Client / Consultant with special emphasis on Quantity and Quality control ethics.

IB.2 Source of Funds

The **NED UET, Karachi** has arranged funds from HEC and it is intended that part of the proceeds of this will be applied to eligible payments under the Contract for which these Bidding Documents are issued.

IB.3 Eligible Bidders

As notified in NIT

IB. 8.1 Time Limits for Clarification:

The Employer will respond to any request for clarification which he receives earlier than **07 (Seven) Days** prior to the deadline for submission of bids.

IB. 10 Language of Bid

The bid and all correspondence and documents related to the bid exchanged by a bidder and the Employer shall be in the English language.

IB.11(c) Furnish Technical Proposal:

The bidder to submit a technical proposal in sufficient detail to demonstrate the adequacy of Bid in meeting requirements for timely Completion of works and taking into account the various appendices to Bid specified into instructions to bidder.

IB.13.1 Currencies of Bid and Payment

The unit rates and the prices shall be quoted by the Bidder entirely in Pak Rupees. The Employer 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 Employer's country shall bear all costs and risks for arranging the requirements of such currencies through his own resources.

IB.14.1 Bid Validity

Bids shall remain valid for the **90 Days** after the Date of Bid Opening.

IB.15.1 Bid Security

Minimum 2% of Bid Price in the form of Pay order / Bank Draft.

IB.18.4 Number of copies of the completed Bid Documents to be submitted:

(1) one Original and (2) two copies.

IB.19 Sealing and Marking of Bids

19.2 (a) Employer's address for the purpose of Bid submission:

The Director Procurement Mega (IV) NED UET, Karachi.
Phone: (9221) 9926-1261-8 Fax: 9926-1255

IB.19.2(b) Name and Number of the Contract:

bear the Contract Name: Construction of Academic Block I & Norwegian Centre

IB.20.1 Deadline for submission of Bids:

As notified in "Invitation to Bids"

IB.23.1 Venue, Time and Date of Bid opening:

As notified in "Invitation to Bids"

IB.32.1 Standard form and amount of Performance Security acceptable to the Employer:

The Performance Security shall be equal to an amount of 10% of the Contract Price stated in the Letter of Acceptance. Such Security shall be in the form of unconditional, irrevocable Bank Guarantee from any Scheduled Bank of Pakistan acceptable to the Employer in favour of NED University of Engineering & Technology, Karachi or an insurance company having atleast AA rating from PACRA/JCR. The Performance Security will be valid for a period (upto the completion of the Project) after the date of issue of Defect Liability Certificate.

**FORM OF BID & APPENDICES
TO BID**

FORM OF BID

Bid Reference No. Construction of Academic Block I & Norwegian Centre

To: _____

Gentleman,

1. Having examined the Bidding Documents including Instructions to Bidders, Conditions of Contract. Specifications, Drawings and Bill of Quantities and Addenda Nos. _____ for the execution of the above-named Works, we, the undersigned, offer to execute and complete such 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 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 submit herewith a Bid Security in the amount of Rupees _____ (Rs. _____) drawn in your favour or made payable to you and valid for a period of _____ days beginning from the date Bids are opened.
4. We 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 agree to abide by this Bid for the period of 120 days from the date fixed for receiving 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.

Dated this _____ day of _____ 2017

Signature: _____

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

(Name of Bidder in Block Capitals)
(Seal)

Address: _____

Witness:

Signature: _____

Name: _____

Address.

Occupation _____

Appendix-A to Bid

SPECIAL STIPULATIONS

Clause Conditions of Contract

1.	Engineer's Authority to issue Variation in emergency	2.1	The variation amount shall not exceed overall 2% of the Contract Price during the currency of the Contract.
2.	Amount of Performance Security	10.1	10% of Contract Price stated in the Letter of Acceptance in the form of bank guarantee issued by a Scheduled Bank of Pakistan or Insurance companies having atleast AA rating from PACRA/JCR
3.	Time for Furnishing Program	14.1	Within 14 days from the date of receipt of Letter of Acceptance.
4.	Minimum amount of Third Party Insurance	23.2	Rs. 500,000 per occurrence with number of occurrences unlimited.
5.	Time for Commencement	41.1	Within 14 days from the date of receipt of Engineer's Notice to Commence.
6.	Time for Completion	43.1, 48.2	15 Months from the date of receipt of Engineer's Notice to Commence.
7.	Amount of Liquidated Damages	47.1	One tenth of one percent (0.10%) for each day of delay in completion of the Works subject to a maximum of 10% of Contract Price stated in the Letter of Acceptance.

8.	Defects Liability Period	49.1	180 days from the effective date of Taking Over Certificate.
9.	Percentage of Retention Money	60.2	5% of the amount of Interim Payment Certificate.
10.	Limit of Retention Money	60.2	10% of Contract Price stated in the Letter of Acceptance.
11.	Minimum amount of Interim Payment Certificates (Running Bills)	60.2	Rs. 03 (Three) Million
12.	Time of Payment from delivery of Engineer's Interim Payment Certificate to the Employer.	60.10	(28) Twenty Eight Days. (No interest shall be paid in case of any delay in payment).
13.	Mobilization Advance (Interest Free)	60.12	10% of Contract Price stated in the Letter of Acceptance against unconditional and irrevocable bank guarantee from a scheduled bank of Pakistan.

FOREIGN CURRENCY REQUIREMENTS

1. The Bidder may indicate here in below his requirements of foreign currency (if any), with reference to various inputs to the Works.
2. Foreign Currency Requirement as percentage of the Bid Price excluding Provisional Sums _____%.
3. Table of Exchange Rates

Unit of Currency	Equivalent in Pak. Rupees
Australian Dollar	-----
Euro	-----
Japanese Yen	-----
U.K. Pound	-----
U.S. Dollars	-----
-----	-----
-----	-----

DELETED

PRICE ADJUSTMENT UNDER CLAUSE 70 OF CONDITIONS OF CONTRACT

The source of indices and the weightages or coefficients for use in the adjustment formula under Clause 70 shall be as follows:

Cost Element	Description	Weightages	Applicable Index
1	2	3	4
(i)	Fixed Portion	0.60	
(ii)	Local Labour	0.12	Basic wages of labour (unskilled) for the city of Karachi as provided in the statistical bulletin for the months as noted below.
(iii)	Cement – in bags	0.06	Government of Pakistan (GoP) Federal Bureau of Statistics (FBS) Monthly Statistical Bulletin.
(iv)	Reinforcing Steel	0.20	" " "
(v)	High Speed Diesel (HSD)	0.02	" " "
	Total	1.00	" " "

Notes:

- 1) Indices for "(ii), (iii) and (iv)" are taken from the Government of Pakistan Federal Bureau of Statistics, Monthly Statistical Bulletin. 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) Fixed portion shown here is for typical road project, Employer to determine the weightage of Fixed Portion considering only those cost elements having cost impact of seven (7) percent or more on his specific project.

BILL OF QUANTITIES

A. 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.
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 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 28 days prior to deadline for submission of Bids, 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.
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 summarised 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 58.2 of Part I, General Conditions of Contract.

Appendix-E to Bid

PROPOSED CONSTRUCTION SCHEDULE

Pursuant to Sub-Clause 43.1 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 bar chart (CPM, PERT or any other to be specified herein) 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 Employer'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):

<u>Description</u>	<u>Time for Completion</u>
a) Whole Works	_____ days
b) Part-A	_____ days
c) Part-B	_____ days
d) _____	_____ days
e) _____	_____ 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].

Appendix-G to Bid

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

Owned Purchased or Leased	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						

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 thousands of Pakistani Rupees:

Quarter/ Year/ Period	Amounts (1,000 Rs.)
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	
9 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 / BOND

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 'Employer') 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 Employer; and

WHEREAS, the Employer 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 Employer, 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 Employer, notice of which extension(s) to the Surety is hereby waived;
- (2) that the Bid Security of unsuccessful Bidders will be returned by the Employer 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 Employer 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 Employer 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 Employer for the faithful performance and proper fulfilment 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 Employer the said sum upon first written demand of the Employer (without cavil or argument) and without requiring the Employer to prove or to show grounds or reasons for such demand, notice of which shall be sent by the Employer by registered post duly addressed to the Surety at its address given above.

PROVIDED ALSO THAT the Employer 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 Employer 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 / Insurance Guarantee) AA rating**

Guarantee No. _____
Executed on _____
Expiry date _____

[Letter by the Guarantor to the Employer]

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 Employer) in the penal sum of the amount stated above for the payment of which sum well and truly to be made to the said Employer, 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 Employer'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 Employer, 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 defences under the Contract, do hereby irrevocably and independently guarantee to pay to the Employer without delay upon the Employer's first written demand without cavil or arguments and without requiring the Employer to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the Employer'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 Employer's designated Bank & Account Number.

PROVIDED ALSO THAT the Employer 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 Employer 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 _____

Corporate Secretary (Seal)

Name _____

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) 2017 between _____ (hereafter called the "Employer") of the one part and _____ (hereafter called the "Contractor") of the other part.

WHEREAS the Employer 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 Particular 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 Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy defects therein in conformity and in all respects with the provisions of the Contract.
3. The Employer 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

(Seal)

Signature of Employer

(Seal)

Signed, Sealed and Delivered in the presence of:

Witness:

(Name, Title and Address)

Witness:

(Name, Title and Address)

MOBILIZATION ADVANCE GUARANTEE/BOND

Guarantee No. _____ Date _____

WHEREAS _____(hereinafter called the 'Employer') has entered into a Contract for _____ (Particulars of Contract) with _____ (hereinafter called the "Contractor").

AND WHEREAS, the Employer 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 Employer 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 or Insurance Company acceptable to the Employer) (hereinafter called the "Guarantor") at the request of the Contractor and in consideration of the Employer 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 fulfilment of any of his obligations for which the advance payment is made, the Guarantor shall be liable to the Employer for payment not exceeding the aforementioned amount.

Notice in writing of any default, of which the Employer shall be the sole and final judge, on the part of the Contractor, shall be given by the Employer 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.

GUARANTOR

- 1. Signature _____
- 2. Name _____
- 3. Title _____

WITNESS

- 1. _____

Corporate Secretary (Seal)

- 2. _____
(Name Title & Address)
- _____ Corporate Guarantor (Seal)



FEDERATION INTERNATIONALE DES INGENIEURS-CONSEIL

CONDITIONS OF CONTRACT FOR WORKS OF CIVIL ENGINEERING CONSTRUCTION

PART I GENERAL CONDITIONS

The Condition of Contract, Part-I: General Conditions shall be those forming Part-I of the "Conditions of Contract for Works of Civil Engineering Construction", fourth edition 1987, reprinted in 1992 with further amendments, prepared by the Fédération Internationale des Ingénieurs-Conseils (FIDIC). These Conditions are subject to the variations and additions set out in Part-II hereof entitled "Particular Conditions of Contract."

GENERAL CONDITIONS OF CONTRACT [PART-I]



FEDERATION INTERNATIONALE DES INGENIEURS-CONSEILS

CONDITIONS OF CONTRACT

FOR WORKS OF CIVIL

ENGINEERING CONSTRUCTION

PART I GENERAL CONDITIONS

WITH FORMS OF TENDER AND AGREEMENT

NOT TO BE REPRODUCED

FOURTH EDITION 1987

Reprinted 1988 with editorial amendments

Reprinted in 1992 with further amendments

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PART I - GENERAL CONDITIONS

Definitions and Interpretation

1.1 Definitions

In the Contract (as hereinafter defined) the following words and expressions shall have the meanings hereby assigned to them, except where the context otherwise requires:

- (a) (i) "Employer" means the person named as such in Part II of these Conditions and the legal successors in title to such person, but not (except with the consent of the Contractor) any assignee of such person.
- (ii) "Contractor" means the person whose tender has been accepted by the Employer and the legal successors in title to such person, but not (except with the consent of the Employer) any assignee of such person.
- (iii) "Subcontractor" means any person named in the Contract as a Subcontractor for a part of the Works or any person to whom a part of the Works has been subcontracted with the consent of the Engineer and the legal successors in title to such person, but not any assignee of any such person.
- (iv) "Engineer" means the person appointed by the Employer to act as Engineer for the purposes of the Contract and named as such in Part II of these Conditions.
- (v) "Engineer's Representative" means a person appointed from time to time by the Engineer under Sub-Clause 2.2.
- (b) (i) "Contract" means these Conditions (Parts I and II), the Specification, the Drawings, the Bill of Quantities, the Tender, the Letter of Acceptance, the Contract Agreement (if completed) and such further documents as may be expressly incorporated in the Letter of Acceptance or Contract Agreement (if completed).
- (ii) "Specification" means the specification of the Works included in the Contract and any modification thereof or addition thereto made under Clause 51 or submitted by the Contractor and approved by the Engineer.
- (iii) "Drawings" means all drawings, calculations and technical information of a like nature provided by the Engineer to the Contractor under the Contract and all drawings, calculations, samples, patterns, models, operation and maintenance manuals and other technical information of a like nature submitted by the Contractor and approved by the Engineer.

- (iv) "Bill of Quantities" means the priced and completed bill of quantities forming part of the Tender.
- (v) "Tender" means the Contractor's priced offer to the Employer for the execution and completion of the Works and the remedying of any defects therein in accordance with the provisions of the Contract, as accepted by the Letter of Acceptance.
- (vi) "Letter of Acceptance" means the formal acceptance by the Employer of the Tender.
- (vii) "Contract Agreement" means the contract agreement (if any) referred to in Sub-Clause 9.1.
- (viii) "Appendix to Tender" means the appendix comprised in the form of Tender annexed to these Conditions.
- (c) (i) "Commencement Date" means the date upon which the Contractor receives the notice to commence issued by the Engineer pursuant to Clause 41.
- (ii) "Time for Completion" means the time for completing the execution of and passing the Tests on Completion of the Works or any Section or part thereof as stated in the Contract (or as extended under Clause 44) calculated from the Commencement Date.
- (d) (i) "Tests on Completion" means the tests specified in the Contract or otherwise agreed by the Engineer and the Contractor which are to be made by the Contractor before the Works of any Section or part thereof are taken over by the Employer.
- (ii) "Taking-Over Certificate" means a certificate issued pursuant to Clause 48.
- (e) (i) "Contract Price" means the sum stated in the Letter of Acceptance as payable to the Contractor for the execution and completion of the Works and the remedying of any defects therein in accordance with the provisions of the Contract.
- (ii) "Retention Money" means the aggregate of all monies retained by the Employer pursuant to Sub-Clause 60.2(a).
- (iii) "Interim Payment Certificate" means any certificate of payment issued by the Engineer other than the Final Payment Certificate.
- (iv) "Final Payment Certificate" means the certificate of payment issued by the

Engineer pursuant to Sub-Clause 60.8.

- (f) (i) "Works" means the Permanent Works and the Temporary Works or either of them as appropriate.
- (ii) "Permanent Works" means the permanent works to be executed (including Plant) in accordance with the Contract
- (iii) "Temporary Works" means all temporary works of every kind (other than Contractor's Equipment) required in or about the execution and completion of the Works and the remedying of any defects therein.
- (iv) "Plant" means machinery, apparatus and the like intended to form or forming part of the Permanent Works.
- (v) "Contractor's Equipment" means all appliances and things of whatsoever nature (other than Temporary Works) required for the execution and completion of the Works and the remedying of any defects therein, but does not include Plant, materials or other things intended to form or forming part of the Permanent Works.
- (vi) "Section" means a part of the Works specifically identified in the Contract as a Section.
- (vii) "Site" means the places provided by the Employer where the Works are to be executed and any other places as may be specifically designated in the Contract as forming part of the Site.
- (g) (i) "cost" means all expenditure properly incurred or to be incurred, whether, on or off the Site, including overhead and other charges properly allocable thereto but does not include any allowance for profit.
- (ii) "day" means calendar day.
- (iii) "foreign currency" means a currency of a country other than that in which the Works are to be located.
- (iv) "writing" means any hand-written, type-written, or printed communication, including telex, cable and facsimile transmission.

1.2 **Headings and Marginal Notes**

The headings and marginal notes in these Conditions shall not be deemed part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract.

1.3 **Interpretation**

Words importing persons or parties shall include firms and corporations and any organization having legal capacity.

1.4 **Singular and Plural**

Words importing the singular only also include the plural and vice versa where the context requires.

1.5 **Notices, Consents, Approvals, Certificates and Determinations**

Wherever in the Contract provision is made for the giving or issue of any notice, consent, approval, certificate or determination by any person, unless otherwise specified such notice, consent, approval, certificate or determination shall be in writing and the words "notify", "certify" or "determine" shall be construed accordingly. Any such consent, approval, certificate or determination shall not unreasonably be withheld or delayed.

Engineer and Engineer's Representative

2.1 **Engineer's Duties and Authority**

- (a) The Engineer shall carry out the duties specified in the Contract.
- (b) The Engineer may exercise the authority specified in or necessarily to be implied from the Contract, provided, however, that if the Engineer is required, under the terms of his appointment by the Employer, to obtain the specific approval of the Employer before exercising any such authority, particulars of such requirements shall be set out in Part II of these Conditions. Provided further that any requisite approval shall be deemed to have been given by the Employer for any such authority exercised by the Engineer.
- (c) Except as expressly stated in the Contract, the Engineer shall have no authority to relieve the Contractor of any of his obligations under the Contract.

2.2 **Engineer's Representative**

The Engineer's Representative shall be appointed by and be responsible to the Engineer and shall carry out such duties and exercise such authority as may be delegated to him by the Engineer under Sub-Clause 2.3.

2.3 **Engineer's Authority to Delegate**

The Engineer may from time to time delegate to the Engineer's Representative any of the duties and authorities vested in the Engineer and he may at any time revoke such delegation. Any such delegation or revocation shall be in writing and shall not take effect until a copy thereof has been delivered to the Employer and the Contractor.

Any communication given by the Engineer's Representative to the Contractor in

accordance with such delegation shall have the same effect as though it had been given by the Engineer. Provided that:

- (a) any failure of the Engineer's Representative to disapprove any work, materials or Plant shall not prejudice the authority of the Engineer to disapprove such work, materials or Plant and to give instructions for the rectification thereof; and
- (b) if the Contractor questions any communication of the Engineer's Representative he may refer the matter to the Engineer who shall confirm, reverse or vary the contents of such communication.

2.4 **Appointment of Assistants**

The Engineer or the Engineer's Representative may appoint any number of persons to assist the Engineer's Representative in the carrying out of his duties under Sub-Clause 2.2. He shall notify to the Contractor the names, duties and scope of authority of such persons. Such assistants shall have no authority to issue any instructions to the Contractor save in so far as such instructions may be necessary to enable them to carry out their duties and to secure their acceptance of materials, Plant or workmanship as being in accordance with the Contract, and any instructions given by any of them for those purposes shall be deemed to have been given by the Engineer's Representative.

2.5 **Instructions in Writing**

Instructions given by the Engineer shall be in writing, provided that if for any reason the Engineer considers it necessary to give any such instruction orally, the Contractor shall comply with such instruction. Confirmation in writing of such oral instruction given by the Engineer, whether before or after the carrying out of the instruction, shall be deemed to be an instruction within the meaning of this Sub-Clause. Provided further that if the Contractor, within 7 days, confirms in writing to the Engineer any oral instruction of the Engineer and such confirmation is not contradicted in writing within 7 days by the Engineer, it shall be deemed to be an instructions of the Engineer.

The provisions of this Sub-Clause shall equally apply to instructions given by the Engineer's Representative and any assistants of the Engineer or the Engineer's Representative appointed pursuant to Sub-Clause 2.4.

2.6 **Engineer to Act Impartially**

Wherever, under the Contract, the Engineer is required to exercise his discretion by:

- (a) giving his decision, opinion or consent,
- (b) expressing his satisfaction or approval,
- (c) determining value, or
- (d) otherwise taking action which may affect the rights and obligations of the Employer or the Contractor

he shall exercise such discretion impartially within the terms of the Contract and

having regard to all the circumstances. Any such decision, opinion, consent expression of satisfaction, or approval, determination of value or action may be opened up, reviewed or revised as provided in Clause 67.

Assignment and Subcontracting

3.1 Assignment of Contract

The Contractor shall not, without the prior consent of the Employer (which consent, notwithstanding the provisions of Sub-Clause 1.5, shall be at the sole discretion of the Employer), assign the Contract or any part thereof, or any benefit or interest therein or thereunder, otherwise than by:

- (a) a charge in favour of the Contractor's bankers of any monies due or to become due under the Contract, or
- (b) assignment to the Contractor's insurers (in cases where the insurers have discharged the Contractor's loss or liability) of the Contractor's right to obtain relief against any other party liable.

4.1 Subcontracting

The Contractor shall not subcontract the whole of the Works. Except where otherwise provided by the Contract, the Contractor shall not subcontract any part of the Works without the prior consent of the Engineer. Any such consent shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any Subcontractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of the Contractor, his agents servants or workmen.

Provided that the Contractor shall not be required to obtain such consent for:

- (a) the provision of labour,
- (b) the purchase of materials which are in accordance with the standards specified in the Contract,
- (c) the subcontracting of any part of the Works for which the Subcontractor is named in the Contract.

4.2 Assignment of Subcontractors' Obligations

In the event of a Subcontractor having undertaken towards the Contractor in respect of the work executed, or the goods, materials, Plant or services supplied by such Subcontractor, any continuing obligation extending for a period exceeding that of the Defects Liability Period under the Contract, the Contractor shall at any time, after the expiration of such Period, assign to the Employer, at the Employer's request and cost, the benefit of such obligation for the unexpired duration thereof.

Contract Documents

5.1 Language/s and Law

There is stated in Part II of these Conditions:

- (a) the language or languages in which the Contract documents shall be drawn up, and
- (b) the country or state the law of which shall apply to the Contract and according to which the Contract shall be construed.

If the said documents are written in more than one language, the language according to which the Contract shall be construed and interpreted is also stated in Part II of these Conditions, being therein designated the "Ruling Language".

5.2 Priority of Contract Documents

The several documents forming the Contract are to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies the same shall be explained and adjusted by the Engineer who shall thereupon issue to the Contractor instructions thereon and in such event, unless otherwise provided in the Contract, the priority of the documents forming the Contract shall be as follows:

- (1) The Contract Agreement (if completed);
- (2) The Letter of Acceptance;
- (3) The Tender;
- (4) Part II of these Conditions;
- (5) Part I of these Conditions; and
- (6) Any other document forming part of the Contract.

6.1 Custody and Supply of Drawings and Documents

The Drawings shall remain in the sole custody of the Engineer, but two copies thereof shall be provided to the Contractor free of charge. The Contractor shall make at his own cost any further copies required by him. Unless it is strictly necessary for the purposes of the Contract, the Drawings, Specification and other documents provided by the Employer or the Engineer shall not, without the consent of the Engineer, be used or communicated to a third party by the Contractor. Upon issue of the Defects Liability Certificate, the Contractor shall return to the Engineer all Drawings, Specification and other documents provided under the Contract.

The Contractor shall supply to the Engineer four copies of all Drawings, specification and other documents submitted by the Contractor and approved by the Engineer in accordance with Clause 7, together with a reproducible copy of any material which

cannot be reproduced to an equal standard by photocopying. In addition the Contractor shall supply such further copies of such Drawings, Specification and other documents as the Engineer may request in writing for the use of the Employer, who shall pay the cost thereof.

6.2 One Copy of Drawings to be Kept on Site

One copy of the Drawings, provided to or supplied by the Contractor as aforesaid, shall be kept by the Contractor on the Site and the same shall at all reasonable times be available for inspection and use by the Engineer and by any other person authorised by the Engineer in writing.

6.3 Disruption of Progress

The Contractor shall give notice to the Engineer, with a copy to the Employer, whenever planning or execution of the Works is likely to be delayed or disrupted unless any further drawing or instruction is issued by the Engineer within a reasonable time. The notice shall include details of the drawing or instruction required and of why and by when it is required and of any delay or disruption likely to be suffered if it is late.

6.4 Delay and Cost of Delay of Drawings

If, by reason of any failure or inability of the Engineer to issue, within a time reasonable in all the circumstances, any drawing or instruction for which notice has been given by the Contractor in accordance with Sub-Clause 6.3, the Contractor suffers delay and/or incurs costs then the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount of such costs, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer.

6.5 Failure by Contractor to Submit Drawings

If the failure or inability of the Engineer to issue any drawings or instructions is caused in whole or in part by the failure of the Contractor to submit Drawings, Specification or other documents which he is required to submit under the Contract, the Engineer shall take such failure by the Contractor into account when making his determination pursuant to Sub-Clause 6.4.

7.1 Supplementary Drawings and Instructions

The Engineer shall have authority to issue to the Contractor, from time to time, such supplementary Drawings and instructions as shall be necessary for the purpose of the

proper and adequate execution and completion of the Works and the remedying of any defects therein. The Contractor shall carry out and be bound by the same.

7.2 Permanent Works Designed by Contractor

Where the Contract expressly provides that part of the Permanent Works shall be designed by the Contractor, he shall submit to the Engineer, for approval:

- (a) such drawings, specifications, calculations and other information as shall be necessary to satisfy the Engineer as to the suitability and adequacy of that design, and
- (b) operation and maintenance manuals together with drawings of the Permanent Works as completed, in sufficient detail to enable the Employer to operate, maintain, dismantle, reassemble and adjust the Permanent Works incorporating that design. The Works shall not be considered to be completed for the purposes of taking over in accordance with Clause 48 until such operation and maintenance manuals together with drawings on completion have been submitted to and approved by the Engineer.

7.3 Responsibility Unaffected by Approval

Approval by the Engineer, in accordance with Sub-Clause 7.2, shall not relieve the Contractor of any of his responsibilities under the Contract.

General Obligations

8.1 Contractor's General Responsibilities

The Contractor shall, with due care and diligence, design (to the extent provided for by the Contract), execute and complete the Works and remedy any defects therein in accordance with the provisions of the Contract. The Contractor shall provide all superintendance, labour, material, Plant, Contractor's Equipment and all other things, whether of a temporary or permanent nature, required in and for such design, execution, completion and remedying of any defects, so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract.

8.2 Site Operations and Methods of Construction

The Contractor shall take full responsibility for the adequacy, stability and safety of all Site operations and methods of construction. Provided that the Contractor shall not be responsible (except as stated hereunder or as may be otherwise agreed) for the design or specification of Permanent Works, or for the design or specification of any Temporary Works not prepared by the Contractor. Where the Contract expressly provides that part of the Permanent Works shall be designed by the Contractor, he shall be fully responsible for that part of such Works, notwithstanding any approval by the Engineer.

9.1 **Contract Agreement**

The Contractor shall, if called upon so to do, enter into and execute the Contract Agreement, to be prepared and completed at the cost of the Employer, in the form annexed to these Conditions with such modification as may be necessary.

10.1 **Performance Security**

If the Contract requires the Contractor to obtain security for his proper performance of the Contract, he shall obtain and provide to the Employer, such security within 28 days after the receipt of the Letter of Acceptance, in the sum stated in the Appendix to Tender. When providing such security to the Employer, the Contractor shall notify the Engineer of so doing. Such security shall be in the form annexed to these Conditions or in such other form as may be agreed between the Employer and the Contractor. The institution providing such security shall be subject to the approval of the Employer. The cost of complying with the requirements of this Clause shall be borne by the Contractor, unless the Contract otherwise provides.

10.2 **Period of Validity of Performance Security**

The performance security shall be valid until the Contractor has executed and completed the Works and remedied any defects therein in accordance with the Contract. No claim shall be made against such security after the issue of the Defects Liability Certificate in accordance with Sub-Clause 62.1 and such security shall be returned to the Contractor within 14 days of the issue of the said Defects Liability Certificate.

10.3 **Claims under Performance Security**

Prior to making a claim under the performance security the Employer shall, in every case, notify the Contractor stating the nature of the default in respect of which the claim is to be made.

11.1 **Inspection of Site**

The Employer shall have made available to the Contractor, before the submission by the Contractor of the Tender, such data on hydrological and sub-surface conditions as have been obtained by or on behalf of the Employer from investigations undertaken relevant to the Works but the Contractor shall be responsible for his own interpretation thereof.

The Contractor shall be deemed to have inspected and examined the Site and its surroundings and information available in connection therewith and to have satisfied himself (so far as is practicable, having regard to considerations of cost and time) before submitting his Tender, as to:

- (a) the form and nature thereof, including the sub-surface conditions,
- (b) the hydrological and climatic conditions,
- (c) the extent and nature of work and materials necessary for the execution and completion of the Works and the remedying of any defects therein, and
- (d) the means of access to the Site and the accommodation he may require, and, in general, shall be deemed to have obtained all necessary information, subject as above mentioned, as to risks, contingencies and all other circumstances which may influence or affect his Tender.

The Contractor shall be deemed to have based his Tender on the data made available by the Employer and on his own inspection and examination, all as aforementioned.

12.1 **Sufficiency of Tender**

The Contractor shall be deemed to have satisfied himself as to the correctness and sufficiency of the Tender and of the rates and prices stated in the Bill of Quantities, all of which shall, except insofar as it is otherwise provided in the Contract, cover all his obligations under the Contract (including those in respect of the supply of goods, materials, Plant or services or of contingencies for which there is a Provisional Sum) and all matters and things necessary for the proper execution and completion of the Works and the remedying of any defects therein.

12.2 **Not Foreseeable Physical Obstructions or Conditions**

If, however, during the execution of the Works the Contractor encounters physical obstructions or physical conditions, other than climatic conditions on the Site, which obstructions or conditions were, in his opinion, not foreseeable by an experienced contractor, the Contractor shall forthwith give notice thereof to the Engineer, with a copy to the Employer. On receipt of such notice, the Engineer shall if in his opinion such obstructions or conditions could not have been reasonably foreseen by an experienced contractor, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount of any costs which may have been incurred by the Contractor by reason of such obstructions or conditions having been encountered, which shall be added to the Contract Price,

and shall notify the Contractor accordingly, with a copy to the Employer. Such determination shall take account of any instruction which the Engineer may issue to the Contractor in connection therewith, and any proper and reasonable measures

acceptable to the Engineer which the Contractor may take in the absence of specific instructions from the Engineer.

13.1 **Work to be in Accordance with Contract**

Unless it is legally or physically impossible, the Contractor shall execute and complete the Works and remedy any defects therein in strict accordance with the Contract to the satisfaction of the Engineer. The Contractor shall comply with and adhere strictly to the Engineer's instructions on any matter, whether mentioned in the Contract or not, touching or concerning the Works. The Contractor shall take instructions only from the Engineer (or his delegate).

14.1 **Programme to be Submitted**

The Contractor shall, within the time stated in Part II of these Conditions after the date of the Letter of Acceptance, submit to the Engineer for his consent a programme, in such form and detail as the Engineer shall reasonably prescribe, for the execution of the Works. The Contractor shall, whenever required by the Engineer, also provide in writing for his information a general description of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works.

14.2 **Revised Programme**

If at any time it should appear to the Engineer that the actual progress of the Works does not conform to the programme to which consent has been given under Sub-Clause 14.1, the Contractor shall produce, at the request of the Engineer, a revised programme showing the modifications to such programme necessary to ensure completion of the Works within the Time for Completion.

14.3 **Cash Flow Estimate to be Submitted**

The Contractor shall, within the time stated in Part II of these Conditions after the date of the Letter of Acceptance, provide to the Engineer for his information a detailed cash flow estimate, in quarterly periods, of all payments to which the Contractor will be entitled under the Contract and the Contractor shall subsequently supply revised cash flow estimates at quarterly intervals, if required to do so by the Engineer.

14.4 **Contractor not Relieved of Duties or Responsibilities**

The submission to and consent by the Engineer of such programmes or the provision of such general descriptions or cash flow estimates shall not relieve the Contractor of any of his duties or responsibilities under the Contract.

15.1 **Contractor's Superintendence**

The Contractor shall provide all necessary superintendence during the execution of the Works and as long thereafter as the Engineer may consider necessary for the proper fulfilling of the Contractor's obligations under the Contract. The Contractor, or a competent and authorised representative approved of by the Engineer, which approval may at any time be withdrawn, shall give his whole time to the superintendence of the Works. Such authorised representative shall receive, on behalf of the Contractor, instructions from the Engineer.

If approval of the representative is withdrawn by the Engineer, the Contractor shall, as soon as is practicable, having regard to the requirement of replacing him as hereinafter mentioned, after receiving notice of such withdrawal, remove the representative from the Works and shall not thereafter employ him again on the Works in any capacity and shall replace him by another representative approved by the Engineer.

16.1 **Contractor's Employees**

The Contractor shall provide on the Site in connection with the execution and completion of the Works and the remedying of any defects therein:

- (a) only such technical assistants as are skilled and experienced in their respective callings and such foremen and leading hands as are competent to give proper superintendence of the Works, and
- (b) such skilled, semi skilled and unskilled labour as is necessary for the proper and timely fulfilling of the Contractor's obligations under the Contract.

16.2 **Engineer at Liberty to Object**

The Engineer shall be at liberty to object to and require the Contractor to remove forthwith from the Works any person provided by the Contractor who, in the opinion of the Engineer, misconducts himself, or is incompetent or negligent in the proper performance of his duties, or whose presence on Site is otherwise considered by the Engineer to be undesirable, and such person shall not be again allowed upon the Works without the consent of the Engineer. Any person so removed from the Works shall be replaced as soon as possible.

17.1 **Setting-out**

The Contractor shall be responsible for:

- (a) the accurate setting-out of the Works in relation to original points, lines and levels of reference given by the Engineer in writing,

- (b) the correctness, subject as above mentioned of the position, levels dimensions and alignment of all parts of the Works, and
- (c) the provision of all necessary instruments, appliances and labour in connection with the foregoing responsibilities.

If, at any time during the execution of the Works, any error appears in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required so to do by the Engineer, shall, at his own cost, rectify such error to the satisfaction of the Engineer, unless such error is based on incorrect data supplied in writing by the Engineer, in which case the Engineer shall determine an addition to the Contract Price in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.

The checking of any setting-out or of any line or level by the Engineer shall not in any way relieve the Contractor of his responsibility for the accuracy thereof and the Contractor shall carefully protect and preserve all bench-marks, sight-rails, pegs and other things used in setting-out the Works.

18.1 Boreholes and Exploratory Excavation

If, at any time during the execution of the Works, the Engineer requires the Contractor to make boreholes or to carry out exploratory excavation, such requirement shall be the subject of an instruction in accordance with Clause 51, unless an item or a Provisional Sum in respect of such work is included in the Bill of Quantities.

19.1 Safety, Security and Protection of the Environment

The Contractor shall, throughout the execution and completion of the Works and the remedying of any defects therein:

- (a) have full regard for the safety of all persons entitled to be upon the Site and keep the Site (so far as the same is under his control) and the Works (so far as the same are not completed or occupied by the Employer) in an orderly state appropriate to the avoidance of danger to such persons,
- (b) provide and maintain at his own cost all lights, guards, fencing, warning signs and watching, when and where necessary or required by the Engineer or by any duly constituted authority, for the protection of the Works or for the safety and convenience of the public or others, and
- (c) take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

19.2 **Employer's Responsibilities**

If under Clause 31 the Employer shall carry out work on the Site with his own workmen he shall, in respect of such work:

- (a) have full regard to the safety of all persons entitled to be upon the Site, and
- (b) keep the Site in an orderly state appropriate to the avoidance of danger to such persons.

If under Clause 31 the Employer shall employ other contractors on the Site he shall require them to have the same regard for safety and avoidance of danger.

20.1 **Care of Works**

The Contractor shall take full responsibility for the care of the Works and materials and Plant for incorporation therein from the Commencement Date until the date of issue of the Taking-Over Certificate for the whole of the Works, when the responsibility for the said care shall pass to the Employer. Provided that:

- (a) if the Engineer issues a Taking-Over Certificate for any Section or part of the Permanent Works the Contractor shall cease to be liable for the care of that Section or part from the date of issue of the Taking-Over Certificate, when the responsibility for the care of that Section or part shall pass to the Employer, and
- (b) the Contractor shall take full responsibility for the care of any outstanding Works and materials and Plant for incorporation therein which he undertakes to finish during the Defects Liability Period until such outstanding Works have been completed pursuant to Clause 49.

20.2 **Responsibility to Rectify Loss or Damage**

If any loss or damage happens to the Works, or any part thereof, or materials or Plant for incorporation therein, during the period for which the Contractor is responsible for the care thereof, from any cause whatsoever, other than the risks defined in Sub-Clause 20.4, the Contractor shall, at his own cost, rectify such loss or damage so that the Permanent Works conform in every respect with the provisions of the Contract to the satisfaction of the Engineer. The Contractor shall also be liable for any loss or damage to the Works occasioned by him in the course of any operations carried out by him for the purpose of complying with his obligations under Clauses 49 and 50.

20.3 **Loss or Damage Due to Employer's Risks**

In the event of any such loss or damage happening from any of the risks defined in Sub-Clause 20.4, or in combination with other risks, the Contractor shall, if and to the extent required by the Engineer, rectify the loss or damage and the Engineer shall

determine an addition to the Contract Price in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer. In the case of a combination or risks causing loss or damage any such determination shall take into account the proportional responsibility of the Contractor and the Employer.

20.4 **Employer's Risks**

The Employer's risks are:

- (a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
- (b) rebellion, revolution, insurrection, or military or usurped power, or civil war,
- (c) ionising radiations, or contamination by radio-activity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radio-active toxic explosive, or other hazardous properties of any explosive nuclear assembly or nuclear component thereof,
- (d) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds,
- (e) riot, commotion or disorder, unless solely restricted to employees of the Contractor or of his Subcontractor and arising from the conduct of the Works,
- (f) loss or damage due to the use or occupation by the Employer of any Section or part of the Permanent Works, except as may be provided for in the Contract,
- (g) loss or damage to the extent that it is due to the design of the Works, other than any part of the design provided by the Contractor or for which the Contractor is responsible, and
- (h) any operation of the forces of nature against which an experienced contractor could not reasonably have been expected to take precautions.

21.1 **Insurance of Works and Contractor's Equipment**

The Contractor shall, without limiting his or the Employer's obligations and responsibilities under Clause 20, insure:

- (a) the Works, together with materials and Plant for incorporation therein, to the full replacement cost (the term "cost" in this context shall include profit),
- (b) an additional sum of 15 per cent of such replacement cost, or as may be specified in Part II of these Conditions, to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of

demolishing and removing any part of the Works and of removing debris of whatsoever nature, and

- (c) the Contractor's Equipment and other things brought onto the Site by the Contractor, for a sum sufficient to provide for their replacement at the Site.

21.2 **Scope of Cover**

The insurance in paragraphs (a) and (b) of Sub-Clause 21.1 shall be in the joint names of the Contractor and the Employer and shall cover:

- (a) the Employer and the Contractor against all loss or damage from whatsoever cause arising, other than as provided in Sub-Clause 21.4, from the start of work at the Site until the date of issue of the relevant Taking-Over Certificate in respect of the Works or any Section or part thereof as the case may be, and
- (b) the Contractor for his liability:
 - (i) during the Defects Liability Period for loss or damage arising from a cause occurring prior to the commencement of the Defects Liability Periods, and
 - (ii) for loss or damage occasioned by the Contractor in the course of any operations carried out by him for the purpose of complying with his obligations under Clauses 49 and 50.

21.3 **Responsibility for Amounts not Recovered**

Any amounts not insured or not recovered from the insurers shall be borne by the Employer or the Contractor in accordance with their responsibilities under Clause 20.

21.4 **Exclusions**

There shall be no obligation for the insurances in Sub-Clause 21.1 to include loss or damage caused by:

- (a) war, hostilities (where war be declared or not), invasion, act of foreign enemies,
- (b) rebellion, revolution, insurrection, or military or usurped power, or civil war,
- (c) ionising, radiations, or contamination by radio-activity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radio-active toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof, or

- (d) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds.

22.1 **Damage to Persons and Property**

The Contractor shall, except if and so far as the Contract provides otherwise, indemnify the Employer against all losses and claims in respect of:

- (a) death of or injury to any person, or
- (b) loss of or damage to any property (other than the Works),

which may arise out of or in consequence of the execution and completion of the Works and the remedying of any defects therein, and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto, subject to the exceptions defined in Sub-Clause 22.2.

22.2 **Exceptions**

The "exceptions" referred to in Sub-Clause 22.1 are:

- (a) the permanent use or occupation of land by the Works, or any part thereof,
- (b) the right of the Employer to execute the Works, or any part thereof, on, over, under, is or through any land,
- (c) damage to property which is the unavoidable result of the execution and completion of the Works, or the remedying of any defects therein, in accordance with the Contract, and
- (d) death of or injury to persons or loss of or damage to property resulting from any act or neglect of the Employer, his agents servants or other contractors, not being employed by the Contractor, or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or, where the injury or damage was contributed to by the Contractor, his servants or agents, such part of the said injury or damage as may be just and equitable having regard to the extent of the responsibility of the Employer, his servants or agents or other contractors for the injury or damage.

22.3 **Indemnity by Employer**

The Employer shall indemnify the Contractor against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the exceptions defined in Sub-Clause 22.2

23.1 **Third Party Insurance (including Employer's Property)**

The Contractor shall, without limiting his or the Employer's obligation and responsibilities under Clause 22, insure, in the joint names of the Contractor and the Employer, against liabilities for death of or injury to any person (other than as provided in Clause 24) or loss of or damage to any property (other than the Works) arising out of the performance of the Contract, other than the exceptions defined in paragraphs (a), (b) and (c) of Sub-Clause 22.2.

23.2 **Minimum Amount of Insurance**

Such insurance shall be for at least the amount stated in the Appendix to Tender.

23.3 **Cross Liabilities**

The insurance policy shall include a cross liability clause such that the insurance shall apply to the Contractor and to the Employer as separate insureds.

24.1 **Accident or Injury to Workmen**

The Employer shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or any Subcontractor, other than death or injury resulting from any act or default of the Employer, his agents or servants. The Contractor shall indemnify and keep indemnified the Employer against all such damages and compensation, other than those for which the Employer is liable as aforesaid, and against all claims, proceedings, damages, costs, charges, and expenses whatsoever in respect thereof or in relation thereto.

24.2 **Insurance Against Accident to Workmen**

The Contractor shall insure against such liability and shall continue such insurance during the whole of the time that any persons are employed by him on the Works. Provided that, in respect of any persons employed by any Subcontractor, the Contractor's obligations to insure as aforesaid under the Sub-Clause shall be satisfied if the Subcontractor shall have insured against the liability in respect of such persons in such manner that the Employer is indemnified under the policy, but the Contractor shall require such Subcontractor to produce to the Employer, when required, such policy of insurance and the receipt for the payment of the current premium.

25.1 **Evidence and Terms of Insurances**

The Contractor shall provide evidence to the Employer prior to the start of work at the Site that the insurances required under the Contract have been effected and shall, within 84 days of the Commencement Date, provide the insurance policies to the Employer. When providing such evidence and such policies to the Employer, the

Contractor shall notify the Engineer of so doing. Such insurance policies shall be consistent with the general terms agreed prior to the issue of the Letter of Acceptance. The Contractor shall effect all insurances for which he is responsible with insurers and in terms approved by the Employer.

25.2 Adequacy of Insurances

The Contractor shall notify the insurers of changes in the nature, extent or programme for the execution of the Works and ensure the adequacy of the insurances at all times in accordance with the terms of the Contract and shall, when required, produce to the Employer the insurance policies in force and the receipts for payment of the current premiums.

25.3 Remedy on Contractor's Failure to Insure

If the Contractor fails to effect and keep in force any of the insurances required under the Contract, or fails to provide the policies to the Employer within the period required by Sub-Clause 25.1, then and in any such case the Employer may effect and keep in force any such insurances and pay any premium as may be necessary for that purpose and from time to time deduct the amount so paid from any monies due or to become due to the Contractor, or recover the same as a debt due from the Contractor.

25.4 Compliance with Policy Conditions

In the event that the Contractor or the Employer fails to comply with conditions imposed by the insurance policies effected pursuant to the Contract, each shall indemnify the other against all losses and claims arising from such failure.

26.1 Compliance with Statutes, Regulations

The Contractor shall conform in all respects, including by the giving of all notices and the paying of all fees, with the provisions of:

- (a) any National or State Statute, Ordinance, or other Law, or any regulation, or by-law of any local or other duly constituted authority in relation to the execution and completion of the Works and the remedying of any defects therein, and
- (b) the rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the Works,

and the Contractor shall keep the Employer indemnified against all penalties and liability of every kind for breach of any such provisions. Provided always that the Employer shall be responsible for obtaining any planning, zoning or other similar permission required for the Works to proceed and shall indemnify the Contractor in accordance with Sub-Clause 22.3.

27.1 **Fossil**

All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the Site shall, as between the Employer and the Contractor, be deemed to be the absolute property of the Employer. The Contractor shall take reasonable precautions to prevent his workmen or any other persons from removing or damaging any such article or thing and shall, immediately upon discovery thereof and before removal, acquaint the Engineer of such discovery and carry out the Engineer's instructions for dealing with the same. If, by reason of such instructions, the Contractor suffers delay and/or incurs costs then the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount of such costs, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer.

28.1 **Patent Rights**

The Contractor shall save harmless and indemnify the Employer from and against all claims and proceedings for or on account of infringement of any patent rights, design trademark or name or other protected rights in respect of any Contractor's Equipment, materials or Plant used for or in connection with or for incorporation in the Works and from and against all damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto, except where such infringement results from compliance with the design or Specification provided by the Engineer.

28.2 **Royalties**

Except where otherwise stated, the Contractor shall pay all tonnage and other royalties, rent and other payments or compensation, if any, for getting stone, sand, gravel, clay or other materials required for the Works.

29.1 **Interference with Traffic and Adjoining Properties**

All operations necessary for the execution and completion of the Works and the remedying of any defects therein shall, so far as compliance with the requirements of the Contract permits, be carried on so as not to interfere unnecessarily or improperly with:

- (a) the convenience of the public, or
- (b) the access to, use and occupation of public or private roads and footpaths to or of properties whether in the possession of the Employer or of any other person.

The Contractor shall save harmless and indemnify the Employer in respect of all claims, proceedings, damages, costs, charges and expenses whatsoever arising out of, or in relation to, any such matters insofar as the Contractor is responsible therefor.

30.1 **Avoidance of Damage to Roads**

The Contractor shall use every reasonable means to prevent any of the roads or bridges communicating with or on the routes to the Site from being damaged or injured by any traffic of the Contractor or any of his Subcontractors and, in particular, shall select routes, choose and use vehicles and restrict and distribute loads so that any such extraordinary traffic as will inevitably arise from the moving of materials, Plant, Contractor's Equipment or Temporary Works from and to the Site shall be limited, as far as reasonably possible, and so that no unnecessary damage or injury may be occasioned to such roads and bridges.

30.2 **Transport of Contractor's Equipment or Temporary Works**

Save insofar as the Contract otherwise provides, the Contractor shall be responsible for and shall pay the cost of strengthening any bridges or altering or improving any road communicating with or on the routes to the Site to facilitate the movement of Contractor's Equipment or Temporary Works and the Contractor shall indemnify and keep indemnified the Employer against all claims for damage to any such road or bridge caused by such movement, including such claims as may be made directly against the Employer, and shall negotiate and pay all claims arising solely out of such damage.

30.3 **Transport of Materials or Plant**

If, notwithstanding Sub-Clause 30.1, any damage occurs to any bridge or road communicating with or on the routes to the Site arising from the transport of materials or Plant, the Contractor shall notify the Engineer with a copy to the Employer, as soon as he becomes aware of such damage or as soon as he receives any claim from the authority entitled to make such claim. Where under any law or regulation the haulier of such materials or Plant is required to indemnify the road authority against damage the Employer shall not be liable for any costs, charges or expenses in respect thereof or in relation thereto. In other cases the Employer shall negotiate the settlement of and pay all sums due in respect of such claim and shall indemnify the Contractor in respect thereof and in respect of all claims, proceedings damages, costs, charges and expenses in relation thereto. Provided that if and so far as any such claim or part thereof is, in the opinion of the Engineer, due to any failure on the part of the Contractor to observe and perform his obligations under Sub-Clause 30.1, then the amount determined by the Engineer, after due consultation with the Employer and the Contractor, to be due to such failure shall be recoverable from the Contractor by the Employer and may be deducted by the Employer from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer. Provided also that the Employer shall notify the Contractor whenever a settlement is to be negotiated and, where any amount may be due from the Contractor, the Employer shall consult with the Contractor before such settlement is agreed.

30.4 **Waterborne Traffic**

Where the nature of the Works is such as to require the use by the Contractor of waterborne transport the foregoing provisions of this Clause shall be construed as though "road" included a lock, dock, sea wall or other structure related to a waterway and "vehicle" included craft, and shall have effect accordingly.

31.1 **Opportunities for Other Contractors**

The Contractor shall, in accordance with the requirements of the Engineer, afford all reasonable opportunities for carrying out their work to:

- (a) any other contractors employed by the Employer and their workmen,
- (b) the workmen of the Employer, and
- (c) the workmen of any duly constituted authorities who may be employed in the execution on or near the Site of any work not included in the Contract or of any contract which the Employer may enter into in connection with or ancillary to the Works.

31.2 **Facilities for Other Contractors**

If, however, pursuant to Sub-Clause 31.1 the Contractor shall, on the written request of the Engineer:

- (a) make available to any other contractor, or to the Employer or any such authority, any roads or ways for the maintenance of which the Contractor is responsible,
- (b) permit the use, by any such, of Temporary Works or Contractor's Equipment on the Site, or
- (c) provide any other service of whatsoever nature for any such,

the Engineer shall determine an addition to the Contract Price in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.

32.1 **Contractor to Keep Site Clear**

During the execution of the Works the Contractor shall keep the Site reasonably free from all unnecessary obstruction and shall store or dispose of any Contractor's Equipment and surplus materials and clear away and remove from the Site any wreckage, rubbish or Temporary Works no longer required.

33.1 **Clearance of Site on Completion**

Upon the issue of any Taking-Over Certificate the Contractor shall clear away and remove from that part of the Site to which such Taking-Over Certificate relates all Contractor's Equipment, surplus materials, rubbish and Temporary Works of every kind, and leave such part of the Site and Works clean and in a workmanlike condition to the satisfaction of the Engineer. Provided that the Contractor shall be entitled to retain on Site, until the end of the Defects Liability Period, such materials, Contractor's Equipment and Temporary Works as are required by him for the purpose of fulfilling his obligations during the Defects Liability Period.

Labour

34.1 **Engagement of Staffs and Labour**

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

35.1 **Returns of Labour and Contractor's Equipment**

The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such information respecting Contractor's Equipment as the Engineer may require.

Materials, Plant and Workmanship

36.1 Quality of Materials, Plant and Workmanship

All materials, Plant and workmanship shall be:

- (a) of the respective kinds described in the Contract and in accordance with the Engineer's instructions, and
- (b) subjected from time to time to such tests as the Engineer may require at the place of manufacture, fabrication or preparation, or on the Site or at such other place or places as may be specified in the Contract, or at all or any of such places.

The Contractor shall provide such assistance, labour, electricity, fuels, stores, apparatus and instruments as are normally required for examining, measuring and testing any materials or Plant and shall supply samples of materials, before incorporation in the Works, for testing as may be selected and required by the Engineer.

36.2 Cost of Samples

All samples shall be supplied by the Contractor at his own cost if the supply thereof is clearly intended by or provided for in the Contract.

36.3 Cost of Tests

The cost of making any test shall be borne by the Contractor if such test is:

- (a) clearly intended by or provided for in the Contract, or
- (b) particularised in the Contract (in cases only for a test under load or of a test to ascertain whether the design of any finished or partially finished work is appropriate for the purposes which it was intended to fulfil) in sufficient detail to enable the Contractor to price or allow for the same in his Tender.

36.4 Cost of Tests not Provided for

If any test required by the Engineer which is:

- (a) not intended by or provided for,
- (b) (in the cases above mentioned) not so particularised, or
- (c) (through so intended or provided for) required by the Engineer to be carried out at any place other than the Site or the place of manufacture, fabrication or preparation of the materials or Plant tested,

shows the materials, Plant or workmanship not to be in accordance with the provisions of the Contract to the satisfaction of the Engineer, then the cost of such test shall be borne by the Contractor, but in any other case Sub-Clause 36.5 shall apply.

36.5 Engineer's Determination where Tests not Provided for

Where, pursuant to Sub-Clause 36.4, this Sub-Clause applies the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time of which the Contractor is entitled under Clause 44, and
 - (b) the amount of such costs, which shall be added to the Contract Price,
- and shall notify the Contractor accordingly, with a copy to the Employer.

37.1 Inspection of Operations

The Engineer, and any person authorised by him, shall at all reasonable times have access to the Site and to all workshops and places where materials or Plant are being manufactured, fabricated or prepared for the Works and the Contractor shall afford every facility for and every assistance in obtaining the right to such access.

37.2 Inspection and Testing

The Engineer shall be entitled, during manufacture, fabrication or preparation to inspect and test the materials and Plant to be supplied under the Contract. If materials or Plant are being manufactured, fabricated or prepared in workshops or places other than those of the Contractor, the Contractor shall obtain permission for the Engineer to carry out such inspection and testing in those workshops or places. Such inspection or testing shall not release the Contractor from any obligation under the Contract.

37.3 Dates for Inspection and Testing

The Contractor shall agree with the Engineer on the time and place for the inspection or testing of any materials or Plant as provided in the Contract. The Engineer shall give the Contractor not less than 24 hours notice of his intention to carry out the inspection or to attend the tests. If the Engineer, or his duly authorised representative, does not attend on the date agreed, the Contractor may, unless otherwise instructed by the Engineer, proceed with the tests, which shall be deemed to have been made in the presence of the Engineer. The Contractor shall forthwith forward to the Engineer duly certified copies of the tests readings. If the Engineer has not attended the tests, he shall accept the said readings as accurate.

37.4 **Rejection**

If, at the time and place agreed in accordance with Sub-Clause 37.3, the materials or Plant are not ready for inspection or testing or if, as a result of the inspection or testing referred to in this Clause, the Engineer determines that the materials or Plant are defective or otherwise not in accordance with the Contract, he may reject the materials or Plant and shall notify the Contractor thereof immediately. The notice shall state the Engineer's objections with reasons. The Contractor shall then promptly make good the defect or ensure that rejected materials or Plant comply with the Contract. If the Engineer so requests, the tests of rejected materials or Plant shall be made or repeated under the same terms and conditions. All costs incurred by the Employer by the repetition of the test shall after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer and may be deducted from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.

37.5 **Independent Inspection**

The Engineer may delegate inspection and testing of materials or Plant to an independent inspector. Any such delegation shall be effected in accordance with Sub-Clause 2.4 and for this purpose such independent inspector shall be considered as an assistant of the Engineer. Notice of such appointment (not being less than 14 days) shall be given by the Engineer to the Contractor.

38.1 **Examination of Work before Covering up**

No part of the works shall be covered up or put out of view without the approval of the Engineer and the Contractor shall afford full opportunity for the Engineer to examine and measure any such part of the Works which is about to be covered up or put out of view and to examine foundations before any part of the Works is placed thereon. The Contractor shall give notice to the Engineer whenever any such part of the Works or foundations is or are ready or about to be ready for examination and the Engineer shall, without unreasonable delay, unless he considers it unnecessary and advises the Contractor accordingly, attend for the purpose of examining and measuring such part of the Works or of examining such foundations.

38.2 **Uncovering and Making Openings**

The Contractor shall uncover any part of the Works or make openings in or through the same as the Engineer may from time to time instruct and shall reinstate and make good such part. If any such part has been covered up or put out of view after compliance with the requirement of Sub-Clause 38.1 and is found to be executed in accordance with the Contract, the Engineer shall, after due consultation with the Employer and the Contractor, determine the amount the Contractor's costs in respect of such of uncovering, making openings in or through, reinstating and making good

the same, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer. In any other case all costs shall be borne by the Contractor.

39.1 **Removal of Improper Work, Materials or Plant**

The Engineer shall have authority to issue instructions from time to time, for:

- (a) the removal from the Site, within such time or times as may be specified in the instruction, of any materials or Plant which, in the opinion of the Engineer, are not in accordance with the Contract,
- (b) the substitution of proper and suitable materials or Plant, and
- (c) the removal and proper re-execution, notwithstanding any previous test thereof or interim payment therefor, of any work which, in respect of
 - (i) materials, Plant or workmanship, or
 - (ii) design by the Contractor or for which he is responsible,is not, in the opinion of the Engineer, in accordance with the Contract.

39.2 **Default of Contractor in Compliance**

In case of default on the part of Contractor in carrying out such instruction within the time specified therein or, if none, within a reasonable time, the Employer shall be entitled to employ and pay other persons to carry out the same and all costs consequent thereon or incidental thereto shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.

Suspension

40.1 **Suspension of Work**

The Contractor shall, on the instructions of the Engineer, suspend the progress of the Works or any part thereof for such time and in such manner as the Engineer may consider necessary and shall, during such suspension, properly protect and secure the Works or such part thereof so far as is necessary in the opinion of the Engineer. Unless such suspension is:

- (a) otherwise provided for in the Contract,
- (b) necessary by reason of some default of or breach of contract by the Contractor or for which he is responsible,

- (c) necessary by reason of climatic conditions of the Site, or
- (d) necessary for the proper execution of the Works or for the safety of the Works or any part thereof (save to the extent that such necessity arises from any act or default by the Engineer or the Employer or from any of the risks defined in Sub-Clause 20.4), Sub-Clause 40.2 shall apply.

40.2 **Engineer's Determination following Suspension**

Where, pursuant to Sub-Clause 40.1, this Sub-Clause applies the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount, which shall be added to the Contract Price, in respect of the cost incurred by the Contractor by reason of such suspension,

and shall notify the Contractor accordingly, with a copy to the Employer.

40.3 **Suspension lasting more than 84 Days**

If the progress of the Works or any part thereof is suspended on the written instructions of the Engineer and if permission to resume work is not given by the Engineer within a period for 84 days from the date of suspension then, unless such suspension is within paragraph (a), (b), (c) or (d) of Sub-Clause 40.1, the Contractor may give notice to the Engineer requiring permission, within 28 days from the receipt thereof, to proceed with the Works or that part thereof in regard to which progress is suspended. If, within the said time, such permission is not granted, the Contractor may, but is not bound to, elect to treat the suspension, where it affects part only of the Works, as an omission of such part under Clause 51 by giving a further notice to the Engineer to that effect, or, where it affects the whole of the Works, treat the suspension as an event of default by the Employer and terminates his employment under the Contract in accordance with the provisions of Sub-Clause 69.1, whereupon the provisions of Sub-Clause 69.2 and 69.3 shall apply.

Commencement and Delays

41.1 Commencement of Works

The Contractor shall commence the Works as soon as is reasonably possible after the receipt by him of notice to this effect from the Engineer, which notice shall be issued within the time stated in the Appendix to Tender after the date of the Letter of Acceptance. Thereafter, the Contractor shall proceed with the Works with due expedition and without delay.

42.1 **Possession of Site and Access Thereto**

Save insofar as the Contract may prescribe:

(a) the extent of portions of the Site of which the Contractor is to be given possession from time to time,

(b) the order in which such portions shall be made available to the Contractor,

and, subject to any requirement in the Contract as to the order in which the Works shall be executed, the Employer will, with the Engineer's notice to commence the Works, give to the Contractor possession of

(c) so much of the Site, and

(d) such access as, in accordance with the Contract, is to be provided by the Employer as may be required to enable the Contractor to commence and proceed with the execution of the Works in accordance with the programme referred to in Clause 14, if any, and otherwise in accordance with such reasonable proposals as the Contractor shall, by notice to the Engineer with a copy to the Employer, make. The Employer will, from time to time as the Works proceed, give to the Contractor possession of such further portions of the Site as may be required to enable the Contractor to proceed with the execution of the Works with due dispatch in accordance with such programme or proposals, as the case may be.

42.2 **Failure to Give Possession**

If the Contractor suffers delay and/or incurs costs from failure on the part of the Employer to give possession in accordance with the terms of Sub-Clause 42.1, the Engineer shall, after due consultation with the Employer and the Contractor, determine:

(a) any extension of time to which the Contractor is entitled under Clause 44, and

(b) the amount of such costs, which shall be added to the Contract Price,

and shall notify the Contractor accordingly, with a copy to the Employer.

42.3 **Rights of Way and Facilities**

The Contractor shall bear all costs and charges for special or temporary wayleaves required by him in connection with access to the Site. The Contractor shall also provide at his own cost any additional facilities outside the Site required by him for the purposes of the Works.

43.1 **Time for Completion**

The whole of the Works and, if applicable, any Section required to be completed within a particular time as stated in the Appendix to Tender, shall be completed, in accordance with the provisions of Clause 48, within the time stated in the Appendix to Tender for the whole of the Works or the Section (as the case may be), calculated from the Commencement Date, or such extended time as may be allowed under Clause 44.

44.1 **Extension of Time for Completion**

In the event of:

- (a) the amount or nature of extra or additional work,
- (b) any cause of delay referred to in these Conditions,
- (c) exceptionally adverse climatic conditions,
- (d) any delay, impediment or prevention by the Employer, or
- (e) other special circumstances which may occur, other than through a default of or breach of contract by the Contractor or for which he is responsible,

being such as fairly to entitle the Contractor to an extension of the Time for Completion of the Works, or any Section or part thereof, the Engineer shall, after due consultation with the Employer and the Contractor, determine the amount of such extension and shall notify the Contractor accordingly, with a copy to the Employer.

44.2 **Contractor to Provide Notification and Detailed Particulars**

Provided that the Engineer is not bound to make any determination unless the Contractor has

- (a) within 28 days after such event has first arisen notified the Engineer with a copy to the Employer, and
- (b) within 28 days or such other reasonable time as may be agreed by the Engineer, after such notification submitted to the Engineer detailed particulars of any extension of time to which he may consider himself entitled in order that such submission may be investigated at the time.

44.3 **Interim Determination of Extension**

Provided also that where an event has a continuing effect such that it is not practicable for the Contractor to submit detailed particulars within the period of 28 days referred to in Sub-Clause 44.2(b), he shall nevertheless be entitled to an extension of time

provided that he has submitted to the Engineer interim particulars at intervals of not more than 28 days and final particulars within 28 days of the end of the effects resulting from the event. On receipt of such interim particulars, the Engineer shall, without undue delay, make an interim determination of extension of time and, on receipt of the final particulars, the Engineer shall review all the circumstances and shall determine an overall extension of time in regard to the event. In both such cases the Engineer shall make his determination after due consultation with the Employer and the Contractor and shall notify the Contractor of the determination, with a copy to the Employer. No final review shall result in a decrease of any extension of time already determined by the Engineer.

45.1 **Restriction on Working Hours**

Subject to any provision to the contrary contained in the Contract, none of the Works shall, save as hereinafter provided, be carried on during the night or on locally recognised days of rest without the consent of the Engineer, except when work is unavoidable or absolutely necessary for the saving of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer. Provided that the provisions of this Clause shall not be applicable in the case of any work which it is customary to carry out by multiple shifts.

46.1 **Rate of Progress**

If for any reason, which does not entitle the Contractor to an extension of time, the rate of progress of the Works or any Section is at any time, in the opinion of the Engineer, too slow to comply with the Time for Completion, the Engineer shall so notify the Contractor who shall thereupon take such steps as are necessary, subject to the consent of the Engineer, to expedite progress so as to comply with the Time for Completion. The Contractor shall not be entitled to any additional payment for taking such steps. If, as a result of any notice given by the Engineer under this Clause, the Contractor considers that it is necessary to do any work at night or on locally recognised days of rest, he shall be entitled to seek the consent of the Engineer so to do. Provided that if any steps, taken by the Contractor in meeting his obligations under this Clause, involve the Employer in additional supervision costs, such cost shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.

47.1 **Liquidated Damages for Delay**

If the Contractor fails to comply with the Time for Completion in accordance with Clause 48, for the whole of the Works or, if applicable, any Section within the relevant time prescribed by Clause 43, then the Contractor shall pay to the Employer the relevant sum stated in the Appendix to Tender as liquidated damages for such default and not as a penalty (which sum shall be the only monies due from the Contractor for

such default) for every day or part of a day which shall elapse between the relevant Time for Completion and the date stated in a Taking-Over Certificate of the whole of the Works or the relevant Section, subject to the applicable limit stated in the Appendix to Tender. The Employer may, without prejudice to any other method of recovery, deduct the amount of such damages from any monies due or to become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works, or from any other of his obligations and liabilities under the Contract.

47.2 **Reduction of Liquidated Damages**

If, before the Time for Completion of the whole of the Works or, if applicable, any Section, a Taking-Over Certificate has been issued for any part of the Works or of a Section, the liquidated damages for delay in completion of the remainder of the Works or of that Section shall, for any period of delay after the date stated in such Taking-Over Certificate, and in the absence of Alternative provisions in the Contract, be reduced in the proportion which the value of the part so certified bears to the value of the whole of the Works or Section, as applicable. The provisions of this Sub-Clause shall only apply to the rate of liquidated damages and shall not affect the limit thereof.

48.1 **Taking-Over Certificate**

When the whole of the Works have been substantially completed and have satisfactorily passed any Tests on Completion prescribed by the Contract, the Contractor may give a notice to that effect to the Engineer with a copy to the Employer, accompanied by a written undertaking to finish with due expedition any outstanding work during the Defects Liability Period. Such notice and undertaking shall be deemed to be a request by the Contractor for the Engineer to issue a Taking-Over Certificate in respect of the Works. The Engineer shall within 21 days of the date of delivery of such notice, either issue to the Contractor, with a copy to the Employer, a Taking-Over Certificate, stating the date on which, in his opinion, the Works were substantially completed in accordance with the Contract, or give instructions in writing to the Contractor specifying all the work which, in the Engineer's opinion, is required to be done by the Contractor before the issue of such Certificate. The Engineer shall also notify the Contractor of any defects in the Works affecting substantial completion that may appear after such instructions and before completion of the Works specified therein. The Contractor shall be entitled to receive such Taking-Over Certificate within 21 days of completion, to the satisfaction of the Engineer, of the Works so specified and remedying any defects so notified.

48.2 **Taking Over of Sections or Parts**

Similarly, in accordance with the procedure set out in Sub-Clause 48.1, the Contractor may request and the Engineer shall issue a Taking-Over Certificate in respect of:

(a) any Section in respect of which a separate Time for Completion is provided in the Appendix to Tender,

(b) any substantial part of the Permanent Works which has been both completed to the satisfaction of the Engineer and, otherwise than as provided for in the Contract, occupied or used by the Employer, or

(c) any part of the Permanent Works which the Employer has elected to occupy or use prior to completion (where such prior occupation or use is not provided for in the Contract or has not been agreed by the Contractor as a temporary measure).

48.3 **Substantial Completion of Parts**

If any part of the Permanent Works has been substantially completed and has satisfactorily passed any Tests on Completion prescribed by the Contractor, the Engineer may issue a Taking-Over Certificate in respect of that part of the Permanent Works before completion of the whole of the Works and, upon the issue of such Certificate, the Contractor shall be deemed to have undertaken to complete with due expedition any outstanding work in that part of the Permanent Works during the Defects Liability Period.

48.4 **Surfaces Requiring Reinstatement**

Provided that a Taking-Over Certificate given in respect of any Section or part of the Permanent Works before completion of the whole of the Works shall not be deemed to certify completion of any ground or surfaces requiring reinstatement, unless such Taking-Over Certificate shall expressly so state.

Defects Liability

49.1 **Defects Liability Period**

In these Conditions the expression "Defects Liability Period" shall mean the defects liability period named in the Appendix to Tender, calculated from:

(a) the date of completion of the Works certified by the Engineer in accordance with Clause 48, or

(b) in the event of more than one certificate having issued by the Engineer under Clause 48, the respective dates so certified,

and in relation to the Defects Liability Period the expression "the Works" shall be construed accordingly.

49.2 **Completion of Outstanding Work and Remedying Defects**

To the intent that the Works shall, at or as soon as practicable after the expiration of the Defects Liability Period, be delivered to the Employer in the condition required by

the Contract, fair wear and tear excepted, to the satisfaction of the Engineer, the Contractor shall:

(a) complete the work, if any, outstanding on the date stated in the Taking-Over Certificate as soon as practicable after such date, and

(b) execute all such work of amendment, reconstruction, and remedying defects, shrinkages or other faults as the Engineer may, during the Defects Liability Period or within 14 days after its expiration, as a result of an inspection made by or on behalf of the Engineer prior to its expiration, instruct the Contractor to execute.

49.3 **Cost of Remedying Defects**

All work referred to in Sub-Clause 49.2(b) shall be executed by the Contractor at his own cost if the necessity thereof is, in the opinion of the Engineer, due to:

(a) the use of materials, Plant or workmanship not in accordance with the Contract,

(b) where the Contractor is responsible for the design of part of the Permanent Works, any fault in such design, or

(c) the neglect or failure on the part of the Contractor to comply with any obligation, expressed or implied, on the Contractor's part under the Contract.

If, in the opinion of the Engineer, such necessity is due to any other cause, he shall determine an addition to the Contract Price in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.

49.4 **Contractor's Failure to Carry Out Instructions**

In case of default on the part of the Contractor in carrying out such instruction within a reasonable time, the Employer shall be entitled to employ and pay other persons to carry out the same and if such work is work which, in the opinion of the Engineer, the Contractor was liable to do at his own cost under the Contract, then all cost consequent thereon or incidental thereto shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.

50.1 **Contractor to Search**

If any defect, shrinkage or other fault in the Works appears at any time prior to the end of the Defects Liability Period, the Engineer may instruct the Contractor, with a copy to the Employer, to search under the directions of the Engineer for the cause thereof. Unless such defect, shrinkage or other fault is one for which the Contractor is liable under the Contract, the Engineer shall, after due consultation with the Employer and the Contractor, determine the amount in respect of the costs of such search incurred

by the Contractor, which shall be added to the Contract Price and shall notify the Contractor accordingly, with a copy to the Employer. If such defect, shrinkage or other fault is one for which the Contractor is liable, the cost of the work carried out in searching as aforesaid shall be borne by the Contractor and he shall in such case remedy such defect, shrinkage or other fault at his own cost in accordance with the provisions of Clause 49.

Alterations, Additions and Omissions

51.1 Variations

The Engineer shall make any variation of the form, quality or quantity of the Works or any part thereof that may, in his opinion, be necessary and for that purpose, or if for any other reason it shall, in his opinion, be appropriate, he shall have the authority to instruct the Contractor to do and the Contractor shall do any of the following:

- (a) increase or decrease the quantity of any work included in the Contract,
- (b) omit any such work (but not if the omitted work is to be carried out by the Employer or by another contractor),
- (c) change the character or quality or kind of any such work,
- (d) change the levels, lines, position and dimensions of any part of the Works,
- (e) execute additional work of any kind necessary for the completion of the Works, or
- (f) change any specified sequence or timing of construction of any part of the Works.

No such variation shall in any way vitiate or invalidate the Contract, but the effect, if any, of all such variations shall be valued in accordance with Clause 52. Provided that where the issue of an instruction to vary the Works is necessitated by some default of or breach of contract by the Contractor or for which he is responsible, any additional cost attributable to such default shall be borne by the Contractor.

51.2 Instructions for Variations

The Contractor shall not make any such variation without an instruction of the Engineer. Provided that no instruction shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an instruction given under this Clause, but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities.

52.1 Valuation of Variations

All variations referred to in Clause 51 and any additions to the Contract Price which are required to be determined in accordance with Clause 52 (for the purposes of this Clause referred to as "varied work"), shall be valued at the rates and prices set out in the Contract if, in the opinion of the Engineer, the same shall be applicable. If the Contract does not contain any rates or prices applicable to the varied work, the rates and prices in the Contract shall be used as the basis for valuation so far as may be

reasonable, failing which, after due consultation by the Engineer with the Employer and the Contractor, suitable rates or prices shall be agreed upon between the Engineer and the Contractor. In the event of disagreement the Engineer shall fix such rates or prices as are, in his opinion, appropriate and shall notify the Contractor accordingly, with a copy to the Employer. Until such time as rates or prices are agreed or fixed, the Engineer shall determine provisional rates or prices to enable on-account payments to be included in certificates issued in accordance with Clause 60.

52.2 **Power of Engineer to Fix Rates**

Provided that if the nature or amount of any varied work relative to the nature or amount of the whole of the Works or to any part thereof, is such that, in the opinion of the Engineer, the rate or price contained in the Contract for any item of the Works is, by reason of such varied work, rendered inappropriate or inapplicable, then, after due consultation by the Engineer with the Employer and the Contractor, a suitable rate or price shall be agreed upon between the Engineer and the Contractor. In the event of disagreement the Engineer shall fix such other rate or price as is, in his opinion, appropriate and shall notify the Contractor accordingly, with a copy to the Employer. Until such time as rates or prices are agreed or fixed, the Engineer shall determine provisional rates or prices to enable on-account payments to be included in certificates issued in accordance with Clause 60.

Provided also that no varied work instructed to be done by the Engineer pursuant to Clause 51 shall be valued under Sub-Clause 52.1 or under this Sub-Clause unless, within 14 days of the date of such instruction and, other than in the case of omitted work, before the commencement of the varied work, notice shall have been given either:

- (a) by the Contractor to the Engineer of his intention to claim extra payment or a varied rate or price, or
- (b) by the Engineer to the Contractor of his intention to vary a rate or price.

52.3 **Variations Exceeding 15 per cent**

If, on the issue of the Taking-Over Certificate for the whole of the Works, it is found that as a result of:

- (a) all varied work valued under Sub-Clauses 52.1 and 52.2, and
- (b) all adjustments upon measurement of the estimated quantities set out in the Bill of Quantities, excluding Provisional Sums, dayworks and adjustment of price made under Clause 70.

but not from any other cause, there have been additions to or deductions from the Contract Price which taken together are in excess of 15 per cent of the "Effective Contract Price" (which for the purposes of this Sub-Clause shall mean the Contract Price, excluding Provisional Sums and allowance for dayworks, if any) then and in

such event (subject to any action already taken under any other Sub-Clause of this Clause), after due consultation by the Engineer with the Employer and the Contractor, there shall be added to or deducted from the Contract Price such further sums as may be agreed between the Contractor and the Engineer or, failing agreement, determined by the Engineer having regard to the Contractor's Site and general overhead costs of the Contract. The Engineer shall notify the Contractor of any determination made under this Sub-Clause, with a copy to the Employer. Such sum shall be based only on the amount by which such additions or deductions shall be in excess of 15 per cent of the Effective Contract Price.

52.4 **Daywork**

The Engineer may, if in his opinion it is necessary or desirable, issue an instruction that any varied work shall be executed on a daywork basis. The Contractor shall then be paid for such varied work under the terms set out in the daywork schedule included in the Contract and at the rates and prices affixed thereto by him in the Tender.

The Contractor shall furnish to the Engineer such receipts or other vouchers as may be necessary to provide the amounts paid and, before ordering material, shall submit to the Engineer quotations for the same for his approval.

In respect of such of the Works executed on a daywork basis, the Contractor shall during the continuance of such work, deliver each day to the Engineer an exact list in duplicate of the names, occupation and time of all workmen employed on such work and a statement, also in duplicate, showing the description and quantity of all materials and Contractor's Equipment used thereon or therefor other than Contractor's Equipment which is included in the percentage addition in accordance with such daywork schedule. One copy of each list and statement will, if correct, or when agreed, be signed by the Engineer and returned to the Contractor.

At the end of each month the Contractor shall deliver to the Engineer a priced statement of the labour, materials and Contractor's Equipment, except as aforesaid, used and the Contractor shall not be entitled to any payment unless such lists and statements have been fully and punctually rendered. Provided always that if the Engineer considers that for any reason the sending of such lists or statements by the Contractor, in accordance with the foregoing provision, was impracticable he shall nevertheless be entitled to authorise payment for such work, either as daywork, on being satisfied as to the time employed and the labour, materials and Contractor's Equipment used on such work, or at such value therefor as shall, in his opinion, be fair and reasonable.

Procedure for Claims

53.1 **Notice of Claims**

Notwithstanding any other provision of the Contract, if the Contractor intends to claim any additional payment pursuant to any Clause of these Conditions or otherwise, he

shall give notice of his intention to the Engineer with a copy to the Employer, within 28 days after the event giving rise to the claim has first arisen.

53.2 Contemporary Records

Upon the happening of the event referred to in Sub-Clause 53.1, the Contractor shall keep such contemporary records as may reasonably be necessary to support any claim he may subsequently wish to make. Without necessarily admitting the Employer's liability, the Engineer shall, on receipt of a notice under Sub-Clause 53.1, inspect such contemporary records and may instruct the Contractor to keep any further contemporary records as are reasonable and may be material to the claim of which notice has been given. The Contractor shall permit the Engineer to inspect all records kept pursuant to this Sub-Clause and shall supply him with copies thereof as and when the Engineer so instructs.

53.3 Substantiation of Claims

Within 28 days, or such other reasonable time as may be agreed by the Engineer, of giving notice under Sub-Clause 53.1, the Contractor shall send to the Engineer an account giving detailed particulars of the amount claimed and the grounds upon which the claim is based. Where the event giving rise to the claim has a continuing effect, such account shall be considered to be an interim account and the Contractor shall, at such intervals as the Engineer may reasonably require, send further interim accounts giving the accumulated amount of the claim and any further grounds upon which it is based. In cases where interim accounts are sent to the Engineer, the Contractor shall send a final account within 28 days of the end of the effects resulting from the event. The Contractor shall, if required by the Engineer so to do, copy to the Employer all accounts sent to the Engineer pursuant to this Sub-Clause.

53.4 Failure to Comply

If the Contractor fails to comply with any of the provisions of this Clause in respect of any claim which he seeks to make, his entitlement to payment in respect thereof shall not exceed such amount as the Engineer or any arbitrator or arbitrators appointed pursuant to Sub-Clause 67.3 assessing the claim considers to be verified by contemporary records (whether or not such records were brought to the Engineer's notice as required under Sub-Clause 53.2 and 53.3).

53.5 Payment of Claims

The Contractor shall be entitled to have included in any interim payment certified by the Engineer pursuant to Clause 60 such amount in respect of any claim as the Engineer, after due consultation with the Employer and the Contractor, may consider due to the Contractor provided that the Contractor has supplied sufficient particulars to enable the Engineer to determine the amount due. If such particulars are insufficient to substantiate the whole of the claim, the Contractor shall be entitled to payment in

respect of such part of the claim as such particulars may substantiate to the satisfaction of the Engineer. The Engineer shall notify the Contractor of any determination made under this Sub-Clause, with a copy to the Employer.

Contractor's Equipment, Temporary Works and Materials

54.1 Contractor's Equipment, Temporary Works and Materials; Exclusive Use for the Works

All Contractor's Equipment, Temporary Works and materials provided by the Contractor shall, when brought on to the Site, be deemed to be exclusively intended for the execution of the Works and the Contractor shall not remove the same or any part thereof, except for the purpose of moving it from one part of the Site to another, without the consent of the Engineer. Provided that consent shall not be required for vehicles engaged in transporting any staff, labour, Contractor's Equipment, Temporary Works, Plant or materials to or from the Site.

54.2 Employer not Liable for Damage

The Employer shall not at any time be liable, save as mentioned in Clauses 20 and 65, for the loss of or damage to any of the said Contractor's Equipment, Temporary Works or materials.

54.3 Customs Clearance

The Employer will use his best endeavours in assisting the Contractor, where required, in obtaining clearance through the Customs of Contractor's Equipment, materials and other things required for the Works.

54.4 Re-export of Contractor's Equipment

In respect of any Contractor's Equipment which the Contractor has imported for the purposes of the Works, the Employer will use his best endeavours to assist the Contractor, where required, in procuring any necessary Government consent to the re-export of such Contractor's Equipment by the Contractor upon the removal thereof pursuant to the terms of Contract.

54.5 Conditions of Hire of Contractor's Equipment

With a view to securing, in the event of termination under Clause 63, the continued availability, for the purpose of executing the Works, of any hired Contractor's Equipment, the Contractor shall not bring on to the Site any hired Contractor's Equipment unless there is an agreement for hire thereof (which agreement shall be deemed not to include an agreement for hire purchase) which contains a provision that the owner thereof will, on request in writing made by the Employer within 7 days after the date on which any termination has become effective, and on the

Employer undertaking to pay all hire charges in respect thereof from such date, hire such Contractor's Equipment to the Employer on the same terms in all respect as the same was hired to the Contractor save that the Employer shall be entitled to permit the use thereof by any other contractor employed by him for the purpose of execution and completing the Works and remedying any defects therein, under the terms of the said Clause 63.

54.6 **Costs for the Purpose of Clause 63**

In the event of the Employer entering into any agreement for the hire of Contractor's Equipment pursuant to Sub-Clause 54.5, all sums properly paid by the Employer under the provision of any such agreement and all costs incurred by him (including stamp duties) in entering into such agreement shall be deemed, for the purpose of Clause 63, to be part of the cost of executing and completing the Works and the remedying of any defects therein.

54.7 **Incorporation of Clause in Subcontracts**

The Contractor shall, where entering into any subcontract for the execution of any part of the Works, incorporate in such subcontract (by reference or otherwise) the provisions of this Clause in relation to Contractor's Equipment, Temporary Works or materials brought on to the Site by the Subcontractor.

54.8 **Approval of Materials not Implied**

The operation of this Clause shall not be deemed to imply any approval by the Engineer of the materials or other matters referred to therein nor shall it prevent the rejection of any such materials at any time by the Engineer.

Measurement

55.1 Quantities

The quantities set out in the Bill of Quantities are the estimated quantities for the Works, and they are not to be taken as the actual and correct quantities of the Works to be executed by the Contractor in fulfillment of his obligations under the Contract.

56.1 Works to be Measured

The Engineer shall, except as otherwise stated, ascertain and determine by measurement the value of the Works in accordance with the Contract and the Contractor shall be paid that value in accordance with Clause 60. The Engineer shall, when he requires any part of the Works to be measured, give reasonable notice to the Contractor's authorised agent, who shall:

- (a) forthwith attend or send a qualified representative to assist the Engineer in making such measurement, and
- (b) supply all particulars required by the Engineer.

Should the Contractor not attend, or neglect or omit to send such representative, then the measurement made by the Engineer or approved by him shall be taken to be the correct measurement of such part of the Works. For the purpose of measuring such Permanent Works as are to be measured by records and drawings, the Engineer shall prepare records and drawings as the work proceeds and the Contractor, as and when called upon to do so in writing, shall, within 14 days, attend to examine and agree such records and drawings with the Engineer and shall sign the same when so agreed. If the Contractor does not attend to examine and agree such records and drawings, they shall be taken to be correct. If, after examination of such records and drawings, the Contractor does not agree the same or does not sign the same as agreed, they shall nevertheless be taken to be correct, unless the Contractor, within 14 days of such examination, lodges with the Engineer notice of the respects in which such records and drawings are claimed by him to be incorrect. On receipt of such notice, the Engineer shall review the records and drawings and either confirm or vary them.

57.1 Method of Measurement

The Works shall be measured net, notwithstanding any general or local custom, except where otherwise provided for in the Contract.

57.2 Breakdown of Lump Sum Items

For the purposes of statements submitted in accordance with Sub-Clause 60.1, the

Contractor shall submit to the Engineer, within 28 days after the receipt of the Letter of Acceptance, a breakdown for each of the lump sum items contained in the Tender. Such breakdowns shall be subject to the approval of the Engineer.

Provisional Sums

58.1 Definition of "Provisional Sum"

"Provisional Sum" means a sum included in the Contract and so designated in the Bill of Quantities for the execution of any part of the Works or for the supply of goods, materials, Plant or services, or for contingencies, which sum may be used, in whole or in part, or not at all, on the instructions of the Engineer. The Contractor shall be entitled to only such amounts in respect of the work, supply or contingencies to which such Provisional Sums relate as the Engineer shall determine in accordance with this Clause. The Engineer shall notify the Contractor of any determination made under this Sub-Clause, with a copy to the Employer.

58.2 Use of Provisional Sums

In respect of every Provisional Sum the Engineer shall have authority to issue instructions for the execution of work or for the supply of goods, material, Plant or services by:

- (a) the Contractor, in which case the Contractor shall be entitled to an amount equal to the value thereof determined in accordance with Clause 52, and
- (b) a nominated Subcontractor, as hereinafter defined, in which case the sum to be paid to the Contractor therefor shall be determined and paid in accordance with Sub-Clause 59.4.

58.3 Production of Vouchers

The Contractor shall produce to the Engineer all quotations, invoices, vouchers and accounts or receipts in connection with expenditure in respect of Provisional Sums, except where work is valued in accordance with rates or prices set out in the Tender.

Nominated Subcontractors

59.1 Definition of "Nominated Subcontractors"

All specialists, merchants, tradesmen and others executing any work or supplying any goods, materials, Plant or services for which Provisional Sums are included in the Contract, who may have been or be nominated or selected or approved by the Employer or the Engineer, and all persons to whom by virtue of the provisions of the Contract the Contractor is required to subcontract shall, in the execution of such work or the supply of such goods, materials, Plant or services, be deemed to be subcontractors to the Contractor and are referred to in this Contract as "nominated Subcontractors".

59.2 **Nominated Subcontractors; Objection to Nomination**

The Contractor shall not be required by the Employer or the Engineer, or be deemed to be under any obligation, to employ any nominated Subcontractor against whom the Contractor may raise reasonable objection, or who declines to enter into subcontract with the Contractor containing provisions:

(a) that in respect of the work, goods, materials, Plant or services the subject of the subcontract, the nominated Subcontractor will undertake towards the Contractor such obligations and liabilities as will enable the Contractor to discharge his own obligations and liabilities towards the Employer under the terms of the Contract and will save harmless and indemnify the Contractor from and against the same and from all claims, proceedings, damages, costs, charges and expenses whatsoever arising out of or in connection therewith, or arising out of or in connection with any failure to perform such obligations or to fulfill such liabilities, and

(b) that the nominated Subcontractor will save harmless and indemnify the Contractor from and against any negligence by the nominated Subcontractor, his agents, workmen and servants and from and against any misuse by him or them of any Temporary Works provided by the Contractor for the purposes of the Contract and from all claims as aforesaid.

59.3 **Design Requirements to be Expressly Stated**

If in connection with any Provisional Sum the services to be provided include any matter of design or specification of any part of the Permanent Works or of any Plant to be incorporated therein, such requirement shall be expressly stated in the Contract and shall be included in any nominated Subcontract. The nominated Subcontract shall specify that the nominated Subcontractor providing such services will save harmless and indemnify the Contractor from and against the same and from all claims, proceedings, damages, costs, charges and expenses whatsoever arising out of or in connection with any failure to perform such obligations or to fulfill such liabilities.

59.4 **Payments to Nominated Subcontractors**

For all work executed or goods, materials, Plant or services supplied by any nominated Subcontractor, the Contractor shall be entitled to:

(a) the actual price paid or due to be paid by the Contractor, on the instructions of the Engineer, and in accordance with the subcontract;

(b) in respect of labour supplied by the Contractor, the sum, if any, entered in the Bill of Quantities or, if instructed by the Engineer pursuant to paragraph (a) of Sub-Clause 58.2, as may be determined in accordance with Clause 52; and

(c) in respect of all other charges and profit, a sum being a percentage rate of the actual price paid or due to be paid calculated, where provision has been made in the Bill of Quantities for a rate to be set against the relevant Provisional Sum, at the rate inserted by the Contractor against that item or, where no such provision has been made, at the rate inserted by the Contractor in the Appendix to Tender and repeated where provision for such is made in a special item provided in the Bill of Quantities for such purpose.

59.5 **Certification of Payments to Nominated Subcontractors**

Before issuing, under Clause 60 any certificate, which includes any payment in respect of work done or goods, materials, Plant or services supplied by any nominated Subcontractor, the Engineer shall be entitled to demand from the Contractor reasonable proof that all payments, less retentions, included in previous certificates in respect of the work or goods, materials, Plant or services of such nominated Subcontractor have been paid or discharged by the Contractor. If the Contractor fails to supply such proof then, unless the Contractor:

(a) satisfies the Engineer in writing that he has reasonable cause for withholding or refusing to make such payment, and

(b) produces to the Engineer reasonable proof that he has so informed such nominated Subcontractor in writing,

the Employer shall be entitled to pay to such nominated Subcontractor direct, upon the certificate of the Engineer, all payments, less retention, provided for in the nominated Subcontract, which the Contractor has failed to make to such nominated Subcontractor and to deduct by way of set-off the amount so paid by the Employer from any sums due or to become due from the Employer to the Contractor.

Provided that, where the Engineer has certified and the Employer has paid direct as aforesaid, the Engineer shall in issuing any further certificate in favour of the Contractor, deduct from the amount thereof the amount so paid, direct as aforesaid, but shall not withhold or delay the issue of the certificate itself when due to be issued under the terms of the Contract.

Certificates and Payment

60.1 **Monthly Statements**

The Contractor shall submit to the Engineer after the end of each month six copies, each signed by the Contractor's representative approved by the Engineer in accordance with the Sub-Clause 15.1, of a statement, in such form as the Engineer may from time to time prescribe, showing the amounts to which the Contractor considers himself to be entitled up to the end of the month in respect of:

(a) the value of the Permanent Works executed,

- (b) any other items in the Bill of Quantities including those for Contractor's Equipment, Temporary Works, dayworks and the like,
- (c) the percentage of the invoice value of listed materials, all as stated in the Appendix to Tender, and Plant delivered by the Contractor on the Site for incorporation in the Permanent Works but not incorporated in such Works,
- (d) adjustments under Clause 70, and
- (e) any other sum to which the Contractor may be entitled under the Contract or otherwise.

60.2 **Monthly Payments**

The Engineer shall, within 28 days of receiving such statement, certify to the Employer the amount of payment to the Contractor which he considers due and payable in respect thereof, subject:

- (a) firstly, to the retention of the account calculated by applying the Percentage of Retention stated in the Appendix to Tender, to the amount to which the Contractor is entitled under paragraph (a), (b), (c) and (e) of Sub-Clause 60.1 until the amount so retained reaches the Limit of Retention Money stated in the Appendix to Tender, and
- (b) secondly, to the deduction, other than pursuant to Clause 47, of any sums which may have become due and payable by the Contractor to the Employer.

Provided that the Engineer shall not be bound to certify any payment under this Sub-Clause if the net amount thereof, after all retentions and deductions, would be less than the Minimum Amount of Interim Payment Certificates stated in the Appendix to Tender.

Notwithstanding the terms of this Clause or any other Clause of the Contract no amount will be certified by the Engineer for payment until the performance security, if required under the Contract, has been provided by the Contractor and approved by the Employer.

60.3 **Payment of Retention Money**

- (a) Upon the issue of the Taking-Over Certificate with respect to the whole of the Works, one half of the Retention Money, or upon the issue of a Taking-Over Certificate with respect to a Section or part of the Permanent

Works only such proportion thereof as the Engineer determines having regard to the relative value of such Section or part of the Permanent Works, shall be certified by the Engineer for payment to the Contractor.

(b) Upon the expiration of the Defects Liability Period for the Works the other half of the Retention Money shall be certified by the Engineer for payment to the Contractor. Provided that, in the event of different Defects Liability Periods having become applicable to different Sections or part of the Permanent Works pursuant to Clause 48, the expression "expiration of the Defects Liability Period" shall, for the purposes of this Sub-Clause, be deemed to mean the expiration of the latest of such periods. Provided also that if at such time, there shall remain to be executed by the Contractor any work instructed, pursuant to Clause 49 and 50, in respect of the Works, the Engineer shall be entitled to withhold certification until completion of such work of so much of the balance of the Retention Money as shall, in the opinion of the Engineer, represent the cost of the work remaining to be executed.

60.4 **Correction of Certificates**

The Engineer may by any Interim Payment Certificate make any correction or modification in any previous certificate which shall have been issued by him and shall have authority, if any work is not being carried out to his satisfaction, to omit or reduce the value of such work in any Interim Payment Certificate.

60.5 **Statement at Completion**

Not later than 84 days after the issue of the Taking-Over Certificate in respect of the whole of the Works, the Contractor shall submit to the Engineer a Statement at Completion with supporting documents showing in detail, in the form approved by the Engineer:

- (a) the final value of all work done in accordance with the Contract up to the date stated in such Taking-Over Certificate,
- (b) any further sums which the Contractor considers to be due, and
- (c) an estimate of amounts which the Contractor considers will become due to him under the Contract.

The estimated amounts shall be shown separately in such Statement at Completion. The Engineer shall verify payment in accordance with Sub-Clause 60.2.

60.6 **Final Statement**

Not later than 56 days after the issue of the Defects Liability Certificate pursuant to Sub-Clause 62.1, the Contractor shall submit to the Engineer for consideration a draft final statement with supporting documents showing in detail, in the form approved by the Engineer:

- (a) the value of all work done in accordance with the Contract, and
- (b) any further sums which the Contractor considers to be due to him under the Contract.

If the Engineer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Engineer may reasonably require and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Engineer the final statement as agreed (for the purposes of these Conditions referred to as the "Final Statement").

If, following discussions between the Engineer and the Contractor and any changes to the draft final statement which may be agreed between them, it becomes evident that a dispute exists, the Engineer shall deliver to the Employer an Interim Payment Certificate for those parts of the draft final statement, if any, which are not in dispute. The dispute may then be settled in accordance with Clause 67.

60.7 Discharge

Upon submission of the Final Statement, the Contractor shall give to the Employer, with a copy to the Engineer, a written discharge confirming that the total of the Final Statement represents full and final settlement of all monies due to the Contractor arising out of or in respect of the Contract. Provided that such discharge shall become effective only after payment due under the Final Payment Certificate issued pursuant to Sub-Clause 60.8 has been made and the performance security referred to in Sub-Clause 10.1, if any, has been returned to the Contractor.

60.8 Final Payment Certificate

Within 28 days after receipt of the Final Statement, and the written discharge, the Engineer shall issue to the Employer (with a copy to the Contractor) a Final Payment Certificate stating:

- (a) the amount which, in the opinion of the Engineer, is finally due under the Contract or otherwise, and
- (b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled other than under Clause 47, the balance, if any, due from the Employer to the Contractor or from the Contractor to the Employer as the case may be.

60.9 Cessation of Employer's Liability

The Employer shall not be liable to the Contractor for any matter or thing arising out of or in connection with the Contract or execution of the Works, unless the Contractor shall have included a claim in respect thereof in his Final Statement and (except in respect of matters or things arising after the issue of the Taking-Over Certificate in respect of the whole of the Works) in the Statement at Completion referred to in Sub-Clause 60.5.

60.10 **Time for Payment**

The amount due to the Contractor under any Interim Payment Certificate issued by the Engineer pursuant to this Clause, or to any other term of the Contract, shall, subject to Clause 47, be paid by the Employer to the Contractor within 28 days after such Interim Payment Certificate has been delivered to the Employer, or, in the case of the Final Payment Certificate referred to in Sub-Clause 60.8, within 56 days, after such Final Payment Certificate has been delivered to the Employer. In the event of the failure of the Employer to make payment within the times stated, the Employer shall pay to the Contractor interest at the rate stated in the Appendix to Tender upon all sums unpaid from the date by which the same should have been paid. The provisions of this Sub-Clause are without prejudice to the Contractor's entitlement under Clause 69 or otherwise.

61.1 **Approval only by Defects Liability Certificate**

Only the Defects Liability Certificate, referred to in Clause 62, shall be deemed to constitute approval of the Works.

62.1 **Defects Liability Certificate**

The Contract shall not be considered as completed until a Defects Liability Certificate shall have been signed by the Engineer and delivered to the Employer, with a copy to the Contractor, stating the date on which the Contractor shall have completed his obligations to execute and complete the Works and remedy any defects therein to the Engineer's satisfaction. The Defects Liability Certificate shall be given by the Engineer within 28 days after the expiration of the Defects Liability Period, or, if different defects liability periods shall become applicable to different Sections or parts of the Permanent Works, the expiration of the latest such period, or as soon thereafter as any works instructed, pursuant to Clause 49 and 50, have been completed to the satisfaction of the Engineer. Provided that the issue of the Defects Liability Certificate shall not be a condition precedent to payment to the Contractor of the second portion of the Retention Money in accordance with the conditions set out in Sub-Clause 60.3.

62.2 **Unfulfilled Obligations**

Notwithstanding the issue of the Defects Liability Certificate the Contractor and the Employer shall remain liable for the fulfillment of any obligation incurred under the provisions of the Contract prior to the issue of the Defects Liability Certificate which remains unperformed at the time of such Defects Liability Certificate is issued and, for the purposes of determining the nature and extent of any such obligation, the Contract shall be deemed to remain in force between the parties to the Contract.

Remedies

63.1 Default of Contractor

If the Contractor is deemed by law unable to pay his debts as they fall due, or enters into voluntary or involuntary bankruptcy, liquidation or dissolution (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), or becomes insolvent, or makes an arrangement with, or assignment in favour of, his creditors, or agrees to carry out the Contract under a committee of inspection of his creditors, or if a receiver, administrator, trustee or liquidator is appointed over any substantial part of his assets, or if, under any law or regulation relating to reorganization, arrangement or readjustment of debts, proceedings are commenced against the Contractor or resolutions passed in connection with dissolution or liquidation or if any steps are taken to enforce any security interest over a substantial part of the assets of the Contractor, or if any act is done or event occurs with respect to the Contractor or his assets which, under any applicable law has a substantially similar effect to any of the foregoing acts or events, or if the Contractor has contravened Sub-Clause 3.1, or has an execution levied on his goods, or Contract, if the Engineer certifies to the Employer, with a copy to the Contractor, that, in his opinion, the Contractor:

- (a) has repudiated the Contract, or
 - (b) without reasonable excuse has failed
 - (i) to commence the Works in accordance with Sub-Clause 41.1,
 - (ii) to proceed with the Works, or any Section thereof, within 28 days after receiving notice pursuant to Sub-Clause 46.1,
 - (c) has failed to comply with a notice issued pursuant to Sub-Clause 37.4 or an instruction issued pursuant to Sub-Clause 39.1 within 28 days after having received it
 - (d) despite previous warning from the Engineer, in writing, is otherwise persistently or flagrantly neglecting to comply with any of his obligations under the Contract, or
 - (e) has contravened Sub-Clause 4.1,
- then the Employer may, after giving 14 days' notice to the Contractor, enter upon the Site and the Works and terminate the employment of the Contractor without thereby releasing the Contractor from any of his obligations or liabilities under the Contract, or affecting the rights and authorities conferred on the Employer or the Engineer by the Contract, and may himself complete the Works or may employ any other contractor to complete the Works. The Employer or such other contractor may use for such completion so much of the Contractor's Equipment, Temporary Works and materials as he or they may think proper.

63.2 **Valuation at Date of Termination**

The Engineer shall, as soon as may be practicable after any such entry and termination by the Employer, fix and determine ex parte, or by or after reference to the parties or after such investigation or enquiries as he may think fit to make or institute, and shall certify:

(a) what amount (if any) had, at the time of such entry and termination, been reasonably earned by or would reasonably accrue to the Contractor in respect of work then actually done by him under the Contract, and

(b) the value of any of the said unused or partially used materials, any Contractor's Equipment and any Temporary Works.

63.3 **Payment after Termination**

If the Employer terminates the Contractor's employment under this Clause, he shall not be liable to pay to the Contractor any further amount (including damages) in respect of the Contract until the expiration of the Defects Liability Period and thereafter until the costs of execution, completion and remedying of any defects, damages for delay in completion (if any) and all other expenses incurred by the Employer have been ascertained and the amount thereof certified by the Engineer. The Contractor shall then be entitled to receive only such sum (if any) as the Engineer may certify would have been payable to him upon due completion by him after deducting the said amount. If such amount exceeds the sum which would have been payable to the Contractor on due completion by him, then the Contractor shall, upon demand, pay to the Employer the amount of such excess and it shall be deemed a debt due by the Contractor to the Employer and shall be recoverable accordingly.

63.4 **Assignment of Benefit of Agreement**

Unless prohibited by law, the Contractor shall, if so instructed by the Engineer within 14 days of such entry and termination referred to in Sub-Clause 63.1, assign to the Employer the benefit of any agreement for the supply of any goods or materials or services and/or for the execution of any work for the purposes of the Contract, which the Contractor may have entered into.

64.1 **Urgent Remedial Work**

If, by reason of any accident, or failure, or other event occurring to, in, or in connection with the Works, or any part thereof, either during the execution of the Works, or during the Defects Liability Period, any remedial or other work is, in the opinion of the Engineer, urgently necessary for the safety of the Works and the Contractor is unable or unwilling at once to do such work, the Employer shall be entitled to employ and pay other persons to carry out such work as the Engineer may consider necessary. If the work or repair so done by the Employer is work which, in

the opinion of the Engineer, the Contractor was liable to do at his own cost under the Contract, then all costs consequent thereon or incidental thereto shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer. Provided that the Engineer shall, as soon after the occurrence of any such emergency as may be reasonably practicable, notify the Contractor thereof.

Special Risks

65.1 No Liability for Special Risks

The Contractor shall be under no liability whatsoever in consequence of any of the special risks referred to in Sub-Clause 65.2, whether by way of indemnity or otherwise, for or in respect of:

- (a) destruction of or damage to the Works, save to work condemned under the provisions of Clause 39 prior to the occurrence of any of the said special risks,
- (b) destruction of or damage to property, whether of the Employer or third parties, or
- (c) injury or loss of life.

65.2 Special Risks

The Special Risks are:

- (a) the risks defined under paragraphs (a), (c), (d) and (e) of Sub-Clause 20.4, and
- (b) the risks defined under paragraph (b) of Sub-Clause 20.4 insofar as these relate to the country in which the Works are to be executed.

65.3 Damage to Works by Special Risks

If the Works or any materials or Plant on or near or in transit to the Site, or any of the Contractor's Equipment, sustain destruction or damage by reason of any of the said special risks, the Contractor shall be entitled to payment in accordance with the Contract for any Permanent Works duly executed and for any materials or Plant so destroyed or damaged and, so far as may be required by the Engineer or as may be necessary for the completion of the Works, to payment for:

- (a) rectifying any such destruction or damage to the Works, and
- (b) replacing or rectifying such materials or Contractor's Equipment,

and the Engineer shall determine an addition to the Contract Price in accordance with Clause 52 (which shall in the case of the cost of replacement of Contractor's

Equipment include the fair market value thereof as determined by the Engineer) and shall notify the Contractor accordingly, with a copy to the Employer.

65.4 Projectile, Missile

Destruction, damage, injury or loss of life caused by the explosion or impact, whenever and wherever occurring, of any mine, bomb, shell, grenade, or other projectile, missile, munition, or explosive of war, shall be deemed to be a consequence of the said special risks.

65.5 Increased Costs arising from Special Risks

Save to the extent that the Contractor is entitled to payment under any other provision of the Contract, the Employer shall repay to the Contractor any costs of the execution of the Work (other than such as may be attributable to the cost of reconstructing work condemned under the provisions of Clause 39 prior to the occurrence of any special risk) which are howsoever attributable to or consequent on or the result of or in any way whatsoever connected with the said special risks, subject however to the provisions in this Clause hereinafter contained in regard to outbreak of war, but the Contractor shall, as soon as any such cost comes to his knowledge, forthwith notify the Engineer thereof. The Engineer shall, after due consultation with the Employer and the Contractor, determine the amount of the Contractor's costs in respect thereof which shall be added to the Contract Price and shall notify the Contractor accordingly, with a copy to the Employer.

65.6 Outbreak of War

If, during the currency of the Contract, there is an outbreak of war, whether war is declared or not, in any part of the world which, whether financially or otherwise, materially affects the execution of the Works, the Contractor shall, unless and until the Contract is terminated under the provisions of this Clause, continue to use his best endeavour to complete the execution of the Works. Provided that the Employer shall be entitled, at any time after such outbreak of war, to terminate the Contract by giving notice to the Contractor and, upon such notice being given, the Contract shall, except as to the rights of the parties under this clause and Clause 67, terminate, but without prejudice to the rights of either party in respect of any antecedent breach thereof.

65.7 Removal of Contractor's Equipment on Termination

If the Contract is terminated under the provisions of Sub-Clause 65.6, the Contractor shall, with all reasonable dispatch, remove from the Site all Contractor's Equipment and shall give similar facilities to his Subcontractors to do so.

Payment if Contract Terminated

If the Contract is terminated as aforesaid, the Contractor shall be paid by the Employer, insofar as such amounts or items have not already been covered by payments on account made to the Contractor, for all work executed prior to the date of termination at the rates and prices provided in the Contract and in addition:

(a) the amounts payable in respect of any preliminary items referred to in the Bill of Quantities, so far as the work or service comprised therein has been carried out or performed, and a proper portion of any such items which have been partially carried out or performed;

(b) the cost of materials, Plant or goods reasonably ordered for the Works which have been delivered to the Contractor or of which the Contractor is legally liable to accept delivery, such materials, Plant or goods becoming the property of the Employer upon such payments being made by him;

(c) a sum being the amount of any expenditure reasonably incurred by the Contractor in the expectation of completing the whole of the Works insofar as such expenditure has not been covered by any other payments referred to in this Sub-Clause;

(d) any additional sum payable under the provisions of Sub-Clauses 65.3 and 65.5;

(e) such proportion of the cost as may be reasonable, taking into account payments made or to be made for work executed, of removal of Contractor's Equipment under Sub-Clause 65.7 and, if required by the Contractor, return thereof to the Contractor's main plant yard in his country of registration or to other destination, at no greater cost; and

(f) the reasonable cost of repatriation of all the Contractor's staff and workmen employed on or in connection with the Works at the time of such termination.

Provided that against any payment due from the Employer under this Sub-Clause, the Employer shall be entitled to be credited with any outstanding balances due from the Contractor for advances in respect of Contractor's Equipment, materials and Plant and any other sums which, at the date of termination, were recoverable by the Employer from the Contractor under the terms of Contract. Any sums payable under this Sub-Clause shall, after due consultation with the Employer and the Contractor, be determined by the Engineer who shall notify the Contractor accordingly, with a copy to the Employer.

Release from Performance

66.1 Payment in Event of Release from Performance

If any circumstance outside the control of both parties arises after the issue of the Letter of Acceptance which renders it impossible or unlawful for either party to fulfill his or their contractual obligations, or under the law governing the Contract the parties are released from further performance, then the parties shall be discharged from the Contract, except as to their rights under this Clause and Clause 67 and without prejudice to the rights of either party in respect of any antecedent breach of the Contract, and the sum payable by the Employer to the Contractor in respect of the work executed shall be the same as that which would have been payable under Clause 65 if the Contract had been terminated under the provisions of Clause 65.

Settlement of Disputes

67.1 Engineer's Decision

If a dispute of any kind whatsoever arises between the Employer and the Contractor in connection with, or arising out of, the Contract or the execution of the Works, whether during the execution of the Works or after their completion and whether before or after repudiation or other termination of the Contract, including any dispute as to any opinion, instruction, determination, certificate or valuation of the Engineer, the matter in dispute shall, in the first place, be referred in writing to the Engineer, with a copy to the other party. Such reference shall state that it is made pursuant to this Clause. No later than the eighty-fourth day after the day on which he received such reference the Engineer shall give notice of his decision to the Employer and the Contractor. Such decision shall state that it is made pursuant to this Clause.

Unless the Contract has already been repudiated or terminated, the Contractor shall, in every case, continue to proceed with the Works with all due diligence and the Contractor and the Employer shall give effect forthwith to every such decision of the Engineer unless and until the same shall be revised, as hereinafter provided, in an amicable settlement or an arbitral award.

If either the Employer or the Contractor be dissatisfied with any decision of the Engineer, or if the Engineer fails to give notice of his decision on or before the eighty-fourth day on which he received the reference, then either the Employer or the Contractor may, on or before the seventieth day after the day on which he received notice of such decision, or on or before the seventieth day after the day on which the said period of 84 days expired, as the case may be, give notice to the other party, with a copy for information to the Engineer, of his intention to commence arbitration, as hereinafter provided, as to the matter in dispute. Such notice shall establish the entitlement of the party giving the same to commence arbitration, as hereinafter provided, as to such dispute and, subject to Sub-Clause 67.4, no

arbitration in respect thereof may be commenced unless such notice is given.

If the Engineer has given notice of his decision as to a matter in dispute to the Employer and the Contractor and no notice of intention to commence arbitration as to such dispute has been given by either the Employer or the Contractor on or before the seventieth day after the day on which the parties received notice as to such decision from the Engineer, the said decision shall become final and binding upon the Employer and the Contractor.

67.2 Amicable Settlement

Where notice of intention to commence arbitration as to a dispute has been given in accordance with Sub-Clause 67.1, the parties shall attempt to settle such dispute amicably before the commencement of arbitration. Provided that, unless the parties otherwise agree, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of intention to commence arbitration of such dispute was given, even if no attempt at amicable settlement thereof has been made.

67.3 Arbitration

Any dispute in respect of which:

- (a) the decision, if any, of the Engineer has not become final and binding pursuant to Sub-Clause 67.1, and
- (b) amicable settlement has not been reached within the period stated in Sub-Clause 67.2,

shall be finally settled, unless otherwise specified in the Contract, under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by one or more arbitrators appointed under such Rules. The said arbitrator/s shall have full power to open up, review and revise any decision, opinion, instruction, determination, certificate or valuation of the Engineer related to the dispute.

Neither party shall be limited in the proceedings before such arbitrator/s to the evidence or arguments put before the Engineer for the purpose of obtaining his said decision pursuant to Sub-Clause 67.1. No such decision shall disqualify the Engineer from being called as a witness and giving evidence before the arbitrator/s on any matter whatsoever relevant to the dispute.

Arbitration may be commenced prior to or after completion of the Works, provided that the obligations of the Employer, the Engineer and the Contractor shall not be altered by reason of the arbitration being conducted during the progress of the Works.

67.4 Failure to Comply with Engineer's Decision

Where neither the Employer nor the Contractor has given notice of intention to commence arbitration of a dispute within the period stated in Sub-Clause 67.1 and the related decision has become final and binding, either party may, if the other party fails to comply with such decision, and without prejudice to any other rights it may have, refer the failure to arbitration in accordance with Sub-Clause 67.3. The provisions of Sub-Clause 67.1 and 67.2 shall not apply to any such reference.

Notices

68.1 Notice to Contractor

All certificates, notices or instructions to be given to the Contractor by the Employer or the Engineer under the terms of the Contract shall be sent by post, cable, telex or facsimile transmission to or left at the Contractor's principal place of business or such other address as the Contractor shall nominate for that purpose.

68.2 Notice to Employer and Engineer

Any notice to be given to the Employer or to the Engineer under the terms of the Contract shall be sent by post, cable, telex or facsimile transmission to or left at the respective addresses nominated for that purpose in Part II of these Conditions.

68.3 Change of Address

Either party may change a nominated address to another address in the country where the Works are being executed by prior notice to the other party, with a copy to the Engineer, and the Engineer may do so by prior notice to both parties.

Default of Employer

69.1 Default of Employer

In the event of the Employer:

(a) failing to pay to the Contractor the amount due under any certificate of the Engineer within 28 days after the expiry of the time stated in Sub-Clause 60.10 within which payment is to be made, subject to any deduction that the Employer is entitled to make under the Contract,

(b) interfering with or obstructing or refusing any required approval to the issue of any such certificate,

(c) becoming bankrupt or, being a company, going into liquidation, other than for the purpose of a scheme of reconstruction or amalgamation, or

(d) giving notice to the Contractor that for economic reasons it is impossible for him to continue to meet his contractual obligations,

the Contractor shall be entitled to terminate his employment under the Contract by giving notice to the Employer, with a copy to the Engineer. Such termination shall take effect 14 days after the giving of the notice.

69.2 Removal of Contractor's Equipment

Upon the expiry of the 14 days' notice referred to in Sub-Clause 69.1, the Contractor shall, notwithstanding the provisions of Sub-Clause 54.1, with all reasonable despatch, remove from the Site all Contractor's Equipment brought by him thereon.

69.3 Payment on Termination

In the event of such termination the Employer shall be under the same obligations to the Contractor in regard to payment as if the Contract had been terminated under the provisions of Clause 65, but, in addition to the payments specified in Sub-Clause 65.8, the Employer shall pay to the Contractor the amount of any loss or damage to the Contractor arising out of or in connection with or by consequence of such termination.

69.4 Contractor's Entitlement to Suspend Work

Without prejudice to the Contractor's entitlement to interest under Sub-Clause 60.10 and to terminate under Sub-Clause 69.1, the Contractor may, if the Employer fails to pay the Contractor the amount due under any certificate of the Engineer within 28 days after the expiry of the time stated in Sub-Clause 60.10 within which payment is to be made, subject to any deduction that the Employer is entitled to make under the Contract, after giving 28 days' prior notice to the Employer, with a copy to the Engineer, suspend work or reduce the rate of work.

If the Contractor suspends work or reduces the rate of work in accordance with the provisions of this Sub-Clause and thereby suffers delay or incurs costs the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount of such costs, which shall be added to the Contract Price,

and shall notify the Contractor accordingly, with a copy to the Employer.

69.5 Resumption of Work

Where the Contractor suspends work or reduces the rate of work, having given notice in accordance with Sub-Clause 69.4, and the Employer subsequently pays the amount due, including interest pursuant to Sub-Clause 60.10, the Contractor's entitlement under Sub-Clause 69.1 shall, if notice of termination has not been given,

lapse and the Contractor shall resume normal working as soon as is reasonably possible.

Changes in Cost and Legislation

70.1 Increase or Decrease of Cost

There shall be added to or deducted from the Contract Price such sums in respect of rise or fall in the cost of labour and/or materials or any other matters affecting the cost of the execution of the Works as may be determined in accordance with part II of these Conditions.

70.2 Subsequent Legislation

If, after the date 28 days prior to the latest date for submission of tenders for the Contract there occur in the country in which the Works are being or are to be executed changes to any National or State Statute, Ordinance, Decree or other Law or any regulation or bye-law of any local or other duly constituted authority, or the introduction of any such State Statute, Ordinance, Decree, Law, regulation or bye-law which causes additional or reduced cost to the Contractor, other than under Sub-Clause 70.1, in the execution of the Contract, such additional or reduced cost shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be added to or deducted from the Contract Price and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.

Currency and Rates of Exchange

71.1 Currency Restrictions

If, after the date 28 days prior to the latest date for submission of tenders for the Contract, the Government or authorized agency of the Government of the country in which the Works are being or are to be executed imposes currency restrictions and/or transfer of currency restrictions in relation to the currency or currencies in which the Contract Price is to be paid, the Employer shall reimburse any loss or damage to the Contractor arising therefrom, without prejudice to the right of the Contractor to exercise any other rights or remedies to which he is entitled in such event.

72.1 Rates of Exchange

Where the Contract provides for payment in whole or in part to be made to the Contractor in foreign currency or currencies, such payment shall not be subject to variations in the rate or rates of exchange between such specified foreign currency or currencies and the currency of the country in which the Works are to be executed.

72.2 **Currency Proportions**

Where the Employer has required the Tender to be expressed in a single currency but with payment to be made in more than one currency and the Contractor has stated the proportions or amounts of other currency or currencies in which he requires payment to be made, the rate or rates of exchange applicable for calculating the payment of such proportions or amounts shall, unless otherwise stated in Part II of these Conditions, be those prevailing, as determined by the Central Bank of the country in which the Works are to be executed, on the date 28 days prior to the latest date for the submission of tenders for the Contract, as has been notified to the Contractor by the Employer prior to the submission of tenders or as provided for in the Tender.

72.3 **Currencies of Payment for Provisional Sums**

Where the Contract provides for payment in more than one currency, the proportions or amounts to be paid in foreign currencies in respect of Provisional Sums shall be determined in accordance with the principles set forth in Sub-Clauses 72.1 and 72.2 as and when these sums are utilised in whole or in part in accordance with the provisions of Clauses 58 and 59.

NOT TO BE COPIED



FEDERATION INTERNATIONALE DES INGENIEURS-CONSEIL

CONDITIONS OF CONTRACT FOR WORKS OF CIVIL ENGINEERING CONSTRUCTION

PART I GENERAL CONDITIONS

The Condition of Contract, Part-I: General Conditions shall be those forming Part-I of the "Conditions of Contract for Works of Civil Engineering Construction", fourth edition 1987, reprinted in 1992 with further amendments, prepared by the Fédération Internationale des Ingénieurs-Conseils (FIDIC). These Conditions are subject to the variations and additions set out in Part-II hereof entitled "Particular Conditions of Contract."

PARTICULAR CONDITIONS OF CONTRACT [PART-II]

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PART II - PARTICULAR CONDITIONS OF CONTRACT

1.1 Definitions

The entire text is deleted and substituted with the following:

In the Contract (as hereinafter defined) the following words and expressions shall have the meanings hereby assigned to them, except where the context otherwise requires:

- (a) (i) "Employer" means STETA, Karachi
Phone: (92-21) 9924-4112-7, Fax No: (92-21) 9924-4118
- (ii) "Contractor" means the person whose tender has been accepted by the Employer and the legal successors in title to such person, but not (except with the consent of the Employer) any assignee of such person.
- (iii) "Subcontractor" means any person named in the Contract as a Subcontractor for a part of the Works or any person to whom a part of the Works has been subcontracted with the consent of the Engineer and the legal successors in title to such person, but not any assignee of any such person.
- (iv) "Engineer" means the **M/s. Shahzad Associates**, 2nd Floor, Farzana Building, Shaheed-e-Millat Road, Karachi. or any other competent person registered with PEC as Professional Engineer, appointed by the Employer, and notified to the Contractor, to act in replacement of the Engineer. Provided always that exception cases of professional misconduct, the outgoing Engineers is to formulate his certifications / recommendations in relation to all outstanding matters, disputes and claims relating to the execution of the Works during his tenure.
- (v) "Engineer's Representative" means a person appointed from time to time by the Engineer under Sub-Clause 2.2.
- (b) (i) "Contract" means these Conditions (Parts I and II), the Specification, the Drawings, the Bill of Quantities, the Tender, the Letter of Acceptance, the Contract Agreement (if completed) and such further documents as may be expressly incorporated in the Letter of Acceptance or Contract Agreement (if completed).

- (ii) "Specification" means the specification of the Works included in the Contract and any modification thereof or addition thereto made under Clause 51 or submitted by the Contractor and approved by the Engineer.
 - (iii) "Drawings" means all drawings, calculations and technical information of a like nature provided by the Engineer to the Contractor under the Contract and all drawings, calculations, samples, patterns, models, operation and maintenance manuals and other technical information of a like nature submitted by the Contractor and approved by the Engineer.
 - (iv) "Bill of Quantities" means the priced and completed bill of quantities forming part of the Tender.
 - (v) "Tender" means the Contractor's priced offer to the Employer for the execution and completion of the Works and the remedying of any defects therein in accordance with the provisions of the Contract, as accepted by the Letter of Acceptance. The word "Tender" is synonymous with "Bid" and the word "Tender Documents" with "Bidding Documents".
 - (vi) "Letter of Acceptance" means the formal acceptance by the Employer of the Tender.
 - (vii) "Contract Agreement" means the contract agreement (if any) referred to in Sub-Clause 9.1.
 - (viii) "Appendix to Tender" means the appendix comprised in the form of Tender annexed to these Conditions.
 - (ix) "Programme" means the programme to be submitted by the Contractor in accordance with Sub-Clause 14.1 and any approved revisions thereto.
- (c) (i) "Commencement Date" means the date upon which the Contractor receives the notice to commence issued by the Engineer pursuant to Clause 41.
- (ii) "Time for Completion" means the time for completing the execution of and passing the Tests on Completion of the Works or any Section or part thereof as stated in the Contract (or as extended under Clause 44) calculated from the Commencement Date.

- (d) (i) "Tests on Completion" means the tests specified in the Contract or otherwise agreed by the Engineer and the Contractor which are to be made by the Contractor before the Works of any Section or part thereof are taken over by the Employer.
- (ii) "Taking-Over Certificate" means a certificate issued pursuant to Clause 48.
- (e) (i) "Contract Price" means the sum stated in the Letter of Acceptance as payable to the Contractor for the execution and completion of the Works subject to such additions thereto or deductions therefrom as may be made and remedying of any defects therein in accordance with the provisions of the Contract.
- (ii) "Retention Money" means the aggregate of all monies retained by the Employer pursuant to Sub-Clause 60.2(a).
- (iii) "Interim Payment Certificate" means any certificate of payment issued by the Engineer other than the Final Payment Certificate.
- (iv) "Final Payment Certificate" means the certificate of payment issued by the Engineer pursuant to Sub-Clause 60.8.
- (f) (i) "Works" means the Permanent Works and the Temporary Works or either of them as appropriate.
- (ii) "Permanent Works" means the permanent works to be executed (including Plant) in accordance with the Contract
- (iii) "Temporary Works" means all temporary works of every kind (other than Contractor's Equipment) required in or about the execution and completion of the Works and the remedying of any defects therein.
- (iv) "Plant" means machinery, apparatus and the like intended to form or forming part of the Permanent Works.
- (v) "Contractor's Equipment" means all appliances and things of whatsoever nature (other than Temporary Works) required for the execution and completion of the Works and the remedying of any defects therein, but does not include Plant, materials or other things intended to form or forming part of the Permanent Works.

- (vi) "Section" means a part of the Works specifically identified in the Contract as a Section.
- (vii) "Site" means the places provided by the Employer where the Works are to be executed and any other places as may be specifically designated in the Contract as forming part of the Site.
- (g) (i) "cost" means all expenditure properly incurred or to be incurred, whether, on or off the Site, including overhead and other charges properly allocable thereto but does not include any allowance for profit.
- (ii) "day" means calendar day.
- (iii) "foreign currency" means a currency of a country other than that in which the Works are to be located.
- (iv) "writing" means any hand-written, type-written, or printed communication, including telex, cable and facsimile transmission.

1.2 **Headings and Marginal Notes**

Refer to Part I: General Conditions of Contract

1.3 **Interpretation**

Refer to Part I: General Conditions of Contract

1.4 **Singular and Plural**

Refer to Part I: General Conditions of Contract

1.5 **Notices, Consents, Approvals, Certificates and Determinations**

Refer to Part I: General Conditions of Contract

2.1 **Engineer's Duties and Authority**

The entire text is deleted and substituted with the following;

- (a) The Engineer shall carry out the duties specified in the Contract.

- (b) The Engineer may exercise the authority specified in or necessarily to be implied from the Contract, however the Engineer shall obtain the specific approval of the Employer before carrying out his duties in accordance with the following Clauses:
- (i) Consenting to the sub-letting of any part of the Works under Sub-Clause 4.1 "Subcontracting".
 - (ii) Certifying additional cost determined under Sub-Clause 12.2 "Not Foreseeable Physical Obstructions or Conditions".
 - (iii) Any action under Clause 10 "Performance Security" and Clauses 21, 23, 24 & 25 "Insurance" of sorts.
 - (iv) Any action under Clause 40 "Suspension".
 - (v) Any action under Clause 44 "Extension of Time for Completion".
 - (vi) Any action under Clause 47 "Liquidated Damages for Delay" or Payment of Bonus for Early Completion of Works (PCC Sub-Clause 47.3).
 - (vii) Issuance of "Taking Over Certificate" under Clause 48.
 - (viii) Issuing a Variation Order under Clause 51, except:
 - (a). in an emergency* situation, as stated herebelow, or
 - (b). if such variation would increase the Contract Price by less than the amount stated in the Appendix-A to Bid.
 - (ix) Fixing rates or prices under Clause 52.
 - (x) Extra payment as a result of Contractor's claims under Clause 53.
 - (xi) Release of Retention Money to the Contractor under Sub-Clause 60.3 "Payment of Retention Money".
 - (xii) Issuance of "Final Payment Certificate" under Sub-Clause 60.8.
 - (xiii) Issuance of "Defect liability Certificate" under Sub-Clause 62.1.

* (If in the opinion of the Engineer an emergency occurs affecting the safety of life or of the Works or of adjoining property, the Engineer may, without relieving the Contractor of any of his duties and responsibilities under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.)

Provided further that any requisite approval shall be deemed to have been given by the Employer for any such authority exercised by the Engineer.

- (c) Except as expressly stated in the Contract, the Engineer shall have no authority to relieve the Contractor of any of his obligations under the Contract.
- (d) The Engineer shall obtain prior approval of the Employer before determining and agreeing for any kind of time extension for completion of Works or any amount of cost increase under the Contract, except in case of emergency situation as stated above.

2.2 Engineer's Representative

The entire text is deleted and substituted with the following:

The Engineer's Representative shall be appointed by and be responsible to the Engineer and shall carry out such duties and exercise such authority as may be delegated to him by the Engineer under Sub-Clause 2.3.

The Employer shall ensure that the Engineer's Representative is a Professional Engineer as defined in the Pakistan Engineering Council Act 1975 (V of 1976)

2.3 Engineer's Authority to Delegate

Refer to Part I: General Conditions of Contract

2.4 Appointment of Assistants

Refer to Part I: General Conditions of Contract

2.5 **Instructions in Writing**

Refer to Part I: General Conditions of Contract

2.6 **Engineer to Act Impartially**

Refer to Part I: General Conditions of Contract

2.7 **Engineer Not Liable**

Approval, reviews and inspection by the Engineer of any part of the Works does not relieve the Contractor from his sole responsibility and liability for the supply of materials, plant and equipment for construction of the Works and their parts in accordance with the Contract and neither the Engineer's authority to act nor any decision made by him in good faith as provided for under the Contract whether to exercise or not to exercise such authority shall give rise to any duty or responsibility of the Engineer to the Contractor, any Subcontractor, any of their representatives or employees or any other person performing any portion of the Works.

2.8 **Replacement of the Engineer**

"If the Employer intends to replace the Engineer, the Employer shall, not less than 14 days before the intended date of replacement, give notice to the Contractor, of the name, address and relevant experience of the intended replacement Engineer. The Employer shall not replace the Engineer with a person against whom the Contractor raises reasonable objection by notice to the Employer, with supporting particulars."

3.1 **Assignment of Contract**

Refer to Part I: General Conditions of Contract

4.1 **Subcontracting**

Refer to Part I: General Conditions of Contract

4.2 **Assignment of Subcontractors' Obligations**

Refer to Part I: General Conditions of Contract

5.1 **Language(s) and Law**

(a) The Contract Documents shall be drawn up in the English language.

- (b) The Contract shall be subject to the Laws of Islamic Republic of Pakistan.

5.2 **Priority of Contract Documents**

The entire text is deleted and substituted with the following:

The several documents forming the Contract are to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies the same shall be explained and adjusted by the Engineer who shall thereupon issue to the contractor instructions thereon and in such event, unless otherwise provided in the Contract, the priority of the documents forming the Contract shall be as follows;

- (1) The Contract Agreement
- (2) The Letter of Acceptance;
- (3) The completed Form of Bid;
- (4) Special Stipulations (Appendix-A to Bid);
- (5) Special Provisions
- (6) The Particular Conditions of Contract – Part II;
- (7) The General Conditions – Part I;
- (8) The priced Bill of Quantities (Appendix-D to Bid);
- (9) The completed Appendices to Bid (B, C, E to K);
- (10) The Drawings;
- (11) Technical Provisions; and
- (12) Any other documents forming part of the Contract.

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.

The following Sub-Clauses 6.6 and 6.7 are added:

6.1 **Custody and Supply of Drawings and Documents**

Refer to Part I: General Conditions of Contract

6.2 **One Copy of Drawings to be Kept on Site**

Refer to Part I: General Conditions of Contract

6.3 **Disruption of Progress**

Refer to Part I: General Conditions of Contract

6.4 **Delay and Cost of Delay of Drawings**

The entire text is deleted and substituted with the following:

If, by reason of any failure or inability of the Engineer to issue, within a time reasonable in all the circumstances, any drawing or instruction for which notice has been given by the Contractor in accordance with Sub-Clause 6.3, the Contractor suffers delay and/or incurs costs then the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and / or
- (b) the amount of such costs, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer.

6.5 **Failure by Contractor to Submit Drawings**

Refer to Part I: General Conditions of Contract

The following Sub-Clauses 6.6, 6.7 and 6.8 are added:

6.6 **Shop Drawings**

The Contractor shall submit to the Engineer for review 3 copies of all shop and erection drawings applicable to this Contract as per provision of relevant Sub-Clause of the Contract.

Review and approval by the Engineer shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory and that the Engineer's review or approval shall not relieve the Contractor of any of his responsibilities under the Contract.

6.7 **As-Built Drawings**

At the completion of the Works under the Contract, the Contractor shall furnish to the Engineer 6 hard copies and one reproducible copy in AutoCAD format of all drawings amended to conform to the Works as built. The price of such Drawings shall be deemed to be included in the Contract Price.

6.8 Details to be Confidential

The Contractor shall treat the details of the Contract as private and confidential, save in so far as may be necessary for the purposes thereof, and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere without the prior consent in writing of the Employer or the Engineer. If any dispute arises as to the necessity of any publication or disclosure for the purpose of the Contract, the same shall be referred to the Employer whose determination shall be final.

7.1 Supplementary Drawings and Instructions

Refer to Part I: General Conditions of Contract

7.2 Permanent Works Designed by Contractor

Refer to Part I: General Conditions of Contract

7.3 Responsibility Unaffected by Approval

Refer to Part I: General Conditions of Contract

8.1 Contractor's General Responsibilities

Refer to Part I: General Conditions of Contract

8.2 Site Operations and Methods of Construction

Refer to Part I: General Conditions of Contract

9.1 Contract Agreement

Delete the entire text and substitute:

The Contractor shall enter into and execute the Contract Agreement, to be prepared and completed at his own cost, in the form annexed to these Conditions with such modification as may be necessary. The Contractor shall provide ten copies of signed Contract Documents to the Employer in proper book form for record. All costs for preparing and providing the copies of the Contract Documents shall be borne by the Contractor.

10.1 Performance Security

The Entire text is deleted and substituted with the following:

The Contractor shall provide Performance Security to the Employer in the prescribed form. The said Security shall be furnished or caused to be furnished by the Contractor within 28 days after the receipt of the Letter of Acceptance. The Performance Security shall be of an amount equal to 10% of the Contract Price stated in the Letter of Acceptance. Such Security shall, at the option of the bidder, be in the form of either (a) bank guarantee from any Scheduled Bank (A Rated) in Pakistan or (b) bank guarantee from a bank located outside Pakistan duly counter-guaranteed by a Scheduled Bank (A Rated) in Pakistan.

The cost of complying with the requirements of this Sub-Clause shall be borne by the Contractor.

10.2 Period of Validity of Performance Security

Delete the entire text and substitute:

The performance security shall be valid until one month after the completion of the Defect Liability Period in accordance with the Contract. No claim shall be made against such security after the issue of the Defects Liability Certificate in accordance with Sub-Clause 62.1 and such security shall be returned to the Contractor within 14 days of the issue of the said Defects Liability Certificate.

10.3 Claims under Performance Security

Refer to Part I: General Conditions of Contract

The following Sub-Clause 10.4 is added:

10.4 Performance Security Binding on Variations and Changes

The Performance Security shall be binding irrespective of changes in the quantities or variations in the Works or extensions in Time for Completion of the Works which are granted or agreed upon under the provisions of the Contract.

11.1 Inspection of Site

The entire text is deleted and substituted with the following;

The Employer shall have made available to the Contractor, before the submission by the Contractor of the Tender, such data on hydrological and sub-surface conditions as have been obtained by or on behalf of the Employer from investigations undertaken relevant to the Works but the Contractor shall be responsible for his own interpretation thereof.

The Contractor shall be deemed to have inspected and examined the Site and its surroundings and information available in connection therewith and to have satisfied himself (so far as is practicable, having regard to considerations of cost and time) before submitting his Tender, as to:

- (a) the form and nature thereof, including the sub-surface conditions,
- (b) the hydrological and climatic conditions,
- (c) the extent and nature of work and materials necessary for the execution and completion of the Works and the remedying of any defects therein, and
- (e) the means of access to the Site and the accommodation he may require, and, in general, shall be deemed to have obtained all necessary information, subject as above mentioned, as to risks, contingencies and all other circumstances which may influence or affect his Tender.

The Contractor shall be deemed to have based his Tender on the data made available by the Employer and on his own inspection and examination, all as aforementioned.

If any data is provided by the Employer, the Contractor is solely responsible for ascertaining the correctness of such data and the Employer shall not be liable in this behalf and no claim whatsoever in nature shall be entertained by the Engineer.

12.1 Sufficiency of Tender

Refer to Part I: General Conditions of Contract

12.2 Not Foreseeable Physical Obstructions or Conditions

The entire text is deleted and substituted with the following:

If, however, during the execution of the Works the Contractor encounters physical obstructions or physical conditions, other than climatic conditions on the Site, which obstructions or conditions were, in his opinion, not foreseeable by an experienced contractor, the Contractor shall forthwith give notice thereof to the Engineer, with a copy to the Employer. On receipt of such notice, the Engineer shall if in his opinion such obstructions or conditions could not have been reasonably foreseen by an experienced contractor, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and / or

- (b) the amount of any costs which may have been incurred by the Contractor by reason of such obstructions or conditions having been encountered, which shall be added to the Contract Price,

and shall notify the Contractor accordingly, with a copy to the Employer. Such determination shall take account of any instruction which the Engineer may issue to the Contractor in connection therewith, and any proper and reasonable measures acceptable to the Engineer which the Contractor may take in the absence of specific instructions from the Engineer.

13.1 Work to be in Accordance with Contract

Refer to Part I: General Conditions of Contract

14.1 Programme to be Submitted

Deleted the text and substitute as follows:

- a) The Contractor shall submit the Programme of Works within thirty (30) days from the date of receipt of Letter of Acceptance on MS Project or Primavera for the agreement of the Engineer and approval of the Employer. All items of works and activities including mobilization should be included in the Programme of Works. The programme shall identify and highlight those activities, which are on the Critical path. The programme shall be revised monthly and should include a chart of principal activities of the work forecast for monthly execution and an updated schedule of the payment to be made by the Employer to the Contractor. This programme of works shall form basis of Liquidated Damages pursuant to clause 47.1 and 47.2 in addition, cash flow estimates shall be supported with inputs of over drafts organized with the financial institutions at various stages of the projects to meet the funding requirements of the project. The Contractor shall supply and maintain at his site office for his and Engineer's use a licensed copy of the project management computer software package namely MS Project or Primavera or equivalent as used by the Contractor for programming, to monitor the progress. It shall be supplied complete with manuals and technical training and support for the duration of the Contract as per requirements assessed by the Engineer.
- b) In order to assist the Employer's Project Management Team, the Contractor shall be required to submit data at two weeks intervals to the Engineer on the cost and quantities and other data relevant to the monitoring of progress according to a format suitable for computer processing.

- c) The Programme should be computerized and drawn up on the CPM, identifying all items of work including temporary work. Progress reporting by the Contractor should be supported on a monthly basis with an up-to-date analysis of the progress including a statement on items, which are or are about to become critical to the progress of the work along with the proposals on how the Contractor intends to alleviate the situation.

14.2 Revised Programme

Refer to Part I: General Conditions of Contract

14.3 Cash Flow Estimate to be Submitted

The Contractor shall, within 21 days after the date of the Letter of Acceptance, provide to the Engineer for his information a detailed cash flow estimate, in quarterly periods, of all payments to which the Contractor will be entitled under the Contract and the Contractor shall subsequently supply revised cash flow estimates at quarterly intervals, if required to do so by the Engineer.

14.4 Contractor not Relieved of Duties or Responsibilities

Refer to Part I: General Conditions of Contract

The following Sub-Clause 14.5 is added:

14.5 Detailed Programme and Monthly Progress Report

- a) For purposes of Sub-Clause 14.1, the Contractor shall submit to the Engineer detailed programme for the following:
 - (1) Execution of Works;
 - (2) Labour Employment;
 - (3) Local Material Procurement;
 - (4) Material Imports, if any; and
 - (5) Other details as required by the Engineer.

- (b) During the period of the Contract, the Contractor shall submit to the Engineer not later than the 8th day of the following month, 5 copies each of Monthly Progress Reports covering:
 - (1) A Construction Schedule indicating the monthly progress in percentage;
 - (2) Description of all work carried out since the last report;
 - (3) Description of the work planned for the next 56 days sufficiently detailed to enable the Engineer to determine his programme of inspection and testing;

- (4) Monthly summary of daily job record;
- (5) Photographs to illustrate progress ;and
- (6) Information about problems and difficulties encountered, if any, and proposals to overcome the same.

(c) During the period of the Contract, the Contractor shall keep a daily record of the work progress, which shall be made available to the Engineer as and when requested. The daily record shall include particulars of weather conditions, number of men working, deliveries of materials, quantity, location and assignment of Contractor's equipment.

15.1 Contractor's Superintendence

Refer to Part I: General Conditions of Contract

15.2 Language Ability of Contractor's Representative

The Contractor's authorised representative shall be fluent in the English language. Alternately an interpreter with ability of English language shall be provided by the Contractor on full time basis.

15.3 Contractor's Representative

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

The Contractor's authorised representative at Site shall be authorised to exercise adequate administrative and financial powers on behalf of the Contractor so as to achieve completion of the Works as per the Contract.

16.1 Contractor's Employees

Refer to Part I: General Conditions of Contract

16.2 Engineer at Liberty to Object

Refer to Part I: General Conditions of Contract

The following Sub-Clauses 16.3 and 16.4 are added:

16.3 Language Ability of Superintending Staff of Contractor

A reasonable proportion of the Contractor's superintending staff shall have a working knowledge of the English language. If the Contractor's superintending staffs are not fluent in English language, the Contractor

shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer.

16.4 Employment of Local Personnel

The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labour from sources within Pakistan.

17.1 Setting-out

Refer to Part I: General Conditions of Contract

18.1 Boreholes and Exploratory Excavation

Refer to Part I: General Conditions of Contract

19.1 Safety, Security and Protection of the Environment

Deleted the text and substitute with the following:

The Contractor shall, throughout the execution and completion of the Works and the remedying of any defects therein:

- (a) have full regard for the safety of all persons entitled to be upon the Site and keep the Site (so far as the same is under his control) and the Works (so far as the same are not completed or occupied by the Employer) in an orderly state appropriate to the avoidance of danger to such persons,
- (b) provide and maintain at his own cost all lights, guards, fencing, warning signs and watching, when and where necessary or required by the Engineer or by any duly constituted authority, for the protection of the Works or for the safety and convenience of the public or others, and
- (c) take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.
- (d) The Contractor, to ensure protections of the Environment, shall take all necessary measures and precautions in conformity with statutory and Regulatory Environmental requirements enforced and amended from time to time.
- (e) the Contractor shall exercise due care to protect the natural

landscape and shall conduct his construction operations so as to prevent any unnecessary destruction, scarring or defacing of the natural surroundings in the vicinity of the Works, except where clearing is required for Permanent Works, Approved Temporary Works and for excavation operations. All watercourses, ponds, wells, trees and native vegetation shall be preserved and shall be protected from damage, which may be caused, by the Contractor's construction operations and equipment. On completion of the Works, all work areas shall be smoothed and graded in a manner to conform to the natural appearance of the landscape. Where unavoidable, destruction, scarring, damage or defacing may occur as a result of the Contractor's operations, it shall be repaired, replaced, replanted or otherwise corrected at Contractor's expenses to the satisfaction of the Engineer and National and / or Provincial Environment Protection Agency.

- f) During performance for the work, the Contractor shall carryout proper and sufficient measures as often as necessary to reduce dust pollution.

19.2 Employer's Responsibilities

Refer to Part I: General Conditions of Contract

The following Sub-Clauses 19.3 and 19.4 are added:

19.3 Safety Precautions

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.

19.4 Lighting Work at Night

In the event of work being carried out at night, the Contractor shall at his own cost, provide and maintain such good and sufficient light as will enable the work to proceed satisfactorily and without danger. The approaches to the Site and the Works where the night-work is being

carried out shall be sufficiently lighted. All arrangement adopted for such lighting shall be to the satisfaction of the Engineer's Representative.

20.1 **Care of Works**

Refer to Part I: General Conditions of Contract

20.2 **Responsibility to Rectify Loss or Damage**

Refer to Part I: General Conditions of Contract

20.3 **Loss or Damage Due to Employer's Risks**

Refer to Part I: General Conditions of Contract

20.4 **Employer's Risks**

The Employer's risks are:

Delete the text and substitute with the following:

- (a) insofar as they directly affect the execution of the Works in Pakistan:
 - (i) war and hostilities (whether war be declared or not), invasion, act of foreign enemies,
 - (ii) rebellion, revolution, insurrection, or military or usurped power, or civil war,
 - (iii) ionizing radiations, or contamination by radioactivity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof,
 - (iv) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds,
 - (v) riot, commotion or disorder, unless solely restricted to the employees of the Contractor or of his Subcontractors and arising from the conduct of the Works. For the avoidance of the doubt, it is clarified that riot, commotion or disorder constituting the Employer's Risks shall not include any riot, commotion or disorder in any part of the country where the works are located or to be performed which give rise to generalized security, safety or other concern to the Contractor or his Subcontractor or to their employees.

- (b) loss or damage due to the use or occupation by the Employer of any Section or part of the Permanent Works, except as may be provided for in the Contract;
- (c) loss or damage to the extent that it is due to the design of the Works, other than any part of the design provided by the Contractor or for which the Contractor is responsible; and
- (d) any operation of the forces of nature (insofar as it occurs on the Site) which an experienced contractor:
 - (i) could not have reasonably foreseen, or
 - (ii) could reasonably have foreseen, but against which he could not reasonably have taken at least one of the following measures:
 - (a) prevent loss or damage to physical property from occurring by taking appropriate measures, or
 - (b) insure against.

21.1 Insurance of Works and Contractor's Equipment

Refer to Part I: General Conditions of Contract

21.2 Scope of Cover

Refer to Part I: General Conditions of Contract

21.3 Responsibility for Amounts not Recovered

Refer to Part I: General Conditions of Contract

21.4 Exclusions

The text is deleted and substituted with the following:

There shall be no obligation for the insurances in Sub-Clause 21.1 to include loss or damage caused by the risks listed under Sub-Clause 20.4 paras (a) (i) to (iv).

22.1 Damage to Persons and Property

Refer to Part I: General Conditions of Contract

22.2 **Exceptions**

Refer to Part I: General Conditions of Contract

22.3 **Indemnity by Employer**

Refer to Part I: General Conditions of Contract

23.1 **Third Party Insurance (including Employer's Property)**

Refer to Part I: General Conditions of Contract

23.2 **Minimum Amount of Insurance**

Refer to Part I: General Conditions of Contract

23.3 **Cross Liabilities**

Refer to Part I: General Conditions of Contract

24.1 **Accident or Injury to Workmen**

Refer to Part I: General Conditions of Contract

24.2 **Insurance Against Accident to Workmen**

Refer to Part I: General Conditions of Contract

25.1 **Evidence and Terms of Insurances**

Delete the entire text and substitute as follows:

The Contractor shall provide evidence to the Employer as soon as practicable after the respective insurances have been taken out but in any case prior to the start of work at the Site that the insurances required under the Contract have been effected and shall, within 30 days of the Commencement Date, provide the insurance policies to the Employer. When providing such evidence and such policies to the Employer, the Contractor shall notify the Engineer of so doing. Such insurance policies shall be consistent with the general terms agreed prior to the issue of the Letter of Acceptance. The Contractor shall effect all insurances for which he is responsible with insurers and in terms approved by the Employer.

25.2 **Adequacy of Insurances**

Refer to Part I: General Conditions of Contract

25.3 Remedy on Contractor's Failure to Insure

Refer to Part I: General Conditions of Contract

25.4 Compliance with Policy Conditions

Refer to Part I: General Conditions of Contract

25.5 Insurance Company

The Contractor shall be obliged to place all insurances relating to the Contract (including, but not limited to, the insurances referred to in Clauses 21, 23 and 24) with either National Insurance Company of Pakistan or any other insurance company operating in Pakistan and acceptable to the Employer.

Costs of such insurances shall be borne by the Contractor.

26.1 Compliance with Statutes, Regulations

Refer to Part I: General Conditions of Contract

27.1 Fossil

Delete the entire text and substitute as follows:

All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the Site shall, as between the Employer and the Contractor, be deemed to be the absolute property of the Employer. The Contractor shall take reasonable precautions to prevent his workmen or any other persons from removing or damaging any such article or thing and shall, immediately upon discovery thereof and before removal, acquaint the Engineer of such discovery and carry out the Engineer's instructions for dealing with the same. If, by reason of such instructions, the Contractor suffers delay and/or incurs costs then the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and / or
- (b) the amount of such costs, determined under sub clause 53.5, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer.

28.1 Patent Rights

Refer to Part I: General Conditions of Contract

28.2 Royalties

Refer to Part I: General Conditions of Contract

29.1 Interference with Traffic and Adjoining Properties

Refer to Part I: General Conditions of Contract

30.1 Avoidance of Damage to Roads

Refer to Part I: General Conditions of Contract

30.2 Transport of Contractor's Equipment or Temporary Works

Refer to Part I: General Conditions of Contract

30.3 Transport of Materials or Plant

Delete the entire text of this Sub-Clause and substitute as follows:

If, notwithstanding Sub-Clause 30.1, any damage occurs to any bridge or road communicating with or on the routes to the Site arising from the transport of materials or Plant, the Contractor shall notify the Engineer with a copy to the Employer, as soon as he becomes aware of such damage or as soon as he receives any claim from the authority entitled to make such claim

The Employer shall not be liable for any costs, charges or an expense in respect of any damage occurs to any bridge or road arising from the transport of Material or Plant by the Contractor. The Contractor shall keep indemnified the Employer against all such claims. The Contractor shall negotiate the settlement of claim with the authority and pay all sums due in respect of all claims, proceedings, damages, costs, charges and expenses.

The Contractor shall notify the Engineer and Employer about the negotiations, in respect of settlement of claim. In case of failure in payment of claimed amount by the Contractor, the Employer shall recover the amount of claim from the Contractor by making deductions from any monies due or to become due to the Contractor and shall notify the Contractor accordingly.

30.4 Waterborne Traffic

Refer to Part I: General Conditions of Contract

30.5 Extraordinary Traffic

Nothing contained above shall excuse the Contractor or any of his Sub-Contractor(s) from complying with state laws regulating traffic on highways and bridges.

31.1 Opportunities for Other Contractors

Refer to Part I: General Conditions of Contract

31.2 Facilities for Other Contractors

Refer to Part I: General Conditions of Contract

The following Sub-Clause 31.3 is added:

31.3 Co-operation with other Contractors

During the execution of the Works, the Contractor shall co-operate fully with other contractors working for the Employer at and in the vicinity of the Site and also shall provide adequate precautionary facilities not to make himself a nuisance to local residents and other contractors.

32.1 Contractor to Keep Site Clear

Refer to Part I: General Conditions of Contract

33.1 Clearance of Site on Completion

Refer to Part I: General Conditions of Contract

34.1 Engagement of Staffs and Labour

Refer to Part I: General Conditions of Contract

34.2 Rates of Wages and Conditions of Labour

The Contractor shall pay rates of wages and observe conditions of labour not less favourable than those established for the trade or industry where the work is carried out. In the absence of any rates of wages or conditions of labour so established, the Contractor shall pay rates of wages and observe conditions of labour which are not less favourable

than the general level of wages and conditions observed by other employers whose general circumstances in the trade or in industry in which the Contractor is engaged are similar.

34.3 Employment of Persons in the Service of Others

The Contractor shall not recruit his staff and labour from amongst the persons in the services of the Employer or the Engineer; except with the prior written consent of the Employer or the Engineer, as the case may be.

34.4 Housing for Labour

Save insofar as the Contract otherwise provides, the Contractor shall provide and maintain such housing accommodation and amenities as he may consider necessary for all his supervisory staff and labour, employed for the purposes or in connection with the contract including all fencing, electricity supply, sanitation, cookhouses, fire prevention, water supply and other requirements in connection with such housing accommodation or amenities. On completion of the contract, the facilities shall be handed over to the Employer or if the Employer so desires, the temporary camps or housing provided by the Contractor shall be removed and the site reinstated to its original condition, all to the approval of the Engineer.

34.5 Health and Safety

Due precautions shall be taken by the Contractor, and at his own cost, to ensure the safety of his staff and labour at all times throughout the period of the Contract. The Contractor shall further ensure that suitable arrangements are made for the prevention of epidemics and for all necessary welfare and hygiene requirements.

34.6 Epidemics

In the event of any outbreak of illness of an epidemics nature, the Contractor shall complete comply with and carry out such regulations, orders and requirements as may be made by the Government, or the local medical or sanitary authorities, for purpose of dealing with and overcoming the same.

34.7 Supply of Water

The Contractor shall, so far as is reasonably practicable, having regard to local conditions, provide on the site, to the satisfaction of the Engineer or his representative, adequate supply of drinking and other water for the use of his staff and labour.

34.8 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Statutes, Ordinances and Government Regulations or Orders for the time being in force, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or suffer any such importation, sale, gift, barter or disposal by his Subcontractors, agents, staff or labour.

34.9 Arms and Ammunition

The Contractor shall not give, or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid. Except to those who are employed or hired for security of the work, plant and equipment, material, Camp Sites, Offices, Housing including Employer's / Engineer's facilities, etc.

34.10 Festivals and Religious Customs

The Contractor shall in all dealings with his staff and labour have due regard to all recognised festivals, days of rest and religious and other customs.

34.11 Disorderly Conduct

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst staff and labour and for the preservation of peace and protection of persons and property in the neighbourhood of the Works against the same.

34.12 Compliance by Subcontractor

The Contractor shall be responsible for compliance by his Subcontractor of the provisions of this Clause.

34.13 Repatriation of Labour

The Contractor shall be responsible for the return of all persons recruited and employed for this purpose of or in connection with the Contract, and to maintain suitable accommodation and amenities for such persons until they have left the Site.

34.14 Safety Officer

The Contractor shall have on his staff at the site an officer dealing only with questions regarding the safety and protection against accidents for his staff and labour. This officer shall be qualified for this work and shall

have the authority to instructions and shall take protective measures prevent accidents. Adequate number of Site Safety inspectors shall be deployed by the Contractors to assist Accidents prevention officer and ensure safety of works in the hazardous work areas.

34.15 First Aid Facilities

The Contractor shall provide and maintain adequate First Aid Facilities conveniently at the site as per approval of the Engineer.

34.16 Dangerous Materials

The Contractor and his subcontractor shall convey, store and make use of all explosives, dangerous petroleum, acetylene, carbide of calcium and other similar material provided by them for use in or on the Works in strict accordance with the provision of all laws, orders and regulations that are in force at the site or may be issued from time to time by the Government.

34.17 Commercial Activities

The Contractor shall not establish any commercial activity or issue concessions or permits of any kind to third parties for establishing commercial activities on the job site or lands owned or controlled by the Employer. The Contractor shall not allow its employees to engage in any commercial activities on the Site.

34.18 Publication and Photographs

The Contractor shall not make any announcement, take photographs or release any information concerning the Contract or the project or any part thereof to any member of the public, press, business entity or any official body, unless prior written consent of it is obtained from the Employer.

35.1 Returns of Labour and Contractor's Equipment

Refer to Par-I: General Conditions of Contract

The following Sub-Clauses 35.2 and 35.3 are added:

35.2 Records of Safety and Health

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

35.3 **Reporting of Accidents**

The Contractor shall report to the Engineer details of any accident as soon as possible after its occurrence. In the case of any fatality or serious accident, the Contractor shall, in addition, notify the Engineer immediately by the quickest available means.

36.1 **Quality of Materials, Plant and Workmanship**

Delete the entire text of this Sub-Clause and substitute as follows:

All materials, Plant and workmanship shall be:

- (a) of the respective kinds described in the Contract and in accordance with the Engineer's instructions, and
- (b) subjected from time to time to such tests as the Engineer may require at the place of manufacture, fabrication or preparation, or on the Site or at such other place or places as may be specified in the Contract, or at all or any of such places.

The Contractor shall provide such assistance, labour, electricity, fuels, stores, apparatus and instruments as are normally required for examining, measuring and testing any materials or Plant and shall supply samples of materials, before incorporation in the Works, for testing as may be selected and required by the Engineer. The place of such tests shall be situated in Pakistan and notified to the Contractor whenever the need arises.

36.2 **Cost of Samples**

Refer to Par-I: General Conditions of Contract

36.3 **Cost of Tests**

Refer to Par-I: General Conditions of Contract

36.4 **Cost of Tests not Provided for**

Refer to Par-I: General Conditions of Contract

36.5 **Engineer's Determination where Tests not Provided for**

Deleted the entire text of this Sub-Clause and substitute as follows:

Where, pursuant to Sub-Clause 36.4, this Sub-Clause applies the Engineer

shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time of which the Contractor is entitled under Clause 44, and
- (b) the amount of such costs, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer.

The following Sub-Clause 36.6 is added:

36.6 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.

37.1 Inspection of Operations

Refer to Par-I: General Conditions of Contract

37.2 Inspection and Testing

Refer to Par-I: General Conditions of Contract

37.3 Dates for Inspection and Testing

Refer to Par-I: General Conditions of Contract

37.4 Rejection

Refer to Par-I: General Conditions of Contract

37.5 Independent Inspection

Refer to Par-I: General Conditions of Contract

38.1 Examination of Work before Covering up

Refer to Par-I: General Conditions of Contract

38.2 Uncovering and Making Openings

Refer to Par-I: General Conditions of Contract

39.1 Removal of Improper Work, Materials or Plant

Refer to Par-I: General Conditions of Contract

39.2 Default of Contractor in Compliance

Refer to Par-I: General Conditions of Contract

40.1 Suspension of Work

Refer to Par-I: General Conditions of Contract

40.2 Engineer's Determination following Suspension

Delete the entire text of this Sub-Clause and substitute as follows:

Where, pursuant to Sub-Clause 40.1 this Sub-Clause applies the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a). any extension of time to which the Contractor is entitled under Clause 44, and / or
- (b). the amount of such costs, determined under sub clause 53.5, which shall be added to the Contract price and shall notified the Contractor accordingly, with a copy to the Employer.

40.3 Suspension lasting more than 84 Days

Refer to Par-I: General Conditions of Contract

41.1 Commencement of Works

The text is deleted and substituted with the following:

The Contractor shall commence the Works on site within the period named in appendix "A" Bid from the date of receipt by him from Engineer of a written notice to commence. Thereafter, the Contractor shall proceed with the Works with due expedition and without delay.

42.1 Possession of Site and Access Thereto

Refer to Par-I: General Conditions of Contract

42.2 Failure to Give Possession

Refer to Par-I: General Conditions of Contract

42.3 Rights of Way and Facilities

Refer to Par-I: General Conditions of Contract

43.1 Time for Completion

Delete the entire text of this Sub-Clause and substitute as follows:

The whole of the Works and, if applicable, any Section required to be completed within a particular time as stated in the Appendix "A" to Bid, shall be completed, in accordance with the provisions of Clause 48, within the time stated in the Appendix "A" to Bid for the whole of the Works, calculated from the Commencement Date, or such extended time as may be allowed under Clause 44.

44.1 Extension of Time for Completion

Delete the entire text of this Sub-Clause and substitute as follows:

In the event of:

- (a) the amount or nature of extra or additional work,
- (b) any cause of delay referred to in these Conditions,
- (c) exceptionally adverse climatic conditions,
- (d) any delay, impediment or prevention by the Employer, or
- (e) other special circumstances which may occur, other than through a default of or breach of contract by the Contractor or for which he is responsible,

being such as fairly to entitle the Contractor to an extension of the Time for Completion of the Works, or any Section or part thereof, the Engineer shall, after due consultation with the Employer and the Contractor, determine the amount of such extension and shall notify the Contractor accordingly, with a copy to the Employer. For the avoidance of doubt, it is clarified that the special circumstances referred to in this Sub-Clause 44.1(e) shall not include any occurrence in any part of the country where the works are located or to be performed which gives rise to

generalize security, safety or other concern to the Contractor or his Subcontractor or to the their employees.

44.2 Contractor to Provide Notification and Detailed Particulars

Refer to Par-I: General Conditions of Contract

44.3 Interim Determination of Extension

Refer to Par-I: General Conditions of Contract

45.1 Restriction on Working Hours

Refer to Par-I: General Conditions of Contract

46.1 Rate of Progress

Refer to Par-I: General Conditions of Contract

47.1 Liquidated Damages for Delay

Delete the entire text of this Sub-Clause and substitute as follows:

If the Contractor fails to comply with the Time for Completion in accordance with Clause 48, for the whole of the Works or, if applicable, any Section within the relevant time prescribed by Clause 43, then the Contractor shall pay to the Employer the relevant sum stated in the Appendix to Tender as liquidated damages for such default and not as a penalty (which sum shall be the only monies due from the Contractor for such default) for every day or part of a day which shall elapse between the relevant Time for Completion and the date stated in a Taking-Over Certificate of the whole of the Works or the relevant Section, subject to the applicable limit stated in the Appendix to Tender. The Employer may, without prejudice to any other method of recovery, deduct the amount of such damages from any monies due or to become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works, or from any other of his obligations and liabilities under the Contract.

In addition to the Liquidated damages the Contractor shall borne all the cost / expenses related to the supervision of the works by the project consultant covering salaries of the Engineer and all of his site supervision staff including all the benefits, providing, running and maintenance of all the Engineer's Facilities up to the issuance of the Taking Over Certificate by the Employer. All the above cost / expense will not be reimbursed / paid to the Contractor beyond the approved completion period of the works.

47.2 Reduction of Liquidated Damages

Refer to Par-I: General Conditions of Contract

47.3 Bonus for Early Completion of Works

This Sub-Clause is deleted in its entirety.

48.1 Taking-Over Certificate

Refer to Par-I: General Conditions of Contract

48.2 Taking Over of Sections or Parts

Delete the entire text of this Sub - Clause and substitute as follow:

Similarly, in accordance with the procedure set out in Sub-Clause 48.1, the Contractor may request and the Engineer after obtaining approval of the Employer shall issue a Taking-Over Certificate in respect of:

- (a) any Section in respect of which a separate Time for Completion is provided in the Appendix "A" to Bid. Special Stipulation"
- (b) any substantial part of the Permanent Works which has been both completed to the satisfaction of the Engineer and, otherwise than as provided for in the Contract, occupied or used by the Employer, or
- (c) any part of the Permanent Works which the Employer has elected to occupy or use prior to completion (where such prior occupation or use is not provided for in the Contract or has not been agreed by the Contractor as a temporary measure).

48.3 Substantial Completion of Parts

Refer to Par-I: General Conditions of Contract

48.4 Surfaces Requiring Reinstatement

Refer to Par-I: General Conditions of Contract

49.1 Defects Liability Period

Refer to Par-I: General Conditions of Contract

49.2 Completion of Outstanding Work and Remedying Defects

Refer to Par-I: General Conditions of Contract

49.3 Cost of Remedying Defects

Refer to Par-I: General Conditions of Contract

49.4 Contractor's Failure to Carry Out Instructions

Refer to Par-I: General Conditions of Contract

50.1 Contractor to Search

Refer to Par-I: General Conditions of Contract

51.1 Variations

Refer to Par-I: General Conditions of Contract

51.2 Instructions for Variations

Delete the entire text of this Sub - Clause and substitute as follow:

The Contractor shall not make any such variation without an instruction of the Engineer. Provided that no instruction shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an instruction given under this Clause, but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities.

52.1 Valuation of Variations

Delete the entire text of this Sub - Clause and substitute as follow:

All variations referred to in Clause 51 and any additions to the Contract Price which are required to be determined in accordance with Clause 52 (for the purposes of this Clause referred to as "varied work"), shall be valued at the rates and prices set out in the Contract if, in the opinion of the Engineer, the same shall be applicable. If the Contract does not contain any rates or prices applicable to the varied work, the rates and prices in the Contract shall be used as the basis for valuation so far as may be reasonable, failing which, after due consultation by the Engineer with the Employer and the Contractor, suitable rates or prices shall be agreed upon between the Engineer and the Contractor. In the event of disagreement the Engineer shall within a period not exceeding one-eighth of the completion time subject to a minimum of 56 days from the date of disagreement whichever is later, fix such rates or prices as are, in his opinion, appropriate and shall notify the Contractor accordingly, with a copy to the Employer. Until such time as rates or prices are agreed or

fixed, the Engineer shall determine provisional rates or prices to enable on-account payments to be included in certificates issued in accordance with Clause 60.

52.2 Power of Engineer to Fix Rates

Refer to Par-I: General Conditions of Contract

52.3 Variations Exceeding 15 per cent

Refer to Par-I: General Conditions of Contract

52.4 Daywork

Refer to Par-I: General Conditions of Contract

53.1 Notice of Claims

Refer to Par-I: General Conditions of Contract

53.2 Contemporary Records

Refer to Par-I: General Conditions of Contract

53.3 Substantiation of Claims

Refer to Par-I: General Conditions of Contract

53.4 Failure to Comply

This Sub-Clause is deleted in its entirety.

53.5 Payment of Claims

Refer to Par-I: General Conditions of Contract

**54.1 Contractor's Equipment, Temporary Works and Materials;
Exclusive Use for the Works**

Delete the entire text of this Sub - Clause and substitute as follow:

All Contractor's Equipment, Temporary Works and materials provided by the Contractor shall, when brought on to the Site, be deemed to be exclusively intended for the execution of the Works and the Contractor shall not remove the same or any part thereof, except for the purpose of moving it from one part of the Site to another, without the consent of the Engineer. Provided that consent shall not be required for vehicles

engaged in transporting any staff, labour, Contractor's Equipment, Temporary Works, Plant or materials to or from the Site.

The Contractor shall forward to the Engineer at the end of each month returns, showing the Construction Plant, Materials, etc., on site in a form prescribed by the Engineer.

54.2 Employer not Liable for Damage

Refer to Par-I: General Conditions of Contract

54.3 Customs Clearance

Refer to Par-I: General Conditions of Contract

54.4 Re-export of Contractor's Equipment

Refer to Par-I: General Conditions of Contract

54.5 Conditions of Hire of Contractor's Equipment

Delete the entire text of this Sub - Clause and substitute as follow:

With a view to securing, in the event of termination under Clause 63, the continued availability, for the purpose of executing the Works, of any hired Contractor's Equipment, the Contractor shall not bring on to the Site any hired Contractor's Equipment unless there is an agreement for hire thereof (which agreement shall be deemed not to include an agreement for hire purchase) which contains a provision that the owner thereof will, on request in writing made by the Employer within 7 days after the date on which any termination has become effective, and on the Employer undertaking to pay all hire charges in respect thereof from such date, hire such Contractor's Equipment to the Employer on the same terms in all respect as the same was hired to the Contractor save that the Employer shall be entitled to permit the use thereof by any other contractor employed by him for the purpose of execution and completing the Works and remedying any defects therein, under the terms of the said Clause 63.

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

54.6 Costs for the Purpose of Clause 63

Refer to Par-I: General Conditions of Contract

54.7 Incorporation of Clause in Subcontracts

Refer to Par-I: General Conditions of Contract

54.8 Approval of Materials not Implied

Refer to Par-I: General Conditions of Contract

55.1 Quantities

Refer to Par-I: General Conditions of Contract

56.1 Works to be Measured

Refer to Par-I: General Conditions of Contract

57.1 Method of Measurement

Refer to Par-I: General Conditions of Contract

57.2 Breakdown of Lump Sum Items

Refer to Par-I: General Conditions of Contract

58.1 Definition of "Provisional Sum"

Refer to Par-I: General Conditions of Contract

58.2 Use of Provisional Sums

Refer to Par-I: General Conditions of Contract

58.3 Production of Vouchers

Refer to Par-I: General Conditions of Contract

59.1 Definition of "Nominated Subcontractors"

Refer to Par-I: General Conditions of Contract

59.2 Nominated Subcontractors; Objection to Nomination

Refer to Par-I: General Conditions of Contract

59.3 Design Requirements to be Expressly Stated

Refer to Par-I: General Conditions of Contract
The following Sub-Clauses 59.4 & 59.5 are added:

59.4 Payments to Nominated Subcontractors

The Contractor shall pay to the nominated Subcontractor the amounts which the Engineer certifies to be due in accordance with the subcontract. These amounts plus other charges shall be included in the Contract Price in accordance with Clause 58 [Provisional Sums], except as stated in Sub-Clause 59.5 [Certification of Payments].

59.5 Certification of Payments & Nominated Subcontractors

Before issuing a Payment Certificate which includes an amount payable to a nominated Subcontractor, the Engineer may request the Contractor to supply reasonable evidence that the nominated Subcontractor has received all amounts due in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise. Unless the Contractor:

- a) submits reasonable evidence to the Engineer, or
- b)
 - i) satisfies the Engineer in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and
 - ii) submits to the Engineer reasonable evidence that the nominated Subcontractor has been notified of the Contractor's entitlement,

then the Employer may (at his sole discretion) pay direct to the nominated Subcontractor, part or all of such amounts previously certified (less applicable deductions) as are due to the nominated Subcontractor and for which the Contractor has failed to submit the evidence described in sub-paragraphs (a) or (b) above. The Contractor shall then repay, to the Employer, the amount which the nominated Subcontractor was directly paid by the Employer.

60.1 Monthly Statements

Delete the entire text of this Sub - Clause and substitute as follow:

The Contractor shall on the basis of the joint measurements of work done under clause 56.1, submit to the Engineer after the end of each month six

copies, each signed by the Contractor's representative approved by the Engineer in accordance with the Sub-Clause 15.1, of a statement, in such form as the Engineer may from time to time prescribe, showing the amounts to which the Contractor considers himself to be entitled up to the end of the month in respect of:

- (a) the value of the Permanent Works executed,
- (b) any other items in the Bill of Quantities including those for Contractor's Equipment, Temporary Works, dayworks and the like,
- (c) the percentage of the invoice value of listed materials, all as stated in Sub-Clause 60.11(a)(6) hereof, and Plant delivered by the Contractor on the Site for incorporation in the Permanent Works but not incorporated in such Works,
- (d) any other sum to which Contractor may be entitled under the Contract or otherwise:

60.2 Monthly Payments

Refer to Par-I: General Conditions of Contract

60.3 Payment of Retention Money

Refer to Par-I: General Conditions of Contract

60.4 Correction of Certificates

Refer to Par-I: General Conditions of Contract

60.5 Statement at Completion

Refer to Par-I: General Conditions of Contract

60.6 Final Statement

Refer to Par-I: General Conditions of Contract

60.7 Discharge

Refer to Par-I: General Conditions of Contract

60.8 Final Payment Certificate

Delete the entire text of this Sub - Clause and substitute as follow:

Within 28 days after receipt of the Final Statement, and the written discharge, the Engineer shall issue to the Employer (with a copy to the Contractor) a Final Payment Certificate stating:

- (a) the amount which, in the opinion of the Engineer, is finally due under the Contract or otherwise, and
- (b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled, the balance, if, any due from the Employer to the Contractor or from the Contractor to the Employer as the case may be.
The Contractor shall also submit the following documents with his final statement to the Engineer.

- (a). approved final as-built drawings.

- (b). Affidavit by the Contractor that the works have been executed according to approved specification, drawings, designs and standard and have not concealed and defects known to him together with a "No Claim Certificate"

60.9 Cessation of Employer's Liability

Refer to Par-I: General Conditions of Contract

60.10 Time for Payment

The text is deleted and substitute with the follows:

The amount due to the Contractor under any Interim Payment Certificate issued by the Engineer pursuant to this Clause, or to any other term of the Contract, shall, subject to Clause 47, be paid by the Employer to the Contractor within 30 days after such Interim Payment Certificate has been jointly verified by Employer and Contractor, or, in the case of the Final Certificate referred to in Sub-Clause 60.8, within 60 days, after such Final Payment Certificate has been jointly has been jointly verified by Employer or Contractor.

All payments to the Contractor shall be made in Pakistani Rupees only under the Contract and no payment in foreign currency is admissible.

The following Sub-Clause 60.11is added:

60.11 Secured Advance on Materials

The Contractor shall be entitled to receive from the Employer Secured

Advance on Steel Reinforcements and Cement against an indemnity bond acceptable to the Employer of such sum as the Engineer may consider proper in respect of non-perishable materials brought at the Site but not yet incorporated in the Permanent Works provided that:

- (1) The materials are in accordance with the Specifications for the Permanent Works;
- (2) Such materials have been delivered to the Site and are properly stored and protected against loss or damage or deterioration to the satisfaction of the Engineer but at the risk and cost of the Contractor;
- (3) 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;
- (4) 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 therefor;
- (5) Ownership of such materials shall be deemed to vest in the Employer and these materials shall not be removed from the Site or otherwise disposed of without written permission of the Employer; and
- (6) The sum payable for such materials on Site shall not exceed 60% 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 other materials.
 - (b) The recovery of Secured Advance paid to the Contractor under the above provisions shall be effected from the monthly payments on actual consumption basis.

60.11 Financial Assistance to Contractor

Financial assistance shall be made available to the Contractor by the Employer by adopting the following.

- (a) An interest-free Mobilization Advance up to 10% of the Contract Price stated in the Letter of Acceptance shall be paid by the Employer to the Contractor in two equal parts upon submission by the Contractor of a Mobilization Advance Guarantee/Bond for the full amount of the Advance in the specified form from a Scheduled Bank in Pakistan.

- (1) First part within 14 days after signing of the Contract Agreement or date of receipt of Engineer's Notice to Commence, whichever is earlier; and
 - (2) Second part within 42 days from the date of payment of the first part, subject to the satisfaction of the Engineer as to the state of mobilization of the Contractor.
- (b). This Advance shall be recovered in equal monthly instalments; first instalment at the expiry of second month after the date of payment of first part of Advance and the last instalment one months before the date of completion of the Works as per Clause 43 hereof.

61.1 Approval only by Defects Liability Certificate

Refer to Par-I: General Conditions of Contract

62.1 Defects Liability Certificate

Refer to Par-I: General Conditions of Contract

62.2 Unfulfilled Obligations

Refer to Par-I: General Conditions of Contract

63.1 Default of Contractor

Delete the entire text of this Sub-Clause and substitute as follows:

If the Contractor is deemed by law unable to pay his debts as they fall due, or enters into voluntary or involuntary bankruptcy, liquidation or dissolution (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), or becomes insolvent, or makes an arrangement with, or assignment in favour of, his creditors, or agrees to carry out the Contract under a committee of inspection of his creditors, or if a receiver, administrator, trustee or liquidator is appointed over any substantial part of his assets, or if, under any law or regulation relating to reorganization, arrangement or readjustment of debts, proceedings are commenced against the Contractor or resolutions passed in connection with dissolution or liquidation or if any steps are taken to enforce any security interest over a substantial part of the assets of the Contractor, or if any act is done or event occurs with respect to the Contractor or his assets which, under any applicable law has a substantially similar effect to any of the foregoing acts or events, or if the Contractor has contravened Sub-Clause 3.1, or has an execution levied on his goods, or Contract, if the Engineer certifies to the Employer, with a copy to the Contractor, that, in his opinion, the Contractor:

- (a) has repudiated the Contract, or
- (b) without reasonable excuse has failed
 - (i) to commence the Works in accordance with Sub-Clause 41.1,
 - (ii) to proceed with the Works, or any Section thereof, within 28 days after receiving notice pursuant to Sub-Clause 46.1,
- (c) has failed to comply with a notice issued pursuant to Sub-Clause 37.4 or an instruction issued pursuant to Sub-Clause 39.1 within 28 days after having received it
- (d) despite previous warning from the Engineer, in writing, is otherwise persistently or flagrantly neglecting to comply with any of his obligations under the Contract, or
- (e) has contravened Sub-Clause 4.1, then the Employer may, after giving 14 days' notice to the Contractor, enter upon the Site and the Works and terminate the employment of the Contractor without thereby releasing the Contractor from any of his obligations or liabilities under the Contract, or affecting the rights and authorities conferred on the Employer or the Engineer by the Contract, and may himself complete the Works or may employ any other contractor to complete the Works. The Employer or such other contractor may use for such completion so much of the Contractor's Equipment, Temporary Works and materials as he or they may think proper.

Provided further that in addition to the action taking by the Employer against the Contractor this Clause, the Employer 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.

63.2 Valuation at Date of Termination

Refer to Par-I: General Conditions of Contract

63.3 Payment after Termination

Refer to Par-I: General Conditions of Contract

63.4 Assignment of Benefit of Agreement

Refer to Par-I: General Conditions of Contract and add the following paragraph.

The Contractor should quote the rates for items of similar nomenclature and specifications as appearing in Bill of Quantities attached in Tender Documents. In case of any diversity of rates, the lowest of all the rates shall be taken for evaluation and payments. Any departure from above may also render the bid invalid.

64.1 Urgent Remedial Work

Refer to Par-I: General Conditions of Contract

65.1 No Liability for Special Risks

Refer to Par-I: General Conditions of Contract

65.2 Special Risks

The text is deleted and substituted with the following:

The special Risks are the risks defined under Sub-Clause 20.4 Sub Paragraphs (a) (i) to (a) (v).

65.3 Damage to Works by Special Risks

Refer to Par-I: General Conditions of Contract

65.4 Projectile, Missile

Refer to Par-I: General Conditions of Contract

65.5 Increased Costs arising from Special Risks

Refer to Par-I: General Conditions of Contract

65.6 Outbreak of War

Refer to Par-I: General Conditions of Contract

65.7 Removal of Contractor's Equipment on Termination

Refer to Par-I: General Conditions of Contract

65.8 Payment if Contract Terminated

Refer to Par-I: General Conditions of Contract

66.1 Payment in Event of Release from Performance

Refer to Par-I: General Conditions of Contract

67.1 Engineer's Decision

Refer to Par-I: General Conditions of Contract

67.2 Amicable Settlement

Refer to Par-I: General Conditions of Contract

67.3 Arbitration

Delete the entire text of this Sub-Clause and substitute as follows:

Any dispute in respect of which:

- (a) the decision, if any, of the Engineer has not become final and binding pursuant to Sub-Clause 67.1, and
- (b) amicable settlement has not been reached within the period stated in Sub-Clause 67.2,

shall be finally settled under the provision of the arbitration at, 1940 as amended or any statutory modifications or re-enactment, thereof for the time being in force. The said arbitrator/s shall have full power to open up, review and revise any decisions, opinion, instructions, determination, certificate or valuation of the Engineer related to the dispute.

Neither party shall be limited in the proceedings before such arbitrators to the evidence nor arguments put before the Engineer for the purpose of obtaining his said decisions pursuant to Sub-Clause 67.1. No such decision shall disqualify the Engineer from being called as a witness and giving evidence before the arbitrator/s on any matter whatsoever relevant to the dispute.

Arbitration may be commenced prior to or after completion of the Works, provided that the obligations of the Employer, the Engineer and the Contractor shall not be altered by reason of the arbitration being conducted during the progress of the Works.

The Place of arbitration shall be Karachi, Pakistan.

67.4 Failure to Comply with Engineer's Decision

Refer to Par-I: General Conditions of Contract

68.1 **Notice to Contractor**

Delete the entire text of this Sub-Clause and substitute as follows:

All certificates, notices or instructions to be given to the Contractor by the Employer or the Engineer under the terms of the Contract shall be sent by post, cable, telex or facsimile transmission to or left at the Contractor's principal place of business or such other address as the Contractor shall nominate for that purpose.

For the purposes of this Sub-Clause, the Contractor shall, immediately after receipt of Letter of Acceptance, intimate in writing to the Employer and the Engineer by registered post, the address of his principal place of business or any change in such address during the period of the Contract.

68.2 **Notice to Employer and Engineer**

Delete the entire text of this Sub-Clause and substitute as follows:

Any notice to be given to the Employer or to the Engineer under the terms of the Contract shall be sent by post, cable, telex or facsimile transmission to or left at the respective addresses nominated below.

The Employer:

**NED University of Engineering & Technology, University Road,
Karachi – 75270,**

Phone: (92-21) 9926-1261-8

Fax No: (92-21) 9926-1255

The Engineer:

M/s. Shahzad Associates

Consulting Architects, Engineers & Planners

2nd Floor, Farzana Building,

Shaheed-e-Millat Road, Karachi.

Tel: 021-3438-4591, 3438-8857,

Fax: 021-3453-0754

68.3 **Change of Address**

Refer to Par-I: General Conditions of Contract

69.1 **Default of Employer**

Refer to Par-I: General Conditions of Contract

69.2 Removal of Contractor's Equipment

Refer to Par-I: General Conditions of Contract

69.3 Payment on Termination

Refer to Par-I: General Conditions of Contract

69.4 Contractor's Entitlement to Suspend Work

Refer to Par-I: General Conditions of Contract

69.5 Resumption of Work

Refer to Par-I: General Conditions of Contract

70.1 Increase or Decrease of Cost

Delete the entire text of this Sub-Clause and substitute as follows:

The amounts payable to the Contractor, pursuant to Sub-Clause 60.1, shall be adjusted in respect of the rise or fall in the cost of labor, 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:-

$$P_n = A + b \frac{L_n}{L_o} + c \frac{C_n}{C_o} + d \frac{R_n}{R_o} + e \frac{H_n}{H_o}$$

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 Paragraph 60.1 (a), and with Paragraphs 60.1 (b) and (e), where any variations and daywork are not otherwise subject to adjustment;

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

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

Ln, Cn, Rn, Hn, are the current cost indices or reference prices of the cost elements for month "n", determined pursuant to Sub-Clause 70.1(d), applicable to each cost element; and

Lo, Co, Ro, and Ho, etc are the base cost indices or reference prices corresponding to the above cost elements at the date specified in Sub-Clause 70.1(d).

If 'P' is the amount payable (prior to adjustment) at B.O.Q rates for the work carried out in period 'n' than adjusted amount payable to the Contractors for work carried out in period 'n' = P X Pn.

(c) Sources of Reference Prices

The sources of reference prices shall be as under:

For Cement and Reinforcing Steel, intercity Prices of Construction input items, as stated in the Monthly Statistical Bulletin published by Federal Bureau of Statistics Division; Government of Pakistan shall be used as follows:

For ordinary Portland and Sulphate Resistant Cement, the rate of ordinary Portland cement (referred as "cement" in the said Bulletin) per bag shall be used.

For reinforcing steel bars (referred as "iron bars ½" round M.S" in the said Bulletin) per tonne shall be used. The (Karachi city) rates shall be applicable for the above items.

(d) Base, Current and Provisional Reference Prices

The base prices shall be those prevailing on the day twenty eight (28) days prior to the latest date for submission of tender. Current reference prices shall be those prevailing on 28 days prior to the last

day of the period to which a particular Interim Certificate is related. If at any time, the current reference prices are not available, provisional reference price as determined by the Engineer will be used, subject to subsequent correction of amount paid to the Contractor when the current reference prices become available.

(e) Adjustment after Completion

If the Contractor fails to complete the Works within the Time for Completion prescribed under Clause 43, 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 Clause 44, 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 51. Such adjustment(s) shall have to be agreed in the variation order.

70.2 Subsequent Legislation

Refer to Par-I: General Conditions of Contract

71.1 Currency Restrictions

Refer to Par-I: General Conditions of Contract

72.1 Rates of Exchange

Refer to Par-I: General Conditions of Contract

72.2 Currency Proportions

Refer to Par-I: General Conditions of Contract

72.3 Currencies of Payment for Provisional Sums

Delete the sub-clause in its entirety

The following Sub-Clauses 73.1, 73.2, 73.3, 74.1, 75.1, 76.1, and 77.1 are added.

73.1(a) Payment of Income Tax

The Contractor, Subcontractor and their employees shall be responsible for payment of all their income tax, super tax and other taxes

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applicable under the laws of Pakistan, as amended from time to time, on income, or any loss of income, arising out of the Contract and the rates and prices stated in the Contract shall be deemed to cover all such taxes.

The Employer shall apply source deduction of Taxes (with holding) at the applicable rate during currency of the contract for all the amounts payable in terms of the Contract as per Income Tax Laws of Pakistan under the above clause.

73.1(b) Payment of Local Tax

The prices bid by the Contractor shall include all customs duties, import duties, sales tax, octroi and other taxes that may be levied in accordance with the laws and regulations in force on the date 28 days prior to the latest date for submission of bids in Pakistan on the Contractor's equipment, plant, materials and supplies (permanent, temporary and consumable) acquired for the purpose of the Contract and on the services performed under the Contract. Nothing in the Contract shall relieve the Contractor from his responsibility to pay any tax that may be levied in Pakistan in relation to execution of the Contract.

73.1(c) Foreign Taxation

The Prices bid by the Contractor shall include all taxes, duties and other charges imposed outside the Employer's country on the production, manufacture, sale and transport of the Contractor's Equipment, Plant, Materials and supplies to be used on or furnished under the Contract, and on the services performed under the Contract.

73.2 (a) Custom Duty & Taxes

The rates and prices stated in the Priced Bill of Quantities shall be deemed to include every element of duty or tax leviable on or in relation to the production, import, purchase, sale, delivery and transportation of materials and to the bringing thereof to the Site and no such duty or tax shall be separately reimbursable.

73.3(b) Custom Clearance

It is the responsibility of the Contractor to make all arrangements and payments necessary for obtaining customs clearances of all materials, goods and equipment. The Employer shall not assume any responsibility in respect of the aforementioned obligations of the Contractor, except as otherwise provided in the Contract.

74.1 Integrity Pact

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 Employer 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 Employer 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 63.1 to 63.4 and the payment under Sub-Clause 63.3 shall be made after having deducted the amounts due to the Employer under Sub-Para (a) and (c) of this Sub-Clause.

75.1 Termination of Contract for Employer's Convenience

The Employer shall be entitled to terminate the Contract at any time for the Employer's convenience after giving 56 days prior notice to the Contractor, with a copy to the Engineer. In the event of such termination, the Contractor:

- (a) shall proceed as provided in Sub-Clause 65.7 hereof; and
- (b) shall be paid by the Employer as provided in Sub-Clause 65.8 hereof.

76.1 Liability of Contractor

The Contractor or his Subcontractors or assigns shall follow strictly, all relevant labour laws including the Workmen's Compensation Act and the Employer shall be fully indemnified for all claims, damages etc. arising out of any dispute between the Contractor, his Subcontractors or assigns and the labour employed by them.

77.1 **Joint and Several Liability**

If the Contractor is a joint venture of two or more persons, all such persons shall be jointly and severally bound to the Employer for the fulfilment of the terms of the Contract and shall designate one of such persons to act as leader with authority to bind the joint venture. The composition or the constitution of the joint venture shall not be altered without the prior consent of the Employer.

78.1 **Details to be Confidential**

The Contractor shall treat the details of the Contract as private and confidential, save in so far as may be necessary for the purposes thereof, and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere without the prior consent in writing of the Employer or the Engineer. If any dispute arises as to the necessity of any publication or disclosure for the purpose of the Contract, the same shall be referred to the decision of the Engineer whose award shall be final.

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PART A- SPECIAL PROVISIONS

1. GENERAL

These Special Provisions shall be used as supplementary and in conjunction with other Contract Documents and shall be deemed to be incorporated and become part of the Contract Documents. In case any provision is at variance with any of Special Provisions the Special shall prevail.

All works shall be carried out in accordance with following provisions, supplemented by detailed technical specifications. Any inconsistencies or ambiguities shall be brought to the notice of the Engineer for his clarification/decision. Decision and direction of the Engineer, in all such cases, shall be final and binding.

The Contractor shall make himself thoroughly familiar with the site conditions, foresee any and all problems likely to encountered during execution of the works, and shall be able and ready to solve them effectively. Proposals for solutions to the problems shall be submitted to the Engineer for approval before proceeding with the work.

2. APPLICABLE CODES AND STANDARDS

In the absence of other standards being required by the Contract Documents all work and materials shall meet the requirement of the Uniform Building Code of the United States, and/or applicable American Society for Testing Material (ASTM) American Association of State Highway and Transportation Officials (AASHTO) Specifications and the latest American Concrete Institute Manual of Concrete Practice and American Institute of Steel Construction (AISC) Manual Relevant to the Works except in cases where the Pakistan Building Code requires a higher standard. In such cases the Pakistani Code shall govern. Where the abbreviations listed below are used it refers to the latest code, standards, or publication of the following organizations:

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
ASA	American Standard Association
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing and Material
AWS	American Welding Society
BSI	British Standard Institutes

ICAO	International Civil Aviation Organization
BSICP	British Standard Institute Code of Practice
PCA	Portland Cement Association
PSI	Pakistan Standard Institute
UBC	Uniform Building Code

Should the Contractor, at any time and for any specific reasons wish to deviate from the above standards or desires to use material or equipment other than those provided for by the above standards, then he shall state the exact nature of the change giving the reasons for making the change and shall submit complete specifications of the materials and description of the equipment for the Engineer's approval, whose decisions shall be conclusive and binding upon the Contractor.

3. CODES, STANDARDS, CERTIFICATES

The Contractor shall supply and have at his site office:

Copies of all latest editions of codes and standards referred to in these Specifications by number or equivalent codes and standards approved by the Engineer.

Catalogues and published recommendations from manufacturers supplying products and material for the project.

The contractor shall provide manufacturer's or supplier's certificate to the Engineer for all products and materials which must meet the requirements of specific code or standard as stated in these specifications.

4. MANUFACTURER'S RECOMMENDATIONS

Installation of manufactured items shall be in accordance with procedures recommended by the manufacturer or as approved by the Engineer.

5. SEQUENCE OF CONSTRUCTION

The Contractor shall submit his proposal for approval of the Engineer the sequence of construction, prior to starting the Works. The Work shall be executed as per approved sequence of construction.

6. UNITS OF MEASUREMENTS

The International System of Unit (SI) shall be used throughout this Project.

7. PLANT, EQUIPMENT AND TOOLS

The Contractor shall provide at his cost modern plant, equipment, machinery and tools, adequate and befitting to the nature, magnitude and size of this Contract, in strict compliance with the requirements of relevant Clause of the Conditions of Contract. The Contractor shall own, provide and install at site of work earth excavating and moving equipment such as excavator, graders, dozers, rollers, dump trucks, pipe laying equipments, concrete mixers, pavers, asphalt plant etc. for rapid laying of pipes, placing of good quality concrete and construction of road works.

8. CONSTRUCTION AREA

The Contractor shall confine his operations to the areas that are actually required for the Works. Arrangements for haulage of materials are to be made by the Contractor at his cost.

9. STORAGE & HANDLING FACILITIES

The employer will provide the Contractor possible space within or nearby the area site of Works for the storage of materials, equipment, workshop and for Contractor's temporary office, laboratory during the currency of the Contract. On no account shall such temporary installations conflict/interfere with any of the permanent installations, service and any operational function of Employer. The handling and storage of all plants equipments and material at site shall be the sole responsibility of the Contractor and at no risk and cost to the Employer. If the contractor wishes to use any other land/area for camps he shall pay rentals or others costs connected therewith.

10. TEST LABORATORY AND TESTING

- 10.1 The Contractor shall establish and maintain at the project site at his own material testing laboratory for performing the necessary tests specified in the Contract. Testing for which facilities are not available in the Contractor's Project Laboratory shall be performed by testing agencies / laboratories as approved by the Engineer. The Contractor shall furnish sample of all materials, provide laboratory technicians, helpers for his and the Engineer's supervision staff. All testing shall be carried out by the Contractor under the supervision of the Engineer or his designated representatives. All costs for establishing and maintaining site laboratory, providing samples, technicians/helpers, testing/reports shall borne by the Contractor.

- 10.2 The quality control testing shall be performed by the Contractor's competent personnel under supervision of the Engineer's Staff in accordance with site testing and quality control program to be established by the Contractor and approved by the Engineer or his Representative. The contractor shall keep a complete record of all quality tests performed and submit the same to the Engineer. All quality control and related tests shall be carried out in accordance with applicable standards and codes.

11. CONSTRUCTION AND CHECKING AT SITE

The bidders shall provide with their bid a list of the main Construction equipment they would propose to use on site.

The Contractor shall submit to the Engineer in due time for approval and discussion, his proposals and plans as to the method and procedure to be adopted for the execution of Works.

The submitting of these suggestions and arrangements and the approval thereof by the Engineers shall not relieve the Contractor of his responsibilities and duties under the Contract.

The carrying out of all work included in the Contract is to be supervised by a sufficient number of qualified representative of the Contractor and full facilities and assistance are to be afforded by the Contractor for the Engineer and his supervision staff to check and examine the execution of the Works.

The Engineer reserves the right to inspect all parts of the works but may at his discretion waive inspection on certain items. This shall in no way absolve the Contractor from his responsibilities. This particularly applies to the checking of materials, leveling, setting and aligning of the various parts and of road work and to the proper fitting and adjustment of manufactured and finished material and fixtures in position.

If the Engineer or his Representative sees that the work progress is slow in such a way that the works or part thereof will not be completed in accordance with the approved work program, then he may order the Contractor to work overtime or in shifts and the Contractor shall comply. All financial implication for these arrangements will be borne by the Contractor and at no additional costs to the Employer.

In the event of night work, the Contractor shall provide sufficient and adequate lighting to the satisfaction of the Engineer or his Representative and shall supply the necessary manpower for satisfactory continuation of the work after normal hours.

12. BAR BENDING SCHEDULE

The Contractor shall provide 6 copies including reproducible copy of Bar Bending Schedule for all the steel and reinforcement shown on the drawings before execution of structural elements on site and also at the time of interim payments in proper documented format and submit for approval to the Engineer.

13. DRAWINGS

13.1 **Tender Drawings:** The drawings listed and provided in the Bidding Documents are referred to as Tender Drawings and these show the scope of work to be performed by the Contractor. Tender Drawings shall not be used as a basis for fabrication or construction but may be used as basis for placing preliminary order for materials. Subject to corrections based on the future issue of drawings as provided under sub-clause 13.2.

13.2 **Drawing issued for Construction:** After Award of contract, Tender Drawings shall be replaced by Drawings issued for construction including supplementary specifications as may be necessary. Drawings issued for Construction may include some of the Tender Drawings with or without modification and additional drawings as required to express design intent in greater detail. Such drawings may also be modified from time to time. Drawings issued for construction will be the drawings from which shops, fabrication, erection, installation, concrete placing, formwork or other construction detail drawings shall be prepared by the Contractor. The work shall be executed in conformity with drawings issued for construction.

13.3 **Study of Drawings:** The Contractor shall study all drawings issued for construction carefully as soon as practicable after receipt thereof, and any errors discovered shall promptly be brought to the knowledge of the Engineer for his instructions.

13.4 Drawings to be Furnished by the Contractor:

(a). **Shop Drawings:**

All shop drawings shall be prepared by the Contractor and submitted to the Engineer required for the work including all kinds of fabrications, field erection, installation, placement and layout drawings shall be furnished by the Contractor for approval of the Engineer. If additional detail drawings are necessary to complete any part of the work, such details shall be incorporated. Drawings shall be prepared by the Contractor and submitted to the Engineer for approval. All

drawings shall be complete and submitted in due time and in logical order to facilitate proper coordination. All drawings submitted and approved will form part of the Contract.

(b). Construction Plant Layout Drawings:

Three prints of drawings, showing the layout of construction plant and equipment the contractor purposes to use on the work shall be submitted the Contractor for review to the Engineer. The drawings shall show the location of the principal component of the Construction plant, offices, storage areas and yards which the contractor purposes to construct or use at the site of the work and elsewhere. The drawings shall also show the unloading facilities for materials and equipment at the work site.

13.5 **Submissions and Approvals:**

- (a). Except as otherwise specified, three copies of each drawing for approvals or review shall be furnished to the Engineer. Within ten (10) calendar days after receipt, the Engineer will send one copy to the Contractor marked "Approved", "Approved/Except as Noted", or "Returned for Correction". The notations "Approved" and "Approved/Except as Noted" will authorize the Contractor to proceed with the works. Drawings returned for correction will be resubmitted for approval in the same manner, as for new drawings every revision block.
- (b). Upon receipt of prints which have been "Approved" or "Approved / Except as Noted" the contractor shall furnish three prints plus one reproducible of each drawing to the Engineer. If revisions are made after a drawing has been approved, the Contractor shall furnish 3 additional points and one reproducible subsequent to each approved revision.
- (c). Shop drawings to be prepared by a Sub-Contractor shall be submitted in the same manner as (a) & (b) above but they will be submitted through the Contractor.
- (d). All of the Applicable requirements of this Clause with reference to drawings to be prepared by the Contractor, including Sub-Contractors, shall apply equally to catalogue cuts, illustrations, printed specifications or other data submitted for approval.

- (e). Any work done on Contractor's drawings shall be at the Contractor's risk. The Engineer will have the right to request any additional details and to require the Contractor to make any changes in the drawings which are necessary to confirm to the provisions and intent of design and specifications without additional cost to the employer. The approval of the drawings by the Engineer shall not be construed as complete check but will indicate only that the general method of construction and detailing is satisfactory. Approval by the Engineer of the Contractor's drawings shall not be held to relieve the Contractor of his obligation to meet all the requirements of the specifications or of his responsibility for the correctness of the Contractor's Drawings or of his responsibility for correct fit of assembled part in final position or of his responsibility for the adequacy of method of construction.

14. AS-BUILT DRAWINGS

The Contractor shall at all times keep on the site one copy of all drawings and approved samples together with copies of all public safety codes and relevant standards applicable to the works. All such material shall be made available to the Engineer.

In addition, the Contractor shall, at all times, keep on Site a separate set of prints on which shall be noted neatly, accurately and promptly Site work progresses all insignificant changes between the work shown on the Drawings and that which is actually constructed.

At the completion of works, the Contractor shall at his expense, supply to the Engineer six copies and one reproducible copy of all Drawings amended to comply with work "As Built". The Contractor shall provide in the same format as the original Drawings and additional Drawing required to record the work.

15. PROTECTION OF THE WORKS

The Contractor shall whenever necessary cover up and protect the works from weather and damage by his own or other workmen performing subsequent operation. He shall provide all necessary dust sheets, barriers and guard rails and clear away the same at completion.

The Contractor shall take all proper steps for protection at all places on or about the works which may be dangerous to his workmen or any other

person or to traffic. The Contractor shall provide and maintain warning signs, warning lamps and barricades as necessary.

The entire responsibility for the safety and stability of the works and safety of people inside and around the works, in any and all cases, shall rest and remain with Contractor, who may add other appropriate safety measures as approved by the Engineer, to meet this obligation.

16. RESTORATION AND CLEANING

The Contractor shall do regular cleaning and clean away all rubbish and excess materials that may accumulate from time to time on completion and before handing over. Upon completion of the works he shall obliterate all signs of temporary construction facilities such as work areas, stock piles of excess or waste materials, or any other wasters of construction, unless, otherwise directed by the Engineer. The works and Site shall be left in a clean and satisfactory state for immediate use and occupation. Care shall be taken not to use any cleaning materials which may causes damage to the surface to be cleaned.

17. PRODUCT DATA

Manufacturer's catalogue sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive literature shall be clearly marked to identify pertinent materials products or models. Dimensions and required clearances shall be indicated.

18. SAMPLES

- 18.1 The Contractor shall furnish for approval of the Engineer with reasonable promptness all samples as directed by the Engineer or specifically called for in these specifications. The Engineer shall check and approve such samples with reasonable promptness for compliance with the requirements of contract documents. All work shall be in accordance with approved samples.
- 18.2 Duplicate final approved samples, in addition to any required for the Contractor's use shall be furnished to the Engineer one for Office use and other for the Site.
- 18.3 Samples shall be furnished so as not to delay fabrication, allowing the Engineer reasonable time for consideration of the sample submitted.
- 18.4 Each sample shall be properly labeled with the name, name of the project, the Contractor's name and the date of submission,

and the Specifications Article number to which the sample refers.

- 18.5 The manufacture's installation directions shall be provided with each sample. The Contractor shall pay all transportation costs and deliver samples to the Engineer's Office, Site or testing laboratory as directed by the Engineer.
- 18.6. Samples will not be returned unless return is requested at the time of submission, all packing and transportation cost for the return of samples shall be paid by the Contractor.
- 18.7. No acceptance or approval of any Shop Drawings or sample, or any indication or request by the Engineer on any Shop Drawings shall constitute an authorization for any increase in the Contract Sum.

19. MATERIAL SOURCE

Quarry materials such as sand, gravel, earth, rock or other mineral materials, other than local borrow or selected materials obtained on the project, for use in the works shall be provided by the Contractor from sources to be identified and established by the Contractor who will be responsible for survey, investigation and testing to prove the extent and suitability of materials, for land and royalty / malkana costs, for access roads, Site facilities, stripping overburden, separation of materials, processing and other cost. All costs shall be considered as included within the rates inserted for the items included in the Bill of Quantities.

20. QUALITY OF MATERIAL

- 20.1 All materials and supplies furnished under the Contract Documents shall be new and of standard first grade quality and of best workmanship and design. No inferior or low grade materials supplies or articles will be either approved or accepted and all works of construction shall be made in neat, first class and workmanlike manner.
- 20.2 Prior to procurement, the Contractor shall furnish to Engineer for his approval, the names of the manufactures of all Equipment and materials which he contemplates incorporating in the works, samples of material shall be submitted to the Engineer for approval. Equipment, material supplies and articles installed or used without the Engineer's approval shall be at the risk of subsequent rejection.

21 INSPECTION & TESTS REPORTS

21.1 All Equipment and materials furnished under these specifications and all work performed in connection therewith will be subject to rigid inspection by the Engineer. Acceptance of Equipment and material or the waiving off inspection thereof shall in no way relieve the Contractor of his responsibility for meeting the requirements of the contract.

21.2 The Contractor shall furnish to the Engineer Representative four certified true copies of reports of the tests of all materials used in the manufacture and fabrication of all Equipments and materials. The result of these tests shall be in such form as to show compliance with the applicable specifications, standards and codes of the material used.

22 ACCIDENT PREVENTION, PROTECTIVE EQUIPMENT

The Contractor shall comply with the highest standard of safety and accident prevention in accordance with international standards and in compliance with all applicable laws, ordinances and statutory provisions in Pakistan.

All requisite barriers, fences, warning signs, lights and other safety precautions as required for the protection of persons and property on or adjacent to the Site shall be provided at the Contractor's cost.

All falsework, scaffolding and hand rails shall be well constructed and secured at all times. Where overhead work is being carried out warning signs shall be installed at different level clearly warning the overhead work.

All warning signs shall be in two languages, English and Urdu, and shall at all times be maintained in a clean and legible condition, to the satisfaction of the Engineer.

Trash shall be removed at frequent intervals to the satisfaction of the Engineer.

23 TEMPORARY FACILITIES

The Contractor shall provide, erect or install, maintain alter as necessary and remove on completion except as otherwise directed by the Engineer all temporary facilities and services as described hereinafter and / or in the Contract Documents and / or instructed and approved by the Engineer.

The Contractor temporary Site Office shall be available for use not later than one month after the date of the Site handing over. Installation of temporary services at the Site shall be given priority over all other construction at the Site.

23.1 TEMPORARY SERVICES

a) Temporary Water Supply and Electricity

The Contractor shall supply at his own cost temporary supply of water and eclectic power as necessary for all construction activities and proper performance of the works during the period of the contact.

b) Waste Disposal

The Contractor shall make such temporary provisions as may be required in order to dispose off any chemicals, fuels, oils, grease, bituminous materials, waste and soil waste and the like without causing pollution to either the Site or the environment. Disposal of any materials, wastes, effluents, garbage, oil, grease, chemicals and the like shall be in areas specified by the concerned local authority proposed by the Contractor and subject to the approval of the Engineer. If any waste material is dumped in unauthorized areas the Contractor shall remove the material and restore the area to the condition of the undisturbed area. If necessary contaminated ground shall be excavated, disposed off as directed by the Engineer and replaced with suitable fill material compacted and finished with topsoil all at the expense of the Contractor.

c) Fire Protection

The Contractor shall provide and maintain adequate fire protection in the form of barrels of water with buckets, fire bucket tanks, fire extinguishers, or other effective means ready for instant use, distributed around the project and in and about temporary inflammable structures during construction of the works.

Gasoline and other flammable liquids shall be stored in and dispensed from safety containers approved by the Engineer and storage shall not be within building.

Torch-Cutting and welding operations performed by the Contractor shall have the approval of the Engineer before such work is started and a chemical extinguisher is to be available at the location where such work is in progress.

The Contractor shall follow the instructions and specifications of the Civil Defence Department and or other local authority.

24 CONSTRUCTION SCHEDULE

- 24.1 A Construction schedule shall be maintained in accordance with the provisions of the Conditions of Contract.
- 24.2 The schedule shall be accompanied with sufficient data and information including all necessary particulars of plant, Equipment, machinery, temporary works, arrival of plant, Equipment at Site and their installation, method of operation, work forces employed, etc., for all activities of the Works.
- 24.3 Should the Engineer consider any alteration or addition in the programme and time schedule the Contractor shall conform thereto without any cost to the Employer.
- 24.4 Whenever necessary and wherever the progress of the work shows departure, the programme and time schedule shall be updated and submit to the Engineer for his approval.

25 NOTIFICATION TO ENGINEER

The Engineer representative shall be notified daily in writing of the nature and location of the work the Contractor intends to perform the next day so as to enable necessary inspection and measurement to be carried out. The Engineer may, if necessary, direct that at longer notice be given for certain operations.

26 NIGHT WORK

No work shall be done at night without approval of the Engineer. When work is required to be done at night for which approval as being acquired from Engineer, the Contractor shall maintain from sunset to sunrise such lights on or about his work and plant as the Engineer may deem necessary for the proper observation of the work and the efficient execution thereof.

27 WEATHER

No work is to be undertaken when, in the opinion of the Engineer, the weather is so unsuitable that proper protection of the works can not be ensured.

28 CO-ORDINATION WITH OTHER CONTRACTORS

It shall be the responsibility of Contractor to co-ordinate and keep up good relations with other Contractors employed on Site by the Employer.

29 SURVEY INSTRUMENT

The Contractor shall maintain on Site the following surveying instrument in perfect conditions to enable the Engineer's Representative to check levels and lines of the work at all times.

- One Total Station Survey Unit complete with tripods, range, Pole Prisms, Coaxial Targets, Tilting Prisms and any other accessories.
- One Electronic Digital Level complete with Tripod and other Standard Accessories.
- Leveling Staves as required.
- Ranging Poles, as required.
- Two Measuring Steel Tapes, 50m long with Thermometer and other accessories.
- Five Measuring Steel Tapes, same as above but 30m long.

These instruments and water carriers will be kept at the Office of the Engineer. The Contractor shall also provide Survey Helpers and adequate supplies of Expendable Materials, such as Pencils, Rubbers, Inks, Notes Books, Drawings, Papers, Survey Pegs, Brushes and Paints as required by the Engineer / Engineer Representative. The Survey Equipment shall remain the property of the Contractor after completion of the Contract Works.

30 SETTING OUT

- 30.1 Setting out shall be in accordance with the applicable clauses of Conditions of Contract.
- 30.2 The Engineer / Engineer Representative will furnish design survey data and jointly locate with the Contractor all points of intersections, tangents and basic benchmarks. The Contractor shall set construction stake establishing lines, slopes, grades etc. all other work shall be laid out from these marks and / or lines. The Contractor shall be responsible for the accuracy of all lines, slopes, grade and other survey works.
- 30.3 Temporary pillars and other monuments used in setting out shall be removed after completion of the required work.

31 WEEKLY PROGRESS REPORT AND PHOTOGRAPHS

- a) During the continuance of the works the Contractor shall submit weekly progress reports on forms as approved by the Engineer.

Such weekly reports shall show the actual progress completed as of date of the report plotted against the planned scheduled as given by the Contractor at the start of work and shall be broken down so as to indicate status all activities associated with mobilization, design, material procurement, manufacture, surveys works, tests with regards to the approved work programme.

- b) When the work commences at the Site, the Engineer shall provide the Contractor with a standard report form which shall be filled in each week and submitted by the Contractor to indicate the progress of construction, and to serve as a basic for making progress payments to the Contractor. The progress indicated on the report each month shall be mutually agreed upon by the Contractor and the Engineer's Representative at the Site before it is formally submitted to avoid delays in making progress payments.
- c) The Employer and the Engineer reserve the right to coordinate the schedules of the Contractor and other Contractors working at the Site, and to adjust and / or change any and all such schedules as required during the course of construction in order to achieve a coordinated project in harmony with the completion date.
- d) Commencing after the first week of construction, and continuing every week until completion, the Contractor shall have photographs taken, where directed by the Engineer's Representative, to show progress of his work and completion of each structure of major features.

32 CONTRACTOR TO NOTIFY DELAYS ETC.

Any delay which will affect the completion of works shall be detail by the Contractor who shall state the action he is taking for effective completion of the contract programme.

The Contractor shall submit a report in respect of the various sections of the works, the Equipment in use or held in readiness, a return of labour and supervisory Staff and details of any manners arising which may generally affect the progress of the work.

The Contractor shall give a summary of the detailed progress report giving the position with regard to the agreed contract programme.

The progress report shall be set out in a format to the approval of the Engineer, and forwarded promptly so that on receipt the information contained therein is not more than ten days out of date.

If during execution of the contract, the Employer considers the progress position of any section of the work to be unsatisfactory, or for any other reason Contractors Representative are to attend such meetings.

The Contractor shall prepare and submit six copies of weekly progress report to the Engineer's Representative. This report shall summarize Site activities and record and details where difficulties in maintaining the approved programme are being experienced or are likely to cause subsequent delays.

The Contractor shall also prepare and submit to the Engineer's Representative six copies of a daily activities report summarizing the main activities to be undertaken. Each day, nothing special activities such as tests, alignments checks etc. the Contractor shall be responsible for expediting the delivery of all materials and Equipment to be provided by him and his Sub-Contractors

33 PHOTOGRAPHS

As soon as work commences on Site, the Contractor shall provide Photographs (at least 10 to 12) of the works from positions to be selected by the Engineer or his Representative. Each Photographic Print shall not be less than 297mm X 210mm or as directed by the Engineer and shall bear a printed description, a serial number and the date when taken.

The negative of all Photographs shall be held at the Contractor's Site Office, numbered and handed over to the Employer at the completion of works.

The Contractor shall provide a number of selected Photographs for submission with each copy of the monthly report as required by the Engineer. The Contractor shall also provide from time to time as and when required by the Engineer, further Photographs of the contract works to record or illustrate specific events.

34 FACILITIES FOR THE EMPLOYER / ENGINEER

Temporary Site Office for Consultants Engineer Representative and his Staff

The Contractor shall provide, clean and maintain Office Accommodation facilities for the Consultant Engineer Representative and his staff of appropriate area (as required by the Consultant) including washroom and kitchen. The Office shall be located as directed by the Engineer Representative and his prior approval.

The Consultant Engineer's Site Office shall be furnished and equipped by the Contractor with new, unused Furniture, Equipment including suitable Sanitary, Electrical etc. and necessary arrangements as per the list given below:

- a) Executive desk with lockable drawers and Glass top
- b) Air-Condition (1 Ton) manufacturer as recommended
- c) Executive type upholstered desk chair
- d) Standard Wooden Office Tables with Drawers
- e) Standard Office Chairs
- f) Steel Filing Cabinet (standard size)
- g) Display Board
- h) Electric Fans
- i) Scientific Calculators (CASIO)
- j) Electric Water Cooler (Dispenser)
- k) Office Stationery and Consumables
- l) Steel Cabinets and Shelves of required size
- m) Computer (Dual Core) with complete accessories, Internet Facility and Engineering Software as required by Engineer and Computer Operator
- n) Printer (Size A-4/A-3)
- o) Complete Furniture for Sitting Arrangements etc.

Other reasonable facilities such as, but not limited to Drawing Printing, Photocopies, Book Binding etc.

The Site Office including Fittings, Fixtures, Equipment and Furnishing shall remain the property of the Employer after completion of the works and in case the Employer does not want to retain the Site Office then the Contractor shall remove the Site Office and clear the area. The land shall be restored to its original condition.

No payment shall be made to the Contractor for the works involved under this Sub-Clause.

35 MEASUREMENT AND PAYMENT

No measurement or payment shall be made for the works involved within the scope of these Special Provisions and all costs thereof shall be

deemed to be included in the quoted rates of other pay items of the Bill of Quantities.

36. Transport Facilities

Not Applicable

37. Contractor's Representative

The Contractor shall appoint an experienced Site Engineer (Professional Engineer) Registered with PEC (Pakistan Engineering Council) and duly licensed, who will be posted at the site of work for execution of the project properly.

The Contractor shall also have a responsible person permanently on the Site during normal working hours who is capable of receiving, and acting upon, instructions received from the Engineer or Employer representative.

The Contractor shall provide such assistance and supply such labour, materials and equipment as may be required by the Engineer's representative and his staff to enable them to carry out their duties under the contract.

38. Security Passes

The Contractor shall ensure that all his employees and those of his sub Contractors are issued with security passes and identification cards required by Employer.

39. Visitors

The Contractor shall not allow any unauthorized visitors on the Site. He is to keep visitors book which all authorized visitors shall sign. The Contractor shall provide safety helmets and any other appropriate protective clothing for such visitors for the duration of their visit.

LIST OF APPROVED MANUFACTURERS / SUPPLIERS

All equipment and material provided under this contract shall be procured from the following manufacturers / suppliers only.

CIVIL WORK

S. NO	NAME OF MATERIAL	NAME OF MANUFACTURER / SUPPLIER
C-01	Cement	Lucky, Attock (Falcon)and Pakland
C-02	White Cement	Anwarzeb or approved equivalent
C-03	Reinforcement	Amreli Steel, Razzaque & Nawab
C-04	Testing Laboratories	NED, PCSIR, Karachi Shipyard Engineering & Mehran University
C-05	Ceramic Tiles	Master, STILE, EMCO, PORTA, National Tiles
C-06	Marble Tiles	Boticina, Fancy, Tavera, Chippi or approved equivalent
C-07	Terrazo Tiles	Noor, Al-Muhammad Tiles & Concrete Technologies
C-08	Paint	ICI, Berger, Dulux, Jotun, Nelson, Kansai
C-09	Aluminum	Alcop, Pakistan Cables & A.C.P or approved equivalent
C-10	Door Shutter	Interwood & Sterling or approved equivalent
C-11	Glass	Imported make i.e. Jeddah, Dubai, Prince Glass & Ghani Glass
C-12	Tinted Glass	Imported make i.e. USA and Belgium or approved equivalent
C-13	Lock	Imported make i.e. Japan, Germany, UK, Italian and Mandali
C-14	Expansion Joint Chemical	Zahabya's & Sikka or approved equivalent
C-15	Composite Doors	AVT & Homezone or approved equivalent
C-16	Porcelain Tiles	Imported make, Rocka (Dubai), Malaysia
C-17	Granite	Salim Industries, Imported or as approved
C-18	Facing Block	Envicrete or Equivalent, Stone Tiles, Glazed Tiles
C-19	Paver	Envicrete, Hubcrete & Meqnacrete

PLUMBING WORK

S. NO	NAME OF MATERIAL	NAME OF MANUFACTURER / SUPPLIER
P-01	Ceramic Fixture	ICL, ASIF, PORTA, Karamcera
P-02	G.I. Pipes	IIL, Steellex, Jamal Pipes, Bashir Pipe
P-03	G.I. Pipe Fittings	HE China and TG China
P-04	Cast Iron Pipes	CME, TIPPU & Singer or approved equivalent
P-05	RCC Pipes	Razia & Dawood or approved equivalent
P-06	PVC Pipes	AGM, DADEX, BEETA and Jeddah Pipes
P-07	uPVC Pipes	Dadex, AGM, LANSO, Jeddah and Pak Arab
P-08	PPRC Pipes	AGM, DADEX, KELEN, MARLEY (U.K) or approved equivalent
P-09	C.I. Pipes & Fittings	Al-Pine Steel (Pvt.) Ltd. Sandal Engineering, Teepu Supreme
P-10	Bathroom Fittings	Master, SONEX, K.S or approved equivalent
P-11	Water Cooler	MECO and Sunny or approved equivalent
P-12	Geyser	Singer, Skyline, Skyflame or approved equivalent
P-13	Fiber Glass	Master, TINO, Popular or approved equivalent
P-14	Kitchen Sinks	Super Asia & Atlas or approved equivalent
P-15	Sanitary Fittings	Master, Faisal & Perfect Industries. or approved equivalent
P-16	Valves	KITZ-JAPAN or approved equivalent
P-17	Gas Water Heaters	Singer, Corona, Adnurak or approved equivalent
P-18	C.I. Covers with Frame Floor Drains & Floor Cleanouts	Al-Pine Steel (Pvt.) Ltd & Sandal Engineering

ELECTRICAL WORK

S. NO	NAME OF MATERIAL	NAME OF MANUFACTURER / SUPPLIER
E-01	PVC Pipes & Accessories	Jeddah, Prince, Galco & Pak Arab
E-02	Wires & Cables	Pioneer Cables Ltd, Pakistan Cables, Fast & AGE
E-03	Switches & Sockets	Linker, Clipsal, MK, Busch, Milano, Legrand, ABB, HILIFE & Orange
E-04	Light Fixtures	Philips, Zainlight with Philips components, Bega & Sunlight, Pierlite or equivalent
E-05	Distribution Boards, Main & Sub	Zelon, Unique, Babar Bros, PEL & Tarasaki, Shinader, ABB, Nadeem & Co. or approved equivalent
E-06	Main Panel	Siemens, Elmatech, Electromech, Alstom & Babar Bros, Shinader, ABB, Nadeem & Co. or equivalent
E-07	Back Boxes, Pull Boxes, Floor Boxes	Busch, Milano, Legrand, ABB, Laeeq Sons, Pesco & Zeltec
E-08	Emergency Lights	Local or as approved
E-09	Circuit Breakers	ABB, Terasaki & MG, Shinader or approved equivalent
E-10	Fans	Pak Fan, GFC, Millat Climax & F.G or approved equivalent
E-11	Control Fuse	Tarasaki, Shinader, ABB
E-12	MCCBS & MCBS ELCBS	Marlin Gerlin (MG) (France), Siemens (Germany) ABB & (Italy), Terasaki, Shinader or approved equivalent
E-13	PVC Conduit & Accessories	Beta & Tesco, Galco, PAK ARAB
E-14	Steel Conduit & Accessories	hilal Industries, IIL, Jamal, Pioneer & Bashir
LOW VOLTAGE SYSTEM		
E-15	Data / Voice Cables CAT-6	Clipsal (Australia) or approved equivalent 3M, Shinader
E-16	Face Plate with CAT-6 I/O	Clipsal (Australia) or approved equivalent 3M, Shinader
E-17	Telephone Cables	Pakistan Cables, Siemens (Germany), Pioneer Cables, Comscope (USA) & 3M
E-18	Telephone Junction Box	S.A. Electric, N.R. Industries, Misto Industries
E-19	Fire Alarm System	ZITON (UK), ZETA (UK) & GENT (UK)
E-20	CC TV Cables	Saxton (USA) or approved equivalent
E-21	CC TV Camera	Samsung / Proline (Korea / UK) or approved equivalent
E-22	Speakers	TOA (Japan), Pioneer (Japan) or approved equivalent
SPLIT TYPE AIR-CONDITIONERS & ACCESSORIES		
E-23	uPVC Pipes / Accessories	Nepro, AGM, Jeddah, Pak Arab
E-24	Face Plate with CAT-6 I/O	Clipsal (Australia), Shinader or approved equivalent
E-25	Split Type Air-Conditioner	Panasonic, Mitsubishi, Gree, Acson & Haier



ACADEMIC BLOCK - I & NORWEGIAN CENTRE

N. E. D. U. E. T, KARACHI



TENDER DOCUMENT VOLUME - III BILL OF QUANTITIES

 **SHAHZAD
ASSOCIATES**

CONSULTING ARCHITECTS, ENGINEERS & PLANNERS

KARACHI OFFICE :- 2ND FLOOR, FARZANA BUILDING, SHAHEED-E-MILLAT ROAD.

KARACHI TEL: 4348591 - 4388857, FAX: (92 - 021) 4530754. E-MAIL: shahzadarch@yahoo.com

ISLAMABAD OFFICE :- 66, STREET NO. 59, 1/8-3, ISLAMABAD. PH: 444741

QUETTA OFFICE: 4-B, 1ST FLOOR, HASSAN APARTMENTS, PATEL BAGH, QUETTA. PH: 839033

**CONSTRUCTION OF ACADEMIC BLOCK - I AND NORWEGAIN CENTRE (MEGA - IV)
AT NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

GRAND SUMMARY

S #	SUB HEAD	TOTAL AMOUNT
1	Cost of Building Work (Page No. 01 - 33)	Rs=
2	Cost of External Development Work (Page No. 34 - 38)	Rs=
3	Cost of Norwegian Centre (Page No. 39 - 66)	Rs=
4	Installation of Wall Mounted AC (Page No. 67 - 68)	Rs=
TOTAL COST OF ACADEMIC BLOCK 1 AND NORWEGAIN CENTRE		Rs=

**CONSTRUCTION OF ACADEMIC BLOCK - I (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

SUMMARY OF COST

S #	SUB HEAD	TOTAL AMOUNT
CIVIL WORK		
1	Civil Work (Schedule Work) (Page No. 03 - 12)	Rs=
2	Civil Work (Non-Schedule Work) (Page No. 13 - 21)	Rs=
(A)		Rs=
PLUMBING WORK		
3	Plumbing Work (Schedule Work) (Page No. 22 - 24)	Rs=
4	Plumbing Work (Non-Schedule Work) (Page No. 25 - 25)	Rs=
(B)		Rs=
ELECTRICAL WORK		
5	Electrical Work (Schedule Work) (Page No. 26 - 28)	Rs=
6	Electrical Work (Non-Schedule Work) (Page No. 29 - 33)	Rs=
(C)		Rs=
Total Cost of Building A+B+C		Rs=

CONSTRUCTION OF ACADEMIC BLOCK - I (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	EXCAVATION				
a	Excavation in foundation in ordinary soil of Building Bridges and other structures including dagbelling dressing, refilling around structure with excavated earth watering and ramming lead upto 5 ft. (Page No.4, Item No.18-b)	7,529.00	%0Cft	3,176.25	23,913.99
b	Cutting hard rock such as granite, ballast, hard lime stone or sand stone etc. with chisels and hammers for small foundation. (Page No. 04, Item No. 19)	11,300.00	%0Cft	28,672.05	323,994.17
2	IMPORTED EARTH FILL				
a	Filling, watering and ramming earth under floor with new earth (excavated from outside) lead upto one chain and lift upto 5 feet. (Page No.4, Item No.22)	14,815.00	%0Cft	3,630.00	53,778.45
b	Add: extra lead 6 mile (referred from carriage of material schedule)	14,815.00	%Cft	774.96	114,810.32
3	CC IN FOUNDATION, SITU WALL, SUB FLOORING & RAMP				
	Cement concrete plain (ratio1:3:6) including placing compacting, finishing and curing complete (including screining and washing at stone aggregate without shuttering (Page No.15, Item No.5-h)	9,957.00	%Cft	12,595.00	1,254,084.15
4	FORM WORK				
	Erection and removal of centering RCC or plain cement concrete works of Partal wood (2nd Class) Horizontal (Page No.17, Item No.19-bi)	7,655.00	%Sft	3,588.48	274,698.14
	Vertical (Page No 17, Item No 19bii)	100.00	%Sft	3,127.41	3,127.41
5	TERMITE PROOFING				
	Providing anti-termite treatment by spraying / sprinkling / spreading Neptachler 0.5% Emulsion as an overall pre-construction treatment in slab type construction under the slab and attached perches or entrances etc. Complete in all respect as per directions of the Engineering-inCharge (Page No.108, Item No.92)	11,280.00	Per Sft	9.47	106,821.60

**CONSTRUCTION OF ACADEMIC BLOCK - I (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
6	RCC WORK Reinforced cement concrete work including all labour and material except the cost of steel reinforcement and its labour for bending and binding which will be separately. This rate also includes all kind of forms molds lifting shuttering curing rendering and finishing the exposed surface (including screening and washing of shingle) Page No.15 Item No.6. R.C. work in roof slab, beams columns rafts, lintels and other structural members laid in situ or precast laid in position complete in all respects.				
a	Columns Footing - Ratio (1:1½:3)	5,890.00	P. Cft	349.00	2,055,610.00
b	Plinth Beams - Ratio (1:1½:3)	2,250.00	P. Cft	349.00	785,250.00
c	Beam & Lintels Projection Ratio (1:1½:3)				
i	Ground Floor	1,993.00	P. Cft	349.00	695,557.00
ii	First Floor	1,993.00	P. Cft	349.00	695,557.00
iii	Second Floor	1,867.00	P. Cft	349.00	651,583.00
iv	Top Roof	112.00	P. Cft	349.00	39,088.00
d	Slab and Projection Ratio (1:1½:3)				
i	Ground Floor	4,859.00	P. Cft	349.00	1,695,791.00
ii	First Floor	4,859.00	P. Cft	349.00	1,695,791.00
iii	Second Floor	3,319.00	P. Cft	349.00	1,158,331.00
iv	Top Roof	871.00	P. Cft	349.00	303,979.00
e	Stair Case Ratio (1:1½:3)				
i	Ground Floor	453.00	P. Cft	349.00	158,097.00
ii	First Floor	453.00	P. Cft	349.00	158,097.00
iii	Roof Top	122.00	P. Cft	349.00	42,578.00
f	Parapet Wall Ratio (1:1½:3)	900.00	P. Cft	349.00	314,100.00
g	Lift Wall upto Plinth Level Ratio (1:1½:3)	149.00	P. Cft	349.00	52,001.00
h	Extra Labour for laying concrete plain or reinforced. 20' - 40' height (Page No. 17, Item No. 12(a))	11,200.00	%Cft	1,210.00	135,520.00
7	RAIN WATER SPOUT Rain water down pipe cast iron heads fixed in place including cost of clamp, hold fast and painting (Page No. 36, Item No. 23)	7.00	Each	873.29	6,113.03

**CONSTRUCTION OF ACADEMIC BLOCK - I (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
8	DAMP PROOF COURSE Damp proof course 2" thick with (cement sand and shingle concrete 1:2:4) including 2 coats of asphaltic mixture. (Page No. 18, Item No. 28-b)	1,150.00	%Sft	3,912.85	44,997.78
9	BLOCK MASONRY (Above 6" Thick) Providing and laying 1:3:6 cement concrete solid block masonry wall above 6" in thickness set in 1:6 cement mortar in ground floor Super Structure including raking out joints and curing etc. complete. (Page No. 18, Item No. 23)				
a	Ground Floor	7,592.00	%Cft	14,621.44	1,110,059.72
b	First Floor	7,045.00	%Cft	14,621.44	1,030,080.45
c	Second Floor	8,750.00	%Cft	14,621.44	1,279,376.00
d	Top Roof	828.00	%Cft	14,621.44	121,065.52
10	BLOCK MASONRY (6" Thick) Providing and laying 1:3:6 cement concrete solid block masonry wall 6" and below in thickness set in 1:6 cement mortar in ground floor Super Structure including raking out joints and curing etc. complete. (Page No. 18, Item No. 24)				
a	Ground Floor	451.00	%Cft	15,771.01	71,127.26
b	First Floor	452.00	%Cft	15,771.01	71,284.97
c	Second Floor	163.00	%Cft	15,771.01	25,706.75
d	Top Roof	177.00	%Cft	15,771.01	27,914.69
11	Add Extra Labour for Block Massonary in (Page No. 18, Item No. 30)				
a	First Floor	2,933.00	%Sft	328.97	9,648.69
b	Second Floor	8,903.00	%Sft	760.03	67,665.47
c	Top Roof	1,005.00	%Sft	1,191.09	11,970.45

**CONSTRUCTION OF ACADEMIC BLOCK - I (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
12	G.I FRAME Providing and fixing G.I. Frames / Choukhats of size 7" X 2" or 4½ X 3" for door using 20 gauge G.I. sheet including welded hinges and fixing at site with necessary hold fasts, filing with cement sand slurry of ratio 1:6 and repairing the jambs. The cost also includes all carriage tools and plants used in making and fixing. (Page No. 92, Item No. 29)	932.00	Per Rft	228.90	213,334.80
13	SURFACE RENDERING Cement Plaster 1:5 upto 12' height ½" thick Ceiling & Wall Plaster (Page No.51, Item No. 12-b)				
	i Ceiling Plaster				
a	Ground Floor	7,205.00	%Sft	2,241.80	161,521.69
b	First Floor	7,205.00	%Sft	2,241.80	161,521.69
c	Second Floor	5,810.00	%Sft	2,241.80	130,248.58
d	Top Roof	654.00	%Sft	2,241.80	14,661.37
	ii Wall Plaster				
a	Ground Floor	17,200.00	%Sft	2,241.80	385,589.60
b	First Floor	18,773.00	%Sft	2,241.80	420,853.11
c	Second Floor	18,020.00	%Sft	2,241.80	403,972.36
d	Top Roof	800.00	%Sft	2,241.80	17,934.40
	iii Cement Plaster ½" thick 1:4 upto 12' height External Plaster 1st Layer (Page No. 51, Item No. 11b)				
a	Ground Floor	9,160.00	%Sft	2,283.93	209,207.99
b	First Floor	6,961.00	%Sft	2,283.93	158,984.37
c	Second Floor	6,355.00	%Sft	2,283.93	145,143.75
d	Top Roof	8,236.00	%Sft	2,283.93	188,104.47
	iv Cement Plaster ¾" thick 1:4 upto 12' height External Plaster 2nd Layer (Page No. 51, Item No. 11c)				
a	Ground Floor	9,160.00	%Sft	3,015.76	276,243.62
b	First Floor	6,961.00	%Sft	3,015.76	209,927.05
c	Second Floor	6,355.00	%Sft	3,015.76	191,651.55
d	Top Roof	8,236.00	%Sft	3,015.76	248,377.99

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NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

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S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
14	GLAZED TILE DADO (BATHROOM) Glazed tiles dado ¼" thick laid in pigment over 1:2 cement sand mortar ¾" thick including finishing. (Page No. 44, Items No. 38)				
a	Ground Floor	2,952.00	%Sft	28,299.30	835,395.34
b	First Floor	2,429.00	%Sft	28,299.30	687,390.00
c	Second Floor	705.00	%Sft	28,299.30	199,510.07
15	ALUMINUM WINDOWS & VENTILATORS Supply & fixing Deluxe Model (Bronze) in position Aluminum channels framing for sliding windows & ventilators of Alcop made with 5mm thick tinted glass glazing (Belgium) & Aluminum fly screen including handleless stoppers & locking arrangement etc. complete (Page No. 107, Item No. 84b)				
a	Ground Floor	1,145.00	P. Sft	1,318.15	1,509,281.75
b	First Floor	1,340.00	P. Sft	1,318.15	1,766,321.00
c	Second Floor	1,006.00	P. Sft	1,318.15	1,326,058.90
d	Top Roof	50.00	P. Sft	1,318.15	65,907.50
16	ALUMINIUM DOORS Supplying & fixing Deluxe Model (Bronze) in position Aluminium channels framing for hinged door or Alcop made with 5mm thick tinted glass glazing (Belgium) and Alpha (Japan) Lock including handles, Stoppers etc. (Page No. 107, Item No. 83 b)	350.00	P. Sft	1,507.66	527,681.00
17	STEEL GRATED DOOR Making & fixing steel grated door with 1/16" thick sheeting including angle iron frame 2" x 2" ⅜" and ¾" square bars 4" centre to centre with locking arrangement (Page No. 91, Item 24)	224.00	P. Sft	726.72	162,785.28
18	STEEL DOOR Supplying and fixing special heavy type steel doors for look - ups with angle iron frame of 2-1/2" to 2-1/2" x 3/8" size and shutter of 2" x 2" x 3/8" with 1" diameter M.S bars placed @ 4: center to center with a separate locking box having size of 12" x 12" of M.Steel Sheet embedded in masonry with proper locking arrangement as per approved designed including cost of erection of steel gate and fixing in masonry wall in cement concrete 1:2:4 etc. complete, as per instructions of Engineer Incharge. (Page No. 93, Item No 93)	240.00	Per Sft	930.76	223,382.40

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S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
19	IRON GRILL Providing and fixing iron still grill using solid square bars of size ½" x ½" placed at 4" including and frame of flat iron patti of ¾" x ¾" including circle shape at 1-0 apart equivalent fitted with screws are pins including painting 3 coats with 1st coat of red oxide paint etc. (Page No. 93, Item No. 30)	3,653.00	Per Sft	194.16	709,266.48
20	MARBLE ON STAIRS STEPS LANDING Laying white marble flooring fine dressed on the surface without winding set in lime mortar 1:2 including rubbing and polishing of the joints. (1" thick) Page No. 42, Item No. 28 b				
a	Ground Floor	351.00	P.Sft	503.14	176,602.14
b	First Floor	351.00	P.Sft	503.14	176,602.14
c	Second Floor	351.00	P.Sft	503.14	176,602.14
d	Top Roof	200.00	P.Sft	503.14	100,628.00
21	MARBLE SKIRTING Providing and fixing ¾" thick marble tiles of approved quality and colour and shade size 8" X 4" / 6" X 4" in dado skirting and facing removal / tucking of existing plaster surface etc over ½" thick base of cement mortar 1:3 setting of tiles in slurry of white cement over mortar base including filling the joints and washing the tiles with white cement slurry, curing, finishing, cleaning for new work. (Page No. 48, item No. 68 i)				
a	Ground Floor	176.00	P.Sft	148.83	26,194.08
b	First Floor	176.00	P.Sft	148.83	26,194.08
c	Second Floor	176.00	P.Sft	148.83	26,194.08
d	Top Roof	100.00	P.Sft	148.83	14,883.00

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S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
22	PRIMING COAT Priming Coat of chalk distemper (Page No.53, item No.23)				
a	Ground Floor	7,548.00	%Sft	442.75	33,418.77
b	First Floor	7,548.00	%Sft	442.75	33,418.77
c	Second Floor	6,080.00	%Sft	442.75	26,919.20
d	Top Roof	200.00	%Sft	442.75	885.50
23	DISTEMPERING Preparing surface and painting with Distemper- 1st coat over priming coat (Page No. 53, Item No. 24-c) 3 Coats				
a	Ground Floor	7,548.00	%Sft	1,079.65	81,491.98
b	First Floor	7,548.00	%Sft	1,079.65	81,491.98
c	Second Floor	6,080.00	%Sft	1,079.65	65,642.72
d	Top Roof	200.00	%Sft	1,079.65	2,159.30
24	INTERNAL WALL PAINTING Preparing surface and painting with matt finish including rubbing the surface with bathy (silicon carbide rubbing brick) filling the voids with zink / chalk/ plaster of paris mixture, applying first coat premix, making the surface smooth and then painting 3 coats with matt finish of approved make etc. complete (new surface). Page No. 54, Item No.36a+36b+36b				
a	Ground Floor	18,018.00	%Sft	3,444.38	620,608.39
b	First Floor	19,667.00	%Sft	3,444.38	677,406.21
c	Second Floor	18,875.00	%Sft	3,444.38	650,126.73
d	Top Roof	800.00	%Sft	3,444.38	27,555.04
25	WEATHER COAT Preparing the surface and painting with weather coat i/c rubbing the surface with rubbing brick / sand paper, filling the voids with chalk / plaster of paris and then painting with weather coat of approved make. (Page No.55, Item No.38-a&b) 3 Coat				
a	Ground Floor	9,595.00	%Sft	2,567.95	246,394.80
b	First Floor	7,292.00	%Sft	2,567.95	187,254.91
c	Second Floor	6,658.00	%Sft	2,567.95	170,974.11
d	Top Roof	8,628.00	%Sft	2,567.95	221,562.73

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Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
26	Extra labour for external surface for distemper / paint / white wash / colour wash / weather coat above 20'-0 height using long ladder or jhoola for each coat (for every 10'-0" additional height) Page No. 55, Item No. 42 + 42)	12,870.00	%Sft	456.18	58,710.37
27	ENAMEL PAINT ON WOOD WORKS Preparing surface and painting of doors and windows any type (including edges) 3 Coats (Page No. 68, Item No. 5-C-i+ii)	2,228.00	%Sft	2,116.41	47,153.61
28	ENAMEL PAINT ON IRON WORKS Painting guard bars, gates iron bars gratings, railing including standard braces etc. and similar open work (3 Coats) Page No.68, Item No.4-d-ii)	5,343.00	%Sft	977.40	52,222.48
29	WOODEN ARCHITRAVE Providing and fixing with sunk iron screws wooden Architrave approved design / shape having width not less than 2½" as directed by Engineer-in-Charge. (Page No. 60, Item No. 60	4,450.00	Per Rft	49.97	222,366.50
30	FALSE CELING Supplying and fixing false ceiling of plaster of paris in panels including making frame work of deodar wood including painting with soligia paint. (Page No. 63, Item No. 52)				
a	Ground Floor	3,600.00	%Sft	25,293.42	910,563.12
b	First Floor	3,600.00	%Sft	25,293.42	910,563.12
c	Second Floor	1,360.00	%Sft	25,293.42	343,990.51
31	ALUMINIUM SHEET ON BATHROOM DOORS Providing and fixing Aluminium Sheet on doors pasted with glue as per requirement (Page No. 65, Item No. 61)	483.00	Per Sft	63.77	30,800.91

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Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
32	EXPANSION JOINT				
a	Providing and placing in position chip board ¾" thick for filling space between expansion joints of buildings. (Page No. 108, Item No. 93)	232.00	Per Sft	43.26	10,036.32
b	Providing and fixing Aluminum sheet 6" to 9" with V-Notch for expansion joints including fixing with nails / screws. (Page No. 108, Item No. 88)	116.00	Per Rft	207.51	24,071.16
33	ROOF SCREEDING				
a	Providing and laying 3" thick topping cement concrete (1:2:4) including surface finishing and dividing into panels. (Page No. 41, Item No 16-d)	11,280.00	%Sft	4,411.82	497,653.30
b	Two coats of bitumen laid hot using 34 lbs for %Sft over roof and blinded with sand at one cft per %Sft. (Page No. 34, Item No. 13)	11,280.00	%Sft	1,509.92	170,318.98
34	PLINTH PROTECTION				
a	Excavation in Ordinary Soil in foundation of Building Bridges and other structures including dagbelling dressing, refilling around structure with excavatd earth watering and ramming lead upto 5ft. (Page No.4, Item No. 18-b)	1,749.00	%0Cft	3,176.25	5,555.26
b	Cement concrete plain including placing compacting, finishing and curing complete (including screining and washing at stone aggregate without shuttering (Page No. 15, Item No. 5)				
c	Ratio 1:4:8	100.00	%Cft	11,288.75	11,288.75
d	Ratio 1:3:6	100.00	%Cft	12,595.00	12,595.00
e	FORM WORK				
	Erection and removal of centering RCC or plain cement concrete works of Partal wood (2nd Class) Horizontal (Page No.17, Item No.19-bi)	100.00	% Sft	3,588.48	3,588.48

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BILL OF QUANTITIES

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Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
f	¾" thick Cement Plaster 1:4 upto 12' height. (Page No.51, Item No.11-C)	100.00	%Sft	3,015.75	3,015.75
g	SUB FLOORING Cement concrete plain (ratio1:3:6) including placing compacting, finishing and curing complete (including screening and washing at stone aggregate without shuttering (Page No.15, Item No.5h)	437.00	%Cft	12,595.00	55,040.15
h	EARTH FILLING Filling, watering and ramming earth under floor with new earth (excavated from outside) lead upto one chain and lift upto 5 feet. (Page No.4, Item No.22	600.00	%0Cft	3,630.00	2,178.00
i	Add: extra lead 6 mile (referred from carriage of material schedule	600.00	%Cft	774.96	4,649.76
ii					
i	FINISH FLOOR Providing and laying 2" thick topping cement concrete (1:2:4) including Surface finishing and dividing into panels (Page No. 41, Item No. 16c)	1,749.00	%Sft	3,275.50	57,288.50
Sub Total				Rs=	35,504,287.94
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Civil Work)				Rs=	_____

**CONSTRUCTION OF ACADEMIC BLOCK - I (MEGA - IV) AT
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(Civil Works)

Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
35	CLEARING THE SITE Dismantling,Cleaning the site cutting of bushes, trees PCC Pavers / Floor, block wall debris and rubbish of all kind, etc. for proper execution of work including layout of structure with making center line, C.C Pillars upto required height etc. complete as per drawing and Removing old debris and rubbish of all kinds and sizes including all lead and lifts Specification and instruction of Engineer	Lump sum	Job		
36	EXCAVATION Excavation for foundations, trenches and drains in all kinds of soil general, hard stones, murum, silts stone etc. through manually or mechanically from 5'-0" to 8'-0" and lead with back filling around the structure with excavated suitable earth including sorting the excavated stuff breaking clods, watering consolidation by ramming in layers not exceeding 9" inches in depth to full compaction, dressing, after approval disposal of surplus excavated stuff as directed. Complete in all respect as per drawing, specification & instructions of the Engineer. Payment of excavation will be as per drawing.	7,703.00	P.Cft		
37	All water which may accumulate on the site during excavation, concreting, cast in situ concrete or masonry work in foundation due to raising of sub soil water or abnormal rain shall be bailed / Pump out. Complete in all respect as per specification and instruction of the Engineer	Lump sum	Job		
38	EARTH FILLING WITH EXCAVATION SURPLUS EARTH Filling, watering and ramming earth under floor with surplus excavate earth including cost of all labours, tools, tackles etc. complete as per drawing and as per directed by the Engineer	9,500.00	Per Cft		
39	STUB COLUMNS Providing and casting ratio fc' 8501 PSI OPC stub columns at roof level for future extension of including cost of all materials, labours, tools, form work, hoisting, watering curing, tackles, transportation, wastage additional floors. Complete in respect as per drawings, specification and as directed by the Engineer	250.00	P.Cft		

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(Civil Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
40	RCC WORK (RATIO1:1:2) Reinforced cement concrete work including all labour and material except the cost of steel reinforcement and its labour for bending and bending which will be separately. This rate also includes all kind of forms molds lifting, shuttering curing, wastage rendering and finishing the exposed surface (including screening and washing of shingle) as per drawings, specification and as directed by the Engineer				
a	Columns upto Plinth (Ratio 1:1:2) - 4375 PSI	532.00	P.Cft		
b	Column Super Structure (Ratio 1:1:2) - 4375 PSI				
i	Ground Floor	2,125.00	P.Cft		
ii	First Floor	2,125.00	P.Cft		
iii	Second Floor	2,125.00	P.Cft		
iv	Top Roof	80.00	P.Cft		
41	STEEL REINFORCEMENT Providing and laying hard grade deformed steel ASTM A615 reinforcement bars 60,000 PSI yield stress with and including the cost of straightening, cutting, bending, binding, chairs, wastage and such overlaps as are not shown in the drawings, placing in position on cements concrete 1:1½:3 precast or m.s chairs, tying with binding wire 18 BSWG, cost of chairs and wires etc. in all kinds of RCC work in foundation, basement, plinth and all floors of building and in projections for future extension as per drawings, specification and as directed by the Engineer-In-Charge	124.00	M.Ton		
42	BITUMEN COATING ON STRUCTURAL WORK Providing and applying a coat of bitumen emulsion at 10 Lbs. per % Sft(0.49 Kg/sm) on walls, foundation, column, plinth beam and situ or where ever required upto Plinth level including cost of all materials, labours, tools, tackles, lifting, hosting transportation, wastage etc complete as per drawing, specification and instructions of the Engineer.	15,740.00	Sft		

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Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
43	STONE SOLING Providing and laying soling stone 6" thick under floor including packing with spawls and chips and consolidation with compactor, watering, wastage etc. complete in all respect as per instructions of the Architect / Engineer	7,245.00	Per Cft		
44	G.I FRAME Providing and fixing G.I. Frames / Choukhats of size 13" X 2" for door using 16 gauge G.I. sheet including welded hinges and fixing at site with necessary hold fasts, filing with cement sand slurry of ratio 1:6 and repairing the jambs. The cost also includes all carriage tools and plants used in making and fixing complete in all respect as per drawings, specification and as directed by the Engineer	50.00	Per Rft		
45	WATER PROOFING, PLASTER IN SUNK & PLANTER AREA Providing and applying ¾" thick ratio 1:3 plaster mixed with water proofing admixture in Sunk area & planter area. Including cost of all materials, labours, tools, tackles, Work complete in all respect as per instructions of the Architect / Engineer	1,380.00	Sft		
46	WOODEN FLUSH DOOR Providing and fixing solid core 3mm thick teak veneered plywood on both flush door shutter HDF 1½" thick and lipping 1½" wide x ½" on four sides in teak wood, as commercially produced by Sterling Interwood or similar approved manufacturers under power driven hydraulic press as approved with application of approved wood preservative treatment including brass oxidized fittings 9" long tower bolts on top and bottom and imported butt hinges 5" size 3" size each side etc. complete but excluding the cost of handles locks and glass single / double opening with approved lacquer polishing all as per details and as instructed by the Engineer-in-Charge				
a	Ground Floor	652.00	P. Sft		
b	First Floor	479.00	P. Sft		
c	Second Floor	273.00	P. Sft		

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Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
47	CERAMIC MATT FINISH TILES (BATHROOM) Providing & laying light/ colour Ceramic Matt Finish tiles of ¼" thick (polished) not exceeding 286 Sq. inch each floor foreign make (Italian or equivalent except China make) in any floor laid with dry bond (stile bond) over existing floor including jointing the tiles with joint filler of approved quality as per direction of the Engineer in charge				
a	Ground Floor	1,010.00	P.Sft		
b	First Floor	878.00	P.Sft		
c	Second Floor	295.00	P.Sft		
48	FACING TILE Providing and fixing best quality approved Facing Tiles 24" X 24" of approved pattern and colour on ¾ thick cement plaster base ratio 1:4 (with matching colour slurry) upto any height. Complete in all respect as per drawings, specification and instruction of the Engineer-in-Charge	100.00	Sft		
49	GROOVE INPLASTER Providing, making horizontal or vertical joints or grooves of approved design & size including cost of all materials, labour, tools, tackles, watering, curing, transportation, wastage hoisting, scaffolding & its removal etc complete as per drawings, specification and as directed by the Engineer	9,023.00	Per Sft		
50	PLASTER BAND Providing & Making 1/2" thick plaster band 4" to 6" wide with 1:4 cement mortar in all floors including including. cost of all materials, labour, tools, tackles, transportation, wastage watering, curing, hoisting, scaffolding & its removal etc complete as per drawings, specification and as directed by the Engineer	100.00	Rft		

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Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
51	PORCELAIN TILES FLOORING Providing & laying light/ colour unglazed vitrified porcelain tiles (polished) not exceeding 576 Sq. inch each floor foreign make (Italian or equivalent except China make) in any floor laid with dry bond (stile bond) over existing floor including jointing the tiles with joint filler of approved quality as per direction of the Engineer in charge				
a	Ground Floor	7,357.00	P.Sft		
b	First Floor	7,357.00	P.Sft		
c	Second Floor	5,901.00	P.Sft		
52	PORCELAIN TILES SKIRTING / DADO Providing & laying light/ colour unglazed vitrified porcelain tiles (polished) not exceeding 144 Sq. inch each wall foreign make (Italian or equivalent except China make) in any floor laid with dry bond (stile bond) over existing floor including jointing the tiles with joint filler of approved quality as per direction of the Engineer in charge				
a	Ground Floor	631.00	P.Sft		
b	First Floor	631.00	P.Sft		
c	Second Floor	428.00	P.Sft		
53	MARBLE SLAB ON COUNTER Providing and fixing 1" thick prepolished marble slab of approved size, colour and quality over wash basin including making opening in slab for wash basin fixing. Complete in all respect as per instructions of the Architect / Engineer-in-Charge.	177.00	P.Sft		
54	SULPHATE RESISTING CEMENT Providing and using Sulphate Resisting Cement in place of ordinary Portland cement	78,826.00	Per K.G		

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S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
55	C.C GOLA Providing and laying gola 3" X 3" concrete 1:2:4 using graded screened bajri at junction of slab and walls and finished with cement plaster 1:4 including curing etc. complete.	600.00	P.Rft		
56	DRIP COURSE Making drip course ½" x ¾" (13mm x9.5mm) size under R.C.C or C.C coping and chajja etc, complete in all floors including cost of extra cement mortar 1:3 and curing etc complete	150.00	Rft		
57	FOAM CONCRETE IN SUNK AREA Providing and laying foam concrete 18" thick in sunk toilet areas with cement concrete 1:6 mixed with mico-air 100 as manufactured by DUGUSSA or equivalent @ 100 ml / 100 kg of cement, all as per specifications, drawings and including 2" thick concrete 1:2:4 on top mixed with water proofing admixture of approved manufacture laid to slope (all floors)	1,307.00	Sft		
58	STAINLESS STEEL HANDRAILING				
a	Providing and fixing stairs railing of stainless steel pipe horizontal pipe rail of 50mm dia on top including 25mm tube in centre, bottom & vertical post at each alternate step with flange and flange cover as shown on drawings and as directed by the Engineer. with &including the cost of Erection in position and cartage at any height in any floor.	197.00	Per Rft		
b	Providing and fixing 50 mm dia stainless steel pipe rail fixed on stair side wall as per drawings and directions of the Engineer with and including cutting holes in walls / RCC for fixing and making good the same. The cost includes erection in position and cartage at any height in any floor.	50.00	Per Rft		

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Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
59	MILD STEEL WITH WOODEN TOP HAND RAIL Providing and fixing M.S Railing with deodar wooden top 2" x 4" with MS vertical post 1" x 1" and horizontal, top flat iron strip 1" x ¼" including fixing, embedding, welding, painting a base primer coat and 2 coat of enamel painting, finishing, installing, bracing, transportation, wastage etc complete as per drawings, specification and as directed by Engineer				
a	Floor Mounted	320.00	P.Rft		
b	Wall Mounted	200.00	P.Rft		
60	DOOR LOCKS (HEAVY DUTY) Providing and fixing Heavy Duty with C.P brass screws Alpha knob set lock of approved design, manufacturer, and color, cutting wood to required shape and size with three operation keys (Taiwan make). Complete in all respect as per specification & instruction of the Engineer-in-Charge	37.00	each		
61	DOOR LOCKS Providing and fixing Washroom door locks with C.P brass screws Alpha knob set lock of approved design, manufacturer, and color, cutting wood to required shape and size with three operation keys (Taiwan make). Complete in all respect as per specification & instruction of the Engineer-in-Charge	32.00	each		
62	DOOR CLOSER Providing and fixing with brass screws or specially supplied screws hydraulic door closer of approved design and manufacturer, cutting wood etc to required shape and size (Japan make). Complete in all respect as per specification and instruction of the Engineer-in-Charge.	27.00	each		

**CONSTRUCTION OF ACADEMIC BLOCK - I (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
63	<p>GLASS WALL AT FRONT ENTRANCE Providing fabrication and fixing 08 mm thick imported tinted & tempered glass in premium model box section aluminum assembly champagne anodized complete in all respect as per drawings, specification and instruction of Engineer-in-Charge</p>	1,331.00	Sft		
64	<p>GRANOLITHIC FLOOR IN WORK SHOP P/L 2"th. Granolithic Floor Consisting 1:3 (one grey Cement Three P Gravel of 1/4" size Using Without Sand in Floor Laid in panels or patterns I/C Form Work ,Curing , Grinding and rubbing with Carborandum stone Polishing etc Complete</p>	3,100.00	Sft		
65	<p>ALUMINIUM SWING DOOR Providing and fixing fully glazed Champagne anodized Aluminium swing door with top and bottom frame only as per British standard manufactured by Luckh, Alcop, Krudson, Pakistan cables and A.C.P (fixing through their approved fabricators), Deluxe model section, 101.6mm x 44.5mm and 2mm thick including the Aluminium fittings, with all accessories cutting hole etc. and making good damages to walls etc complete as required in any floor including the cost of glass pans 12mm as per direction of Engineer</p>	48.00	Sft		
66	<p>DOUBLE TEE PRE-CAST RCC ROOF Providing fixing erecting installing of Double TEE Pre-Cast RCC roof fixed at +41' height including leveling finishing hoisting with mechanically and manually including cost of all material, labours, tools, equipments, machinery, lifting, hoisting, transportation, wastage etc complete as per drawings, specification and as per direction of the Engineer</p>	3,848.00	Sft		

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BILL OF QUANTITIES

(Civil Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
67	PVC SKYLIGHT Providing fixing erecting installing of PVC sky light with framing including cost of all materials, labours, tools, equipments, machinery, transportation, hoisting leveling aligning wastage at any height etc complete as per drawings and specification and as per direction of the Engineer	800.00	Sft		
68	WATER STORAGE TANK OVER ROOF Construction of storage tank over roof of the required size poured and cast in RCC 1:2:4 including formwork in all walls and slabs laying 2" thick 1:4 cement concrete floor finished with neat cement slurry, ½" thick cement plaster in 1:3 cement mortar internally all using approved water proofing agent pudlo or its equivalent grade @ 5lbs/bag of cement and ¾" thick in cement plaster in 1" to 3" cement mortar externally including curing etc. 1 no. manholes opening size 18"X18" and C.L water tight Manhole cover and frame weight 20 Kg/ each with proper locking arrangement complete all as per drawing and design in all respects				
a	1 x 864	864.00	Per Glen		
b	1 x 1722	1,722.00	Per Glen		
Cost of Non-Scheduled Items (Civil Work)				Rs=	

**CONSTRUCTION OF ACADEMIC BLOCK - I (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Plumbing Works)
Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
69	PAKISTANI WC Providing and fixing squatting type white glazed earthen ware W.C. Pan with front flush inlet and complete with including the cost of flushing cistern with internal fitting and flush pipe with bend and making requisite number of holes in walls plinth and floor for pipe connection and making good in cement concrete 1:2:4 (foreign equivalent) with 4" dia C.I. Trap (Page No. 1, Item No. 2-a)	15	Each	5,728.80	85,932.00
70	EUROPEAN WC Providing and fixing European white glazed earthen ware wash down W.C. Pan complete with and including the cost of white / black plastic seat (best quality) and lid with c.p. brass hinges and buffers, 3 gallons white glazed earthen ware low level flushing cistern with siphon fitting 1½" dia white porcelain enamelled flush bend ¾" dia and making requisite number of holes in walls plinth and floor for pipe connections and making good in cement 1:2:4 (foreign quality) Page No. 2, Item No. 5.	11	Each	11,477.40	126,251.40
71	GULLY TRAP Providing and fixing 6" X 6" X 4" CC Guly Trap with 4" outlet complete 4" thick 1:2:4 CC for bed & ½" thick cement plaster (1:3) to the kerb, C.I. grating 6" X 6" & C.I. Cover and frame 12" X 12" (inside) etc. complete (Page No. 23, Item No. 1)	10	Each	1,193.17	11,931.70
72	NYLON CONNECTION Providing and fixing in position nylon connection complete with ½ dia brass stop cock with pair of bass nuts and lining joints and nylon connections. (CH-I, Page No. 6, Item No. 22)	49	Each	689.00	33,761.00

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BILL OF QUANTITIES

(Plumbing Works)
Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
73	LAVATORY BASIN Providing and fixing 24" X 18" lavatory basin in white glazed earthen ware complete with & including the cost of W.I. or C.I. cantilever brackets 6" built into walls painted white in two coats after a primary coat of red lead paint a pare of ½" dia rubber plug and chrome plated brass chain 1¼" dia malleable iron or brass unions and making requisite number of holes in walls, plinth and floor for pipe connections and making good in cement concrete 1:2:4 (foreign equivalent) Page No. 3, Item No. 10.	23	Each	4,928.00	113,344.00
74	Add extra labour for providing fixing of earthen ware PEDESTAL WHITE OR COLOUR GALZAED) CH-I: Page No. 4, Item No. 10 +11)	23	Each	2,533.47	58,269.81
75	BATHROOM ACCESSORIES Supply and fixing Bathroom Accessories set (7 Piece) including towel rod, brush holder, soap tray, shelf of approved design including cost of screws, nuts etc. complete (Master Brand or as recommended by Engineer-in-Charge). Page No. 19, Item No. 23	10	Each	10,322.40	103,224.00
76	C.I.TRAP Providing and fixing C.I. trap with 4" dia inlet and 4" dia outlet of the approved self cleaning design with a C.I. grating with or without a vent arm including cas t of jointing requisite number of holes in walls, plinth and floor for pipe connection and making good cement concrete 1:2:4. (CH-I, Page NO. 6, Item No. 20)	34	Each	2,024.43	68,830.62
77	TEE STOP COCKS Supply and fixing ½" dia concealed tee stop cock of superior quality with cp head (CH-VI-Page No. 18, Item No. 12-b)	1	Each	889.46	889.46
78	LONG BIB COCKS Supply and fixing ½" dia long bib cock of crystal head of superior quality. Complete (CH-VI-Page No. 19, Item No. 13-b)	15	Each	1,384.24	20,763.60

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BILL OF QUANTITIES

(Plumbing Works)
Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
79	PILLER COCK Supply and fixing swan type pillar cock of superior quality with crystal head. complete (CH-VI, Page No. 19, Item No. 16-b)	23	Each	877.80	20,189.40
80	MUSLIM SHOWER Supply and fixing C.P. Muslim Shower with double Bib Cock and ring pipe etc. complete (Page No. 19, Item No. 19-a)	11	Each	3,432.00	37,752.00
81	STOP COCK Supply and fixing concealed tee- stop cock of superior quality with c.p. head ½" dia (Page No. 18, Item No. 12-a)	1	Each	843.92	843.92
82	LOOKING MIRROR Providing and fixing 24" X 18" bavelled edge mirror of Belgium glass complete with ⅛" thick hard. (Superior Quality) CH-II-Page No. 7, Item No. 3-b	23	Each	2,376.00	54,648.00
83	HANDLE VALVE Providing and fixing handle valves (china) with wheels, threaded or flanged ends with rubber washers (standard pattern)				
a	CH-VI-Page No. 17, Item No. 5-ii (¾" Dia)	8	Each	271.92	2,175.36
b	CH-VI-Page No. 17, Item No. 5-iii (1" Dia)	1	Each	365.42	365.42
c	CH-VI-Page No. 17, Item No. 5 vi (2" Dia)	4	Each	1,382.92	5,531.68
84	MANHOLE (TYPE A SMALL) Constructing manhole or inspectoin chamber for the required diameter of circular sewer and 3'-6" (1067 mm) dept with walls of BB in cement sand mortar 1:3 cement plastered 1:3, ½" thick inside of walls and 1" thick over benching and channel including fixing C.I.Mahole cover with frame of clear opening 1-½' X 1-½' of 1.75 cwt. (88.9 kg) embaded in plain CC 1:2:4 and fixing "" dia MS steps 6" wide projecting 4" from the face of wall at 12" CC duly painted etc. complete as per standard specifications and drawing. (4" to 12" dia 2' X 2' X 3'-6") Page No. CH-II, Page No. 46, Item No. P-a.	6	Each	14,748.00	88,488.00
Sub Total				Rs=	833,191.37
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Plumbing Work)				Rs=	_____

**CONSTRUCTION OF ACADEMIC BLOCK - I (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

Non-Schedule Items (Plumbing Work)

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
85	DOUBLE BIB COCK Providing and fixing chrome plated Muslim Double-Bib-Cock with Muslim Shower of (Master Make best quality). Complete in all respect as per instructions of Architect / Engineer-in-charge	1	Each		
86	PPRC Providing and fixing PPRC Pipes and specials, etc.; including fixing, cutting and fitting, complete with and including the cost of cutting trench upto 2'-6" feet deep, refilling watering, ramming and disposal of surplus earth within one chain and painting 2 coats of bitumen paint to pipes and specials after cleaning and hessian cloth soaked in maxphalt composition wrapped tightly round the pipes and testing to a pressure head of 200 feet and cartage within 10 miles (16.09 km).				
a	Do. Do ½ inch (12 mm) Dia Pipe.	10.00	Rft		
b	Do. Do ¾ inch (20 mm) Dia Pipe.	10.00	Rft		
c	Do. Do 1 inch (25 mm) Dia Pipe.	10.00	Rft		
e	Do. Do 2" inch (50mm) Dia Pipe	10.00	Rft		
87	NON RETURN VALVE				
a	Providing & fixing 2" dia non return valve. Complete in all respect as per instructions of the Engineer-in-charge	1	Each		
b	Providing & fixing 3" dia non return valve. Complete in all respect as per instructions of the Engineer-in-charge	1	Each		
88	U.P.V.C Providing and fixing Un Ployvinyl Chloride Pipe (P.V.C) "E" Class and tee, Bend & Elbow Specials etc. including cutting and fitting, complete with and including the cost of trench up to 1-1½ feet deep refilling, watering, ramming and disposal of surplus earth within one chain and after cleaning the pipe and cartage within 10 miles (working pressure 12/kg/cm ²)				
a	Do. Do ½ inch (12 mm) Dia Pipe.	110.00	Rft		
b	Do. Do ¾ inch (20 mm) Dia Pipe.	455.00	Rft		
c	Do. Do 1 inch (25 mm) Dia Pipe.	250.00	Rft		
d	Do. Do 2" inch (50mm) Dia Pipe	360.00	Rft		
e	Do. Do 3 inch (75 mm) Dia Pipe.	772.00	P.Rft		
f	Do. Do 4 inch (100 mm) Dia Pipe.	575.00	P.Rft		
Cost of Non-Scheduled Items (Plumbing Work)				Rs=	

**CONSTRUCTION OF ACADEMIC BLOCK - I (MEGA - IV) AT
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BILL OF QUANTITIES

(Electrical Works)
Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUB HEAD: INTERNAL ELECTRIFICATION				
89	Wiring for light or fan point with 3/.029 PVC insulated wire in 20 mm (3/4") PVC conduit recessed in wall or in columns as required.(Page No. 15, Item No. 124) (Pak/AGE/Fast)	339.00	Per Point	1,130.00	383,070.00
90	Wiring for Plug point with 3/.029 PVC insulated wire in 20 mm (3/4") PVC conduit recessed in the wall or column as required.(Page No. 15, Item No. 126) (Pak/AGE/Fast)	138.00	Per Point	985.00	135,930.00
91	Wiring for call bell point with (3/.029") PVC insulated wire in 20 mm ² , (3/4")dia PVC conduit recessed in the wall, column as required (Page No 15, Item No. 128) (Pak/AGE/Fast)	4.00	Per Point	1,380.00	5,520.00
92	Providing and fixing brass ceiling fan 56" (good quality)(Page No. 34, Item No. C-235) (PAK/ Millat/ Asia)	60	Each	3,185.00	191,100.00
93	Providing and fixing circuit breaker 6,10,15,20,30,40,50,&63 amps DP (TB-55)on prepared board as required. (Page No. 31/204) (Traski, Senidar)	17	Each	2,456.00	41,752.00
94	Providing and fixing circuit breaker 6,10,15,20,30,40,50,&63 amps SP (TB-55) on prepared board as required. (Page No. 31/203) (Traski, Senidar)	90	Each	916.00	82,440.00
95	Providing and fixing circuit breaker 15,20,30,40,50,&60 amps TP (XE-100CS [CB]) on prepared board as required. (Page No. 31/206) (Traski, Senidar)	8	Each	5,521.00	44,168.00
96	Providing and fixing circuit breaker 15,20,30,40,50,60,75,100 amps TP (XS-100NS) on prepared board as required. (Page No. 31/207) (Traski, Senidar)	11	Each	9,261.00	101,871.00

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BILL OF QUANTITIES

(Electrical Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
97	Providing and fixing circuit breaker 125, 150, 200 & 225amps TP (XS-225NS) on prepared board as required. (Page No. 31/208) (Traski, Senidar)	2	Each	25,541.00	51,082.00
98	Providing and fixing circuit breaker 630amps TP settings 250-40amps (XS-400CJ) on prepared board as required. (Page No. 31/210) (Traski, Senidar)	5	Each	39,401.00	197,005.00
	MAIN CABLING				
99	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 4-7/.064 (16 mm ²) copper conductor in 1.5" dia PVC conduit recessed in the wall or column as required. (Page No. 6, Item No. 42)	100.00	P.Mtr	1,213.00	121,300.00
100	Providing and laying (MAIN or SUB MAIN) PVC insulated and PVC sheeted with 4 core copper conductor 600/1000 volts size 150mm ² (Page No. 13, Item No. 109)	22.00	P.Mtr	10,028.00	220,616.00
	MAIN OR SUB MAIN				
101	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 3-3/.036 copper conductor in ¾" dia PVC conduit recessed in the wall or column as required (Page No. 4, Item No. 23)	300.00	P.Mtr	247.00	74,100.00
102	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 3-7/.029 (4mm) copper conductor in ¾" dia PVC conduit recessed in the wall or column as required (Page No. 4, Item No. 24) (Pak./ Poineer- Fast)	300.00	P.Mtr	294.00	88,200.00
103	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 3-7/.044 (6mm) copper conductor in 1" dia PVC conduit recessed in the wall or column as required (Page No. 4, Item No. 26) (Pak./ Poineer- Fast)	300.00	P.Mtr	468.00	140,400.00
104	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 4-7/.052 (10mm) copper conductor in 1½" dia PVC conduit recessed in the wall or column as required (Page No. 4, Item No. 26) (Pak./ Poineer- Fast)	20.00	P.Mtr	1,213.00	24,260.00

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(Electrical Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
105	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 4-3/.029 copper conductor in 1" dia PVC conduit recessed in the wall or column as required (Page No. 5, Item No. 36)	300.00	P.Mtr	255.00	76,500.00
106	Providing and laying (MAIN or SUB MAIN) PVC insulated with single core copper conductor 250 / 440 volts size (2-7/.064) 16mm ² (Page No. 6, Item No. 49)	60.00	P.Mtr	524.00	31,440.00
107	Providing and laying (MAIN or SUB MAIN) PVC insulated with single core copper conductor 250 / 440 volts size (2-7/.052) 10mm ² (Page No. 6, Item No. 48)	60.00	P.Mtr	335.00	20,100.00
Sub Total				Rs=	2,030,854.00
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Electrical Work)				Rs=	_____

**CONSTRUCTION OF ACADEMIC BLOCK - I (MEGA - IV) AT
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BILL OF QUANTITIES

(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ACCESSORIES				
108	Providing & fixing 10 Amps Polycarbonate flame retardant S.P switch with fancy required gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (E31-36/1/2A Clipsal make)	339	Each		
109	Providing & fixing 10 Amps Polycarbonate flame retardant Bell Push with fancy gang plate fixed on die fabricated, powder coated, metal board recessed in wall or column including connection as required. (E31MBPR Clipsal make)	4	Each		
110	Providing & fixing 13 Amps Polycarbonate flame retardant 3-Pin switch socket unit with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (E15 Clipsal make)	138	Each		
111	Providing & fixing Polycarbonate flame retardant, 400 watts fan dimmer with plate fixed on die fabricated, powder coated, metal board recessed in the wall or column including connection as required. (E32V400F Clipsal make)	60	Each		
112	Providing & fixing 3"x4"x5" size 1/8" thick recessed type fan clamp box with 5/8" dia MS bar fan clamp fixed in reef at casting time as required.	60	Each		
113	Providing & installing 30 Cm (12") sweep, Plastic body Exhaust fan complete with blades, motor, etc fixed in existing hole including connection with 14/.0076" flexible wire complete as required Millat / Pak / Asia / Younas / Climax / Royal.	3	Each		
114	Providing & installing 30 Cm (12") sweep, mettalic body Exhaust fan complete with blades, motor, etc fitted in existing hole including connection with 14/.0076" flexible wire complete as required Millat/Pak/Asia/ Younas/Climax/ Royal.	18	Each		

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(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
115	Making hole in the wall for 12" to 16" sweep metallic exhaust fan and fixing of holefast, duly palaster and making good the damage as required.	21	Each		
	Providing & installing (24") sweep, mettalic body Bracket Fan complete with blades, motor, etc fitted in wall or column including connection with 14/.0076" flexible wire complete as required Millat/Pak/Asia/ Younas/Climax/ Royal.	12	Each		
116	Providing & fixing Cubical type metal sheet Distribution board with locking arrangement as per drawing ,vermin protected duly powder coated paint i/c all fastening material including wiring with suitable gauge PVC x PVC wire complete as required. (Hussain co/ Nadeem co.)	40.00	Per Sft		
117	Providing & fixing cubical type metal sheet vermin protected LT pannel board as per drawing with locking arrangement duly powder coated I/c all fastening devices and electrical wire/ leads for internal connection complete as required for pannel and ups DB. (Hussain co/ Nadeem co.)	10.00	Per Sft		
118	Providing & fixing pilot lamp set fitted on existing board I/c connection as required. (Traski, Senidar)	28.00	Set		
119	Supply & fixing 20mm (3/4") dia PVC conduit with all especial such as bends, sockets, Junction etc fitted on surface as required. (Gelco, Jaddah)	3,000.00	Per Rft		
120	Providing & laying 4 core, 300 mm ² , PVC insulated & PVC sheathed, 600/1000 volts grade with stranded copper conductor , un armoured, L.T cable in existing all kind of conduit or cable duct as per Pak. P.W.D specification as required. (Pakistan Cable /Poineer / Fast	85.00	P.Mtr		
121	Providing and fixing earthing set with 2'x2'x1/4" copper plate buried in the ground at a depth of 12 feet or less if water comes out from the ground level (with salt and charcoal, or Earthing chemical Power) etc making the pit 12 feet deep by excavation of all type of soil (except soft or hard rock) i/c fixing of 8 SWG copper wire in 1/2" G.I conduit complete in all respect as required.	3.00	Job		

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(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUB HEAD: TELEPHONE				
122	Providing & fixing Polycarbonate flame retardant Telephone socket 4 contact single 2 line with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (E31RJ64SM Clipsal make)	20.00	Each		
123	Providing & fixing Polycarbonate flame retardant data socket unit with 8 contact cat 5 with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (E31RJ64SM Clipsal make)	20.00	Each		
	DRY CHEMICAL POWDER TYPE - 5KG TYPE				
124	Dry chemical powder type fire extinguisher of 5 Kgs. Capacity, with initial filling in brand new cylinder with powder coated finish, fitted with Gun metal union, high pressure CO2 gas cartridge, discharge hose, wall mounting bracket etc. complete, confirming to IS:2171.	30.00	Each		
	SUB HEAD: FITTING & FIXTURE				
125	Providing and fixing 10" size imported concealed / surface type LED pannel light 18 W. complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	120.00	Each		
126	Providing and fixing 6" size (round / square shape) imported concealed / surface type LED pannel light 6 W. complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	51.00	Each		
127	Providing and fixing 1' feet long LED mirror light fitting imported surface type 5-6 W. complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	3.00	Each		

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(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
128	Providing and fixing 24 watt LED 2 x 2 size fittings with decorative base plate complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	60.00	Each		
129	Providing and fixing 70W imported concealed / surface type LED Flood light weather proof. complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	11.00	Each		
130	Providing & installing Cassett Fan recessed type with blades,grill, having size of 2 x 2 including connection with 14.0076" flexible wire complete as required. (without regulator) Millat / Pak / Asia / Younas / Climax / Royal.	12.00	Each		
	SUB HEAD: NETWORKING				
131	Supplying, Termination, Installing and deploying, CAT-6 ethernet wires for all the required nodes mentioned in drawings with end to end fluke testing in ¾" dia PVC pipes, proper harnessed and structured cabling including labelling, tagging at both ends and fixing them in communication racks, with available manageable switches copper /SFP Modules as Duplex SFP ports / for Fiber uplinks, with Cable Manager, patch panels inside to accommodate each and every node, with all accessories complete in respect as needed or as required, Make 3-M / Schneider/ Vivanco (114 Nodes for Wired Connection and 56 Nodes for Wireless AP's and etc)	3,000.00	Per Rft		
132	Supplying, Providing, and installing communication Rack 15U with all rack mount and other required accessories, with one sliding tray an two fixed trays with bolts and nuts, with 3M/ Pamduit front	2.00	Each		
133	Deploying 1 Meter Long CAT-6 UTP RJ-45 to RJ-45 data wire for conncting both ends from patch panel to switch with in the rack Make 3-M / Schneider/ Vivanco	27.00	Each		

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(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
134	Deploying 3 Meter Long CAT-6 UTP RJ-45 to RJ-45 data wire as drop cable from faceplate to system Make 3-M/ Schneider/ Vivanco	27.00	Each		
	TELEPHONE SET & CABLING				
135	Providing and installing testing and commissioning Complete Digital Telephone set approved colour and design as approved by the Engineer as required.	20.00	Nos		
136	Wiring for 02 pair cable PVC Insulated for the Telephone set in an existing conduit recessed in the wall or column as required or as approved by the Engineer In charge. (Pak cable or equivalent)	3,000.00	P.Rft		
137	Wiring for 25 pair cable PVC Insulated for the Telephone set in an existing conduit recessed in the wall or column as required or as approved by the Engineer In charge. (Pak cable or equivalent)	1,000.00	P.Rft		
138	Providing and installing testing and commissioning Complete Digital Telephone DB Board made of heavy gauge metal sheet and powder coated with locking arrangements i/c telephone connectors set as approved as approved by the Engineer as required.	5.00	P.Sft		
139	Providing & fixing upto 250 Amps, 4 pole, three phase bus bar strip fitted in given Distribution board complete with bus bar insulator, screws, bolts etc as required. Complete in all respect as per direction of the Engineer-in-Charge.	6.00	Job		
140	Providing and fixing mechanical interlock change over switch 400 amps in existing main panel board operation with 380/440 Volts AC supply including interconnections. Complete in all respect as per instruction of the Engineer-in-Charge.	1.00	Job		
141	ELECTRIC WATER COOLER Providing and fixing of electric water cooler totally rust proof, pressure type with stainless steel body as manufactured by MECO including 3 stage water filter (mabzi or equivalent) as approved by the Engineer. (40 gln capacity)	2	Each		
Cost of Electrical Work Non-Schedule Items				Rs=	

**EXTERNAL DEVELOPMENT WORK OF ACADEMIC BLOCK - I (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

SUMMARY OF COST

S #	SUB HEAD	TOTAL AMOUNT
	EXTERNAL DEVELOPMENT WORK	
1	Civil Work (Schedule Items) (Page No. 35 - 35)	Rs=
2	Civil Work (Non-Schedule Items) (Page No. 36 - 36)	Rs=
3	Plumbing Work (Schedule Items) (Page No. 37 - 37)	Rs=
4	Electrical Work (Schedule Items) (Page No. 38 - 38)	Rs=
5	Electrical Work (Non-Schedule Items) (Page No. 38 - 38)	Rs=
Total Cost External Development Work		Rs=

**EXTERNAL DEVELOPMENT WORK OF ACADEMIC BLOCK - I (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Ext.Dev. Work)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	EXCAVATION IN FOUNDATION Excavation in foundation in ordinary soil of Building Bridges and other structures including dagbelling dressing, refilling around structure with excavated earth watering and ramming lead upto 5 ft. (Page No.4, Item No.18-b)	580.00	%Cft	3,176.25	1,842.23
2	IMPORTED EARTH FILL Filling, watering and ramming earth under floor with new earth (excavated from outside) lead upto one chain and lift upto 5 feet. (Page No.4, Item No.22	2,110.00	%Cft	3,630.00	7,659.30
a	Add: extra lead 6 mile (referred from carriage of material schedule	2,110.00	%Cft	774.96	16,351.66
b					
3	KERB STONE Providing & fixing Precast Edge Block 3750 PSI Industrial Made Size 6 inches thick x 12" long x 18" high including the cost of Cartage, excavation, form work for haunching, 1450 PSI lean concrete, 2250 PSI concrete for haunching, 1:4 cement sand mortor (Vol-III-Part-IV Page No. 15, Item No. 14)	381.00	Per Rft	297.01	113,160.81
4	PAVING BLOCK Providing and fixing cement paving block flooring having size of 197 x 197 x 80mm of city / quddra Cobble shape with pigment having strength between 5000 psi to 8500 psi including filling the joints with hill sand and laying in specified manner / pattern and design etc. complete (Page No. 49, Item	4,210.00	Per Sft	248.17	1,044,795.70
5	CC (1:4:8) IN FOUNDATION Cement concrete plain (ratio1:4:8) including placing compacting, finishing and curing complete (including screening and washing at stone aggregate without shuttering (Page No.15, Item No.5-i)	337.00	%Cft	11,288.75	38,043.09
6	FORM WORK Erection and removal of centering RCC or plain cement concrete works of Partal wood (2nd Class) Horizontal (Page No.17, Item No.19-bi)	50.00	%Sft	3,588.48	1,794.24
Sub Total				Rs=	1,223,647.02
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Civil Work)				Rs=	_____

EXTERNAL DEVELOPMENT WORK OF ACADEMIC BLOCK - I (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI

BILL OF QUANTITIES

(Ext.Dev. Work)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
7	<p>STONE SOLING</p> <p>Providing and laying soling stone 6" to 9" thick under floor including packing with spraws and chips and consolidation with compactor, watering etc. complete in all respect as per instructions of the Architect / Engineer-in-Charge.</p>	2105.00	Per Cft		
8	<p>SUPPLY GARDEN SOIL (SWEET EARTH)</p> <p>Supply and stacking garden approved garden soil (sweet earth) free from salts, pebbles and grass roots etc. including all leads and lifts. Complete in all respect as per specification and instruction of the Architect / Engineer-in-Charge.</p>	100.00	Per Cft		
9	<p>SPREADING GARDEN OIL (SWEET EARTH)</p> <p>Spreading approved garden soil (sweet earth) in uniform thickness including mixing and breaking clods and dressing fine for grassing including disposal of rubbish with 3 chains (92 m) Complete in all respect as per specification and instruction of the Architect/ Engineering-in-Charge</p>	100.00	Per Cft		
10	<p>GRASSING</p> <p>Grassng fine by dribbling grass roots 3" apart including watering, weeding till such time the grass is set and become green and is fit for mowing. Complete in all respect as per specification and instruction of the Architect/ Engineer-in-Charge.</p>	100.00	Per Sft		
Cost of Non-Scheduled Items (Civil Work)				Rs=	

EXTERNAL DEVELOPMENT WORK OF ACADEMIC BLOCK - I (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI

BILL OF QUANTITIES

(Ext.Dev. Work)

(Plumbing Work)Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
11	RCC PIPE Providing, laying RCC pipes and collars of class 'A' and fixing in trench i/c cutting, fitting and jointing with maxphalt composition and cement mortar (1:1) i/c testing with water to head of 4.5 meter or 15 ft				
a	CH-II, Page No. 15 1c (150 mm - 6" Dia)	100	Rft	142.00	14,200.00
b	CH-II, Page No. 15 1d (225 mm - 9" Dia)	50	Rft	142.00	7,100.00
c	CH-II, Page No. 15 1e (300 mm - 12" Dia)	50	Rft	246.00	12,300.00
Sub Total				Rs=	33,600.00
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Civil Work)				Rs=	_____

**EXTERNAL DEVELOPMENT WORK OF ACADEMIC BLOCK - I (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Ext.Dev. Work)

(Electrical Work) Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
12	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 3-7/.044 (6mm) copper conductor in 1" dia PVC conduit recessed in the wall or column as required (Page No. 4, Item No. 26) (Pak./ Poineer- Fast)	300.00	P.Mtr	468.00	140,400.00
13	Providing and fixing circuit breaker 6,10,15,20,30,40,50,&63 amps DP (TB-55)on prepared board as required. (Page No. 31/204) (Traski, Senidar)	4.00	Each	2,456.00	9,824.00
Sub Total				Rs=	150,224.00
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Civil Work)				Rs=	_____

(Ext.Dev. Work)

(Electrical Work) Non-Schedule Item

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
14	Providing and fixing 4' height LED walkway light fitting complete with conopy glass and 1-¼" dia G.I Pipe with base plate fixing in ground in depth of 2' including 18W LED Lamp, glass holder etc with inter connect as approved by the Engineering approved by the Engineer-in-Charge. the job including the cost of 2 coat of enemal paint of with match the lighting fixture.	8.00	Each		
15	Providing and fixing 13' height LED street light fitting complete with fiber glass and 2" dia G.I Pipe with base plate fixing in ground in depth of 3' also the foundation of pole with junction box for wire connection. The fixture light having 30W LED Lamp, glass holder etc with inter connect as approved by the Engineering approved by the Engineer-in-Charge. the job including the cost of 2 coat of enemal paint of with match the lighting fixture.	8.00	Each		
16	Providing & fixing Cubical type metal sheet Distribution board with locking arrangment as per drawing ,vermin protected duly powder coated paint i/c all fastening material including wiring with suitable gauge PVC x PVC wire complete as required. (Hussain co/ Nadeem co.)	3.00	Per Sft		
Cost of Non-Scheduled Items (Electrical Work)				Rs=	_____

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

SUMMARY OF COST

S #	SUB HEAD	TOTAL AMOUNT
	BUILDING WORK	
	CIVIL WORK	
1	Civil Work (Schedule Work) (Page No. 40 - 47)	Rs=
2	Civil Work (Non-Schedule Work) (Page No. 48 - 54)	Rs=
	(A)	Rs=
	PLUMBING WORK	
3	Plumbing Work (Schedule Work) (Page No. 55 - 58)	Rs=
4	Plumbing Work (Non-Schedule Work) (Page No. 59 - 59)	Rs=
	(B)	Rs=
	ELECTRICAL WORK	
5	Electrical Work (Schedule Work) (Page No. 60 - 61)	Rs=
6	Electrical Work (Non-Schedule Work) (Page No. 62 - 66)	Rs=
	(C)	Rs=
	Total Cost of Building A+B+C	Rs=

CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	EXCAVATION				
a	Excavation in foundation in ordinary soil of Building Bridges and other structures including dagbelling dressing, refilling around structure with excavated earth watering and ramming lead upto 5 ft. (Page No.4, Item No.18-b)	3,111.00	%0Cft	3,176.25	9,881.31
b	Cutting hard rock such as granite, ballast, hard lime stone or sand stone etc. with chisels and hammers for small foundation. (Page No. 04, Item No. 19)	1,000.00	%0Cft	28,672.05	28,672.05
2	IMPORTED EARTH FILL				
a	Filling, watering and ramming earth under floor with new earth (excavated from outside) lead upto one chain and lift upto 5 feet. (Page No.4, Item No.22)	1,800.00	%0Cft	3,630.00	6,534.00
b	Add: extra lead 6 mile (referred from carriage of material schedule)	1,800.00	%Cft	774.96	13,949.28
3	CC IN FOUNDATION, SITU WALL, SUB FLOORING & RAMP				
	Cement concrete plain (ratio1:3:6) including placing compacting, finishing and curing complete (including screining and washing at stone aggregate without shuttering (Page No.15, Item No.5-h)	1,475.00	%Cft	12,595.00	185,776.25
4	FORM WORK				
a	Erection and removal of centering RCC or plain cement concrete works of Partal wood (2nd Class) Horizontal (Page No.17, Item No.19-bi)	1,217.00	%Sft	3,588.48	43,671.80
b	Vertical (Page No 17, Item No 19bii)	50.00	%Sft	3,127.41	1,563.71
5	TERMITE PROOFING				
	Providing anti-termite treatment by spraying / sprinkling / spreading Neptachler 0.5% Emulsion as an overall pre-construction treatment in slab type construction under the slab and attached perches or entrances etc. Complete in all respect as per directions of the Engineering-inCharge (Page No.108, Item No.92)	2,200.00	Per Sft	9.47	20,834.00

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
6	RCC WORK Reinforced cement concrete work including all labour and material except the cost of steel reinforcement and its labour for bending and binding which will be separately. This rate also includes all kind of forms molds lifting shuttering curing rendering and finishing the exposed surface (including screening and washing of shingle) Page No.15 Item No.6. R.C. work in roof slab, beams columns rafts, lintels and other structural members laid in situ or precast laid in position complete in all respects.				
a	Columns Footing - Ratio (1:1½:3)	806.00	P. Cft	349.00	281,294.00
b	Plinth Beams - Ratio (1:1½:3)	378.00	P. Cft	349.00	131,922.00
c	Beam & Lintels Projection Ratio (1:1½:3)				
i	Ground Floor	630.00	P. Cft	349.00	219,870.00
ii	First Floor	670.00	P. Cft	349.00	233,830.00
iii	Roof Top	85.00	P. Cft	349.00	29,665.00
d	Slab and Projection Ratio (1:1½:3)				
i	Ground Floor	850.00	P. Cft	349.00	296,650.00
ii	First Floor	850.00	P. Cft	349.00	296,650.00
iii	Roof Top	150.00	P. Cft	349.00	52,350.00
e	Stair Case Ratio (1:1½:3)				
i	Ground Floor	218.00	P. Cft	349.00	76,082.00
ii	First Floor	157.00	P. Cft	349.00	54,793.00
iii	Roof Top	157.00	P. Cft	349.00	54,793.00
f	Parapet Wall Ratio (1:1½:3)	261.00	P. Cft	349.00	91,089.00
h	Extra Labour for laying concrete plain or reinforced. 20' - 40' height (Page No. 17, Item No. 12(a))	1,900.00	%Cft	1,210.00	22,990.00
7	RAIN WATER SPOUT Rain water down pipe cast iron heads fixed in place including cost of clamp, hold fast and painting (Page No. 36, Item No. 23)	5.00	Each	873.29	4,366.45

CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
8	DAMP PROOF COURSE Damp proof course 2" thick with (cement sand and shingle concrete 1:2:4) including 2 coats of asphaltic mixture. (Page No. 18, Item No. 28-b)	215.00	%Sft	3,912.85	8,412.63
9	BLOCK MASONRY (6" Thick) Providing and laying 1:3:6 cement concrete solid block masonry wall 6" and below in thickness set in 1:6 cement mortar in ground floor Super Structure including raking out joints and curing etc. complete. (Page No. 18, Item No. 24)				
a	Ground Floor	1,381.00	%Cft	15,771.01	217,797.65
b	First Floor	1,135.00	%Cft	15,771.01	179,000.96
c	Roof Top	200.00	%Cft	15,771.01	31,542.02
10	Add Extra Labour for Block Massonary in (Page No. 18, Item No. 30)				
a	First Floor	1,135.00	%Sft	328.97	3,733.81
b	Roof Top	200.00	%Sft	760.03	1,520.06
11	G.I FRAME Providing and fixing G.I. Frames / Choukhats of size 7" X 2" or 4½ X 3" for door using 20 gauge G.I. sheet including welded hinges and fixing at site with necessary hold fasts, filing with cement sand slurry of ratio 1:6 and repairing the jambs. The cost also includes all carriage tools and plants used in making and fixing. (Page No. 92, Item No. 29)	290.00	Per Rft	228.90	66,381.00
12	SURFACE RENDERING Cement Plaster 1:5 upto 12' height ½" thick Ceiling & Wall Plaster (Page No.51, Item No. 12-b)				
i	Ceiling Plaster				
a	Ground Floor	1,766.00	%Sft	2,241.80	39,590.19
b	First Floor	1,766.00	%Sft	2,241.80	39,590.19
c	Roof Top	250.00	%Sft	2,241.80	5,604.50
ii	Wall Plaster				
a	Ground Floor	6,824.00	%Sft	2,241.80	152,980.43
b	First Floor	5,608.00	%Sft	2,241.80	125,720.14
c	Roof Top	550.00	%Sft	2,241.80	12,329.90

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
iii	Cement Plaster ½" thick 1:4 upto 12' height External Plaster 1st Layer (Page No. 51, Item No. 11b)				
a	Ground Floor	2,175.00	%Sft	2,283.93	49,675.48
b	First Floor	1,914.00	%Sft	2,283.93	43,714.42
c	Roof Top	1,131.00	%Sft	2,283.93	25,831.25
iv	Cement Plaster ¾" thick 1:4 upto 12' height External Plaster 2nd Layer (Page No. 51, Item No. 11c)				
a	Ground Floor	2,175.00	%Sft	3,015.76	65,592.78
b	First Floor	1,914.00	%Sft	3,015.76	57,721.65
c	Roof Top	1,131.00	%Sft	3,015.76	34,108.25
13	GLAZED TILE DADO (BATHROOM) Glazed tiles dado ¼" thick laid in pigment over 1:2 cement sand mortar ¾" thick including finishing. (Page No. 44, Items No. 38)				
a	Ground Floor	1,160.00	%Sft	28,299.30	328,271.88
b	First Floor	965.00	%Sft	28,299.30	273,088.25
14	ALUMINUM WINDOWS & VENTILATORS Supply & fixing Deluxe Model (Bronze) in position Aluminum channels framing for sliding windows & ventilators of Alcop made with 5mm thick tinted glass glazing (Belgium) & Aluminum fly screen including handless stoppers & locking arrangement etc. complete (Page No. 107, Item No. 84b)				
a	Ground Floor	193.00	P. Sft	1,318.15	254,402.95
b	First Floor	229.00	P. Sft	1,318.15	301,856.35
15	ALUMINIUM DOORS Supplying & fixing Deluxe Model (Bronze) in position Aluminium channels framing for hinged door or Alcop made with 5mm thick tinted glass glazing (Belgium) and Alpha (Japan) Lock including handles, Stoppers etc. (Page No. 107, Item No. 83 b)				
		102.00	P. Sft	1,507.66	153,781.32
16	STEEL GRATED DOOR Making & fixing steel grated door with 1/16" thick sheeting including angle iron frame 2" x 2" ⅝" and ¾" square bars 4" centre to centre with locking arrangement (Page No. 91, Item 24)				
		21.00	P. Sft	726.72	15,261.12

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
17	IRON GRILL Providing and fixing iron still grill using solid square bars of size ½" x ½" placed at 4" including and frame of flat iron patti of ¾" x ¾" including circle shape at 1-0 apart equivalent fitted with screws are pins including painting 3 coats with 1st coat of red oxide paint etc. (Page No. 93, Item No. 30)	480.00	Per Sft	194.16	93,196.80
18	MARBLE ON STAIRS STEPS LANDING Laying white marble flooring fine dressed on the surface without winding set in lime mortar 1:2 including rubbing and polishing of the joints. (1" thick) Page No. 42, Item No. 28 b				
a	Ground Floor	220.00	P.Sft	503.14	110,690.80
b	First Floor	220.00	P.Sft	503.14	110,690.80
19	MARBLE SKIRTING Providing and fixing ¾" thick marble tiles of approved quality and colour and shade size 8" X 4" / 6" X 4" in dado skirting and facing removal / tucking of existing plaster surface etc over ½" thick base of cement mortar 1:3 setting of tiles in slurry of white cement over mortar base including filling the joints and washing the tiles with white cement slurry, curing, finishing, cleaning for new work. (Page No. 48, item No. 68 i)				
a	Ground Floor	110.00	P.Sft	148.83	16,371.30
b	First Floor	110.00	P.Sft	148.83	16,371.30
20	PRIMING COAT Priming Coat of chalk distemper (Page No.53, item No.23)				
a	Ground Floor	1,766.00	%Sft	442.75	7,818.97
b	First Floor	1,766.00	%Sft	442.75	7,818.97
c	Roof Top	250.00	%Sft	442.75	1,106.88
21	DISTEMPERING Preparing surface and painting with Distemper- 1st coat over priming coat (Page No. 53, Item No. 24-c) 3 Coats				
a	Ground Floor	1,766.00	%Sft	1,079.65	19,066.62
b	First Floor	1,766.00	%Sft	1,079.65	19,066.62
c	Roof Top	250.00	%Sft	1,079.65	2,699.13

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
22	INTERNAL WALL PAINTING Preparing surface and painting with matt finish including rubbing the surface with bathy (silicon carbide rubbing brick) filling the voids with zink / chalk/ plaster of paris mixture, applying first coat premix, making the surface smooth and then painting 3 coats with matt finish of approved make etc. complete (new surface). Page No. 54, Item No.36a+36b+36b				
a	Ground Floor	6,824.00	%Sft	3,444.38	235,044.49
b	First Floor	5,608.00	%Sft	3,444.38	193,160.83
c	Roof Top	550.00	%Sft	3,444.38	18,944.09
23	WEATHER COAT Preparing the surface and painting with weather coat i/c rubbing the surface with rubbing brick / sand paper, filling the voids with chalk / plaster of paris and then painting with weather coat of approved make. (Page No.55, Item No.38-a&b) 3 Coat				
a	Ground Floor	2,175.00	%Sft	2,567.95	55,852.91
b	First Floor	1,914.00	%Sft	2,567.95	49,150.56
c	Roof Top	1,131.00	%Sft	2,567.95	29,043.51
24	Extra labour for external surface for distemper / paint / white wash / colour wash / weather coat above 20'-0 height using long ladder or jhoola for each coat (for every 10'-0" additional height) Page No. 55, Item No. 42 + 42)	1,740.00	%Sft	456.18	7,937.53
25	ENAMEL PAINT ON WOOD WORKS Preparing surface and painting of doors and windows any type (including edges) 3 Coats (Page No. 68, Item No. 5-C-i-ii)	800.00	%Sft	2,116.41	16,931.28
26	ENAMEL PAINT ON IRON WORKS Painting guard bars, gates iron bars gratings, railing including standard braces etc. and similar open work (3 Coats) Page No.68, Item No.4-d-ii)	600.00	%Sft	977.40	5,864.40

CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
27	WOODEN ARCHITRAVE Providing and fixing with sunk iron screws wooden Architrave approved design / shape having width not less than 2½" as directed by Engineer-in-Charge. (Page No. 60, Item No. 60)	610.00	Per Rft	49.97	30,481.70
28	FALSE CELING Supplying and fixing false ceiling of plaster of paris in panels including making frame work of deodar wood including painting with soligia paint. (Page No. 63, Item No. 52)				
a	Ground Floor	950.00	%Sft	25,293.42	240,287.49
b	First Floor	1,233.00	%Sft	25,293.42	311,867.87
29	ALUMINIUM SHEET ON BATHROOM DOORS Providing and fixing Aluminium Sheet on doors pasted with glue as per requirement (Page No. 65, Item No. 61)	231.00	Per Sft	63.77	14,730.87
30	ROOF SCREEDING Providing and laying 3" thick topping cement concrete (1:2:4) including surface finishing and dividing into panels. (Page No. 41, Item No 16-d)	1,766.00	%Sft	4,411.82	77,912.74
b	Two coats of bitumen laid hot using 34 lbs for %Sft over roof and blinded with sand at one cft per %Sft. (Page No. 34, Item No. 13)	1,766.00	%Sft	1,509.92	26,665.19
31	PLINTH PROTECTION AND RAMP Excavation in Ordinary Soil in foundation of Building Bridges and other structures including dagbelling dressing, refilling around structure with excavatd earth watering and ramming lead upto 5ft. (Page No.4, Item No. 18-b)	550.00	%Cft	3,176.25	1,746.94
b	Cement concrete plain including placing compacting, finishing and curing complete (including screining and washing at stone aggregate without shuttering (Page No. 15, Item No. 5)				
c	Ratio 1:4:8 Lean	180.00	%Cft	11,288.75	20,319.75
d	Ratio 1:3:6 Situ	100.00	%Cft	12,595.00	12,595.00

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
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BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
e	FORM WORK Erection and removal of centering RCC or plain cement concrete works of Partal wood (2nd Class) Horizontal (Page No.17, Item No.19-bi)	50.00	% Sft	3,588.48	1,794.24
f	¾" thick Cement Plaster 1:4 upto 12' height. (Page No.51, Item No.11-C)	50.00	%Sft	3,015.75	1,507.88
g	SUB FLOORING Cement concrete plain (ratio1:3:6) including placing compacting, finishing and curing complete (including screening and washing at stone aggregate without shuttering (Page No.15, Item No.5h)	137.00	%Cft	12,595.00	17,255.15
h	EARTH FILLING Filling, watering and ramming earth under floor with new earth (excavated from outside) lead upto one chain and lift upto 5 feet. (Page No.4, Item No.22	149.00	%0Cft	3,630.00	540.87
i	Add: extra lead 6 mile (referred from carriage of material schedule	149.00	%Cft	774.96	1,154.69
ii					
i	FINISH FLOOR Providing and laying 2" thick topping cement concrete (1:2:4) including Surface finishing and dividing into panels (Page No. 41, Item No. 16c)	540.00	%Sft	3,275.50	17,687.70
Sub Total				Rs=	6,438,111.87
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Civil Work)				Rs=	_____

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
32	<p>CLEARING THE SITE Dismantling, Cleaning the site cutting of bushes, trees PCC Pavers / Floor, block wall debris and rubbish of all kind, etc. for proper execution of work including layout of structure with making center line, C.C Pillars upto required height etc. complete as per drawing and Removing old debris and rubbish of all kinds and sizes including all lead and lifts Specification and instruction of Engineer</p>	Lump sum	Job		
33	<p>EXCAVATION Excavation for foundations, trenches and drains in all kinds of soil general, hard stones, murum, silts stone etc. through manually or mechanically from 5'-0" to 8'-0" and lead with back filling around the structure with excavated suitable earth including sorting the excavated stuff breaking clods, watering consolidation by ramming in layers not exceeding 9" inches in depth to full compaction, dressing, after approval disposal of surplus excavated stuff as directed. Complete in all respect as per drawing, specification & instructions of the Engineer. Payment of excavation will be as per drawing.</p>	1,725.00	P.Cft		
34	<p>All water which may accumulate on the site during excavation, concreting, cast in situ concrete or masonry work in foundation due to raising of sub soil water or abnormal rain shall be bailed / Pump out. Complete in all respect as per specification and instruction of the Engineer</p>	Lump sum	Job		
35	<p>EARTH FILLING WITH EXCAVATION SURPLUS EARTH Filling, watering and ramming earth under floor with surplus excavate earth including cost of all labours, tools, tackles etc. complete as per drawing and as per directed by the Engineer</p>	1,000.00	Per Cft		
36	<p>STUB COLUMNS Providing and casting ratio fc' 8501 PSI OPC stub columns at roof level for future extension of including cost of all materials, labours, tools, form work, hoisting, watering curing, tackles, transportation, wastage additional floors. Complete in respect as per drawings, specification and as directed by the Engineer</p>	75.00	P.Cft		

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
37	<p>RCC WORK (RATIO1:1:2) Reinforced cement concrete work including all labour and material except the cost of steel reinforcement and its labour for bending and bending which will be separately. This rate also includes all kind of forms molds lifting, shuttering curing, wastage rendering and finishing the exposed surface (including screening and washing of shingle) as per drawings, specification and as directed by the Engineer</p>				
a	Columns upto Plinth (Ratio 1:1:2) - 4375 PSI	158.00	P.Cft		
b	Column Super Structure (Ratio 1:1:2) - 4375 PSI				
i	Ground Floor	284.00	P.Cft		
ii	First Floor	284.00	P.Cft		
iii	Roof Top	62.00	P.Cft		
38	<p>STEEL REINFORCEMENT Providing and laying hard grade deformed steel ASTM A615 reinforcement bars 60,000 PSI yield stress with and including the cost of straightening, cutting, bending, binding, chairs, wastage and such overlaps as are not shown in the drawings, placing in position on cements concrete 1:1½:3 precast or m.s chairs, tying with binding wire 18 BSWG, cost of chairs and wires etc. in all kinds of RCC work in foundation, basement, plinth and all floors of building and in projections for future extension as per drawings, specification and as directed by the Engineer-In-Charge</p>	22.00	M.Ton		
39	<p>BITUMEN COATING ON STRUCTURAL WORK Providing and applying a coat of bitumen emulsion at 10 Lbs. per % Sft(0.49 Kg/sm) on walls, foundation, column, plinth beam and situ or where ever required upto Plinth level including cost of all materials, labours, tools, tackles, lifting, hosting transportation, wastage etc complete as per drawing, specification and instructions of the Engineer.</p>	3,510.00	Sft		

CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
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BILL OF QUANTITIES

(Civil Works)

Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
40	STONE SOLING Providing and laying soling stone 6" thick under floor including packing with spawls and chips and consolidation with compactor, watering, wastage etc. complete in all respect as per instructions of the Architect / Engineer	1,025.00	Per Cft		
41	WATER PROOFING, PLASTER IN SUNK & PLANTER AREA Providing and applying ¾" thick ratio 1:3 plaster mixed with water proofing admixture in Sunk area & planter area. Including cost of all materials, labours, tools, tackles, Work complete in all respect as per instructions of the Architect / Engineer	750.00	Sft		
42	WOODEN FLUSH DOOR Providing and fixing solid core 3mm thick teak veneered plywood on both flush door shutter HDF 1½" thick and lipping 1½" wide x ½" on four sides in teak wood, as commercially produced by Sterling Interwood or similar approved manufacturers under power driven hydraulic press as approved with application of approved wood preservative treatment including brass oxidized fittings 9" long tower bolts on top and bottom and imported butt hinges 5" size 3" size each side etc. complete but excluding the cost of handles locks and glass single / double opening with approved lacquer polishing all as per details and as instructed by the Engineer				
a	Ground Floor	180.00	P. Sft		
b	First Floor	143.00	P. Sft		
43	CERAMIC MATT FINISH TILES (BATHROOM) Providing & laying light/ colour Ceramic Matt Finish tiles of ¼" thick (polished) not exceeding 286 Sq. inch each floor foreign make (Italian or equivalent except China make) in any floor laid with dry bond (stile bond) over existing floor including jointing the tiles with joint filler of approved quality as per direction of the Engineer in charge				
a	Ground Floor	270.00	P.Sft		
b	First Floor	220.00	P.Sft		

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
44	FACING TILE Providing and fixing best quality approved Facing Tiles 24" X 24" of approved pattern and colour on ¾ thick cement plaster base ratio 1:4 (with matching colour slurry) upto any height. Complete in all respect as per drawings, specification and instruction of the Engineer-in-Charge	50.00	Sft		
45	SULPHATE RESISTING CEMENT Providing and using Sulphate Resisting Cement in place of ordinary Portland cement	8,900.00	Per K.G		
46	GROOVE INPLASTER Providing, making horizontal or vertical joints or grooves of approved design & size including cost of all materials, labour, tools, tackles, watering, curing, transportation, wastage hoisting, scaffolding & its removal etc complete as per drawings, specification and as directed by the Engineer	100.00	Per Sft		
47	PLASTER BAND Providing & Making 1/2" thick plaster band 4" to 6" wide with 1:4 cement mortar in all floors including including. cost of all materials, labour, tools, tackles, transportation, wastage watering, curing, hoisting, scaffolding & its removal etc complete as per drawings, specification and as directed by the Engineer	50.00	Rft		
48	PORCELAIN TILES FLOORING Providing & laying light/ colour unglazed vitrified porcelain tiles (polished) not exceeding 576 Sq. inch each floor foreign make (Italian or equivalent except China make) in any floor laid with dry bond (stile bond) over existing floor including jointing the tiles with joint filler of approved quality as per direction of the Engineer in charge				
a	Ground Floor	1,310.00	P.Sft		
b	First Floor	1,310.00	P.Sft		

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
49	PORCELAIN TILES SKIRTING / DADO Providing & laying light/ colour unglazed vitrified porcelain tiles (polished) not exceeding 144 Sq. inch each wall foreign make (Italian or equivalent except China make) in any floor laid with dry bond (stile bond) over existing floor including jointing the tiles with joint filler of approved quality as per direction of the Engineer in charge				
a	Ground Floor	1,310.00	P.Sft		
b	First Floor	1,310.00	P.Sft		
50	MARBLE SLAB ON COUNTER Providing and fixing 1" thick prepolished marble slab of approved size, colour and quality over wash basin including making opening in slab for wash basin fixing. Complete in all respect as per instructions of the Architect / Engineer-in-Charge.	110.00	P.Sft		
51	C.C GOLA Providing and laying gola 3" X 3" concrete 1:2:4 using graded screened bajri at junction of slab and walls and finished with cement plaster 1:4 including curing etc. complete.	200.00	P.Rft		
52	DRIP COURSE Making drip course ½" x ¾" (13mm x9.5mm) size under R.C.C or C.C coping and chajja etc, complete in all floors including cost of extra cement mortar 1:3 and curing etc complete	100.00	Rft		
53	FOAM CONCRETE IN SUNK AREA Providing and laying foam concrete 18" thick in sunk toilet areas with cement concrete 1:6 mixed with mico-air 100 as manufactured by DUGUSSA or equivalent @ 100 ml / 100 kg of cement, all as per specifications, drawings and including 2" thick concrete 1:2:4 on top mixed with water proofing admixture of approved manufacture laid to slope (all floors)	330.00	Sft		

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
54	STAINLESS STEEL HANDRAILING				
a	Providing and fixing stairs railing of stainless steel pipe horizontal pipe rail of 50mm dia on top including 25mm tube in centre, bottom & vertical post at each alternate step with flange and flange cover as shown on drawings and as directed by the Engineer. with &including the cost of Erection in position and cartage at any height in any floor.	50.00	Per Rft		
b	Providing and fixing 50 mm dia stainless steel pipe rail fixed on stair side wall as per drawings and directions of the Engineer with and including cutting holes in walls / RCC for fixing and making good the same. The cost includes erection in position and cartage at any height in any floor.	156.00	Per Rft		
55	MILD STEEL WITH WOODEN TOP HAND RAIL				
	Providing and fixing M.S Railing with deodar wooden top 2" x 4" with MS vertical post 1" x 1" and horizontal, top flat iron strip 1" x ¼" including fixing, embedding, welding, painting a base primer coat and 2 coat of enamel painting, finishing, installing, bracing, transportation, wastage etc complete as per drawings, specification and as directed by Engineer				
a	Floor Mounted	30.00	P.Rft		
b	Wall Mounted	10.00	P.Rft		
56	DOOR LOCKS (HEAVY DUTY)				
	Providing and fixing Heavy Duty with C.P brass screws Alpha knob set lock of approved design, manufacturer, and color, cutting wood to required shape and size with three operation keys (Taiwan make). Complete in all respect as per specification & instruction of the Engineer-in-Charge	11.00	each		
57	DOOR LOCKS				
	Providing and fixing Washroom door locks with C.P brass screws Alpha knob set lock of approved design, manufacturer, and color, cutting wood to required shape and size with three operation keys (Taiwan make). Complete in all respect as per specification & instruction of the Engineer-in-Charge	11.00	each		

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
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BILL OF QUANTITIES

(Civil Works)

Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
58	<p>DOOR CLOSER Providing and fixing with brass screws or specially supplied screws hydraulic door closer of approved design and manufacturer, cutting wood etc to required shape and size (Japan make). Complete in all respect as per specification and instruction of the Engineer-in-Charge.</p>	5.00	each		
59	<p>ALUMINIUM SWING DOOR Providing and fixing fully glazed Champagne anodized Aluminium swing door with top and bottom frame only as per British standard manufactured by Luckh, Alcop, Krudson, Pakistan cables and A.C.P (fixing through their approved fabricators), Deluxe model section, 101.6mm x 44.5mm and 2mm thick including the Aluminium fittings, with all accessories cutting hole etc. and making good damages to walls etc complete as required in any floor including the cost of glass pans 12mm as per direction of Engineer</p>	28.00	Sft		
60	<p>WATER STORAGE TANK OVER ROOF Construction of storage tank over roof of the required size poured and cast in RCC 1:2:4 including formwork in all walls and slabs laying 2" thick 1:4 cement concrete floor finished with neat cement slurry, ½" thick cement plaster in 1:3 cement mortar internally all using approved water proofing agent pudlo or its equivalent grade @ 5lbs/bag of cement and ¾" thick in cement plaster in 1" to 3" cement mortar externally including curing etc. 1 no. manholes opening size 18"X18" and C.L water tight Manhole cover and frame weight 20 Kg/ each with proper locking arrangement complete all as per drawing and design in all respects</p>				
a	1 x 1100	1,100.00	Per Glen		
Cost of Non-Scheduled Items (Civil Work)				Rs=	

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Plumbing Works)
Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
61	PAKISTANI WC Providing and fixing squatting type white glazed earthen ware W.C. Pan with front flush inlet and complete with including the cost of flushing cistern with internal fitting and flush pipe with bend and making requisite number of holes in walls plinth and floor for pipe connection and making good in cement concrete 1:2:4 (foreign equivalent) with 4" dia C.I. Trap (Page No. 1, Item No. 2-a)	2	Each	5,728.80	11,457.60
62	EUROPEAN WC Providing and fixing European white glazed earthen ware wash down W.C. Pan complete with and including the cost of white / black plastic seat (best quality) and lid with c.p. brass hinges and buffers, 3 gallons white glazed earthen ware low level flushing cistern with siphon fitting 1½" dia white porcelain enamelled flush bend ¾" dia and making requisite number of holes in walls plinth and floor for pipe connections and making good in cement 1:2:4 (foreign quality) Page No. 2, Item No. 5.	5	Each	11,477.40	57,387.00
63	GULLY TRAP Providing and fixing 6" X 6" X 4" CC Guly Trap with 4" outlet complete 4" thick 1:2:4 CC for bed & ½" thick cement plaster (1:3) to the kerb, C.I. grating 6" X 6" & C.I. Cover and frame 12" X 12" (inside) etc. complete (Page No. 23, Item No. 1)	6	Each	1,193.17	7,159.02
64	NYLON CONNECTION Providing and fixing in position nylon connection complete with ½ dia brass stop cock with pair of bass nuts and lining joints and nylon connections. (CH-I, Page No. 6, Item No. 22)	12	Each	689.00	8,268.00

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BILL OF QUANTITIES

(Plumbing Works)
Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
65	LAVATORY BASIN Providing and fixing 24" X 18" lavatory basin in white glazed earthen ware complete with & including the cost of W.I. or C.I. cantilever brackets 6" built into walls painted white in two coats after a primary coat of red lead paint a pare of ½" dia rubber plug and chrome plated brass chain 1¼" dia malleable iron or brass unions and making requisite number of holes in walls, plinth and floor for pipe connections and making good in cement concrete 1:2:4 (foreign equivalent) Page No. 3, Item No. 10.	5	Each	4,928.00	24,640.00
66	Add extra labour for providing fixing of earthen ware PEDESTAL WHITE OR COLOUR GALZAED) CH-I: Page No. 4, Item No. 10 +11)	5	Each	2,533.47	12,667.35
67	BATHROOM ACCESSORIES Supply and fixing Bathroom Accessories set (7 Piece) including towel rod, brush holder, soap tray, shelf of approved design including cost of screws, nuts etc. complete (Master Brand or as recommended by Engineer-in-Charge). Page No. 19, Item No. 23	5	Each	10,322.40	51,612.00
68	C.I.TRAP Providing and fixing C.I. trap with 4" dia inlet and 4" dia outlet of the approved self cleaning design with a C.I. grating with or without a vent arm including cas t of jointing requisite number of holes in walls, plinth and floor for pipe connection and making good cement concrete 1:2:4. (CH-I, Page NO. 6, Item No. 20)	10	Each	2,024.43	20,244.30
69	TEE STOP COCKS Supply and fixing ½" dia concealed tee stop cock of superior quality with cp head (CH-VI-Page No. 18, Item No. 12-b)	1	Each	889.46	889.46
70	LONG BIB COCKS Supply and fixing ½" dia long bib cock of crystal head of superior quality. Complete (CH-VI-Page No. 19, Item No. 13-b)	2	Each	1,384.24	2,768.48

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
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BILL OF QUANTITIES

(Plumbing Works)
Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
71	PILLER COCK Supply and fixing swan type piller cock of superior quality with crystal head. complete (CH-VI, Page No. 19, Item No. 16-b)	5	Each	877.80	4,389.00
72	MUSLIM SHOWER Supply and fixing C.P. Muslim Shower with double Bib Cock and ring pipe etc. complete (Page No. 19, Item No. 19-a)	5	Each	3,432.00	17,160.00
73	STOP COCK Supply and fixing concealed tee- stop cock of superior quality with c.p. head ½" dia (Page No. 18, Item No. 12-a)	1	Each	843.92	843.92
74	LOOKING MIRROR Providing and fixing 24" X 18" bavelled edge mirror of Belgium glass complete with ⅝" thick hard. (Superior Quality) CH-II-Page No. 7, Item No. 3-b	5	Each	2,376.00	11,880.00
75	HANDLE VALVE Providing and fixing handle valves (china) with wheels, threaded or flanged ends with rubber washers (standard pattern)				
a	CH-VI-Page No. 17, Item No. 5-ii (¾" Dia)	7	Each	271.92	1,903.44
b	CH-VI-Page No. 17, Item No. 5-iii (1" Dia)	3	Each	365.42	1,096.26
c	CH-VI-Page No. 17, Item No. 5 vi (2" Dia)	2	Each	1,382.92	2,765.84
76	RCC PIPE Providing, laying RCC pipes and collars of class 'A' and fixing in trench i/c cutting, fitting and jointing with maxphalt composition and cement mortar (1:1) i/c testing with water to head of 4.5 meter or 15 ft				
a	CH-II, Page No. 15 1c (150 mm - 6" Dia)	50	Rft	142.00	7,100.00
b	CH-II, Page No. 15 1d (225 mm - 9" Dia)	10	Rft	142.00	1,420.00
c	CH-II, Page No. 15 1e (300 mm - 12" Dia)	10	Rft	246.00	2,460.00

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
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BILL OF QUANTITIES

(Plumbing Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
77	<p>MANHOLE STANDARD</p> <p>Construction manhole for the required dia of circular sewer and 7'-9" depth with walls of B.B in cement mortar 1:3 cement plastered 1:3, ½" thick, inside of walls and 1" (25mm) thick over benching and channel including fixing C.I manhole cover with frame of clear opening 2' x 2' (610 x 610 mm) of 4.5 cwt embeded in plain C.C 1:2:4 and two way rainforced 6" thickness including fixing 1" (25 mm) dia M.S steps 6" (150 mm) wide projecting 4" (102 mm) from the face of wall at 12" (305 mm) C/C duly painted etc. complete as per standard specification and drawings Page No 47, Item No 2a (4" to 9" dia 4'x3'x7'x9"</p>	2	Each	42,745.00	85,490.00
78	<p>MANHOLE (TYPE A SMALL)</p> <p>Constructing manhole or inspectoin chamber for the required diameter of circular sewer and 3'-6" (1067 mm) dept with walls of BB in cement sand mortar 1:3 cement plastered 1:3, ½" thick inside of walls and 1" thick over benching and channel including fixing C.I.Mahole cover with frame of clear opening 1-½' X 1-½' of 1.75 cwt. (88.9 kg) embeded in plain CC 1:2:4 and fixing "" dia MS steps 6" wide projecting 4" from the face of wall at 12" CC duly painted etc. complete as per standard specifications and drawing. (4" to 12" dia 2' X 2' X 3'-6") Page No. CH-II, Page No. 46, Item No. P-a.</p>	4	Each	14,748.00	58,992.00
Sub Total				Rs=	392,593.67
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Plumbing Work)				Rs=	_____

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

Non-Schedule Items (Plumbing Work)

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
79	DOUBLE BIB COCK Providing and fixing chrome plated Muslim Double-Bib-Cock with Muslim Shower of (Master Make best quality). Complete in all respect as per instructions of Architect / Engineer-in-charge	1	Each		
80	PPRC Providing and fixing PPRC Pipes and specials, etc.; including fixing, cutting and fitting, complete with and including the cost of cutting trench upto 2'-6" feet deep, refilling watering, ramming and disposal of surplus earth within one chain and painting 2 coats of bitumen paint to pipes and specials after cleaning and hessian cloth soaked in maxphalt composition wrapped tightly round the pipes and testing to a pressure head of 200 feet and cartage within 10 miles (16.09 km).				
a	Do. Do ½ inch (12 mm) Dia Pipe.	10.00	Rft		
b	Do. Do ¾ inch (20 mm) Dia Pipe.	10.00	Rft		
c	Do. Do 1 inch (25 mm) Dia Pipe.	10.00	Rft		
e	Do. Do 2" inch (50mm) Dia Pipe	10.00	Rft		
81	NON RETURN VALVE Providing & fixing 2" dia non return valve. Complete in all respect as per instructions of the Engineer-in-charge	1	Each		
	Providing & fixing 3" dia non return valve. Complete in all respect as per instructions of the Engineer-in-charge	1	Each		
82	U.P.V.C Providing and fixing Un Ployvinyl Chloride Pipe (P.V.C) "E" Class and tee, Bend & Elbow Specials etc. including cutting and fitting, complete with and including the cost of trench up to 1-1½ feet deep refilling, watering, ramming and disposal of surplus earth within one chain and after cleaning the pipe and cartage within 10 miles (working pressure 12/kg/cm ²)				
a	Do. Do ½ inch (12 mm) Dia Pipe.	30.00	Rft		
b	Do. Do ¾ inch (20 mm) Dia Pipe.	200.00	Rft		
c	Do. Do 1 inch (25 mm) Dia Pipe.	100.00	Rft		
d	Do. Do 2" inch (50mm) Dia Pipe	100.00	Rft		
e	Do. Do 3 inch (75 mm) Dia Pipe.	100.00	P.Rft		
f	Do. Do 4 inch (100 mm) Dia Pipe.	100.00	P.Rft		
Cost of Non-Scheduled Items (Plumbing Work)				Rs=	

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Electrical Works)
Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUB HEAD: INTERNAL ELECTRIFICATION				
83	Wiring for light or fan point with 3/.029 PVC insulated wire in 20 mm (3/4") PVC conduit recessed in wall or in columns as required.(Page No. 15, Item No. 124) (Pak/AGE/Fast)	95.00	Per Point	1,130.00	107,350.00
84	Wiring for Plug point with 3/.029 PVC insulated wire in 20 mm (3/4") PVC conduit recessed in the wall or column as required.(Page No. 15, Item No. 126) (Pak/AGE/Fast)	53.00	Per Point	985.00	52,205.00
85	Wiring for call bell point with (3/.029") PVC insulated wire in 20 mm ² , (3/4")dia PVC conduit recessed in the wall, column as required (Page No 15, Item No. 128) (Pak/AGE/Fast)	4.00	Per Point	1,380.00	5,520.00
86	Providing and fixing brass ceiling fan 56" (good quality)(Page No. 34, Item No. C-235) (PAK/ Millat/ Asia)	4.00	Each	3,185.00	12,740.00
87	Providing and fixing circuit breaker 6,10,15,20,30,40,50,&63 amps DP (TB-55)on prepared board as required. (Page No. 31/204) (Traski, Senidar)	6.00	Each	2,456.00	14,736.00
88	Providing and fixing circuit breaker 6,10,15,20,30,40,50,&63 amps SP (TB-55) on prepared board as required. (Page No. 31/203) (Traski, Senidar)	12.00	Each	916.00	10,992.00
89	Providing and fixing circuit breaker 15,20,30,40,50,&60 amps TP (XE-100CS [CB]) on prepared board as required. (Page No. 31/206) (Traski, Senidar)	4.00	Each	5,521.00	22,084.00

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
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BILL OF QUANTITIES

(Electrical Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
90	MAIN CABLING Providing and laying (MAIN or SUB MAIN) PVC insulated with size 4-7/.064 (16 mm ²) copper conductor in 1.5" dia PVC conduit recessed in the wall or column as required. (Page No. 6, Item No. 42)	80.00	P.Mtr	1,213.00	97,040.00
91	MAIN OR SUB MAIN Providing and laying (MAIN or SUB MAIN) PVC insulated with size 3-3/.036 copper conductor in ¾" dia PVC conduit recessed in the wall or column as required (Page No. 4, Item No. 23)	155.00	P.Mtr	247.00	38,285.00
92	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 3-7/.029 (4mm) copper conductor in ¾" dia PVC conduit recessed in the wall or column as required (Page No. 4, Item No. 24) (Pak./ Poineer- Fast)	155.00	P.Mtr	294.00	45,570.00
93	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 3-7/.044 (6mm) copper conductor in 1" dia PVC conduit recessed in the wall or column as required (Page No. 4, Item No. 26) (Pak./ Poineer- Fast)	155.00	P.Mtr	468.00	72,540.00
94	Providing and laying (MAIN or SUB MAIN) PVC insulated with single core copper conductor 250 / 440 volts size (2-7/.064) 16mm ² (Page No. 6, Item No. 49)	15.00	P.Mtr	524.00	7,860.00
Sub Total				Rs=	486,922.00
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Electrical Work)				Rs=	_____

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ACCESSORIES				
95	Providing & fixing 10 Amps Polycarbonate flame retardant S.P switch with fancy required gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (E31-36/1/2A Clipsal make)	95.00	Each		
96	Providing & fixing 10 Amps Polycarbonate flame retardant Bell Push with fancy gang plate fixed on die fabricated, powder coated, metal board recessed in wall or column including connection as required. (E31MBPR Clipsal make)	4.00	Each		
97	Providing & fixing 13 Amps Polycarbonate flame retardant 3-Pin switch socket unit with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (E15 Clipsal make)	53.00	Each		
98	Providing & fixing Polycarbonate flame retardant, 400 watts fan dimmer with plate fixed on die fabricated, powder coated, metal board recessed in the wall or column including connection as required. (E32V400F Clipsal make)	4.00	Each		
99	Providing & fixing 3"x4"x5" size 1/8" thick recessed type fan clamp box with 5/8" dia MS bar fan clamp fixed in riif at casting time as rquired.	4.00	Each		
100	Providing & installing 30 Cm (12") sweep, mettalic body Exhaust fan complete with blades, motor, etc fitted in existing hole including connection with 14/.0076" flexible wire complete as required Millat/Pak/Asia/ Younas/Climax/ Royal.	6.00	Each		

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
101	Making hole in the wall for 12" to 16" sweep metallic exhaust fan and fixing of holefast, duly palaster and making good the damage as required.	6.00	Each		
102	Providing & fixing Cubical type metal sheet Distribution board with locking arrangement as per drawing ,vermin protected duly powder coated paint i/c all fastening material including wiring with suitable gauge PVC x PVC wire complete as required. (Hussain co/ Nadeem co.)	20.00	Per Sft		
103	Providing & fixing pilot lamp set fitted on existing board I/c connection as required. (Traski, Senidar)	6.00	Set		
104	Supply & fixing 20mm (3/4") dia PVC conduit with all especial such as bends, sockets, Junction etc fitted on surface as required. (Gelco, Jaddah)	1,000.00	Per Rft		
105	Providing and fixing earthing set with 2'x2'x1/4" copper plate buried in the ground at a depth of 12 feet or less if water comes out from the ground level (with salt and charcoal, or Earthing chemical Power) etc making the pit 12 feet deep by excavation of all type of soil (except soft or hard rock) i/c fixing of 8 SWG copper wire in 1/2" G.I conduit complete in all respect as required.	2.00	Job		
	SUB HEAD: TELEPHONE				
107	Providing & fixing Polycarbonate flame retardant Telephone socket 4 contact single 2 line with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (E31RJ64SM Clipsal make)	5.00	Each		
108	Providing & fixing Polycarbonate flame retardant data socket unit with 8 contact cat 5 with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (E31RJ64SM Clipsal make)	3.00	Each		

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
109	DRY CHEMICAL POWDER TYPE - 5KG TYPE Dry chemical powder type fire extinguisher of 5 Kgs. Capacity, with initial filling in brand new cylinder with powder coated finish, fitted with Gun metal union, high pressure CO2 gas cartridge, discharge hose, wall mounting bracket etc. complete, confirming to IS:2171.	5.00	Each		
110	SUB HEAD: FITTING & FIXTURE Providing and fixing 10" size imported concealed / surface type LED pannel light 18 W. complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	27.00	Each		
111	Providing and fixing 6" size (round / square shape) imported concealed / surface type LED pannel light 6 W. complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	22.00	Each		
112	Providing and fixing 1' feet long LED mirror light fitting imported surface type 5-6 W. complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	2.00	Each		
113	Providing and fixing 24 watt LED 2 x 2 size fittings with decorative base plate complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	24.00	Each		
114	Providing and fixing 70W imported concealed / surface type LED Flood light weather proof. complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	6.00	Each		
115	Providing & installing Cassett Fan recessed type with blades,grill, having size of 2 x 2 including connection with 14.0076" flexible wire complete as required. (without regulator) Millat / Pak / Asia / Younas / Climax / Royal.	12.00	Each		

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUB HEAD: NETWORKING				
116	Supplying, Termination, Installing and deploying, CAT-6 ethernet wires for all the required nodes mentioned in drawings with end to end fluke testing in ¾" dia PVC pipes, proper harnessed and structured cabling including labelling, tagging at both ends and fixing them in communication racks, with available manageable switches copper /SFP Modules as Duplex SFP ports / for Fiber uplinks, with Cable Manager, patch panels inside to accommodate each and every node, with all accessories complete in respect as needed or as required, Make 3-M / Schneider/ Vivanco (114 Nodes for Wired Connection and 56 Nodes for Wireless AP's and etc)	1,000.00	Per Rft		
117	Supplying, Providing, and installing communication Rack 15U with all rack mount and other required accessories, with one sliding tray an two fixed trays with bolts and nuts, with 3M/ Pamduit front	1.00	Each		
118	Deploying 1 Meter Long CAT-6 UTP RJ-45 to RJ-45 data wire for conncting both ends from patch panel to switch with in the rack Make 3-M / Schneider/ Vivanco	3.00	Each		
119	Deploying 3 Meter Long CAT-6 UTP RJ-45 to RJ-45 data wire as drop cable from faceplate to system Make 3-M/ Schneider/ Vivanco	3.00	Each		
	TELEPHONE SET & CABLING				
120	Providing and installing testing and commissioning Complete Digital Telephone set approved colour and designe as approved by the Engineer as required.	5.00	Nos		
121	Wiring for 02 pair cable PVC Insulated for the Telephone set in an existing conduit recessed in the wall or column as required or as approved by the Engineer In charge. (Pak cable or euqivalent)	500.00	P.Rft		

**CONSTRUCTION OF NORWEGAIN CENTER (MEGA - IV) AT
NED, UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
122	Wiring for 25 pair cable PVC Insulated for the Telephone set in an existing conduit recessed in the wall or column as required or as approved by the Engineer In charge. (Pak cable or equivalent)	100.00	P.Rft		
123	Providing and installing testing and commissioning Complete Digital Telephone DB Board made of heavy gauge metal sheet and powder coated with locking arrangements i/c telephone connectors set as approved as approved by the Engineer as required.	2.00	P.Sft		
124	ELECTRIC WATER COOLER Providing and fixing of electric water cooler totally rust proof, pressure type with stainless steel body as manufactured by MECO including 3 stage water filter (mabzi or equivalent) as approved by the Engineer. (40 gln capacity)	1	Each		
Cost of Electrical Work Non-Schedule Items					Rs=

**INSTALLATION OF WALL MOUNTED AC AT ACADEMIC BLOCK - I
AND NORWEGIAN CENTER (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

SUMMARY OF COST

S #	SUB HEAD	TOTAL AMOUNT
1	WALL MOUNTED AC (Page No. 68 - 68)	Rs:
TOTAL COST OF WALL MOUNTED AC		Rs=

**INSTALLATION OF WALL MOUNTED AC AT ACADEMIC BLOCK - I AND NORWEGIAN CENTER
(MEGA - IV) AT NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

Non-Schedule Item

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	WALL MOUNTED SPLIT Providing, fixing & installation of the following capacity wall mounted BTU / Hr Air Conditioner unit in the specified place including gas charging of the unit. The job includes copper piping of out door unit fitted on roof or angle iron frame making inter connection of the unit with suitable sizes of wire also piping for condensed water etc as required approved make (Imported). including cost of all materials, labours, tools, rawal bolts, hoisting, transportation, wastage as per drawings, specification and as directed by the Engineer				
a	1.5 Ton, 18,000 BTU	2	Each		
b	2 Ton, 24,000 BTU	11	Each		
TOTAL COST OF WALL MOUNTED AC				Rs=	



ACADEMIC BLOCK - II & SHED FOR LIGHT VEHICLES

N. E. D. U. E. T, KARACHI



TENDER DOCUMENT VOLUME - I

GENERAL CONDITIONS OF CONTRACT SPECIAL PROVISIONS

 **SHAHZAD
ASSOCIATES**

CONSULTING ARCHITECTS, ENGINEERS & PLANNERS

KARACHI OFFICE :- 2ND FLOOR, FARZANA BUILDING, SHAHEED-E-MILLAT ROAD.

KARACHI TEL: 4348591 - 4388857, FAX: (92 - 021) 4530754, E-MAIL: shahzadarch@yahoo.com

ISLAMABAD OFFICE :- 66, STREET NO. 59, 1/8-3, ISLAMABAD. PH: 444741

QUETTA OFFICE: 4-B, 1ST FLOOR, HASSAN APARTMENTS, PATEL BAGH, QUETTA. PH: 839033

INVITATION FOR BID



NED UNIVERSITY

of Engineering & Technology

DIRECTOR
PROCUREMENT

University Road, Karachi-75270. Tel: 9926 1261-68 Ext 2471 & 2291
Fax: 9926-1255 Email: ddff@neduet.edu.pk Web: www.neduet.edu.pk

NOTICE INVITING TENDERS

No. PC/NED/CE-1114122/1330 **Say NO to Corruption**

NED University of Engineering & Technology invites **Sealed Bids** from Reputable and Well Experienced Firms/ Companies for the Works detailed below:

1. CONSTRUCTION OF ACADEMIC BLOCK I & NORWEGIAN CENTRE		Estimated Cost 85.438 Millions
Bid Security	Tender Fee (Rs.)	Time of Completion
2%	3,000/-	15 Months
2. CONSTRUCTION OF ACADEMIC BLOCK II & MAINTENANCE SHED FOR LIGHT VEHICLES		Estimated Cost 102.873 Millions
Bid Security	Tender Fee (Rs.)	Time of Completion
2%	3,000/-	15 Months

ELIGIBILITY:

- (i) Valid registration with Pakistan Engineering Council (PEC) in category C-4 and above, Specialization code CE-10
- (ii) Registered with Sindh Revenue Board and FBR

QUALIFICATION

Bidders are required to submit the following Documents with their Bid

- (i) Proof of Registration with PEC, SRB and FBR
- (ii) List of at least two Similar assignment each with cost Rs. 30 Million or above, completed over the Past 08 Years with Completion Certificate.
- (iii) Details of Tools and Plants owned / hired by Firm
- (iv) Financial Statement (Summary) and Income Tax Returns for the Last 3 Years
- (v) List of Litigation (if any) their nature and status / outcomes
- (vi) Affidavit that Firm has never been Black Listed

METHOD OF PROCUREMENT: Single Stage, One Envelope procedure

BIDDING / TENDER DOCUMENTS:

- (i) **Issuance:** Documents will be issued from **04th DEC 2017** to **20th DECEMBER 2017**
- (ii) **Submission:** Last Date of Submission of Bids is **21st DEC 2017** up to **11:00 am**
- (iii) **Opening:** Bids will be open on **21st DEC 2017** at **11:30 am**
- (iv) **Place:** **Place of Issuance & Submission of Bids** is as under:
Address: **Directorate of Procurement, NED University**
Main Campus, Tel # 021-99261261-68 (Ext: 2291)

FUNDING POSITION: Funds are available under HEC approved Development Project

TERMS & CONDITIONS:

a) **Under the following Conditions, Bid can be rejected:**

- i) Conditional, Electronic and Telegraphic Bids / Tenders
- ii) Bids not accompanied by Bid Security of required amount & form
- iii) Bids received after Specified Date and Time
- iv) Black Listed Firms/Companies

b) Bid Validity Period: **90 Days**

c) The **Procuring Agency** reserves the right to reject all or any Bid subject to the relevant provisions of Sindh Public Procurement Rules 2010 amended up to date

Director Procurement

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INSTRUCTIONS TO BIDDERS

INSTRUCTIONS TO BIDDERS

A. GENERAL

IB.1 Scope of Bid

- 1.1 The Employer as defined below hereinafter called "the Employer" wishes to receive bids for the construction and completion of works as described below and summarized referred to as the "Works".

Name and address of the Employer:

The Employer is "NED University of Engineering & Technology, University Road, Karachi-75270"

Phone: (9221) 9926-1261-8 Ext: 2291 Fax No. (9221) 9926-1255

Name of the Project & Summary of the Works:

Construction of Academic Block II & Maintenance Shed for Light Vehicle

The works involves Construction of Academic Block II & Maintenance Shed for Light Vehicle and other allied work including execution of Civil, Electrical, Plumbing and allied works in accordance with the Design, Drawings, Technical Specifications, Bill of Quantities and instructions of the Client / Consultant with special emphasis on Quantity and Quality control ethics.

- 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 The Employer has arranged funds from HEC and it is intended that part of the proceeds of this 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 bidders meeting the following requirements:
- a. Duly licensed by the Pakistan Engineering Council (PEC) in the category C-04 and their license should be valid for the Current calendar year.

- b. Technically and Financially capable firms having adequate managerial capacity.
- c. Duly Security Cleared / Approved / Pre-Qualified by the NED UET, Karachi.
- d. As described in Bidding Data.

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 Employer 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 for themselves on their own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. Site visit will be organized by the Employer and will be held on _____ 2017. The prospective bidders will coordinate, in advance of the date of Site visit, with employer for time and place of gathering and other arrangements before proceeding to the Site. All costs in respect of Site Visit 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 Employer 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 Employer, 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.

- 6.3 The Bidder shall, before submitting his Bid, satisfy himself in all respects including the following:
- a). The existing facilities in the vicinity of the Site of Work, the hydrological and climatological conditions, the form and nature of the Site of Work.
 - b). The quantities and nature of the work and materials necessary for completion of the works.
 - c). The means of access to the site of work and exit from the site.
 - d). The available accommodation on land for Contractor's camp within or outside the site of work.
 - e). All necessary information as to risks, contingencies and other circumstances, which may influence or affect the Bid prices.
 - f). The type and nature of soil existing in area of work.
 - g). The existing condition at Site.
- 6.4 Each Bidder shall also enquire and satisfy himself as to the source, the quantity of supply, the sufficiency of and the means of obtaining and transporting all plant, material, labour, fuel, water, electricity and other materials or things required for in connection with the Works.

In preparing the Bid, The Bidder shall also consider his obligation to adequately store all materials and maintain existing facilities and all Temporary Works during the period of their usage.

The Bidder must make local inquiries as to the physical conditions prevailing at the Site and obtain his own information on all matters and things that may in any way influence him in making the Bid and fixing the rates and prices in the Bill of Quantities. He must also satisfy himself as to the risks, obligation and responsibilities to be undertaken in accordance to the Contract to be entered into by him should his Bid be accepted.

The Bidder shall make his own investigations, enquiries and assessments, on all matters, of all conditions of existing constructions at the site and its vicinity, to his satisfaction before submitting his Bid.

B. BIDDING DOCUMENTS

IB.7 Contents of Bidding Documents

- 7.1 The Bidding Documents are those stated below and should be read in conjunction with any addenda issued in accordance with clause IB.9.

Volume: I

Invitation for Bids

Instructions to Bidders

Form of Bid and Appendices

Forms - Bids Security, Performance Security, Mobilization Advance, Security and Contract Agreement

Conditions of Contract - Part I, General Conditions

Conditions of Contract - Part II, Particular Conditions

List of Bidding Drawings

Volume: II

Specifications - Special and Technical Provisions

Volume: III

Bill of Quantities / Scheduled of Prices

Volume: IV

Tender Drawings of Civil, Plumbing and Electrical Works

- 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 Bidding Documents will be rejected.

IB.8 Clarification of Bidding Documents

- 8.1 Any prospective bidder requiring any clarification (s) in respect of the Bidding Documents may notify the Employer in writing at the Employer's address indicated in the Invitation for Bids. The Employer will respond to any request for clarification which he receives earlier than **07 (Seven) Days** prior to the deadline for submission of bids.

Copies of the Employer's response will be forwarded to all purchasers of the Bidding Documents, including a description of the enquiry but without identifying its source.

IB.9 Amendment of Bidding Documents

- 9.1 At any time prior to the deadline for submission of bids, the Employer may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective 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 7.1 hereof and shall be communicated in writing to all purchasers of the Bidding Documents. Prospective bidders shall acknowledge receipt of each addendum in writing to the Employer.
- 9.3 To afford prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may extend the deadline for submission of bids in accordance with Clause 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 Employer shall be in the **English** language and Particular Conditions of 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

- 11.1 Each bidder shall:
- (a) Submit a written power of attorney authorizing the signatory of the bid to act for and on behalf of the bidder;
 - (b) The bidder to submit a technical proposal in sufficient detail to demonstrate the adequacy of Bid in meeting requirements for timely Completion of works and taking into account the various appendices to Bid specified into instructions to bidder.

Update the information indicated with the application for prequalification, and continues 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 alongwith average annual construction turnover;
- (ii) Financial predictions for the current year and the two following 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) The bid and in case of a successful bid, the Form of Contract Agreement shall be signed so as to be legally binding on all partners.
- (b) 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.

- (c) The partner-in-charge shall always be duly authorized to deal with the Employer 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 (b) above as well as in the Form of Bid and in the Form of Contract Agreement (in case of a successful bid); and
- (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 Employer.

11.3 Bidders shall also submit proposals of work methods and schedule, in sufficient detail to demonstrate the adequacy of the Bidders' proposals to meet the technical specifications and the completion time referred to in Sub-Clause 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 Sub-Clause 1.1 hereof, based on the unit rates and / or prices submitted by the bidder.

- 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 Employer when executed and shall be deemed covered by rates and prices for other items in the Bill of Quantities.
- 12.3 All duties, taxes and other levies payable by the Contractor under the Contract, or for any other cause, as on the date 28 days prior to the deadline for submission of bids shall be included in the rates and prices and the total Bid Price submitted by a bidder.

Additional / reduced duties, taxes and levies due to subsequent additions or changes in legislation shall be reimbursed / deducted as per Sub-Clause 70.2 of the General Conditions of Contract Part-I.

- (a). The Bidder by the act of submitting a Bid, acknowledges that he has inspected the Site of Works and determined the general characteristics and conditions. The Employer will not assume any responsibility for information, interpretations and deductions the Bidders may make from the information furnished by the Employer or the Engineer. No verbal agreement conversation with any officer, employee or agent of the Employer or the Engineer before, during or after the execution of the Contract shall effect or modify any of the terms or obligations contained or implied in the Contract.
- b). The attention of the Bidder is drawn to the fact that local regulations require special formalities to be complied with in connection with the ordering, purchasing, and importing of materials from outside Pakistan. Bidder will be deemed to have obtained full information about all such matters and to have allowed in his Bid for all delays, additional costs and financing charges that may arise directly or indirectly there from.
- c). Any neglect or failure on the part of the Bidder to obtain reliable information on the spot or elsewhere upon the foregoing or any other matters affecting the

execution and completion of the Works, the rates, total amounts and the Contract shall not relieve the Bidder whose bid is accepted from any risks or liabilities or from the responsibility of completing and handling over the acceptably completed works.

- d). The rates and prices set down by the Bidder against all the items in the Bill of Quantities are to be the full inclusive value of the finished work described thereunder and shall be deemed to include all costs of performing the Works including the taxes and duties, profits and costs of accepting the general risks, liabilities and obligations of every kind set forth or implied in the Contract.

- 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 70 of the Conditions of Contract. 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.

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. The Employer 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 Employer's country shall bear all costs and risks for arranging the requirements of such currencies through his own resources.

IB.14 Bid Validity

- 14.1 Bids shall remain valid for the **90 Days** after the Date of Bid Opening specified in Clause IB.23.
- 14.2 In exceptional circumstances, prior to expiry of the original bid validity period, the Employer may request that the bidders extend the period of validity for a specified

additional period which shall in no case be more than the original bid validity period. The request and the responses thereto shall be made in writing. A bidder may refuse the request without forfeiting his Bid Security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his 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 his bid, a Bid Security of minimum 2% of Bid Price in the form of Pay order / Bank Draft / Banker's cheque 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 (A Rated) in Pakistan or from a foreign bank duly counter guaranteed by a Scheduled Bank (A Rated) in Pakistan in favour of the Employer valid for a period 28 days beyond the Bid Validity date.
- 15.3 Any bid not accompanied by an acceptable Bid Security shall be rejected by the Employer as non-responsive.
- 15.4 The bid securities of unsuccessful bidders will be returned as promptly as possible, but not later than 28 days after the expiration of the period of Bid Validity.
- 15.5 The Bid Security of the successful bidder will 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 22.1;
 - (b) if the bidder does not accept the correction of his Bid Price pursuant to Sub-Clause 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 by Bidder

Alternate proposals by Bidders are not invited. Bidders will only quote for the design / drawings, as provided in the Bidding Documents.

IB.17 Pre-Bid Meeting

- 17.1 The Employer may, on his own motion or at the request of any prospective bidder(s), 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. All prospective bidders or their authorized representatives shall be invited to attend such a pre-bid meeting.

Venue, time and date of the Pre-Bid Meeting:

The Pre-Bid meeting will be held in the office of the Director Works & Services, Karachi at ____ AM on _____ 2017.

Phone: (92-21) 9924-4112-7 Fax No: 9924-4118

- 17.2 The bidders are requested to submit questions, if any, in writing so as to reach the Employer not later than seven (7) days before the proposed pre-bid meeting.

(a) **Errors, Omissions and Queries:**

The Bidder shall notify "the Employer" of any inconsistencies, errors and omissions found in the Bid Documents, prior to the Bid opening date. Withholding of any such information which will later materially affect the contract price during construction may be considered as sufficient grounds for rejection of the Bid. All queries shall be directed to **The Project Director Mega (IV) NED UET, Karachi**

- (b) The **NED UET, Karachi** is not responsible for any verbal communications or instructions to the Bidders or accuracy of the Bid Documents.
- 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 purchasers of the Bidding Documents. Any modification of the Bidding Documents listed in Sub-Clause 7.1 hereof which may become necessary as a result of the pre-bid meeting shall be made by the Employer 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 duly signed and stamped.
- 18.3 No alteration is to be made 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 completely and without alterations **One (1) original and Two (2) Copies**, of the documents comprising the bid as described in Clause IB.7 and clearly mark them "ORIGINAL" and "COPY" as appropriate. In the event of discrepancy between them, 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 or persons duly authorized to sign on behalf of the bidder pursuant to

Sub- Clause 11.1(a) hereof. All pages of the bid shall be initialed and stamped by the person or persons signing the bid.

- 18.6 The bid shall contain no alterations, omissions or additions, except to comply with instructions issued by the Employer, or as are necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person or persons signing the bid. "Over-Writing, erasures, use of whitening, fluid and correction tape for making corrections is not permitted. Non compliance of these instructions may be construed as sufficient ground to render the bid non-responsive"
- 18.7 Bidders shall indicate in the space provided in the Form of Bid their full and proper 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.

Bids shall be prepared and submitted on the form of "the Bid" provided. All blank spaces must be filled in and completed form must be without interlineations or alteration of the original wording. Bids with incomplete and / or unsigned Form of Bid may be rejected / considered Non Responsive. The bidder shall stamp and sign each page of Bid Documents for the purpose of identification and acknowledgement of acceptance thereof.

The Bids must conform in all respects to the Bid Documents.

- 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 each copy of the Bid shall be separately sealed and put in separate envelopes and marked as such.

- (b) The envelopes containing the ORIGINAL and copies will be put in one sealed envelope and addressed / identified as given in Sub- Clause 19.2 hereof.

19.2 The inner and outer envelopes shall:

- (a) be addressed to The Project Director Mega (IV) NED UET, Karachi-75270

Phone: (92-21) 9926-1261-8, Fax No: 9926-1255

- (b) bear the Contract Name: (i). Construction of Academic Block II & Maintenance Shed for Light Vehicle

- (c) provide a warning not to open before the time and date for bid opening.

19.3 In addition to the identification required in Sub- Clause 19.2 hereof, the inner envelope shall indicate the name and 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 Employer will assume no responsibility for the misplacement or premature opening of the Bid.

19.4(a) **Single Stage – One Envelope Procedure**

- (a) Notice Inviting Tenders and bidding documents of this method shall contain the following eligibility criteria;

- (i) relevant experience;

- (ii) turn-over of at least last three years;

- (iii) registration with Income Tax, Sales Tax, SRB and Pakistan Engineering Council (where applicable);

- (iii) any other factor deemed to be relevant by the procuring agency subject to provision of Rule 44;

- (b) each bid shall comprise one single envelope containing the financial proposal and required information mentioned at clause (a) above;

- (c) all bids received shall be opened and evaluated in the manner prescribed in the Notice Inviting Tenders or bidding document.

IB.20 Deadline for Submission of Bids

- 20.1 (a) Bids must be received by the Employer at the address specified no later than the time and date stipulated in the Invitation for Bid.
 - (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 will 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 Employer may, at his discretion, extend the deadline for submission of bids by issuing an amendment in accordance with Clause IB.9, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.

IB.21 Late Bids

- 21.1 (a) Any bid received by the Employer after the deadline for submission of bids prescribed in Clause IB.20 will be returned unopened to such bidder.
- (b) Delays in the mail, delays of 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 determine the manner in which timely delivery of his bid will be accomplished either in person, by messenger or by mail.

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 Employer 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 Sub-Clauses 22.1 and 27.2.
- 22.4 Withdrawal of a bid during the interval between the deadline 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 The Employer will open the bids, including withdrawals, substitution and modifications made pursuant to Clause IB.22, in the presence of bidders' representatives who choose to attend, at the time, date and location stipulated in the Invitations for Bids. The bidders' representatives who are present shall sign a register evidencing their attendance.
- 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 The bidder's name, total Bid Price and price of any Alternate Proposal(s), any discounts, bid modifications, substitution and withdrawals, the presence or absence of Bid Security, the amount of Bid Security and such other details as the Employer may consider appropriate, will be announced by the Employer at the opening of bids.

- 23.4 The Consultant on behalf of Employer shall prepare minutes of the bid opening, including the information disclosed to those present in accordance with the Sub-Clause 23.3.

IB.24 Process to be Confidential

- 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. Any effort by a bidder to influence the Employer's processing of bids or award decisions may result in the rejection of such bidder's bid.

IB.25 Clarification of Bids

- 25.1 To assist in the examination, evaluation and comparison of bids, the Employer may, at his discretion, ask any bidder for clarification of his 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 Employer 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 Employer will determine whether each bid is substantially responsive to the requirements of the Bidding Documents.
- 26.2 A substantially responsive bid is one which (i) meets the eligibility criteria; (ii) has been properly signed; (iii) is accompanied by the required Bid Security; and (iv) 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 Employer'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.

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

IB.27 Correction of Errors

- 27.1 Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer 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 Employer 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 Employer in accordance with the above procedure for the correction of errors and with the concurrence of the bidder, 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 15.6(b) hereof.

IB.28 Evaluation and Comparison of Bids

- 28.1 The Consultant on behalf of the Employer 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 Employer 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 and the provision, if any, for contingencies in the Summary Bill of Quantities, but including competitively priced Daywork; 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 Employer's estimate of the cost of work to be performed under the Contract, the Employer 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 Employer may take action under Sub-Clause 28.5 or 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 Employer against financial loss in the event of default of the successful bidder under the Contract.
- 28.5 A bid with highly inflated or unworkable rates of any BOQ items may be considered non-conforming and rejected. The Employer may also disqualify such bidder from participating in the subsequent bids who submits such unbalanced and / or unworkable rates of major items of work.

F. AWARD OF CONTRACT

IB.29 Award

- 29.1 Subject to Clauses IB.30 and IB.34, the Employer 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 Price, provided that such bidder has been determined to be eligible in accordance with the provisions of Clause IB.3 and qualify pursuant to Sub-Clause IB 29.2.

- 29.2 The Employer at any stage of the bid evaluation, having credible reasons for or *prima facie* evidence of any defect in supplier's or bidder's capacities, may require the suppliers or contractors to provide additional information concerning their professional, technical, financial, legal or managerial competence whether already pre-qualified or not.

IB.30 Employer's Right to Accept any Bid and to Reject any or all Bids

- 30.1 Notwithstanding Clause IB.29, the Employer reserves the right to accept or reject any Bid, and to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected bidders or any obligation.

IB.31 Notification of Award

- 31.1 Prior to expiration of the period of bid validity prescribed by the Employer, the Employer will notify the successful bidder in writing ("Letter of Acceptance") that his Bid has been accepted. This letter shall name the sum which the Employer will pay 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, Employer may have clarification meetings to get 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 Employer and the bidder till signing of the formal Contract Agreement.
- 31.3 Upon furnishing by the successful bidder of acceptable Performance Security, the Employer will promptly notify the other bidders that their Bids have been unsuccessful and return their bid securities.

IB.32 Performance Security

- 32.1 The Performance Security shall be equal to an amount of 10% of the Contract Price stated in the Letter of Acceptance. Such Security shall be in the form of unconditional, irrevocable Bank Guarantee from any Scheduled Bank of Pakistan acceptable to the Employer unconditional, irrevocable Bank Guarantee from a Bank located outside Pakistan duly counter - guaranteed by a Scheduled Bank of Pakistan, in favour of Employer, valid for a period (upto the completion of the Project) after the date of issue of Defect Liability Certificate.
- 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.

IB.33 Signing of Contract Agreement

- 33.1 Within 14 days from the date of furnishing of acceptable Performance Security under the Conditions of Contract, the Employer 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 Employer and the successful bidder shall be executed within 14 days of the receipt of the duly completed Contract Agreement by the successful bidder from the Employer.

IB.34 General Performance of the Bidders

The Employer reserves the right to obtain information regarding performance of the bidders on their previously awarded contracts/works. The Employer may in case of consistent poor performance of any Bidder as reported by the employers of the previously awarded contracts, interalia, reject his bid and/or refer the case to the Pakistan Engineering Council (PEC). Upon such reference, PEC in accordance with its rules, procedures and relevant laws of the land take such action as may be deemed appropriate under the circumstances of the case including black listing of such Bidder and debarring him from participation in future bidding for similar works.

IB.35 Integrity Pact

The Bidder shall sign and stamp the Integrity Pact provided at Appendix-L to Bid in the Bidding Documents for all Federal 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.

BIDDING DATA

BIDDING DATA

1.1 Name and address of the Employer:

The Employer is NED University of Engineering & Technology, Karachi-75270.

Phone: (9221) 9926-1261-8 Ext: 2259 Fax No: (9221) 9926-1255

Name of the Project & Summary of the Works:

Construction of Academic Block II & Maintenance Shed for Light Vehicle

The works involves Construction of Academic Block II & Maintenance Shed for Light Vehicle and other allied work including execution of Civil, Electrical, Plumbing and allied works in accordance with the Design, Drawings, Technical Specifications, Bill of Quantities and instructions of the Client / Consultant with special emphasis on Quantity and Quality control ethics.

IB.2 Source of Funds

The **NED UET, Karachi** has arranged funds from HEC and it is intended that part of the proceeds of this will be applied to eligible payments under the Contract for which these Bidding Documents are issued.

IB.3 Eligible Bidders

As notified in NIT

IB. 8.1 Time Limits for Clarification:

The Employer will respond to any request for clarification which he receives earlier than **07 (Seven) Days** prior to the deadline for submission of bids.

IB. 10 Language of Bid

The bid and all correspondence and documents related to the bid exchanged by a bidder and the Employer shall be in the English language.

IB.11(c) Furnish Technical Proposal:

The bidder to submit a technical proposal in sufficient detail to demonstrate the adequacy of Bid in meeting requirements for timely Completion of works and taking into account the various appendices to Bid specified into instructions to bidder.

IB.13.1 Currencies of Bid and Payment

The unit rates and the prices shall be quoted by the Bidder entirely in Pak Rupees. The Employer 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 Employer's country shall bear all costs and risks for arranging the requirements of such currencies through his own resources.

IB.14.1 Bid Validity

Bids shall remain valid for the **90 Days** after the Date of Bid Opening.

IB.15.1 Bid Security

Minimum 2% of Bid Price in the form of Pay order / Bank Draft.

IB.18.4 Number of copies of the completed Bid Documents to be submitted:

(1) one Original and (2) two copies.

IB.19 Sealing and Marking of Bids

19.2 (a) Employer's address for the purpose of Bid submission:

The Director Procurement Mega (IV) NED UET, Karachi.
Phone: (9221) 9926-1261-8 Fax: 9926-1255

IB.19.2(b) Name and Number of the Contract:

bear the Contract Name: Construction of Academic Block II & Maintenance
Shed for Light Vehicle

IB.20.1 Deadline for submission of Bids:

As notified in "Invitation to Bids"

IB.23.1 Venue, Time and Date of Bid opening:

As notified in "Invitation to Bids"

IB.32.1 Standard form and amount of Performance Security acceptable to the Employer:

The Performance Security shall be equal to an amount of 10% of the Contract Price stated in the Letter of Acceptance. Such Security shall be in the form of unconditional, irrevocable Bank Guarantee from any Scheduled Bank of Pakistan acceptable to the Employer in favour of NED University of Engineering & Technology, Karachi or an insurance company having atleast AA rating from PACRA/JCR. The Performance Security will be valid for a period (upto the completion of the Project) after the date of issue of Defect Liability Certificate.

**FORM OF BID & APPENDICES
TO BID**

FORM OF BID

Bid Reference No. **Construction of Academic Block II & Maintenance Shed for Light Vehicle**

To: _____

Gentleman,

1. Having examined the Bidding Documents including Instructions to Bidders, Conditions of Contract. Specifications, Drawings and Bill of Quantities and Addenda Nos. _____ for the execution of the above-named Works, we, the undersigned, offer to execute and complete such 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 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 submit herewith a Bid Security in the amount of Rupees _____ (Rs. _____) drawn in your favour or made payable to you and valid for a period of _____ days beginning from the date Bids are opened.
4. We 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 agree to abide by this Bid for the period of 120 days from the date fixed for receiving 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.

Dated this _____ day of _____ 2017

Signature: _____

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

(Name of Bidder in Block Capitals)
(Seal)

Address: _____

Witness:

Signature: _____

Name: _____

Address.

Occupation _____

Appendix-A to Bid

SPECIAL STIPULATIONS

Clause Conditions of Contract

1.	Engineer's Authority to issue Variation in emergency	2.1	The variation amount shall not exceed overall 2% of the Contract Price during the currency of the Contract.
2.	Amount of Performance Security	10.1	10% of Contract Price stated in the Letter of Acceptance in the form of bank guarantee issued by a Scheduled Bank of Pakistan or Insurance companies having atleast AA rating from PACRA/JCR
3.	Time for Furnishing Program	14.1	Within 14 days from the date of receipt of Letter of Acceptance.
4.	Minimum amount of Third Party Insurance	23.2	Rs. 500,000 per occurrence with number of occurrences unlimited.
5.	Time for Commencement	41.1	Within 14 days from the date of receipt of Engineer's Notice to Commence.
6.	Time for Completion	43.1, 48.2	15 Months from the date of receipt of Engineer's Notice to Commence.
7.	Amount of Liquidated Damages	47.1	One tenth of one percent (0.10%) for each day of delay in completion of the Works subject to a maximum of 10% of Contract Price stated in the Letter of Acceptance.

8.	Defects Liability Period	49.1	180 days from the effective date of Taking Over Certificate.
9.	Percentage of Retention Money	60.2	5% of the amount of Interim Payment Certificate.
10.	Limit of Retention Money	60.2	10% of Contract Price stated in the Letter of Acceptance.
11.	Minimum amount of Interim Payment Certificates (Running Bills)	60.2	Rs. 03 (Three) Million
12.	Time of Payment from delivery of Engineer's Interim Payment Certificate to the Employer.	60.10	(28) Twenty Eight Days. (No interest shall be paid in case of any delay in payment).
13.	Mobilization Advance (Interest Free)	60.12	10% of Contract Price stated in the Letter of Acceptance against unconditional and irrevocable bank guarantee from a scheduled bank of Pakistan.

FOREIGN CURRENCY REQUIREMENTS

1. The Bidder may indicate here in below his requirements of foreign currency (if any), with reference to various inputs to the Works.
2. Foreign Currency Requirement as percentage of the Bid Price excluding Provisional Sums _____%.
3. Table of Exchange Rates

Unit of Currency	Equivalent in Pak. Rupees
Australian Dollar	-----
Euro	-----
Japanese Yen	-----
U.K. Pound	-----
U.S. Dollars	-----
-----	-----
-----	-----

DELETED

PRICE ADJUSTMENT UNDER CLAUSE 70 OF CONDITIONS OF CONTRACT

The source of indices and the weightages or coefficients for use in the adjustment formula under Clause 70 shall be as follows:

Cost Element	Description	Weightages	Applicable Index
1	2	3	4
(i)	Fixed Portion	0.60	
(ii)	Local Labour	0.12	Basic wages of labour (unskilled) for the city of Karachi as provided in the statistical bulletin for the months as noted below.
(iii)	Cement – in bags	0.06	Government of Pakistan (GoP) Federal Bureau of Statistics (FBS) Monthly Statistical Bulletin.
(iv)	Reinforcing Steel	0.20	" " "
(v)	High Speed Diesel (HSD)	0.02	" " "
	Total	1.00	" " "

Notes:

- 1) Indices for "(ii), (iii) and (iv)" are taken from the Government of Pakistan Federal Bureau of Statistics, Monthly Statistical Bulletin. 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) Fixed portion shown here is for typical road project, Employer to determine the weightage of Fixed Portion considering only those cost elements having cost impact of seven (7) percent or more on his specific project.

Appendix-D to Bid

BILL OF QUANTITIES**A. 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.
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 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 28 days prior to deadline for submission of Bids, 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.
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 summarised 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 58.2 of Part I, General Conditions of Contract.

Appendix-E to Bid

PROPOSED CONSTRUCTION SCHEDULE

Pursuant to Sub-Clause 43.1 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 bar chart (CPM, PERT or any other to be specified herein) 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 Employer'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):

<u>Description</u>	<u>Time for Completion</u>
a) Whole Works	_____ days
b) Part-A	_____ days
c) Part-B	_____ days
d) _____	_____ days
e) _____	_____ 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].

Appendix-G to Bid

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

Owned Purchased or Leased	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						

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 thousands of Pakistani Rupees:

Quarter/ Year/ Period	Amounts (1,000 Rs.)
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	
9 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 / BOND

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 'Employer') 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 Employer; and

WHEREAS, the Employer 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 Employer, 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 Employer, notice of which extension(s) to the Surety is hereby waived;
- (2) that the Bid Security of unsuccessful Bidders will be returned by the Employer 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 Employer 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 Employer 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 Employer for the faithful performance and proper fulfilment 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 Employer the said sum upon first written demand of the Employer (without cavil or argument) and without requiring the Employer to prove or to show grounds or reasons for such demand, notice of which shall be sent by the Employer by registered post duly addressed to the Surety at its address given above.

PROVIDED ALSO THAT the Employer 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 Employer 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 / Insurance Guarantee) AA rating**

Guarantee No. _____
Executed on _____
Expiry date _____

[Letter by the Guarantor to the Employer]

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 Employer) in the penal sum of the amount stated above for the payment of which sum well and truly to be made to the said Employer, 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 Employer'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 Employer, 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 defences under the Contract, do hereby irrevocably and independently guarantee to pay to the Employer without delay upon the Employer's first written demand without cavil or arguments and without requiring the Employer to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the Employer'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 Employer's designated Bank & Account Number.

PROVIDED ALSO THAT the Employer 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 Employer 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 _____

Corporate Secretary (Seal)

Name _____

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) 2017 between _____ (hereafter called the "Employer") of the one part and _____ (hereafter called the "Contractor") of the other part.

WHEREAS the Employer 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 Particular 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 Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy defects therein in conformity and in all respects with the provisions of the Contract.
3. The Employer 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

(Seal)

Signature of Employer

(Seal)

Signed, Sealed and Delivered in the presence of:

Witness:

(Name, Title and Address)

Witness:

(Name, Title and Address)

MOBILIZATION ADVANCE GUARANTEE/BOND

Guarantee No. _____ Date _____

WHEREAS _____ (hereinafter called the 'Employer') has entered into a Contract for _____ (Particulars of Contract) with _____ (hereinafter called the "Contractor").

AND WHEREAS, the Employer 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 Employer 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 or Insurance Company acceptable to the Employer) (hereinafter called the "Guarantor") at the request of the Contractor and in consideration of the Employer 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 fulfilment of any of his obligations for which the advance payment is made, the Guarantor shall be liable to the Employer for payment not exceeding the aforementioned amount.

Notice in writing of any default, of which the Employer shall be the sole and final judge, on the part of the Contractor, shall be given by the Employer 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.

GUARANTOR

- 1. Signature _____
- 2. Name _____
- 3. Title _____

WITNESS

- 1. _____

Corporate Secretary (Seal)

- 2. _____
(Name Title & Address)
- _____ Corporate Guarantor (Seal)



FEDERATION INTERNATIONALE DES INGENIEURS-CONSEIL

CONDITIONS OF CONTRACT FOR WORKS OF CIVIL ENGINEERING CONSTRUCTION

PART I GENERAL CONDITIONS

The Condition of Contract, Part-I: General Conditions shall be those forming Part-I of the "Conditions of Contract for Works of Civil Engineering Construction", fourth edition 1987, reprinted in 1992 with further amendments, prepared by the Fédération Internationale des Ingénieurs-Conseils (FIDIC). These Conditions are subject to the variations and additions set out in Part-II hereof entitled "Particular Conditions of Contract."

GENERAL CONDITIONS OF CONTRACT [PART-I]



FEDERATION INTERNATIONALE DES INGENIEURS-CONSEILS

CONDITIONS OF CONTRACT

FOR WORKS OF CIVIL

ENGINEERING CONSTRUCTION

PART I GENERAL CONDITIONS

WITH FORMS OF TENDER AND AGREEMENT

NOT TO BE REPRODUCED

FOURTH EDITION 1987

Reprinted 1988 with editorial amendments

Reprinted in 1992 with further amendments

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PART I - GENERAL CONDITIONS

Definitions and Interpretation

1.1 Definitions

In the Contract (as hereinafter defined) the following words and expressions shall have the meanings hereby assigned to them, except where the context otherwise requires:

- (a) (i) "Employer" means the person named as such in Part II of these Conditions and the legal successors in title to such person, but not (except with the consent of the Contractor) any assignee of such person.
- (ii) "Contractor" means the person whose tender has been accepted by the Employer and the legal successors in title to such person, but not (except with the consent of the Employer) any assignee of such person.
- (iii) "Subcontractor" means any person named in the Contract as a Subcontractor for a part of the Works or any person to whom a part of the Works has been subcontracted with the consent of the Engineer and the legal successors in title to such person, but not any assignee of any such person.
- (iv) "Engineer" means the person appointed by the Employer to act as Engineer for the purposes of the Contract and named as such in Part II of these Conditions.
- (v) "Engineer's Representative" means a person appointed from time to time by the Engineer under Sub-Clause 2.2.
- (b) (i) "Contract" means these Conditions (Parts I and II), the Specification, the Drawings, the Bill of Quantities, the Tender, the Letter of Acceptance, the Contract Agreement (if completed) and such further documents as may be expressly incorporated in the Letter of Acceptance or Contract Agreement (if completed).
- (ii) "Specification" means the specification of the Works included in the Contract and any modification thereof or addition thereto made under Clause 51 or submitted by the Contractor and approved by the Engineer.
- (iii) "Drawings" means all drawings, calculations and technical information of a like nature provided by the Engineer to the Contractor under the Contract and all drawings, calculations, samples, patterns, models, operation and maintenance manuals and other technical information of a like nature submitted by the Contractor and approved by the Engineer.

- (iv) "Bill of Quantities" means the priced and completed bill of quantities forming part of the Tender.
- (v) "Tender" means the Contractor's priced offer to the Employer for the execution and completion of the Works and the remedying of any defects therein in accordance with the provisions of the Contract, as accepted by the Letter of Acceptance.
- (vi) "Letter of Acceptance" means the formal acceptance by the Employer of the Tender.
- (vii) "Contract Agreement" means the contract agreement (if any) referred to in Sub-Clause 9.1.
- (viii) "Appendix to Tender" means the appendix comprised in the form of Tender annexed to these Conditions.
- (c) (i) "Commencement Date" means the date upon which the Contractor receives the notice to commence issued by the Engineer pursuant to Clause 41.
- (ii) "Time for Completion" means the time for completing the execution of and passing the Tests on Completion of the Works or any Section or part thereof as stated in the Contract (or as extended under Clause 44) calculated from the Commencement Date.
- (d) (i) "Tests on Completion" means the tests specified in the Contract or otherwise agreed by the Engineer and the Contractor which are to be made by the Contractor before the Works of any Section or part thereof are taken over by the Employer.
- (ii) "Taking-Over Certificate" means a certificate issued pursuant to Clause 48.
- (e) (i) "Contract Price" means the sum stated in the Letter of Acceptance as payable to the Contractor for the execution and completion of the Works and the remedying of any defects therein in accordance with the provisions of the Contract.
- (ii) "Retention Money" means the aggregate of all monies retained by the Employer pursuant to Sub-Clause 60.2(a).
- (iii) "Interim Payment Certificate" means any certificate of payment issued by the Engineer other than the Final Payment Certificate.
- (iv) "Final Payment Certificate" means the certificate of payment issued by the

Engineer pursuant to Sub-Clause 60.8.

- (f) (i) "Works" means the Permanent Works and the Temporary Works or either of them as appropriate.
- (ii) "Permanent Works" means the permanent works to be executed (including Plant) in accordance with the Contract
- (iii) "Temporary Works" means all temporary works of every kind (other than Contractor's Equipment) required in or about the execution and completion of the Works and the remedying of any defects therein.
- (iv) "Plant" means machinery, apparatus and the like intended to form or forming part of the Permanent Works.
- (v) "Contractor's Equipment" means all appliances and things of whatsoever nature (other than Temporary Works) required for the execution and completion of the Works and the remedying of any defects therein, but does not include Plant, materials or other things intended to form or forming part of the Permanent Works.
- (vi) "Section" means a part of the Works specifically identified in the Contract as a Section.
- (vii) "Site" means the places provided by the Employer where the Works are to be executed and any other places as may be specifically designated in the Contract as forming part of the Site.
- (g) (i) "cost" means all expenditure properly incurred or to be incurred, whether, on or off the Site, including overhead and other charges properly allocable thereto but does not include any allowance for profit.
- (ii) "day" means calendar day.
- (iii) "foreign currency" means a currency of a country other than that in which the Works are to be located.
- (iv) "writing" means any hand-written, type-written, or printed communication, including telex, cable and facsimile transmission.

1.2 **Headings and Marginal Notes**

The headings and marginal notes in these Conditions shall not be deemed part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract.

1.3 **Interpretation**

Words importing persons or parties shall include firms and corporations and any organization having legal capacity.

1.4 **Singular and Plural**

Words importing the singular only also include the plural and vice versa where the context requires.

1.5 **Notices, Consents, Approvals, Certificates and Determinations**

Wherever in the Contract provision is made for the giving or issue of any notice, consent, approval, certificate or determination by any person, unless otherwise specified such notice, consent, approval, certificate or determination shall be in writing and the words "notify", "certify" or "determine" shall be construed accordingly. Any such consent, approval, certificate or determination shall not unreasonably be withheld or delayed.

Engineer and Engineer's Representative

2.1 **Engineer's Duties and Authority**

- (a) The Engineer shall carry out the duties specified in the Contract.
- (b) The Engineer may exercise the authority specified in or necessarily to be implied from the Contract, provided, however, that if the Engineer is required, under the terms of his appointment by the Employer, to obtain the specific approval of the Employer before exercising any such authority, particulars of such requirements shall be set out in Part II of these Conditions. Provided further that any requisite approval shall be deemed to have been given by the Employer for any such authority exercised by the Engineer.
- (c) Except as expressly stated in the Contract, the Engineer shall have no authority to relieve the Contractor of any of his obligations under the Contract.

2.2 **Engineer's Representative**

The Engineer's Representative shall be appointed by and be responsible to the Engineer and shall carry out such duties and exercise such authority as may be delegated to him by the Engineer under Sub-Clause 2.3.

2.3 **Engineer's Authority to Delegate**

The Engineer may from time to time delegate to the Engineer's Representative any of the duties and authorities vested in the Engineer and he may at any time revoke such delegation. Any such delegation or revocation shall be in writing and shall not take effect until a copy thereof has been delivered to the Employer and the Contractor.

Any communication given by the Engineer's Representative to the Contractor in

accordance with such delegation shall have the same effect as though it had been given by the Engineer. Provided that:

- (a) any failure of the Engineer's Representative to disapprove any work, materials or Plant shall not prejudice the authority of the Engineer to disapprove such work, materials or Plant and to give instructions for the rectification thereof; and
- (b) if the Contractor questions any communication of the Engineer's Representative he may refer the matter to the Engineer who shall confirm, reverse or vary the contents of such communication.

2.4 **Appointment of Assistants**

The Engineer or the Engineer's Representative may appoint any number of persons to assist the Engineer's Representative in the carrying out of his duties under Sub-Clause 2.2. He shall notify to the Contractor the names, duties and scope of authority of such persons. Such assistants shall have no authority to issue any instructions to the Contractor save in so far as such instructions may be necessary to enable them to carry out their duties and to secure their acceptance of materials, Plant or workmanship as being in accordance with the Contract, and any instructions given by any of them for those purposes shall be deemed to have been given by the Engineer's Representative.

2.5 **Instructions in Writing**

Instructions given by the Engineer shall be in writing, provided that if for any reason the Engineer considers it necessary to give any such instruction orally, the Contractor shall comply with such instruction. Confirmation in writing of such oral instruction given by the Engineer, whether before or after the carrying out of the instruction, shall be deemed to be an instruction within the meaning of this Sub-Clause. Provided further that if the Contractor, within 7 days, confirms in writing to the Engineer any oral instruction of the Engineer and such confirmation is not contradicted in writing within 7 days by the Engineer, it shall be deemed to be an instructions of the Engineer.

The provisions of this Sub-Clause shall equally apply to instructions given by the Engineer's Representative and any assistants of the Engineer or the Engineer's Representative appointed pursuant to Sub-Clause 2.4.

2.6 **Engineer to Act Impartially**

Wherever, under the Contract, the Engineer is required to exercise his discretion by:

- (a) giving his decision, opinion or consent,
- (b) expressing his satisfaction or approval,
- (c) determining value, or
- (d) otherwise taking action which may affect the rights and obligations of the Employer or the Contractor

he shall exercise such discretion impartially within the terms of the Contract and

having regard to all the circumstances. Any such decision, opinion, consent expression of satisfaction, or approval, determination of value or action may be opened up, reviewed or revised as provided in Clause 67.

Assignment and Subcontracting

3.1 Assignment of Contract

The Contractor shall not, without the prior consent of the Employer (which consent, notwithstanding the provisions of Sub-Clause 1.5, shall be at the sole discretion of the Employer), assign the Contract or any part thereof, or any benefit or interest therein or thereunder, otherwise than by:

- (a) a charge in favour of the Contractor's bankers of any monies due or to become due under the Contract, or
- (b) assignment to the Contractor's insurers (in cases where the insurers have discharged the Contractor's loss or liability) of the Contractor's right to obtain relief against any other party liable.

4.1 Subcontracting

The Contractor shall not subcontract the whole of the Works. Except where otherwise provided by the Contract, the Contractor shall not subcontract any part of the Works without the prior consent of the Engineer. Any such consent shall not relieve the Contractor from any liability or obligation under the Contract and he shall be responsible for the acts, defaults and neglects of any Subcontractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of the Contractor, his agents servants or workmen.

Provided that the Contractor shall not be required to obtain such consent for:

- (a) the provision of labour,
- (b) the purchase of materials which are in accordance with the standards specified in the Contract,
- (c) the subcontracting of any part of the Works for which the Subcontractor is named in the Contract.

4.2 Assignment of Subcontractors' Obligations

In the event of a Subcontractor having undertaken towards the Contractor in respect of the work executed, or the goods, materials, Plant or services supplied by such Subcontractor, any continuing obligation extending for a period exceeding that of the Defects Liability Period under the Contract, the Contractor shall at any time, after the expiration of such Period, assign to the Employer, at the Employer's request and cost, the benefit of such obligation for the unexpired duration thereof.

Contract Documents

5.1 Language/s and Law

There is stated in Part II of these Conditions:

- (a) the language or languages in which the Contract documents shall be drawn up, and
- (b) the country or state the law of which shall apply to the Contract and according to which the Contract shall be construed.

If the said documents are written in more than one language, the language according to which the Contract shall be construed and interpreted is also stated in Part II of these Conditions, being therein designated the "Ruling Language".

5.2 Priority of Contract Documents

The several documents forming the Contract are to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies the same shall be explained and adjusted by the Engineer who shall thereupon issue to the Contractor instructions thereon and in such event, unless otherwise provided in the Contract, the priority of the documents forming the Contract shall be as follows:

- (1) The Contract Agreement (if completed);
- (2) The Letter of Acceptance;
- (3) The Tender;
- (4) Part II of these Conditions;
- (5) Part I of these Conditions; and
- (6) Any other document forming part of the Contract.

6.1 Custody and Supply of Drawings and Documents

The Drawings shall remain in the sole custody of the Engineer, but two copies thereof shall be provided to the Contractor free of charge. The Contractor shall make at his own cost any further copies required by him. Unless it is strictly necessary for the purposes of the Contract, the Drawings, Specification and other documents provided by the Employer or the Engineer shall not, without the consent of the Engineer, be used or communicated to a third party by the Contractor. Upon issue of the Defects Liability Certificate, the Contractor shall return to the Engineer all Drawings, Specification and other documents provided under the Contract.

The Contractor shall supply to the Engineer four copies of all Drawings, specification and other documents submitted by the Contractor and approved by the Engineer in accordance with Clause 7, together with a reproducible copy of any material which

cannot be reproduced to an equal standard by photocopying. In addition the Contractor shall supply such further copies of such Drawings, Specification and other documents as the Engineer may request in writing for the use of the Employer, who shall pay the cost thereof.

6.2 One Copy of Drawings to be Kept on Site

One copy of the Drawings, provided to or supplied by the Contractor as aforesaid, shall be kept by the Contractor on the Site and the same shall at all reasonable times be available for inspection and use by the Engineer and by any other person authorised by the Engineer in writing.

6.3 Disruption of Progress

The Contractor shall give notice to the Engineer, with a copy to the Employer, whenever planning or execution of the Works is likely to be delayed or disrupted unless any further drawing or instruction is issued by the Engineer within a reasonable time. The notice shall include details of the drawing or instruction required and of why and by when it is required and of any delay or disruption likely to be suffered if it is late.

6.4 Delay and Cost of Delay of Drawings

If, by reason of any failure or inability of the Engineer to issue, within a time reasonable in all the circumstances, any drawing or instruction for which notice has been given by the Contractor in accordance with Sub-Clause 6.3, the Contractor suffers delay and/or incurs costs then the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount of such costs, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer.

6.5 Failure by Contractor to Submit Drawings

If the failure or inability of the Engineer to issue any drawings or instructions is caused in whole or in part by the failure of the Contractor to submit Drawings, Specification or other documents which he is required to submit under the Contract, the Engineer shall take such failure by the Contractor into account when making his determination pursuant to Sub-Clause 6.4.

7.1 Supplementary Drawings and Instructions

The Engineer shall have authority to issue to the Contractor, from time to time, such supplementary Drawings and instructions as shall be necessary for the purpose of the

proper and adequate execution and completion of the Works and the remedying of any defects therein. The Contractor shall carry out and be bound by the same.

7.2 Permanent Works Designed by Contractor

Where the Contract expressly provides that part of the Permanent Works shall be designed by the Contractor, he shall submit to the Engineer, for approval:

- (a) such drawings, specifications, calculations and other information as shall be necessary to satisfy the Engineer as to the suitability and adequacy of that design, and
- (b) operation and maintenance manuals together with drawings of the Permanent Works as completed, in sufficient detail to enable the Employer to operate, maintain, dismantle, reassemble and adjust the Permanent Works incorporating that design. The Works shall not be considered to be completed for the purposes of taking over in accordance with Clause 48 until such operation and maintenance manuals together with drawings on completion have been submitted to and approved by the Engineer.

7.3 Responsibility Unaffected by Approval

Approval by the Engineer, in accordance with Sub-Clause 7.2, shall not relieve the Contractor of any of his responsibilities under the Contract.

General Obligations

8.1 Contractor's General Responsibilities

The Contractor shall, with due care and diligence, design (to the extent provided for by the Contract), execute and complete the Works and remedy any defects therein in accordance with the provisions of the Contract. The Contractor shall provide all superintendance, labour, material, Plant, Contractor's Equipment and all other things, whether of a temporary or permanent nature, required in and for such design, execution, completion and remedying of any defects, so far as the necessity for providing the same is specified in or is reasonably to be inferred from the Contract.

8.2 Site Operations and Methods of Construction

The Contractor shall take full responsibility for the adequacy, stability and safety of all Site operations and methods of construction. Provided that the Contractor shall not be responsible (except as stated hereunder or as may be otherwise agreed) for the design or specification of Permanent Works, or for the design or specification of any Temporary Works not prepared by the Contractor. Where the Contract expressly provides that part of the Permanent Works shall be designed by the Contractor, he shall be fully responsible for that part of such Works, notwithstanding any approval by the Engineer.

9.1 **Contract Agreement**

The Contractor shall, if called upon so to do, enter into and execute the Contract Agreement, to be prepared and completed at the cost of the Employer, in the form annexed to these Conditions with such modification as may be necessary.

10.1 **Performance Security**

If the Contract requires the Contractor to obtain security for his proper performance of the Contract, he shall obtain and provide to the Employer, such security within 28 days after the receipt of the Letter of Acceptance, in the sum stated in the Appendix to Tender. When providing such security to the Employer, the Contractor shall notify the Engineer of so doing. Such security shall be in the form annexed to these Conditions or in such other form as may be agreed between the Employer and the Contractor. The institution providing such security shall be subject to the approval of the Employer. The cost of complying with the requirements of this Clause shall be borne by the Contractor, unless the Contract otherwise provides.

10.2 **Period of Validity of Performance Security**

The performance security shall be valid until the Contractor has executed and completed the Works and remedied any defects therein in accordance with the Contract. No claim shall be made against such security after the issue of the Defects Liability Certificate in accordance with Sub-Clause 62.1 and such security shall be returned to the Contractor within 14 days of the issue of the said Defects Liability Certificate.

10.3 **Claims under Performance Security**

Prior to making a claim under the performance security the Employer shall, in every case, notify the Contractor stating the nature of the default in respect of which the claim is to be made.

11.1 **Inspection of Site**

The Employer shall have made available to the Contractor, before the submission by the Contractor of the Tender, such data on hydrological and sub-surface conditions as have been obtained by or on behalf of the Employer from investigations undertaken relevant to the Works but the Contractor shall be responsible for his own interpretation thereof.

The Contractor shall be deemed to have inspected and examined the Site and its surroundings and information available in connection therewith and to have satisfied himself (so far as is practicable, having regard to considerations of cost and time) before submitting his Tender, as to:

- (a) the form and nature thereof, including the sub-surface conditions,
- (b) the hydrological and climatic conditions,
- (c) the extent and nature of work and materials necessary for the execution and completion of the Works and the remedying of any defects therein, and
- (d) the means of access to the Site and the accommodation he may require, and, in general, shall be deemed to have obtained all necessary information, subject as above mentioned, as to risks, contingencies and all other circumstances which may influence or affect his Tender.

The Contractor shall be deemed to have based his Tender on the data made available by the Employer and on his own inspection and examination, all as aforementioned.

12.1 **Sufficiency of Tender**

The Contractor shall be deemed to have satisfied himself as to the correctness and sufficiency of the Tender and of the rates and prices stated in the Bill of Quantities, all of which shall, except insofar as it is otherwise provided in the Contract, cover all his obligations under the Contract (including those in respect of the supply of goods, materials, Plant or services or of contingencies for which there is a Provisional Sum) and all matters and things necessary for the proper execution and completion of the Works and the remedying of any defects therein.

12.2 **Not Foreseeable Physical Obstructions or Conditions**

If, however, during the execution of the Works the Contractor encounters physical obstructions or physical conditions, other than climatic conditions on the Site, which obstructions or conditions were, in his opinion, not foreseeable by an experienced contractor, the Contractor shall forthwith give notice thereof to the Engineer, with a copy to the Employer. On receipt of such notice, the Engineer shall if in his opinion such obstructions or conditions could not have been reasonably foreseen by an experienced contractor, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount of any costs which may have been incurred by the Contractor by reason of such obstructions or conditions having been encountered, which shall be added to the Contract Price,

and shall notify the Contractor accordingly, with a copy to the Employer. Such determination shall take account of any instruction which the Engineer may issue to the Contractor in connection therewith, and any proper and reasonable measures

acceptable to the Engineer which the Contractor may take in the absence of specific instructions from the Engineer.

13.1 **Work to be in Accordance with Contract**

Unless it is legally or physically impossible, the Contractor shall execute and complete the Works and remedy any defects therein in strict accordance with the Contract to the satisfaction of the Engineer. The Contractor shall comply with and adhere strictly to the Engineer's instructions on any matter, whether mentioned in the Contract or not, touching or concerning the Works. The Contractor shall take instructions only from the Engineer (or his delegate).

14.1 **Programme to be Submitted**

The Contractor shall, within the time stated in Part II of these Conditions after the date of the Letter of Acceptance, submit to the Engineer for his consent a programme, in such form and detail as the Engineer shall reasonably prescribe, for the execution of the Works. The Contractor shall, whenever required by the Engineer, also provide in writing for his information a general description of the arrangements and methods which the Contractor proposes to adopt for the execution of the Works.

14.2 **Revised Programme**

If at any time it should appear to the Engineer that the actual progress of the Works does not conform to the programme to which consent has been given under Sub-Clause 14.1, the Contractor shall produce, at the request of the Engineer, a revised programme showing the modifications to such programme necessary to ensure completion of the Works within the Time for Completion.

14.3 **Cash Flow Estimate to be Submitted**

The Contractor shall, within the time stated in Part II of these Conditions after the date of the Letter of Acceptance, provide to the Engineer for his information a detailed cash flow estimate, in quarterly periods, of all payments to which the Contractor will be entitled under the Contract and the Contractor shall subsequently supply revised cash flow estimates at quarterly intervals, if required to do so by the Engineer.

14.4 **Contractor not Relieved of Duties or Responsibilities**

The submission to and consent by the Engineer of such programmes or the provision of such general descriptions or cash flow estimates shall not relieve the Contractor of any of his duties or responsibilities under the Contract.

15.1 **Contractor's Superintendence**

The Contractor shall provide all necessary superintendence during the execution of the Works and as long thereafter as the Engineer may consider necessary for the proper fulfilling of the Contractor's obligations under the Contract. The Contractor, or a competent and authorised representative approved of by the Engineer, which approval may at any time be withdrawn, shall give his whole time to the superintendence of the Works. Such authorised representative shall receive, on behalf of the Contractor, instructions from the Engineer.

If approval of the representative is withdrawn by the Engineer, the Contractor shall, as soon as is practicable, having regard to the requirement of replacing him as hereinafter mentioned, after receiving notice of such withdrawal, remove the representative from the Works and shall not thereafter employ him again on the Works in any capacity and shall replace him by another representative approved by the Engineer.

16.1 **Contractor's Employees**

The Contractor shall provide on the Site in connection with the execution and completion of the Works and the remedying of any defects therein:

- (a) only such technical assistants as are skilled and experienced in their respective callings and such foremen and leading hands as are competent to give proper superintendence of the Works, and
- (b) such skilled, semi skilled and unskilled labour as is necessary for the proper and timely fulfilling of the Contractor's obligations under the Contract.

16.2 **Engineer at Liberty to Object**

The Engineer shall be at liberty to object to and require the Contractor to remove forthwith from the Works any person provided by the Contractor who, in the opinion of the Engineer, misconducts himself, or is incompetent or negligent in the proper performance of his duties, or whose presence on Site is otherwise considered by the Engineer to be undesirable, and such person shall not be again allowed upon the Works without the consent of the Engineer. Any person so removed from the Works shall be replaced as soon as possible.

17.1 **Setting-out**

The Contractor shall be responsible for:

- (a) the accurate setting-out of the Works in relation to original points, lines and levels of reference given by the Engineer in writing,

- (b) the correctness, subject as above mentioned of the position, levels dimensions and alignment of all parts of the Works, and
- (c) the provision of all necessary instruments, appliances and labour in connection with the foregoing responsibilities.

If, at any time during the execution of the Works, any error appears in the position, levels, dimensions or alignment of any part of the Works, the Contractor, on being required so to do by the Engineer, shall, at his own cost, rectify such error to the satisfaction of the Engineer, unless such error is based on incorrect data supplied in writing by the Engineer, in which case the Engineer shall determine an addition to the Contract Price in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.

The checking of any setting-out or of any line or level by the Engineer shall not in any way relieve the Contractor of his responsibility for the accuracy thereof and the Contractor shall carefully protect and preserve all bench-marks, sight-rails, pegs and other things used in setting-out the Works.

18.1 Boreholes and Exploratory Excavation

If, at any time during the execution of the Works, the Engineer requires the Contractor to make boreholes or to carry out exploratory excavation, such requirement shall be the subject of an instruction in accordance with Clause 51, unless an item or a Provisional Sum in respect of such work is included in the Bill of Quantities.

19.1 Safety, Security and Protection of the Environment

The Contractor shall, throughout the execution and completion of the Works and the remedying of any defects therein:

- (a) have full regard for the safety of all persons entitled to be upon the Site and keep the Site (so far as the same is under his control) and the Works (so far as the same are not completed or occupied by the Employer) in an orderly state appropriate to the avoidance of danger to such persons,
- (b) provide and maintain at his own cost all lights, guards, fencing, warning signs and watching, when and where necessary or required by the Engineer or by any duly constituted authority, for the protection of the Works or for the safety and convenience of the public or others, and
- (c) take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

19.2 **Employer's Responsibilities**

If under Clause 31 the Employer shall carry out work on the Site with his own workmen he shall, in respect of such work:

- (a) have full regard to the safety of all persons entitled to be upon the Site, and
- (b) keep the Site in an orderly state appropriate to the avoidance of danger to such persons.

If under Clause 31 the Employer shall employ other contractors on the Site he shall require them to have the same regard for safety and avoidance of danger.

20.1 **Care of Works**

The Contractor shall take full responsibility for the care of the Works and materials and Plant for incorporation therein from the Commencement Date until the date of issue of the Taking-Over Certificate for the whole of the Works, when the responsibility for the said care shall pass to the Employer. Provided that:

- (a) if the Engineer issues a Taking-Over Certificate for any Section or part of the Permanent Works the Contractor shall cease to be liable for the care of that Section or part from the date of issue of the Taking-Over Certificate, when the responsibility for the care of that Section or part shall pass to the Employer, and
- (b) the Contractor shall take full responsibility for the care of any outstanding Works and materials and Plant for incorporation therein which he undertakes to finish during the Defects Liability Period until such outstanding Works have been completed pursuant to Clause 49.

20.2 **Responsibility to Rectify Loss or Damage**

If any loss or damage happens to the Works, or any part thereof, or materials or Plant for incorporation therein, during the period for which the Contractor is responsible for the care thereof, from any cause whatsoever, other than the risks defined in Sub-Clause 20.4, the Contractor shall, at his own cost, rectify such loss or damage so that the Permanent Works conform in every respect with the provisions of the Contract to the satisfaction of the Engineer. The Contractor shall also be liable for any loss or damage to the Works occasioned by him in the course of any operations carried out by him for the purpose of complying with his obligations under Clauses 49 and 50.

20.3 **Loss or Damage Due to Employer's Risks**

In the event of any such loss or damage happening from any of the risks defined in Sub-Clause 20.4, or in combination with other risks, the Contractor shall, if and to the extent required by the Engineer, rectify the loss or damage and the Engineer shall

determine an addition to the Contract Price in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer. In the case of a combination or risks causing loss or damage any such determination shall take into account the proportional responsibility of the Contractor and the Employer.

20.4 **Employer's Risks**

The Employer's risks are:

- (a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies,
- (b) rebellion, revolution, insurrection, or military or usurped power, or civil war,
- (c) ionising radiations, or contamination by radio-activity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radio-active toxic explosive, or other hazardous properties of any explosive nuclear assembly or nuclear component thereof,
- (d) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds,
- (e) riot, commotion or disorder, unless solely restricted to employees of the Contractor or of his Subcontractor and arising from the conduct of the Works,
- (f) loss or damage due to the use or occupation by the Employer of any Section or part of the Permanent Works, except as may be provided for in the Contract,
- (g) loss or damage to the extent that it is due to the design of the Works, other than any part of the design provided by the Contractor or for which the Contractor is responsible, and
- (h) any operation of the forces of nature against which an experienced contractor could not reasonably have been expected to take precautions.

21.1 **Insurance of Works and Contractor's Equipment**

The Contractor shall, without limiting his or the Employer's obligations and responsibilities under Clause 20, insure:

- (a) the Works, together with materials and Plant for incorporation therein, to the full replacement cost (the term "cost" in this context shall include profit),
- (b) an additional sum of 15 per cent of such replacement cost, or as may be specified in Part II of these Conditions, to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of

demolishing and removing any part of the Works and of removing debris of whatsoever nature, and

- (c) the Contractor's Equipment and other things brought onto the Site by the Contractor, for a sum sufficient to provide for their replacement at the Site.

21.2 **Scope of Cover**

The insurance in paragraphs (a) and (b) of Sub-Clause 21.1 shall be in the joint names of the Contractor and the Employer and shall cover:

- (a) the Employer and the Contractor against all loss or damage from whatsoever cause arising, other than as provided in Sub-Clause 21.4, from the start of work at the Site until the date of issue of the relevant Taking-Over Certificate in respect of the Works or any Section or part thereof as the case may be, and
- (b) the Contractor for his liability:
 - (i) during the Defects Liability Period for loss or damage arising from a cause occurring prior to the commencement of the Defects Liability Periods, and
 - (ii) for loss or damage occasioned by the Contractor in the course of any operations carried out by him for the purpose of complying with his obligations under Clauses 49 and 50.

21.3 **Responsibility for Amounts not Recovered**

Any amounts not insured or not recovered from the insurers shall be borne by the Employer or the Contractor in accordance with their responsibilities under Clause 20.

21.4 **Exclusions**

There shall be no obligation for the insurances in Sub-Clause 21.1 to include loss or damage caused by:

- (a) war, hostilities (where war be declared or not), invasion, act of foreign enemies,
- (b) rebellion, revolution, insurrection, or military or usurped power, or civil war,
- (c) ionising, radiations, or contamination by radio-activity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radio-active toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof, or

- (d) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds.

22.1 **Damage to Persons and Property**

The Contractor shall, except if and so far as the Contract provides otherwise, indemnify the Employer against all losses and claims in respect of:

- (a) death of or injury to any person, or
- (b) loss of or damage to any property (other than the Works),

which may arise out of or in consequence of the execution and completion of the Works and the remedying of any defects therein, and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto, subject to the exceptions defined in Sub-Clause 22.2.

22.2 **Exceptions**

The "exceptions" referred to in Sub-Clause 22.1 are:

- (a) the permanent use or occupation of land by the Works, or any part thereof,
- (b) the right of the Employer to execute the Works, or any part thereof, on, over, under, is or through any land,
- (c) damage to property which is the unavoidable result of the execution and completion of the Works, or the remedying of any defects therein, in accordance with the Contract, and
- (d) death of or injury to persons or loss of or damage to property resulting from any act or neglect of the Employer, his agents servants or other contractors, not being employed by the Contractor, or in respect of any claims, proceedings, damages, costs, charges and expenses in respect thereof or in relation thereto or, where the injury or damage was contributed to by the Contractor, his servants or agents, such part of the said injury or damage as may be just and equitable having regard to the extent of the responsibility of the Employer, his servants or agents or other contractors for the injury or damage.

22.3 **Indemnity by Employer**

The Employer shall indemnify the Contractor against all claims, proceedings, damages, costs, charges and expenses in respect of the matters referred to in the exceptions defined in Sub-Clause 22.2

23.1 **Third Party Insurance (including Employer's Property)**

The Contractor shall, without limiting his or the Employer's obligation and responsibilities under Clause 22, insure, in the joint names of the Contractor and the Employer, against liabilities for death of or injury to any person (other than as provided in Clause 24) or loss of or damage to any property (other than the Works) arising out of the performance of the Contract, other than the exceptions defined in paragraphs (a), (b) and (c) of Sub-Clause 22.2.

23.2 **Minimum Amount of Insurance**

Such insurance shall be for at least the amount stated in the Appendix to Tender.

23.3 **Cross Liabilities**

The insurance policy shall include a cross liability clause such that the insurance shall apply to the Contractor and to the Employer as separate insureds.

24.1 **Accident or Injury to Workmen**

The Employer shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or any Subcontractor, other than death or injury resulting from any act or default of the Employer, his agents or servants. The Contractor shall indemnify and keep indemnified the Employer against all such damages and compensation, other than those for which the Employer is liable as aforesaid, and against all claims, proceedings, damages, costs, charges, and expenses whatsoever in respect thereof or in relation thereto.

24.2 **Insurance Against Accident to Workmen**

The Contractor shall insure against such liability and shall continue such insurance during the whole of the time that any persons are employed by him on the Works. Provided that, in respect of any persons employed by any Subcontractor, the Contractor's obligations to insure as aforesaid under the Sub-Clause shall be satisfied if the Subcontractor shall have insured against the liability in respect of such persons in such manner that the Employer is indemnified under the policy, but the Contractor shall require such Subcontractor to produce to the Employer, when required, such policy of insurance and the receipt for the payment of the current premium.

25.1 **Evidence and Terms of Insurances**

The Contractor shall provide evidence to the Employer prior to the start of work at the Site that the insurances required under the Contract have been effected and shall, within 84 days of the Commencement Date, provide the insurance policies to the Employer. When providing such evidence and such policies to the Employer, the

Contractor shall notify the Engineer of so doing. Such insurance policies shall be consistent with the general terms agreed prior to the issue of the Letter of Acceptance. The Contractor shall effect all insurances for which he is responsible with insurers and in terms approved by the Employer.

25.2 Adequacy of Insurances

The Contractor shall notify the insurers of changes in the nature, extent or programme for the execution of the Works and ensure the adequacy of the insurances at all times in accordance with the terms of the Contract and shall, when required, produce to the Employer the insurance policies in force and the receipts for payment of the current premiums.

25.3 Remedy on Contractor's Failure to Insure

If the Contractor fails to effect and keep in force any of the insurances required under the Contract, or fails to provide the policies to the Employer within the period required by Sub-Clause 25.1, then and in any such case the Employer may effect and keep in force any such insurances and pay any premium as may be necessary for that purpose and from time to time deduct the amount so paid from any monies due or to become due to the Contractor, or recover the same as a debt due from the Contractor.

25.4 Compliance with Policy Conditions

In the event that the Contractor or the Employer fails to comply with conditions imposed by the insurance policies effected pursuant to the Contract, each shall indemnify the other against all losses and claims arising from such failure.

26.1 Compliance with Statutes, Regulations

The Contractor shall conform in all respects, including by the giving of all notices and the paying of all fees, with the provisions of:

- (a) any National or State Statute, Ordinance, or other Law, or any regulation, or by-law of any local or other duly constituted authority in relation to the execution and completion of the Works and the remedying of any defects therein, and
- (b) the rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the Works,

and the Contractor shall keep the Employer indemnified against all penalties and liability of every kind for breach of any such provisions. Provided always that the Employer shall be responsible for obtaining any planning, zoning or other similar permission required for the Works to proceed and shall indemnify the Contractor in accordance with Sub-Clause 22.3.

27.1 **Fossil**

All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the Site shall, as between the Employer and the Contractor, be deemed to be the absolute property of the Employer. The Contractor shall take reasonable precautions to prevent his workmen or any other persons from removing or damaging any such article or thing and shall, immediately upon discovery thereof and before removal, acquaint the Engineer of such discovery and carry out the Engineer's instructions for dealing with the same. If, by reason of such instructions, the Contractor suffers delay and/or incurs costs then the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount of such costs, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer.

28.1 **Patent Rights**

The Contractor shall save harmless and indemnify the Employer from and against all claims and proceedings for or on account of infringement of any patent rights, design trademark or name or other protected rights in respect of any Contractor's Equipment, materials or Plant used for or in connection with or for incorporation in the Works and from and against all damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto, except where such infringement results from compliance with the design or Specification provided by the Engineer.

28.2 **Royalties**

Except where otherwise stated, the Contractor shall pay all tonnage and other royalties, rent and other payments or compensation, if any, for getting stone, sand, gravel, clay or other materials required for the Works.

29.1 **Interference with Traffic and Adjoining Properties**

All operations necessary for the execution and completion of the Works and the remedying of any defects therein shall, so far as compliance with the requirements of the Contract permits, be carried on so as not to interfere unnecessarily or improperly with:

- (a) the convenience of the public, or
- (b) the access to, use and occupation of public or private roads and footpaths to or of properties whether in the possession of the Employer or of any other person.

The Contractor shall save harmless and indemnify the Employer in respect of all claims, proceedings, damages, costs, charges and expenses whatsoever arising out of, or in relation to, any such matters insofar as the Contractor is responsible therefor.

30.1 **Avoidance of Damage to Roads**

The Contractor shall use every reasonable means to prevent any of the roads or bridges communicating with or on the routes to the Site from being damaged or injured by any traffic of the Contractor or any of his Subcontractors and, in particular, shall select routes, choose and use vehicles and restrict and distribute loads so that any such extraordinary traffic as will inevitably arise from the moving of materials, Plant, Contractor's Equipment or Temporary Works from and to the Site shall be limited, as far as reasonably possible, and so that no unnecessary damage or injury may be occasioned to such roads and bridges.

30.2 **Transport of Contractor's Equipment or Temporary Works**

Save insofar as the Contract otherwise provides, the Contractor shall be responsible for and shall pay the cost of strengthening any bridges or altering or improving any road communicating with or on the routes to the Site to facilitate the movement of Contractor's Equipment or Temporary Works and the Contractor shall indemnify and keep indemnified the Employer against all claims for damage to any such road or bridge caused by such movement, including such claims as may be made directly against the Employer, and shall negotiate and pay all claims arising solely out of such damage.

30.3 **Transport of Materials or Plant**

If, notwithstanding Sub-Clause 30.1, any damage occurs to any bridge or road communicating with or on the routes to the Site arising from the transport of materials or Plant, the Contractor shall notify the Engineer with a copy to the Employer, as soon as he becomes aware of such damage or as soon as he receives any claim from the authority entitled to make such claim. Where under any law or regulation the haulier of such materials or Plant is required to indemnify the road authority against damage the Employer shall not be liable for any costs, charges or expenses in respect thereof or in relation thereto. In other cases the Employer shall negotiate the settlement of and pay all sums due in respect of such claim and shall indemnify the Contractor in respect thereof and in respect of all claims, proceedings damages, costs, charges and expenses in relation thereto. Provided that if and so far as any such claim or part thereof is, in the opinion of the Engineer, due to any failure on the part of the Contractor to observe and perform his obligations under Sub-Clause 30.1, then the amount determined by the Engineer, after due consultation with the Employer and the Contractor, to be due to such failure shall be recoverable from the Contractor by the Employer and may be deducted by the Employer from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer. Provided also that the Employer shall notify the Contractor whenever a settlement is to be negotiated and, where any amount may be due from the Contractor, the Employer shall consult with the Contractor before such settlement is agreed.

30.4 **Waterborne Traffic**

Where the nature of the Works is such as to require the use by the Contractor of waterborne transport the foregoing provisions of this Clause shall be construed as though "road" included a lock, dock, sea wall or other structure related to a waterway and "vehicle" included craft, and shall have effect accordingly.

31.1 **Opportunities for Other Contractors**

The Contractor shall, in accordance with the requirements of the Engineer, afford all reasonable opportunities for carrying out their work to:

- (a) any other contractors employed by the Employer and their workmen,
- (b) the workmen of the Employer, and
- (c) the workmen of any duly constituted authorities who may be employed in the execution on or near the Site of any work not included in the Contract or of any contract which the Employer may enter into in connection with or ancillary to the Works.

31.2 **Facilities for Other Contractors**

If, however, pursuant to Sub-Clause 31.1 the Contractor shall, on the written request of the Engineer:

- (a) make available to any other contractor, or to the Employer or any such authority, any roads or ways for the maintenance of which the Contractor is responsible,
- (b) permit the use, by any such, of Temporary Works or Contractor's Equipment on the Site, or
- (c) provide any other service of whatsoever nature for any such,

the Engineer shall determine an addition to the Contract Price in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.

32.1 **Contractor to Keep Site Clear**

During the execution of the Works the Contractor shall keep the Site reasonably free from all unnecessary obstruction and shall store or dispose of any Contractor's Equipment and surplus materials and clear away and remove from the Site any wreckage, rubbish or Temporary Works no longer required.

33.1 **Clearance of Site on Completion**

Upon the issue of any Taking-Over Certificate the Contractor shall clear away and remove from that part of the Site to which such Taking-Over Certificate relates all Contractor's Equipment, surplus materials, rubbish and Temporary Works of every kind, and leave such part of the Site and Works clean and in a workmanlike condition to the satisfaction of the Engineer. Provided that the Contractor shall be entitled to retain on Site, until the end of the Defects Liability Period, such materials, Contractor's Equipment and Temporary Works as are required by him for the purpose of fulfilling his obligations during the Defects Liability Period.

Labour

34.1 **Engagement of Staffs and Labour**

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport.

35.1 **Returns of Labour and Contractor's Equipment**

The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such information respecting Contractor's Equipment as the Engineer may require.

Materials, Plant and Workmanship

36.1 Quality of Materials, Plant and Workmanship

All materials, Plant and workmanship shall be:

- (a) of the respective kinds described in the Contract and in accordance with the Engineer's instructions, and
- (b) subjected from time to time to such tests as the Engineer may require at the place of manufacture, fabrication or preparation, or on the Site or at such other place or places as may be specified in the Contract, or at all or any of such places.

The Contractor shall provide such assistance, labour, electricity, fuels, stores, apparatus and instruments as are normally required for examining, measuring and testing any materials or Plant and shall supply samples of materials, before incorporation in the Works, for testing as may be selected and required by the Engineer.

36.2 Cost of Samples

All samples shall be supplied by the Contractor at his own cost if the supply thereof is clearly intended by or provided for in the Contract.

36.3 Cost of Tests

The cost of making any test shall be borne by the Contractor if such test is:

- (a) clearly intended by or provided for in the Contract, or
- (b) particularised in the Contract (in cases only for a test under load or of a test to ascertain whether the design of any finished or partially finished work is appropriate for the purposes which it was intended to fulfil) in sufficient detail to enable the Contractor to price or allow for the same in his Tender.

36.4 Cost of Tests not Provided for

If any test required by the Engineer which is:

- (a) not intended by or provided for,
- (b) (in the cases above mentioned) not so particularised, or
- (c) (through so intended or provided for) required by the Engineer to be carried out at any place other than the Site or the place of manufacture, fabrication or preparation of the materials or Plant tested,

shows the materials, Plant or workmanship not to be in accordance with the provisions of the Contract to the satisfaction of the Engineer, then the cost of such test shall be borne by the Contractor, but in any other case Sub-Clause 36.5 shall apply.

36.5 Engineer's Determination where Tests not Provided for

Where, pursuant to Sub-Clause 36.4, this Sub-Clause applies the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time of which the Contractor is entitled under Clause 44, and
 - (b) the amount of such costs, which shall be added to the Contract Price,
- and shall notify the Contractor accordingly, with a copy to the Employer.

37.1 Inspection of Operations

The Engineer, and any person authorised by him, shall at all reasonable times have access to the Site and to all workshops and places where materials or Plant are being manufactured, fabricated or prepared for the Works and the Contractor shall afford every facility for and every assistance in obtaining the right to such access.

37.2 Inspection and Testing

The Engineer shall be entitled, during manufacture, fabrication or preparation to inspect and test the materials and Plant to be supplied under the Contract. If materials or Plant are being manufactured, fabricated or prepared in workshops or places other than those of the Contractor, the Contractor shall obtain permission for the Engineer to carry out such inspection and testing in those workshops or places. Such inspection or testing shall not release the Contractor from any obligation under the Contract.

37.3 Dates for Inspection and Testing

The Contractor shall agree with the Engineer on the time and place for the inspection or testing of any materials or Plant as provided in the Contract. The Engineer shall give the Contractor not less than 24 hours notice of his intention to carry out the inspection or to attend the tests. If the Engineer, or his duly authorised representative, does not attend on the date agreed, the Contractor may, unless otherwise instructed by the Engineer, proceed with the tests, which shall be deemed to have been made in the presence of the Engineer. The Contractor shall forthwith forward to the Engineer duly certified copies of the tests readings. If the Engineer has not attended the tests, he shall accept the said readings as accurate.

37.4 **Rejection**

If, at the time and place agreed in accordance with Sub-Clause 37.3, the materials or Plant are not ready for inspection or testing or if, as a result of the inspection or testing referred to in this Clause, the Engineer determines that the materials or Plant are defective or otherwise not in accordance with the Contract, he may reject the materials or Plant and shall notify the Contractor thereof immediately. The notice shall state the Engineer's objections with reasons. The Contractor shall then promptly make good the defect or ensure that rejected materials or Plant comply with the Contract. If the Engineer so requests, the tests of rejected materials or Plant shall be made or repeated under the same terms and conditions. All costs incurred by the Employer by the repetition of the test shall after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer and may be deducted from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.

37.5 **Independent Inspection**

The Engineer may delegate inspection and testing of materials or Plant to an independent inspector. Any such delegation shall be effected in accordance with Sub-Clause 2.4 and for this purpose such independent inspector shall be considered as an assistant of the Engineer. Notice of such appointment (not being less than 14 days) shall be given by the Engineer to the Contractor.

38.1 **Examination of Work before Covering up**

No part of the works shall be covered up or put out of view without the approval of the Engineer and the Contractor shall afford full opportunity for the Engineer to examine and measure any such part of the Works which is about to be covered up or put out of view and to examine foundations before any part of the Works is placed thereon. The Contractor shall give notice to the Engineer whenever any such part of the Works or foundations is or are ready or about to be ready for examination and the Engineer shall, without unreasonable delay, unless he considers it unnecessary and advises the Contractor accordingly, attend for the purpose of examining and measuring such part of the Works or of examining such foundations.

38.2 **Uncovering and Making Openings**

The Contractor shall uncover any part of the Works or make openings in or through the same as the Engineer may from time to time instruct and shall reinstate and make good such part. If any such part has been covered up or put out of view after compliance with the requirement of Sub-Clause 38.1 and is found to be executed in accordance with the Contract, the Engineer shall, after due consultation with the Employer and the Contractor, determine the amount the Contractor's costs in respect of such of uncovering, making openings in or through, reinstating and making good

the same, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer. In any other case all costs shall be borne by the Contractor.

39.1 **Removal of Improper Work, Materials or Plant**

The Engineer shall have authority to issue instructions from time to time, for:

- (a) the removal from the Site, within such time or times as may be specified in the instruction, of any materials or Plant which, in the opinion of the Engineer, are not in accordance with the Contract,
- (b) the substitution of proper and suitable materials or Plant, and
- (c) the removal and proper re-execution, notwithstanding any previous test thereof or interim payment therefor, of any work which, in respect of
 - (i) materials, Plant or workmanship, or
 - (ii) design by the Contractor or for which he is responsible,is not, in the opinion of the Engineer, in accordance with the Contract.

39.2 **Default of Contractor in Compliance**

In case of default on the part of Contractor in carrying out such instruction within the time specified therein or, if none, within a reasonable time, the Employer shall be entitled to employ and pay other persons to carry out the same and all costs consequent thereon or incidental thereto shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.

Suspension

40.1 **Suspension of Work**

The Contractor shall, on the instructions of the Engineer, suspend the progress of the Works or any part thereof for such time and in such manner as the Engineer may consider necessary and shall, during such suspension, properly protect and secure the Works or such part thereof so far as is necessary in the opinion of the Engineer. Unless such suspension is:

- (a) otherwise provided for in the Contract,
- (b) necessary by reason of some default of or breach of contract by the Contractor or for which he is responsible,

- (c) necessary by reason of climatic conditions of the Site, or
- (d) necessary for the proper execution of the Works or for the safety of the Works or any part thereof (save to the extent that such necessity arises from any act or default by the Engineer or the Employer or from any of the risks defined in Sub-Clause 20.4), Sub-Clause 40.2 shall apply.

40.2 **Engineer's Determination following Suspension**

Where, pursuant to Sub-Clause 40.1, this Sub-Clause applies the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount, which shall be added to the Contract Price, in respect of the cost incurred by the Contractor by reason of such suspension,

and shall notify the Contractor accordingly, with a copy to the Employer.

40.3 **Suspension lasting more than 84 Days**

If the progress of the Works or any part thereof is suspended on the written instructions of the Engineer and if permission to resume work is not given by the Engineer within a period for 84 days from the date of suspension then, unless such suspension is within paragraph (a), (b), (c) or (d) of Sub-Clause 40.1, the Contractor may give notice to the Engineer requiring permission, within 28 days from the receipt thereof, to proceed with the Works or that part thereof in regard to which progress is suspended. If, within the said time, such permission is not granted, the Contractor may, but is not bound to, elect to treat the suspension, where it affects part only of the Works, as an omission of such part under Clause 51 by giving a further notice to the Engineer to that effect, or, where it affects the whole of the Works, treat the suspension as an event of default by the Employer and terminates his employment under the Contract in accordance with the provisions of Sub-Clause 69.1, whereupon the provisions of Sub-Clause 69.2 and 69.3 shall apply.

Commencement and Delays

41.1 Commencement of Works

The Contractor shall commence the Works as soon as is reasonably possible after the receipt by him of notice to this effect from the Engineer, which notice shall be issued within the time stated in the Appendix to Tender after the date of the Letter of Acceptance. Thereafter, the Contractor shall proceed with the Works with due expedition and without delay.

42.1 **Possession of Site and Access Thereto**

Save insofar as the Contract may prescribe:

(a) the extent of portions of the Site of which the Contractor is to be given possession from time to time,

(b) the order in which such portions shall be made available to the Contractor,

and, subject to any requirement in the Contract as to the order in which the Works shall be executed, the Employer will, with the Engineer's notice to commence the Works, give to the Contractor possession of

(c) so much of the Site, and

(d) such access as, in accordance with the Contract, is to be provided by the Employer as may be required to enable the Contractor to commence and proceed with the execution of the Works in accordance with the programme referred to in Clause 14, if any, and otherwise in accordance with such reasonable proposals as the Contractor shall, by notice to the Engineer with a copy to the Employer, make. The Employer will, from time to time as the Works proceed, give to the Contractor possession of such further portions of the Site as may be required to enable the Contractor to proceed with the execution of the Works with due dispatch in accordance with such programme or proposals, as the case may be.

42.2 **Failure to Give Possession**

If the Contractor suffers delay and/or incurs costs from failure on the part of the Employer to give possession in accordance with the terms of Sub-Clause 42.1, the Engineer shall, after due consultation with the Employer and the Contractor, determine:

(a) any extension of time to which the Contractor is entitled under Clause 44, and

(b) the amount of such costs, which shall be added to the Contract Price,

and shall notify the Contractor accordingly, with a copy to the Employer.

42.3 **Rights of Way and Facilities**

The Contractor shall bear all costs and charges for special or temporary wayleaves required by him in connection with access to the Site. The Contractor shall also provide at his own cost any additional facilities outside the Site required by him for the purposes of the Works.

43.1 **Time for Completion**

The whole of the Works and, if applicable, any Section required to be completed within a particular time as stated in the Appendix to Tender, shall be completed, in accordance with the provisions of Clause 48, within the time stated in the Appendix to Tender for the whole of the Works or the Section (as the case may be), calculated from the Commencement Date, or such extended time as may be allowed under Clause 44.

44.1 **Extension of Time for Completion**

In the event of:

- (a) the amount or nature of extra or additional work,
- (b) any cause of delay referred to in these Conditions,
- (c) exceptionally adverse climatic conditions,
- (d) any delay, impediment or prevention by the Employer, or
- (e) other special circumstances which may occur, other than through a default of or breach of contract by the Contractor or for which he is responsible,

being such as fairly to entitle the Contractor to an extension of the Time for Completion of the Works, or any Section or part thereof, the Engineer shall, after due consultation with the Employer and the Contractor, determine the amount of such extension and shall notify the Contractor accordingly, with a copy to the Employer.

44.2 **Contractor to Provide Notification and Detailed Particulars**

Provided that the Engineer is not bound to make any determination unless the Contractor has

- (a) within 28 days after such event has first arisen notified the Engineer with a copy to the Employer, and
- (b) within 28 days or such other reasonable time as may be agreed by the Engineer, after such notification submitted to the Engineer detailed particulars of any extension of time to which he may consider himself entitled in order that such submission may be investigated at the time.

44.3 **Interim Determination of Extension**

Provided also that where an event has a continuing effect such that it is not practicable for the Contractor to submit detailed particulars within the period of 28 days referred to in Sub-Clause 44.2(b), he shall nevertheless be entitled to an extension of time

provided that he has submitted to the Engineer interim particulars at intervals of not more than 28 days and final particulars within 28 days of the end of the effects resulting from the event. On receipt of such interim particulars, the Engineer shall, without undue delay, make an interim determination of extension of time and, on receipt of the final particulars, the Engineer shall review all the circumstances and shall determine an overall extension of time in regard to the event. In both such cases the Engineer shall make his determination after due consultation with the Employer and the Contractor and shall notify the Contractor of the determination, with a copy to the Employer. No final review shall result in a decrease of any extension of time already determined by the Engineer.

45.1 **Restriction on Working Hours**

Subject to any provision to the contrary contained in the Contract, none of the Works shall, save as hereinafter provided, be carried on during the night or on locally recognised days of rest without the consent of the Engineer, except when work is unavoidable or absolutely necessary for the saving of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Engineer. Provided that the provisions of this Clause shall not be applicable in the case of any work which it is customary to carry out by multiple shifts.

46.1 **Rate of Progress**

If for any reason, which does not entitle the Contractor to an extension of time, the rate of progress of the Works or any Section is at any time, in the opinion of the Engineer, too slow to comply with the Time for Completion, the Engineer shall so notify the Contractor who shall thereupon take such steps as are necessary, subject to the consent of the Engineer, to expedite progress so as to comply with the Time for Completion. The Contractor shall not be entitled to any additional payment for taking such steps. If, as a result of any notice given by the Engineer under this Clause, the Contractor considers that it is necessary to do any work at night or on locally recognised days of rest, he shall be entitled to seek the consent of the Engineer so to do. Provided that if any steps, taken by the Contractor in meeting his obligations under this Clause, involve the Employer in additional supervision costs, such cost shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.

47.1 **Liquidated Damages for Delay**

If the Contractor fails to comply with the Time for Completion in accordance with Clause 48, for the whole of the Works or, if applicable, any Section within the relevant time prescribed by Clause 43, then the Contractor shall pay to the Employer the relevant sum stated in the Appendix to Tender as liquidated damages for such default and not as a penalty (which sum shall be the only monies due from the Contractor for

such default) for every day or part of a day which shall elapse between the relevant Time for Completion and the date stated in a Taking-Over Certificate of the whole of the Works or the relevant Section, subject to the applicable limit stated in the Appendix to Tender. The Employer may, without prejudice to any other method of recovery, deduct the amount of such damages from any monies due or to become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works, or from any other of his obligations and liabilities under the Contract.

47.2 **Reduction of Liquidated Damages**

If, before the Time for Completion of the whole of the Works or, if applicable, any Section, a Taking-Over Certificate has been issued for any part of the Works or of a Section, the liquidated damages for delay in completion of the remainder of the Works or of that Section shall, for any period of delay after the date stated in such Taking-Over Certificate, and in the absence of Alternative provisions in the Contract, be reduced in the proportion which the value of the part so certified bears to the value of the whole of the Works or Section, as applicable. The provisions of this Sub-Clause shall only apply to the rate of liquidated damages and shall not affect the limit thereof.

48.1 **Taking-Over Certificate**

When the whole of the Works have been substantially completed and have satisfactorily passed any Tests on Completion prescribed by the Contract, the Contractor may give a notice to that effect to the Engineer with a copy to the Employer, accompanied by a written undertaking to finish with due expedition any outstanding work during the Defects Liability Period. Such notice and undertaking shall be deemed to be a request by the Contractor for the Engineer to issue a Taking-Over Certificate in respect of the Works. The Engineer shall within 21 days of the date of delivery of such notice, either issue to the Contractor, with a copy to the Employer, a Taking-Over Certificate, stating the date on which, in his opinion, the Works were substantially completed in accordance with the Contract, or give instructions in writing to the Contractor specifying all the work which, in the Engineer's opinion, is required to be done by the Contractor before the issue of such Certificate. The Engineer shall also notify the Contractor of any defects in the Works affecting substantial completion that may appear after such instructions and before completion of the Works specified therein. The Contractor shall be entitled to receive such Taking-Over Certificate within 21 days of completion, to the satisfaction of the Engineer, of the Works so specified and remedying any defects so notified.

48.2 **Taking Over of Sections or Parts**

Similarly, in accordance with the procedure set out in Sub-Clause 48.1, the Contractor may request and the Engineer shall issue a Taking-Over Certificate in respect of:

(a) any Section in respect of which a separate Time for Completion is provided in the Appendix to Tender,

(b) any substantial part of the Permanent Works which has been both completed to the satisfaction of the Engineer and, otherwise than as provided for in the Contract, occupied or used by the Employer, or

(c) any part of the Permanent Works which the Employer has elected to occupy or use prior to completion (where such prior occupation or use is not provided for in the Contract or has not been agreed by the Contractor as a temporary measure).

48.3 **Substantial Completion of Parts**

If any part of the Permanent Works has been substantially completed and has satisfactorily passed any Tests on Completion prescribed by the Contractor, the Engineer may issue a Taking-Over Certificate in respect of that part of the Permanent Works before completion of the whole of the Works and, upon the issue of such Certificate, the Contractor shall be deemed to have undertaken to complete with due expedition any outstanding work in that part of the Permanent Works during the Defects Liability Period.

48.4 **Surfaces Requiring Reinstatement**

Provided that a Taking-Over Certificate given in respect of any Section or part of the Permanent Works before completion of the whole of the Works shall not be deemed to certify completion of any ground or surfaces requiring reinstatement, unless such Taking-Over Certificate shall expressly so state.

Defects Liability

49.1 **Defects Liability Period**

In these Conditions the expression "Defects Liability Period" shall mean the defects liability period named in the Appendix to Tender, calculated from:

(a) the date of completion of the Works certified by the Engineer in accordance with Clause 48, or

(b) in the event of more than one certificate having issued by the Engineer under Clause 48, the respective dates so certified,

and in relation to the Defects Liability Period the expression "the Works" shall be construed accordingly.

49.2 **Completion of Outstanding Work and Remedying Defects**

To the intent that the Works shall, at or as soon as practicable after the expiration of the Defects Liability Period, be delivered to the Employer in the condition required by

the Contract, fair wear and tear excepted, to the satisfaction of the Engineer, the Contractor shall:

(a) complete the work, if any, outstanding on the date stated in the Taking-Over Certificate as soon as practicable after such date, and

(b) execute all such work of amendment, reconstruction, and remedying defects, shrinkages or other faults as the Engineer may, during the Defects Liability Period or within 14 days after its expiration, as a result of an inspection made by or on behalf of the Engineer prior to its expiration, instruct the Contractor to execute.

49.3 **Cost of Remedying Defects**

All work referred to in Sub-Clause 49.2(b) shall be executed by the Contractor at his own cost if the necessity thereof is, in the opinion of the Engineer, due to:

- (a) the use of materials, Plant or workmanship not in accordance with the Contract,
- (b) where the Contractor is responsible for the design of part of the Permanent Works, any fault in such design, or
- (c) the neglect or failure on the part of the Contractor to comply with any obligation, expressed or implied, on the Contractor's part under the Contract.

If, in the opinion of the Engineer, such necessity is due to any other cause, he shall determine an addition to the Contract Price in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.

49.4 **Contractor's Failure to Carry Out Instructions**

In case of default on the part of the Contractor in carrying out such instruction within a reasonable time, the Employer shall be entitled to employ and pay other persons to carry out the same and if such work is work which, in the opinion of the Engineer, the Contractor was liable to do at his own cost under the Contract, then all cost consequent thereon or incidental thereto shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.

50.1 **Contractor to Search**

If any defect, shrinkage or other fault in the Works appears at any time prior to the end of the Defects Liability Period, the Engineer may instruct the Contractor, with a copy to the Employer, to search under the directions of the Engineer for the cause thereof. Unless such defect, shrinkage or other fault is one for which the Contractor is liable under the Contract, the Engineer shall, after due consultation with the Employer and the Contractor, determine the amount in respect of the costs of such search incurred

by the Contractor, which shall be added to the Contract Price and shall notify the Contractor accordingly, with a copy to the Employer. If such defect, shrinkage or other fault is one for which the Contractor is liable, the cost of the work carried out in searching as aforesaid shall be borne by the Contractor and he shall in such case remedy such defect, shrinkage or other fault at his own cost in accordance with the provisions of Clause 49.

Alterations, Additions and Omissions

51.1 Variations

The Engineer shall make any variation of the form, quality or quantity of the Works or any part thereof that may, in his opinion, be necessary and for that purpose, or if for any other reason it shall, in his opinion, be appropriate, he shall have the authority to instruct the Contractor to do and the Contractor shall do any of the following:

- (a) increase or decrease the quantity of any work included in the Contract,
- (b) omit any such work (but not if the omitted work is to be carried out by the Employer or by another contractor),
- (c) change the character or quality or kind of any such work,
- (d) change the levels, lines, position and dimensions of any part of the Works,
- (e) execute additional work of any kind necessary for the completion of the Works, or
- (f) change any specified sequence or timing of construction of any part of the Works.

No such variation shall in any way vitiate or invalidate the Contract, but the effect, if any, of all such variations shall be valued in accordance with Clause 52. Provided that where the issue of an instruction to vary the Works is necessitated by some default of or breach of contract by the Contractor or for which he is responsible, any additional cost attributable to such default shall be borne by the Contractor.

51.2 Instructions for Variations

The Contractor shall not make any such variation without an instruction of the Engineer. Provided that no instruction shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an instruction given under this Clause, but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities.

52.1 Valuation of Variations

All variations referred to in Clause 51 and any additions to the Contract Price which are required to be determined in accordance with Clause 52 (for the purposes of this Clause referred to as "varied work"), shall be valued at the rates and prices set out in the Contract if, in the opinion of the Engineer, the same shall be applicable. If the Contract does not contain any rates or prices applicable to the varied work, the rates and prices in the Contract shall be used as the basis for valuation so far as may be

reasonable, failing which, after due consultation by the Engineer with the Employer and the Contractor, suitable rates or prices shall be agreed upon between the Engineer and the Contractor. In the event of disagreement the Engineer shall fix such rates or prices as are, in his opinion, appropriate and shall notify the Contractor accordingly, with a copy to the Employer. Until such time as rates or prices are agreed or fixed, the Engineer shall determine provisional rates or prices to enable on-account payments to be included in certificates issued in accordance with Clause 60.

52.2 **Power of Engineer to Fix Rates**

Provided that if the nature or amount of any varied work relative to the nature or amount of the whole of the Works or to any part thereof, is such that, in the opinion of the Engineer, the rate or price contained in the Contract for any item of the Works is, by reason of such varied work, rendered inappropriate or inapplicable, then, after due consultation by the Engineer with the Employer and the Contractor, a suitable rate or price shall be agreed upon between the Engineer and the Contractor. In the event of disagreement the Engineer shall fix such other rate or price as is, in his opinion, appropriate and shall notify the Contractor accordingly, with a copy to the Employer. Until such time as rates or prices are agreed or fixed, the Engineer shall determine provisional rates or prices to enable on-account payments to be included in certificates issued in accordance with Clause 60.

Provided also that no varied work instructed to be done by the Engineer pursuant to Clause 51 shall be valued under Sub-Clause 52.1 or under this Sub-Clause unless, within 14 days of the date of such instruction and, other than in the case of omitted work, before the commencement of the varied work, notice shall have been given either:

- (a) by the Contractor to the Engineer of his intention to claim extra payment or a varied rate or price, or
- (b) by the Engineer to the Contractor of his intention to vary a rate or price.

52.3 **Variations Exceeding 15 per cent**

If, on the issue of the Taking-Over Certificate for the whole of the Works, it is found that as a result of:

- (a) all varied work valued under Sub-Clauses 52.1 and 52.2, and
- (b) all adjustments upon measurement of the estimated quantities set out in the Bill of Quantities, excluding Provisional Sums, dayworks and adjustment of price made under Clause 70.

but not from any other cause, there have been additions to or deductions from the Contract Price which taken together are in excess of 15 per cent of the "Effective Contract Price" (which for the purposes of this Sub-Clause shall mean the Contract Price, excluding Provisional Sums and allowance for dayworks, if any) then and in

such event (subject to any action already taken under any other Sub-Clause of this Clause), after due consultation by the Engineer with the Employer and the Contractor, there shall be added to or deducted from the Contract Price such further sums as may be agreed between the Contractor and the Engineer or, failing agreement, determined by the Engineer having regard to the Contractor's Site and general overhead costs of the Contract. The Engineer shall notify the Contractor of any determination made under this Sub-Clause, with a copy to the Employer. Such sum shall be based only on the amount by which such additions or deductions shall be in excess of 15 per cent of the Effective Contract Price.

52.4 **Daywork**

The Engineer may, if in his opinion it is necessary or desirable, issue an instruction that any varied work shall be executed on a daywork basis. The Contractor shall then be paid for such varied work under the terms set out in the daywork schedule included in the Contract and at the rates and prices affixed thereto by him in the Tender.

The Contractor shall furnish to the Engineer such receipts or other vouchers as may be necessary to provide the amounts paid and, before ordering material, shall submit to the Engineer quotations for the same for his approval.

In respect of such of the Works executed on a daywork basis, the Contractor shall during the continuance of such work, deliver each day to the Engineer an exact list in duplicate of the names, occupation and time of all workmen employed on such work and a statement, also in duplicate, showing the description and quantity of all materials and Contractor's Equipment used thereon or therefor other than Contractor's Equipment which is included in the percentage addition in accordance with such daywork schedule. One copy of each list and statement will, if correct, or when agreed, be signed by the Engineer and returned to the Contractor.

At the end of each month the Contractor shall deliver to the Engineer a priced statement of the labour, materials and Contractor's Equipment, except as aforesaid, used and the Contractor shall not be entitled to any payment unless such lists and statements have been fully and punctually rendered. Provided always that if the Engineer considers that for any reason the sending of such lists or statements by the Contractor, in accordance with the foregoing provision, was impracticable he shall nevertheless be entitled to authorise payment for such work, either as daywork, on being satisfied as to the time employed and the labour, materials and Contractor's Equipment used on such work, or at such value therefor as shall, in his opinion, be fair and reasonable.

Procedure for Claims

53.1 **Notice of Claims**

Notwithstanding any other provision of the Contract, if the Contractor intends to claim any additional payment pursuant to any Clause of these Conditions or otherwise, he

shall give notice of his intention to the Engineer with a copy to the Employer, within 28 days after the event giving rise to the claim has first arisen.

53.2 Contemporary Records

Upon the happening of the event referred to in Sub-Clause 53.1, the Contractor shall keep such contemporary records as may reasonably be necessary to support any claim he may subsequently wish to make. Without necessarily admitting the Employer's liability, the Engineer shall, on receipt of a notice under Sub-Clause 53.1, inspect such contemporary records and may instruct the Contractor to keep any further contemporary records as are reasonable and may be material to the claim of which notice has been given. The Contractor shall permit the Engineer to inspect all records kept pursuant to this Sub-Clause and shall supply him with copies thereof as and when the Engineer so instructs.

53.3 Substantiation of Claims

Within 28 days, or such other reasonable time as may be agreed by the Engineer, of giving notice under Sub-Clause 53.1, the Contractor shall send to the Engineer an account giving detailed particulars of the amount claimed and the grounds upon which the claim is based. Where the event giving rise to the claim has a continuing effect, such account shall be considered to be an interim account and the Contractor shall, at such intervals as the Engineer may reasonably require, send further interim accounts giving the accumulated amount of the claim and any further grounds upon which it is based. In cases where interim accounts are sent to the Engineer, the Contractor shall send a final account within 28 days of the end of the effects resulting from the event. The Contractor shall, if required by the Engineer so to do, copy to the Employer all accounts sent to the Engineer pursuant to this Sub-Clause.

53.4 Failure to Comply

If the Contractor fails to comply with any of the provisions of this Clause in respect of any claim which he seeks to make, his entitlement to payment in respect thereof shall not exceed such amount as the Engineer or any arbitrator or arbitrators appointed pursuant to Sub-Clause 67.3 assessing the claim considers to be verified by contemporary records (whether or not such records were brought to the Engineer's notice as required under Sub-Clause 53.2 and 53.3).

53.5 Payment of Claims

The Contractor shall be entitled to have included in any interim payment certified by the Engineer pursuant to Clause 60 such amount in respect of any claim as the Engineer, after due consultation with the Employer and the Contractor, may consider due to the Contractor provided that the Contractor has supplied sufficient particulars to enable the Engineer to determine the amount due. If such particulars are insufficient to substantiate the whole of the claim, the Contractor shall be entitled to payment in

respect of such part of the claim as such particulars may substantiate to the satisfaction of the Engineer. The Engineer shall notify the Contractor of any determination made under this Sub-Clause, with a copy to the Employer.

Contractor's Equipment, Temporary Works and Materials

54.1 Contractor's Equipment, Temporary Works and Materials; Exclusive Use for the Works

All Contractor's Equipment, Temporary Works and materials provided by the Contractor shall, when brought on to the Site, be deemed to be exclusively intended for the execution of the Works and the Contractor shall not remove the same or any part thereof, except for the purpose of moving it from one part of the Site to another, without the consent of the Engineer. Provided that consent shall not be required for vehicles engaged in transporting any staff, labour, Contractor's Equipment, Temporary Works, Plant or materials to or from the Site.

54.2 Employer not Liable for Damage

The Employer shall not at any time be liable, save as mentioned in Clauses 20 and 65, for the loss of or damage to any of the said Contractor's Equipment, Temporary Works or materials.

54.3 Customs Clearance

The Employer will use his best endeavours in assisting the Contractor, where required, in obtaining clearance through the Customs of Contractor's Equipment, materials and other things required for the Works.

54.4 Re-export of Contractor's Equipment

In respect of any Contractor's Equipment which the Contractor has imported for the purposes of the Works, the Employer will use his best endeavours to assist the Contractor, where required, in procuring any necessary Government consent to the re-export of such Contractor's Equipment by the Contractor upon the removal thereof pursuant to the terms of Contract.

54.5 Conditions of Hire of Contractor's Equipment

With a view to securing, in the event of termination under Clause 63, the continued availability, for the purpose of executing the Works, of any hired Contractor's Equipment, the Contractor shall not bring on to the Site any hired Contractor's Equipment unless there is an agreement for hire thereof (which agreement shall be deemed not to include an agreement for hire purchase) which contains a provision that the owner thereof will, on request in writing made by the Employer within 7 days after the date on which any termination has become effective, and on the

Employer undertaking to pay all hire charges in respect thereof from such date, hire such Contractor's Equipment to the Employer on the same terms in all respect as the same was hired to the Contractor save that the Employer shall be entitled to permit the use thereof by any other contractor employed by him for the purpose of execution and completing the Works and remedying any defects therein, under the terms of the said Clause 63.

54.6 **Costs for the Purpose of Clause 63**

In the event of the Employer entering into any agreement for the hire of Contractor's Equipment pursuant to Sub-Clause 54.5, all sums properly paid by the Employer under the provision of any such agreement and all costs incurred by him (including stamp duties) in entering into such agreement shall be deemed, for the purpose of Clause 63, to be part of the cost of executing and completing the Works and the remedying of any defects therein.

54.7 **Incorporation of Clause in Subcontracts**

The Contractor shall, where entering into any subcontract for the execution of any part of the Works, incorporate in such subcontract (by reference or otherwise) the provisions of this Clause in relation to Contractor's Equipment, Temporary Works or materials brought on to the Site by the Subcontractor.

54.8 **Approval of Materials not Implied**

The operation of this Clause shall not be deemed to imply any approval by the Engineer of the materials or other matters referred to therein nor shall it prevent the rejection of any such materials at any time by the Engineer.

Measurement

55.1 Quantities

The quantities set out in the Bill of Quantities are the estimated quantities for the Works, and they are not to be taken as the actual and correct quantities of the Works to be executed by the Contractor in fulfillment of his obligations under the Contract.

56.1 Works to be Measured

The Engineer shall, except as otherwise stated, ascertain and determine by measurement the value of the Works in accordance with the Contract and the Contractor shall be paid that value in accordance with Clause 60. The Engineer shall, when he requires any part of the Works to be measured, give reasonable notice to the Contractor's authorised agent, who shall:

- (a) forthwith attend or send a qualified representative to assist the Engineer in making such measurement, and
- (b) supply all particulars required by the Engineer.

Should the Contractor not attend, or neglect or omit to send such representative, then the measurement made by the Engineer or approved by him shall be taken to be the correct measurement of such part of the Works. For the purpose of measuring such Permanent Works as are to be measured by records and drawings, the Engineer shall prepare records and drawings as the work proceeds and the Contractor, as and when called upon to do so in writing, shall, within 14 days, attend to examine and agree such records and drawings with the Engineer and shall sign the same when so agreed. If the Contractor does not attend to examine and agree such records and drawings, they shall be taken to be correct. If, after examination of such records and drawings, the Contractor does not agree the same or does not sign the same as agreed, they shall nevertheless be taken to be correct, unless the Contractor, within 14 days of such examination, lodges with the Engineer notice of the respects in which such records and drawings are claimed by him to be incorrect. On receipt of such notice, the Engineer shall review the records and drawings and either confirm or vary them.

57.1 Method of Measurement

The Works shall be measured net, notwithstanding any general or local custom, except where otherwise provided for in the Contract.

57.2 Breakdown of Lump Sum Items

For the purposes of statements submitted in accordance with Sub-Clause 60.1, the

Contractor shall submit to the Engineer, within 28 days after the receipt of the Letter of Acceptance, a breakdown for each of the lump sum items contained in the Tender. Such breakdowns shall be subject to the approval of the Engineer.

Provisional Sums

58.1 Definition of "Provisional Sum"

"Provisional Sum" means a sum included in the Contract and so designated in the Bill of Quantities for the execution of any part of the Works or for the supply of goods, materials, Plant or services, or for contingencies, which sum may be used, in whole or in part, or not at all, on the instructions of the Engineer. The Contractor shall be entitled to only such amounts in respect of the work, supply or contingencies to which such Provisional Sums relate as the Engineer shall determine in accordance with this Clause. The Engineer shall notify the Contractor of any determination made under this Sub-Clause, with a copy to the Employer.

58.2 Use of Provisional Sums

In respect of every Provisional Sum the Engineer shall have authority to issue instructions for the execution of work or for the supply of goods, material, Plant or services by:

- (a) the Contractor, in which case the Contractor shall be entitled to an amount equal to the value thereof determined in accordance with Clause 52, and
- (b) a nominated Subcontractor, as hereinafter defined, in which case the sum to be paid to the Contractor therefor shall be determined and paid in accordance with Sub-Clause 59.4.

58.3 Production of Vouchers

The Contractor shall produce to the Engineer all quotations, invoices, vouchers and accounts or receipts in connection with expenditure in respect of Provisional Sums, except where work is valued in accordance with rates or prices set out in the Tender.

Nominated Subcontractors

59.1 Definition of "Nominated Subcontractors"

All specialists, merchants, tradesmen and others executing any work or supplying any goods, materials, Plant or services for which Provisional Sums are included in the Contract, who may have been or be nominated or selected or approved by the Employer or the Engineer, and all persons to whom by virtue of the provisions of the Contract the Contractor is required to subcontract shall, in the execution of such work or the supply of such goods, materials, Plant or services, be deemed to be subcontractors to the Contractor and are referred to in this Contract as "nominated Subcontractors".

59.2 **Nominated Subcontractors; Objection to Nomination**

The Contractor shall not be required by the Employer or the Engineer, or be deemed to be under any obligation, to employ any nominated Subcontractor against whom the Contractor may raise reasonable objection, or who declines to enter into subcontract with the Contractor containing provisions:

(a) that in respect of the work, goods, materials, Plant or services the subject of the subcontract, the nominated Subcontractor will undertake towards the Contractor such obligations and liabilities as will enable the Contractor to discharge his own obligations and liabilities towards the Employer under the terms of the Contract and will save harmless and indemnify the Contractor from and against the same and from all claims, proceedings, damages, costs, charges and expenses whatsoever arising out of or in connection therewith, or arising out of or in connection with any failure to perform such obligations or to fulfill such liabilities, and

(b) that the nominated Subcontractor will save harmless and indemnify the Contractor from and against any negligence by the nominated Subcontractor, his agents, workmen and servants and from and against any misuse by him or them of any Temporary Works provided by the Contractor for the purposes of the Contract and from all claims as aforesaid.

59.3 **Design Requirements to be Expressly Stated**

If in connection with any Provisional Sum the services to be provided include any matter of design or specification of any part of the Permanent Works or of any Plant to be incorporated therein, such requirement shall be expressly stated in the Contract and shall be included in any nominated Subcontract. The nominated Subcontract shall specify that the nominated Subcontractor providing such services will save harmless and indemnify the Contractor from and against the same and from all claims, proceedings, damages, costs, charges and expenses whatsoever arising out of or in connection with any failure to perform such obligations or to fulfill such liabilities.

59.4 **Payments to Nominated Subcontractors**

For all work executed or goods, materials, Plant or services supplied by any nominated Subcontractor, the Contractor shall be entitled to:

(a) the actual price paid or due to be paid by the Contractor, on the instructions of the Engineer, and in accordance with the subcontract;

(b) in respect of labour supplied by the Contractor, the sum, if any, entered in the Bill of Quantities or, if instructed by the Engineer pursuant to paragraph (a) of Sub-Clause 58.2, as may be determined in accordance with Clause 52; and

(c) in respect of all other charges and profit, a sum being a percentage rate of the actual price paid or due to be paid calculated, where provision has been made in the Bill of Quantities for a rate to be set against the relevant Provisional Sum, at the rate inserted by the Contractor against that item or, where no such provision has been made, at the rate inserted by the Contractor in the Appendix to Tender and repeated where provision for such is made in a special item provided in the Bill of Quantities for such purpose.

59.5 **Certification of Payments to Nominated Subcontractors**

Before issuing, under Clause 60 any certificate, which includes any payment in respect of work done or goods, materials, Plant or services supplied by any nominated Subcontractor, the Engineer shall be entitled to demand from the Contractor reasonable proof that all payments, less retentions, included in previous certificates in respect of the work or goods, materials, Plant or services of such nominated Subcontractor have been paid or discharged by the Contractor. If the Contractor fails to supply such proof then, unless the Contractor:

(a) satisfies the Engineer in writing that he has reasonable cause for withholding or refusing to make such payment, and

(b) produces to the Engineer reasonable proof that he has so informed such nominated Subcontractor in writing,

the Employer shall be entitled to pay to such nominated Subcontractor direct, upon the certificate of the Engineer, all payments, less retention, provided for in the nominated Subcontract, which the Contractor has failed to make to such nominated Subcontractor and to deduct by way of set-off the amount so paid by the Employer from any sums due or to become due from the Employer to the Contractor.

Provided that, where the Engineer has certified and the Employer has paid direct as aforesaid, the Engineer shall in issuing any further certificate in favour of the Contractor, deduct from the amount thereof the amount so paid, direct as aforesaid, but shall not withhold or delay the issue of the certificate itself when due to be issued under the terms of the Contract.

Certificates and Payment

60.1 **Monthly Statements**

The Contractor shall submit to the Engineer after the end of each month six copies, each signed by the Contractor's representative approved by the Engineer in accordance with the Sub-Clause 15.1, of a statement, in such form as the Engineer may from time to time prescribe, showing the amounts to which the Contractor considers himself to be entitled up to the end of the month in respect of:

(a) the value of the Permanent Works executed,

- (b) any other items in the Bill of Quantities including those for Contractor's Equipment, Temporary Works, dayworks and the like,
- (c) the percentage of the invoice value of listed materials, all as stated in the Appendix to Tender, and Plant delivered by the Contractor on the Site for incorporation in the Permanent Works but not incorporated in such Works,
- (d) adjustments under Clause 70, and
- (e) any other sum to which the Contractor may be entitled under the Contract or otherwise.

60.2 **Monthly Payments**

The Engineer shall, within 28 days of receiving such statement, certify to the Employer the amount of payment to the Contractor which he considers due and payable in respect thereof, subject:

- (a) firstly, to the retention of the account calculated by applying the Percentage of Retention stated in the Appendix to Tender, to the amount to which the Contractor is entitled under paragraph (a), (b), (c) and (e) of Sub-Clause 60.1 until the amount so retained reaches the Limit of Retention Money stated in the Appendix to Tender, and
- (b) secondly, to the deduction, other than pursuant to Clause 47, of any sums which may have become due and payable by the Contractor to the Employer.

Provided that the Engineer shall not be bound to certify any payment under this Sub-Clause if the net amount thereof, after all retentions and deductions, would be less than the Minimum Amount of Interim Payment Certificates stated in the Appendix to Tender.

Notwithstanding the terms of this Clause or any other Clause of the Contract no amount will be certified by the Engineer for payment until the performance security, if required under the Contract, has been provided by the Contractor and approved by the Employer.

60.3 **Payment of Retention Money**

- (a) Upon the issue of the Taking-Over Certificate with respect to the whole of the Works, one half of the Retention Money, or upon the issue of a Taking-Over Certificate with respect to a Section or part of the Permanent

Works only such proportion thereof as the Engineer determines having regard to the relative value of such Section or part of the Permanent Works, shall be certified by the Engineer for payment to the Contractor.

(b) Upon the expiration of the Defects Liability Period for the Works the other half of the Retention Money shall be certified by the Engineer for payment to the Contractor. Provided that, in the event of different Defects Liability Periods having become applicable to different Sections or part of the Permanent Works pursuant to Clause 48, the expression "expiration of the Defects Liability Period" shall, for the purposes of this Sub-Clause, be deemed to mean the expiration of the latest of such periods. Provided also that if at such time, there shall remain to be executed by the Contractor any work instructed, pursuant to Clause 49 and 50, in respect of the Works, the Engineer shall be entitled to withhold certification until completion of such work of so much of the balance of the Retention Money as shall, in the opinion of the Engineer, represent the cost of the work remaining to be executed.

60.4 **Correction of Certificates**

The Engineer may by any Interim Payment Certificate make any correction or modification in any previous certificate which shall have been issued by him and shall have authority, if any work is not being carried out to his satisfaction, to omit or reduce the value of such work in any Interim Payment Certificate.

60.5 **Statement at Completion**

Not later than 84 days after the issue of the Taking-Over Certificate in respect of the whole of the Works, the Contractor shall submit to the Engineer a Statement at Completion with supporting documents showing in detail, in the form approved by the Engineer:

- (a) the final value of all work done in accordance with the Contract up to the date stated in such Taking-Over Certificate,
- (b) any further sums which the Contractor considers to be due, and
- (c) an estimate of amounts which the Contractor considers will become due to him under the Contract.

The estimated amounts shall be shown separately in such Statement at Completion. The Engineer shall verify payment in accordance with Sub-Clause 60.2.

60.6 **Final Statement**

Not later than 56 days after the issue of the Defects Liability Certificate pursuant to Sub-Clause 62.1, the Contractor shall submit to the Engineer for consideration a draft final statement with supporting documents showing in detail, in the form approved by the Engineer:

- (a) the value of all work done in accordance with the Contract, and
- (b) any further sums which the Contractor considers to be due to him under the Contract.

If the Engineer disagrees with or cannot verify any part of the draft final statement, the Contractor shall submit such further information as the Engineer may reasonably require and shall make such changes in the draft as may be agreed between them. The Contractor shall then prepare and submit to the Engineer the final statement as agreed (for the purposes of these Conditions referred to as the "Final Statement").

If, following discussions between the Engineer and the Contractor and any changes to the draft final statement which may be agreed between them, it becomes evident that a dispute exists, the Engineer shall deliver to the Employer an Interim Payment Certificate for those parts of the draft final statement, if any, which are not in dispute. The dispute may then be settled in accordance with Clause 67.

60.7 Discharge

Upon submission of the Final Statement, the Contractor shall give to the Employer, with a copy to the Engineer, a written discharge confirming that the total of the Final Statement represents full and final settlement of all monies due to the Contractor arising out of or in respect of the Contract. Provided that such discharge shall become effective only after payment due under the Final Payment Certificate issued pursuant to Sub-Clause 60.8 has been made and the performance security referred to in Sub-Clause 10.1, if any, has been returned to the Contractor.

60.8 Final Payment Certificate

Within 28 days after receipt of the Final Statement, and the written discharge, the Engineer shall issue to the Employer (with a copy to the Contractor) a Final Payment Certificate stating:

- (a) the amount which, in the opinion of the Engineer, is finally due under the Contract or otherwise, and
- (b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled other than under Clause 47, the balance, if any, due from the Employer to the Contractor or from the Contractor to the Employer as the case may be.

60.9 Cessation of Employer's Liability

The Employer shall not be liable to the Contractor for any matter or thing arising out of or in connection with the Contract or execution of the Works, unless the Contractor shall have included a claim in respect thereof in his Final Statement and (except in respect of matters or things arising after the issue of the Taking-Over Certificate in respect of the whole of the Works) in the Statement at Completion referred to in Sub-Clause 60.5.

60.10 **Time for Payment**

The amount due to the Contractor under any Interim Payment Certificate issued by the Engineer pursuant to this Clause, or to any other term of the Contract, shall, subject to Clause 47, be paid by the Employer to the Contractor within 28 days after such Interim Payment Certificate has been delivered to the Employer, or, in the case of the Final Payment Certificate referred to in Sub-Clause 60.8, within 56 days, after such Final Payment Certificate has been delivered to the Employer. In the event of the failure of the Employer to make payment within the times stated, the Employer shall pay to the Contractor interest at the rate stated in the Appendix to Tender upon all sums unpaid from the date by which the same should have been paid. The provisions of this Sub-Clause are without prejudice to the Contractor's entitlement under Clause 69 or otherwise.

61.1 **Approval only by Defects Liability Certificate**

Only the Defects Liability Certificate, referred to in Clause 62, shall be deemed to constitute approval of the Works.

62.1 **Defects Liability Certificate**

The Contract shall not be considered as completed until a Defects Liability Certificate shall have been signed by the Engineer and delivered to the Employer, with a copy to the Contractor, stating the date on which the Contractor shall have completed his obligations to execute and complete the Works and remedy any defects therein to the Engineer's satisfaction. The Defects Liability Certificate shall be given by the Engineer within 28 days after the expiration of the Defects Liability Period, or, if different defects liability periods shall become applicable to different Sections or parts of the Permanent Works, the expiration of the latest such period, or as soon thereafter as any works instructed, pursuant to Clause 49 and 50, have been completed to the satisfaction of the Engineer. Provided that the issue of the Defects Liability Certificate shall not be a condition precedent to payment to the Contractor of the second portion of the Retention Money in accordance with the conditions set out in Sub-Clause 60.3.

62.2 **Unfulfilled Obligations**

Notwithstanding the issue of the Defects Liability Certificate the Contractor and the Employer shall remain liable for the fulfillment of any obligation incurred under the provisions of the Contract prior to the issue of the Defects Liability Certificate which remains unperformed at the time of such Defects Liability Certificate is issued and, for the purposes of determining the nature and extent of any such obligation, the Contract shall be deemed to remain in force between the parties to the Contract.

Remedies

63.1 Default of Contractor

If the Contractor is deemed by law unable to pay his debts as they fall due, or enters into voluntary or involuntary bankruptcy, liquidation or dissolution (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), or becomes insolvent, or makes an arrangement with, or assignment in favour of, his creditors, or agrees to carry out the Contract under a committee of inspection of his creditors, or if a receiver, administrator, trustee or liquidator is appointed over any substantial part of his assets, or if, under any law or regulation relating to reorganization, arrangement or readjustment of debts, proceedings are commenced against the Contractor or resolutions passed in connection with dissolution or liquidation or if any steps are taken to enforce any security interest over a substantial part of the assets of the Contractor, or if any act is done or event occurs with respect to the Contractor or his assets which, under any applicable law has a substantially similar effect to any of the foregoing acts or events, or if the Contractor has contravened Sub-Clause 3.1, or has an execution levied on his goods, or Contract, if the Engineer certifies to the Employer, with a copy to the Contractor, that, in his opinion, the Contractor:

- (a) has repudiated the Contract, or
 - (b) without reasonable excuse has failed
 - (i) to commence the Works in accordance with Sub-Clause 41.1,
 - (ii) to proceed with the Works, or any Section thereof, within 28 days after receiving notice pursuant to Sub-Clause 46.1,
 - (c) has failed to comply with a notice issued pursuant to Sub-Clause 37.4 or an instruction issued pursuant to Sub-Clause 39.1 within 28 days after having received it
 - (d) despite previous warning from the Engineer, in writing, is otherwise persistently or flagrantly neglecting to comply with any of his obligations under the Contract, or
 - (e) has contravened Sub-Clause 4.1,
- then the Employer may, after giving 14 days' notice to the Contractor, enter upon the Site and the Works and terminate the employment of the Contractor without thereby releasing the Contractor from any of his obligations or liabilities under the Contract, or affecting the rights and authorities conferred on the Employer or the Engineer by the Contract, and may himself complete the Works or may employ any other contractor to complete the Works. The Employer or such other contractor may use for such completion so much of the Contractor's Equipment, Temporary Works and materials as he or they may think proper.

63.2 **Valuation at Date of Termination**

The Engineer shall, as soon as may be practicable after any such entry and termination by the Employer, fix and determine ex parte, or by or after reference to the parties or after such investigation or enquiries as he may think fit to make or institute, and shall certify:

(a) what amount (if any) had, at the time of such entry and termination, been reasonably earned by or would reasonably accrue to the Contractor in respect of work then actually done by him under the Contract, and

(b) the value of any of the said unused or partially used materials, any Contractor's Equipment and any Temporary Works.

63.3 **Payment after Termination**

If the Employer terminates the Contractor's employment under this Clause, he shall not be liable to pay to the Contractor any further amount (including damages) in respect of the Contract until the expiration of the Defects Liability Period and thereafter until the costs of execution, completion and remedying of any defects, damages for delay in completion (if any) and all other expenses incurred by the Employer have been ascertained and the amount thereof certified by the Engineer. The Contractor shall then be entitled to receive only such sum (if any) as the Engineer may certify would have been payable to him upon due completion by him after deducting the said amount. If such amount exceeds the sum which would have been payable to the Contractor on due completion by him, then the Contractor shall, upon demand, pay to the Employer the amount of such excess and it shall be deemed a debt due by the Contractor to the Employer and shall be recoverable accordingly.

63.4 **Assignment of Benefit of Agreement**

Unless prohibited by law, the Contractor shall, if so instructed by the Engineer within 14 days of such entry and termination referred to in Sub-Clause 63.1, assign to the Employer the benefit of any agreement for the supply of any goods or materials or services and/or for the execution of any work for the purposes of the Contract, which the Contractor may have entered into.

64.1 **Urgent Remedial Work**

If, by reason of any accident, or failure, or other event occurring to, in, or in connection with the Works, or any part thereof, either during the execution of the Works, or during the Defects Liability Period, any remedial or other work is, in the opinion of the Engineer, urgently necessary for the safety of the Works and the Contractor is unable or unwilling at once to do such work, the Employer shall be entitled to employ and pay other persons to carry out such work as the Engineer may consider necessary. If the work or repair so done by the Employer is work which, in

the opinion of the Engineer, the Contractor was liable to do at his own cost under the Contract, then all costs consequent thereon or incidental thereto shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer from any monies due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer. Provided that the Engineer shall, as soon after the occurrence of any such emergency as may be reasonably practicable, notify the Contractor thereof.

Special Risks

65.1 No Liability for Special Risks

The Contractor shall be under no liability whatsoever in consequence of any of the special risks referred to in Sub-Clause 65.2, whether by way of indemnity or otherwise, for or in respect of:

- (a) destruction of or damage to the Works, save to work condemned under the provisions of Clause 39 prior to the occurrence of any of the said special risks,
- (b) destruction of or damage to property, whether of the Employer or third parties, or
- (c) injury or loss of life.

65.2 Special Risks

The Special Risks are:

- (a) the risks defined under paragraphs (a), (c), (d) and (e) of Sub-Clause 20.4, and
- (b) the risks defined under paragraph (b) of Sub-Clause 20.4 insofar as these relate to the country in which the Works are to be executed.

65.3 Damage to Works by Special Risks

If the Works or any materials or Plant on or near or in transit to the Site, or any of the Contractor's Equipment, sustain destruction or damage by reason of any of the said special risks, the Contractor shall be entitled to payment in accordance with the Contract for any Permanent Works duly executed and for any materials or Plant so destroyed or damaged and, so far as may be required by the Engineer or as may be necessary for the completion of the Works, to payment for:

- (a) rectifying any such destruction or damage to the Works, and
- (b) replacing or rectifying such materials or Contractor's Equipment,

and the Engineer shall determine an addition to the Contract Price in accordance with Clause 52 (which shall in the case of the cost of replacement of Contractor's

Equipment include the fair market value thereof as determined by the Engineer) and shall notify the Contractor accordingly, with a copy to the Employer.

65.4 Projectile, Missile

Destruction, damage, injury or loss of life caused by the explosion or impact, whenever and wherever occurring, of any mine, bomb, shell, grenade, or other projectile, missile, munition, or explosive of war, shall be deemed to be a consequence of the said special risks.

65.5 Increased Costs arising from Special Risks

Save to the extent that the Contractor is entitled to payment under any other provision of the Contract, the Employer shall repay to the Contractor any costs of the execution of the Work (other than such as may be attributable to the cost of reconstructing work condemned under the provisions of Clause 39 prior to the occurrence of any special risk) which are howsoever attributable to or consequent on or the result of or in any way whatsoever connected with the said special risks, subject however to the provisions in this Clause hereinafter contained in regard to outbreak of war, but the Contractor shall, as soon as any such cost comes to his knowledge, forthwith notify the Engineer thereof. The Engineer shall, after due consultation with the Employer and the Contractor, determine the amount of the Contractor's costs in respect thereof which shall be added to the Contract Price and shall notify the Contractor accordingly, with a copy to the Employer.

65.6 Outbreak of War

If, during the currency of the Contract, there is an outbreak of war, whether war is declared or not, in any part of the world which, whether financially or otherwise, materially affects the execution of the Works, the Contractor shall, unless and until the Contract is terminated under the provisions of this Clause, continue to use his best endeavour to complete the execution of the Works. Provided that the Employer shall be entitled, at any time after such outbreak of war, to terminate the Contract by giving notice to the Contractor and, upon such notice being given, the Contract shall, except as to the rights of the parties under this clause and Clause 67, terminate, but without prejudice to the rights of either party in respect of any antecedent breach thereof.

65.7 Removal of Contractor's Equipment on Termination

If the Contract is terminated under the provisions of Sub-Clause 65.6, the Contractor shall, with all reasonable dispatch, remove from the Site all Contractor's Equipment and shall give similar facilities to his Subcontractors to do so.

Payment if Contract Terminated

If the Contract is terminated as aforesaid, the Contractor shall be paid by the Employer, insofar as such amounts or items have not already been covered by payments on account made to the Contractor, for all work executed prior to the date of termination at the rates and prices provided in the Contract and in addition:

(a) the amounts payable in respect of any preliminary items referred to in the Bill of Quantities, so far as the work or service comprised therein has been carried out or performed, and a proper portion of any such items which have been partially carried out or performed;

(b) the cost of materials, Plant or goods reasonably ordered for the Works which have been delivered to the Contractor or of which the Contractor is legally liable to accept delivery, such materials, Plant or goods becoming the property of the Employer upon such payments being made by him;

(c) a sum being the amount of any expenditure reasonably incurred by the Contractor in the expectation of completing the whole of the Works insofar as such expenditure has not been covered by any other payments referred to in this Sub-Clause;

(d) any additional sum payable under the provisions of Sub-Clauses 65.3 and 65.5;

(e) such proportion of the cost as may be reasonable, taking into account payments made or to be made for work executed, of removal of Contractor's Equipment under Sub-Clause 65.7 and, if required by the Contractor, return thereof to the Contractor's main plant yard in his country of registration or to other destination, at no greater cost; and

(f) the reasonable cost of repatriation of all the Contractor's staff and workmen employed on or in connection with the Works at the time of such termination.

Provided that against any payment due from the Employer under this Sub-Clause, the Employer shall be entitled to be credited with any outstanding balances due from the Contractor for advances in respect of Contractor's Equipment, materials and Plant and any other sums which, at the date of termination, were recoverable by the Employer from the Contractor under the terms of Contract. Any sums payable under this Sub-Clause shall, after due consultation with the Employer and the Contractor, be determined by the Engineer who shall notify the Contractor accordingly, with a copy to the Employer.

Release from Performance

66.1 Payment in Event of Release from Performance

If any circumstance outside the control of both parties arises after the issue of the Letter of Acceptance which renders it impossible or unlawful for either party to fulfill his or their contractual obligations, or under the law governing the Contract the parties are released from further performance, then the parties shall be discharged from the Contract, except as to their rights under this Clause and Clause 67 and without prejudice to the rights of either party in respect of any antecedent breach of the Contract, and the sum payable by the Employer to the Contractor in respect of the work executed shall be the same as that which would have been payable under Clause 65 if the Contract had been terminated under the provisions of Clause 65.

Settlement of Disputes

67.1 Engineer's Decision

If a dispute of any kind whatsoever arises between the Employer and the Contractor in connection with, or arising out of, the Contract or the execution of the Works, whether during the execution of the Works or after their completion and whether before or after repudiation or other termination of the Contract, including any dispute as to any opinion, instruction, determination, certificate or valuation of the Engineer, the matter in dispute shall, in the first place, be referred in writing to the Engineer, with a copy to the other party. Such reference shall state that it is made pursuant to this Clause. No later than the eighty-fourth day after the day on which he received such reference the Engineer shall give notice of his decision to the Employer and the Contractor. Such decision shall state that it is made pursuant to this Clause.

Unless the Contract has already been repudiated or terminated, the Contractor shall, in every case, continue to proceed with the Works with all due diligence and the Contractor and the Employer shall give effect forthwith to every such decision of the Engineer unless and until the same shall be revised, as hereinafter provided, in an amicable settlement or an arbitral award.

If either the Employer or the Contractor be dissatisfied with any decision of the Engineer, or if the Engineer fails to give notice of his decision on or before the eighty-fourth day on which he received the reference, then either the Employer or the Contractor may, on or before the seventieth day after the day on which he received notice of such decision, or on or before the seventieth day after the day on which the said period of 84 days expired, as the case may be, give notice to the other party, with a copy for information to the Engineer, of his intention to commence arbitration, as hereinafter provided, as to the matter in dispute. Such notice shall establish the entitlement of the party giving the same to commence arbitration, as hereinafter provided, as to such dispute and, subject to Sub-Clause 67.4, no

arbitration in respect thereof may be commenced unless such notice is given.

If the Engineer has given notice of his decision as to a matter in dispute to the Employer and the Contractor and no notice of intention to commence arbitration as to such dispute has been given by either the Employer or the Contractor on or before the seventieth day after the day on which the parties received notice as to such decision from the Engineer, the said decision shall become final and binding upon the Employer and the Contractor.

67.2 Amicable Settlement

Where notice of intention to commence arbitration as to a dispute has been given in accordance with Sub-Clause 67.1, the parties shall attempt to settle such dispute amicably before the commencement of arbitration. Provided that, unless the parties otherwise agree, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of intention to commence arbitration of such dispute was given, even if no attempt at amicable settlement thereof has been made.

67.3 Arbitration

Any dispute in respect of which:

- (a) the decision, if any, of the Engineer has not become final and binding pursuant to Sub-Clause 67.1, and
- (b) amicable settlement has not been reached within the period stated in Sub-Clause 67.2,

shall be finally settled, unless otherwise specified in the Contract, under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by one or more arbitrators appointed under such Rules. The said arbitrator/s shall have full power to open up, review and revise any decision, opinion, instruction, determination, certificate or valuation of the Engineer related to the dispute.

Neither party shall be limited in the proceedings before such arbitrator/s to the evidence or arguments put before the Engineer for the purpose of obtaining his said decision pursuant to Sub-Clause 67.1. No such decision shall disqualify the Engineer from being called as a witness and giving evidence before the arbitrator/s on any matter whatsoever relevant to the dispute.

Arbitration may be commenced prior to or after completion of the Works, provided that the obligations of the Employer, the Engineer and the Contractor shall not be altered by reason of the arbitration being conducted during the progress of the Works.

67.4 **Failure to Comply with Engineer's Decision**

Where neither the Employer nor the Contractor has given notice of intention to commence arbitration of a dispute within the period stated in Sub-Clause 67.1 and the related decision has become final and binding, either party may, if the other party fails to comply with such decision, and without prejudice to any other rights it may have, refer the failure to arbitration in accordance with Sub-Clause 67.3. The provisions of Sub-Clause 67.1 and 67.2 shall not apply to any such reference.

Notices

68.1 **Notice to Contractor**

All certificates, notices or instructions to be given to the Contractor by the Employer or the Engineer under the terms of the Contract shall be sent by post, cable, telex or facsimile transmission to or left at the Contractor's principal place of business or such other address as the Contractor shall nominate for that purpose.

68.2 **Notice to Employer and Engineer**

Any notice to be given to the Employer or to the Engineer under the terms of the Contract shall be sent by post, cable, telex or facsimile transmission to or left at the respective addresses nominated for that purpose in Part II of these Conditions.

68.3 **Change of Address**

Either party may change a nominated address to another address in the country where the Works are being executed by prior notice to the other party, with a copy to the Engineer, and the Engineer may do so by prior notice to both parties.

Default of Employer

69.1 **Default of Employer**

In the event of the Employer:

(a) failing to pay to the Contractor the amount due under any certificate of the Engineer within 28 days after the expiry of the time stated in Sub-Clause 60.10 within which payment is to be made, subject to any deduction that the Employer is entitled to make under the Contract,

(b) interfering with or obstructing or refusing any required approval to the issue of any such certificate,

(c) becoming bankrupt or, being a company, going into liquidation, other than for the purpose of a scheme of reconstruction or amalgamation, or

(d) giving notice to the Contractor that for economic reasons it is impossible for him to continue to meet his contractual obligations,

the Contractor shall be entitled to terminate his employment under the Contract by giving notice to the Employer, with a copy to the Engineer. Such termination shall take effect 14 days after the giving of the notice.

69.2 Removal of Contractor's Equipment

Upon the expiry of the 14 days' notice referred to in Sub-Clause 69.1, the Contractor shall, notwithstanding the provisions of Sub-Clause 54.1, with all reasonable despatch, remove from the Site all Contractor's Equipment brought by him thereon.

69.3 Payment on Termination

In the event of such termination the Employer shall be under the same obligations to the Contractor in regard to payment as if the Contract had been terminated under the provisions of Clause 65, but, in addition to the payments specified in Sub-Clause 65.8, the Employer shall pay to the Contractor the amount of any loss or damage to the Contractor arising out of or in connection with or by consequence of such termination.

69.4 Contractor's Entitlement to Suspend Work

Without prejudice to the Contractor's entitlement to interest under Sub-Clause 60.10 and to terminate under Sub-Clause 69.1, the Contractor may, if the Employer fails to pay the Contractor the amount due under any certificate of the Engineer within 28 days after the expiry of the time stated in Sub-Clause 60.10 within which payment is to be made, subject to any deduction that the Employer is entitled to make under the Contract, after giving 28 days' prior notice to the Employer, with a copy to the Engineer, suspend work or reduce the rate of work.

If the Contractor suspends work or reduces the rate of work in accordance with the provisions of this Sub-Clause and thereby suffers delay or incurs costs the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and
- (b) the amount of such costs, which shall be added to the Contract Price,

and shall notify the Contractor accordingly, with a copy to the Employer.

69.5 Resumption of Work

Where the Contractor suspends work or reduces the rate of work, having given notice in accordance with Sub-Clause 69.4, and the Employer subsequently pays the amount due, including interest pursuant to Sub-Clause 60.10, the Contractor's entitlement under Sub-Clause 69.1 shall, if notice of termination has not been given,

lapse and the Contractor shall resume normal working as soon as is reasonably possible.

Changes in Cost and Legislation

70.1 Increase or Decrease of Cost

There shall be added to or deducted from the Contract Price such sums in respect of rise or fall in the cost of labour and/or materials or any other matters affecting the cost of the execution of the Works as may be determined in accordance with part II of these Conditions.

70.2 Subsequent Legislation

If, after the date 28 days prior to the latest date for submission of tenders for the Contract there occur in the country in which the Works are being or are to be executed changes to any National or State Statute, Ordinance, Decree or other Law or any regulation or bye-law of any local or other duly constituted authority, or the introduction of any such State Statute, Ordinance, Decree, Law, regulation or bye-law which causes additional or reduced cost to the Contractor, other than under Sub-Clause 70.1, in the execution of the Contract, such additional or reduced cost shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be added to or deducted from the Contract Price and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.

Currency and Rates of Exchange

71.1 Currency Restrictions

If, after the date 28 days prior to the latest date for submission of tenders for the Contract, the Government or authorized agency of the Government of the country in which the Works are being or are to be executed imposes currency restrictions and/or transfer of currency restrictions in relation to the currency or currencies in which the Contract Price is to be paid, the Employer shall reimburse any loss or damage to the Contractor arising therefrom, without prejudice to the right of the Contractor to exercise any other rights or remedies to which he is entitled in such event.

72.1 Rates of Exchange

Where the Contract provides for payment in whole or in part to be made to the Contractor in foreign currency or currencies, such payment shall not be subject to variations in the rate or rates of exchange between such specified foreign currency or currencies and the currency of the country in which the Works are to be executed.

72.2 **Currency Proportions**

Where the Employer has required the Tender to be expressed in a single currency but with payment to be made in more than one currency and the Contractor has stated the proportions or amounts of other currency or currencies in which he requires payment to be made, the rate or rates of exchange applicable for calculating the payment of such proportions or amounts shall, unless otherwise stated in Part II of these Conditions, be those prevailing, as determined by the Central Bank of the country in which the Works are to be executed, on the date 28 days prior to the latest date for the submission of tenders for the Contract, as has been notified to the Contractor by the Employer prior to the submission of tenders or as provided for in the Tender.

72.3 **Currencies of Payment for Provisional Sums**

Where the Contract provides for payment in more than one currency, the proportions or amounts to be paid in foreign currencies in respect of Provisional Sums shall be determined in accordance with the principles set forth in Sub-Clauses 72.1 and 72.2 as and when these sums are utilised in whole or in part in accordance with the provisions of Clauses 58 and 59.

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FEDERATION INTERNATIONALE DES INGENIEURS-CONSEIL

CONDITIONS OF CONTRACT FOR WORKS OF CIVIL ENGINEERING CONSTRUCTION

PART I GENERAL CONDITIONS

The Condition of Contract, Part-I: General Conditions shall be those forming Part-I of the "Conditions of Contract for Works of Civil Engineering Construction", fourth edition 1987, reprinted in 1992 with further amendments, prepared by the Fédération Internationale des Ingénieurs-Conseils (FIDIC). These Conditions are subject to the variations and additions set out in Part-II hereof entitled "Particular Conditions of Contract."

PARTICULAR CONDITIONS OF CONTRACT [PART-II]

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PART II - PARTICULAR CONDITIONS OF CONTRACT

1.1 Definitions

The entire text is deleted and substituted with the following:

In the Contract (as hereinafter defined) the following words and expressions shall have the meanings hereby assigned to them, except where the context otherwise requires:

- (a) (i) "Employer" means STETA, Karachi
Phone: (92-21) 9924-4112-7, Fax No: (92-21) 9924-4118
- (ii) "Contractor" means the person whose tender has been accepted by the Employer and the legal successors in title to such person, but not (except with the consent of the Employer) any assignee of such person.
- (iii) "Subcontractor" means any person named in the Contract as a Subcontractor for a part of the Works or any person to whom a part of the Works has been subcontracted with the consent of the Engineer and the legal successors in title to such person, but not any assignee of any such person.
- (iv) "Engineer" means the **M/s. Shahzad Associates**, 2nd Floor, Farzana Building, Shaheed-e-Millat Road, Karachi. or any other competent person registered with PEC as Professional Engineer, appointed by the Employer, and notified to the Contractor, to act in replacement of the Engineer. Provided always that exception cases of professional misconduct, the outgoing Engineers is to formulate his certifications / recommendations in relation to all outstanding matters, disputes and claims relating to the execution of the Works during his tenure.
- (v) "Engineer's Representative" means a person appointed from time to time by the Engineer under Sub-Clause 2.2.
- (b) (i) "Contract" means these Conditions (Parts I and II), the Specification, the Drawings, the Bill of Quantities, the Tender, the Letter of Acceptance, the Contract Agreement (if completed) and such further documents as may be expressly incorporated in the Letter of Acceptance or Contract Agreement (if completed).

- (ii) "Specification" means the specification of the Works included in the Contract and any modification thereof or addition thereto made under Clause 51 or submitted by the Contractor and approved by the Engineer.
 - (iii) "Drawings" means all drawings, calculations and technical information of a like nature provided by the Engineer to the Contractor under the Contract and all drawings, calculations, samples, patterns, models, operation and maintenance manuals and other technical information of a like nature submitted by the Contractor and approved by the Engineer.
 - (iv) "Bill of Quantities" means the priced and completed bill of quantities forming part of the Tender.
 - (v) "Tender" means the Contractor's priced offer to the Employer for the execution and completion of the Works and the remedying of any defects therein in accordance with the provisions of the Contract, as accepted by the Letter of Acceptance. The word "Tender" is synonymous with "Bid" and the word "Tender Documents" with "Bidding Documents".
 - (vi) "Letter of Acceptance" means the formal acceptance by the Employer of the Tender.
 - (vii) "Contract Agreement" means the contract agreement (if any) referred to in Sub-Clause 9.1.
 - (viii) "Appendix to Tender" means the appendix comprised in the form of Tender annexed to these Conditions.
 - (ix) "Programme" means the programme to be submitted by the Contractor in accordance with Sub-Clause 14.1 and any approved revisions thereto.
- (c) (i) "Commencement Date" means the date upon which the Contractor receives the notice to commence issued by the Engineer pursuant to Clause 41.
- (ii) "Time for Completion" means the time for completing the execution of and passing the Tests on Completion of the Works or any Section or part thereof as stated in the Contract (or as extended under Clause 44) calculated from the Commencement Date.

- (d) (i) "Tests on Completion" means the tests specified in the Contract or otherwise agreed by the Engineer and the Contractor which are to be made by the Contractor before the Works of any Section or part thereof are taken over by the Employer.
- (ii) "Taking-Over Certificate" means a certificate issued pursuant to Clause 48.
- (e) (i) "Contract Price" means the sum stated in the Letter of Acceptance as payable to the Contractor for the execution and completion of the Works subject to such additions thereto or deductions therefrom as may be made and remedying of any defects therein in accordance with the provisions of the Contract.
- (ii) "Retention Money" means the aggregate of all monies retained by the Employer pursuant to Sub-Clause 60.2(a).
- (iii) "Interim Payment Certificate" means any certificate of payment issued by the Engineer other than the Final Payment Certificate.
- (iv) "Final Payment Certificate" means the certificate of payment issued by the Engineer pursuant to Sub-Clause 60.8.
- (f) (i) "Works" means the Permanent Works and the Temporary Works or either of them as appropriate.
- (ii) "Permanent Works" means the permanent works to be executed (including Plant) in accordance with the Contract
- (iii) "Temporary Works" means all temporary works of every kind (other than Contractor's Equipment) required in or about the execution and completion of the Works and the remedying of any defects therein.
- (iv) "Plant" means machinery, apparatus and the like intended to form or forming part of the Permanent Works.
- (v) "Contractor's Equipment" means all appliances and things of whatsoever nature (other than Temporary Works) required for the execution and completion of the Works and the remedying of any defects therein, but does not include Plant, materials or other things intended to form or forming part of the Permanent Works.

- (vi) "Section" means a part of the Works specifically identified in the Contract as a Section.
- (vii) "Site" means the places provided by the Employer where the Works are to be executed and any other places as may be specifically designated in the Contract as forming part of the Site.
- (g) (i) "cost" means all expenditure properly incurred or to be incurred, whether, on or off the Site, including overhead and other charges properly allocable thereto but does not include any allowance for profit.
- (ii) "day" means calendar day.
- (iii) "foreign currency" means a currency of a country other than that in which the Works are to be located.
- (iv) "writing" means any hand-written, type-written, or printed communication, including telex, cable and facsimile transmission.

1.2 **Headings and Marginal Notes**

Refer to Part I: General Conditions of Contract

1.3 **Interpretation**

Refer to Part I: General Conditions of Contract

1.4 **Singular and Plural**

Refer to Part I: General Conditions of Contract

1.5 **Notices, Consents, Approvals, Certificates and Determinations**

Refer to Part I: General Conditions of Contract

2.1 **Engineer's Duties and Authority**

The entire text is deleted and substituted with the following;

- (a) The Engineer shall carry out the duties specified in the Contract.

- (b) The Engineer may exercise the authority specified in or necessarily to be implied from the Contract, however the Engineer shall obtain the specific approval of the Employer before carrying out his duties in accordance with the following Clauses:
- (i) Consenting to the sub-letting of any part of the Works under Sub-Clause 4.1 "Subcontracting".
 - (ii) Certifying additional cost determined under Sub-Clause 12.2 "Not Foreseeable Physical Obstructions or Conditions".
 - (iii) Any action under Clause 10 "Performance Security" and Clauses 21, 23, 24 & 25 "Insurance" of sorts.
 - (iv) Any action under Clause 40 "Suspension".
 - (v) Any action under Clause 44 "Extension of Time for Completion".
 - (vi) Any action under Clause 47 "Liquidated Damages for Delay" or Payment of Bonus for Early Completion of Works (PCC Sub-Clause 47.3).
 - (vii) Issuance of "Taking Over Certificate" under Clause 48.
 - (viii) Issuing a Variation Order under Clause 51, except:
 - (a). in an emergency* situation, as stated herebelow, or
 - (b). if such variation would increase the Contract Price by less than the amount stated in the Appendix-A to Bid.
 - (ix) Fixing rates or prices under Clause 52.
 - (x) Extra payment as a result of Contractor's claims under Clause 53.
 - (xi) Release of Retention Money to the Contractor under Sub-Clause 60.3 "Payment of Retention Money".
 - (xii) Issuance of "Final Payment Certificate" under Sub-Clause 60.8.
 - (xiii) Issuance of "Defect liability Certificate" under Sub-Clause 62.1.

* (If in the opinion of the Engineer an emergency occurs affecting the safety of life or of the Works or of adjoining property, the Engineer may, without relieving the Contractor of any of his duties and responsibilities under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 52 and shall notify the Contractor accordingly, with a copy to the Employer.)

Provided further that any requisite approval shall be deemed to have been given by the Employer for any such authority exercised by the Engineer.

- (c) Except as expressly stated in the Contract, the Engineer shall have no authority to relieve the Contractor of any of his obligations under the Contract.
- (d) The Engineer shall obtain prior approval of the Employer before determining and agreeing for any kind of time extension for completion of Works or any amount of cost increase under the Contract, except in case of emergency situation as stated above.

2.2 Engineer's Representative

The entire text is deleted and substituted with the following:

The Engineer's Representative shall be appointed by and be responsible to the Engineer and shall carry out such duties and exercise such authority as may be delegated to him by the Engineer under Sub-Clause 2.3.

The Employer shall ensure that the Engineer's Representative is a Professional Engineer as defined in the Pakistan Engineering Council Act 1975 (V of 1976)

2.3 Engineer's Authority to Delegate

Refer to Part I: General Conditions of Contract

2.4 Appointment of Assistants

Refer to Part I: General Conditions of Contract

2.5 **Instructions in Writing**

Refer to Part I: General Conditions of Contract

2.6 **Engineer to Act Impartially**

Refer to Part I: General Conditions of Contract

2.7 **Engineer Not Liable**

Approval, reviews and inspection by the Engineer of any part of the Works does not relieve the Contractor from his sole responsibility and liability for the supply of materials, plant and equipment for construction of the Works and their parts in accordance with the Contract and neither the Engineer's authority to act nor any decision made by him in good faith as provided for under the Contract whether to exercise or not to exercise such authority shall give rise to any duty or responsibility of the Engineer to the Contractor, any Subcontractor, any of their representatives or employees or any other person performing any portion of the Works.

2.8 **Replacement of the Engineer**

"If the Employer intends to replace the Engineer, the Employer shall, not less than 14 days before the intended date of replacement, give notice to the Contractor, of the name, address and relevant experience of the intended replacement Engineer. The Employer shall not replace the Engineer with a person against whom the Contractor raises reasonable objection by notice to the Employer, with supporting particulars."

3.1 **Assignment of Contract**

Refer to Part I: General Conditions of Contract

4.1 **Subcontracting**

Refer to Part I: General Conditions of Contract

4.2 **Assignment of Subcontractors' Obligations**

Refer to Part I: General Conditions of Contract

5.1 **Language(s) and Law**

(a) The Contract Documents shall be drawn up in the English language.

- (b) The Contract shall be subject to the Laws of Islamic Republic of Pakistan.

5.2 **Priority of Contract Documents**

The entire text is deleted and substituted with the following:

The several documents forming the Contract are to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies the same shall be explained and adjusted by the Engineer who shall thereupon issue to the contractor instructions thereon and in such event, unless otherwise provided in the Contract, the priority of the documents forming the Contract shall be as follows;

- (1) The Contract Agreement
- (2) The Letter of Acceptance;
- (3) The completed Form of Bid;
- (4) Special Stipulations (Appendix-A to Bid);
- (5) Special Provisions
- (6) The Particular Conditions of Contract – Part II;
- (7) The General Conditions – Part I;
- (8) The priced Bill of Quantities (Appendix-D to Bid);
- (9) The completed Appendices to Bid (B, C, E to K);
- (10) The Drawings;
- (11) Technical Provisions; and
- (12) Any other documents forming part of the Contract.

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.

The following Sub-Clauses 6.6 and 6.7 are added:

6.1 **Custody and Supply of Drawings and Documents**

Refer to Part I: General Conditions of Contract

6.2 **One Copy of Drawings to be Kept on Site**

Refer to Part I: General Conditions of Contract

6.3 **Disruption of Progress**

Refer to Part I: General Conditions of Contract

6.4 **Delay and Cost of Delay of Drawings**

The entire text is deleted and substituted with the following:

If, by reason of any failure or inability of the Engineer to issue, within a time reasonable in all the circumstances, any drawing or instruction for which notice has been given by the Contractor in accordance with Sub-Clause 6.3, the Contractor suffers delay and/or incurs costs then the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and / or
- (b) the amount of such costs, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer.

6.5 **Failure by Contractor to Submit Drawings**

Refer to Part I: General Conditions of Contract

The following Sub-Clauses 6.6, 6.7 and 6.8 are added:

6.6 **Shop Drawings**

The Contractor shall submit to the Engineer for review 3 copies of all shop and erection drawings applicable to this Contract as per provision of relevant Sub-Clause of the Contract.

Review and approval by the Engineer shall not be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory and that the Engineer's review or approval shall not relieve the Contractor of any of his responsibilities under the Contract.

6.7 **As-Built Drawings**

At the completion of the Works under the Contract, the Contractor shall furnish to the Engineer 6 hard copies and one reproducible copy in AutoCAD format of all drawings amended to conform to the Works as built. The price of such Drawings shall be deemed to be included in the Contract Price.

6.8 Details to be Confidential

The Contractor shall treat the details of the Contract as private and confidential, save in so far as may be necessary for the purposes thereof, and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere without the prior consent in writing of the Employer or the Engineer. If any dispute arises as to the necessity of any publication or disclosure for the purpose of the Contract, the same shall be referred to the Employer whose determination shall be final.

7.1 Supplementary Drawings and Instructions

Refer to Part I: General Conditions of Contract

7.2 Permanent Works Designed by Contractor

Refer to Part I: General Conditions of Contract

7.3 Responsibility Unaffected by Approval

Refer to Part I: General Conditions of Contract

8.1 Contractor's General Responsibilities

Refer to Part I: General Conditions of Contract

8.2 Site Operations and Methods of Construction

Refer to Part I: General Conditions of Contract

9.1 Contract Agreement

Delete the entire text and substitute:

The Contractor shall enter into and execute the Contract Agreement, to be prepared and completed at his own cost, in the form annexed to these Conditions with such modification as may be necessary. The Contractor shall provide ten copies of signed Contract Documents to the Employer in proper book form for record. All costs for preparing and providing the copies of the Contract Documents shall be borne by the Contractor.

10.1 Performance Security

The Entire text is deleted and substituted with the following:

The Contractor shall provide Performance Security to the Employer in the prescribed form. The said Security shall be furnished or caused to be furnished by the Contractor within 28 days after the receipt of the Letter of Acceptance. The Performance Security shall be of an amount equal to 10% of the Contract Price stated in the Letter of Acceptance. Such Security shall, at the option of the bidder, be in the form of either (a) bank guarantee from any Scheduled Bank (A Rated) in Pakistan or (b) bank guarantee from a bank located outside Pakistan duly counter-guaranteed by a Scheduled Bank (A Rated) in Pakistan.

The cost of complying with the requirements of this Sub-Clause shall be borne by the Contractor.

10.2 Period of Validity of Performance Security

Delete the entire text and substitute:

The performance security shall be valid until one month after the completion of the Defect Liability Period in accordance with the Contract. No claim shall be made against such security after the issue of the Defects Liability Certificate in accordance with Sub-Clause 62.1 and such security shall be returned to the Contractor within 14 days of the issue of the said Defects Liability Certificate.

10.3 Claims under Performance Security

Refer to Part I: General Conditions of Contract

The following Sub-Clause 10.4 is added:

10.4 Performance Security Binding on Variations and Changes

The Performance Security shall be binding irrespective of changes in the quantities or variations in the Works or extensions in Time for Completion of the Works which are granted or agreed upon under the provisions of the Contract.

11.1 Inspection of Site

The entire text is deleted and substituted with the following;

The Employer shall have made available to the Contractor, before the submission by the Contractor of the Tender, such data on hydrological and sub-surface conditions as have been obtained by or on behalf of the Employer from investigations undertaken relevant to the Works but the Contractor shall be responsible for his own interpretation thereof.

The Contractor shall be deemed to have inspected and examined the Site and its surroundings and information available in connection therewith and to have satisfied himself (so far as is practicable, having regard to considerations of cost and time) before submitting his Tender, as to:

- (a) the form and nature thereof, including the sub-surface conditions,
- (b) the hydrological and climatic conditions,
- (c) the extent and nature of work and materials necessary for the execution and completion of the Works and the remedying of any defects therein, and
- (e) the means of access to the Site and the accommodation he may require, and, in general, shall be deemed to have obtained all necessary information, subject as above mentioned, as to risks, contingencies and all other circumstances which may influence or affect his Tender.

The Contractor shall be deemed to have based his Tender on the data made available by the Employer and on his own inspection and examination, all as aforementioned.

If any data is provided by the Employer, the Contractor is solely responsible for ascertaining the correctness of such data and the Employer shall not be liable in this behalf and no claim whatsoever in nature shall be entertained by the Engineer.

12.1 Sufficiency of Tender

Refer to Part I: General Conditions of Contract

12.2 Not Foreseeable Physical Obstructions or Conditions

The entire text is deleted and substituted with the following:

If, however, during the execution of the Works the Contractor encounters physical obstructions or physical conditions, other than climatic conditions on the Site, which obstructions or conditions were, in his opinion, not foreseeable by an experienced contractor, the Contractor shall forthwith give notice thereof to the Engineer, with a copy to the Employer. On receipt of such notice, the Engineer shall if in his opinion such obstructions or conditions could not have been reasonably foreseen by an experienced contractor, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and / or

- (b) the amount of any costs which may have been incurred by the Contractor by reason of such obstructions or conditions having been encountered, which shall be added to the Contract Price,

and shall notify the Contractor accordingly, with a copy to the Employer. Such determination shall take account of any instruction which the Engineer may issue to the Contractor in connection therewith, and any proper and reasonable measures acceptable to the Engineer which the Contractor may take in the absence of specific instructions from the Engineer.

13.1 Work to be in Accordance with Contract

Refer to Part I: General Conditions of Contract

14.1 Programme to be Submitted

Deleted the text and substitute as follows:

- a) The Contractor shall submit the Programme of Works within thirty (30) days from the date of receipt of Letter of Acceptance on MS Project or Primavera for the agreement of the Engineer and approval of the Employer. All items of works and activities including mobilization should be included in the Programme of Works. The programme shall identify and highlight those activities, which are on the Critical path. The programme shall be revised monthly and should include a chart of principal activities of the work forecast for monthly execution and an updated schedule of the payment to be made by the Employer to the Contractor. This programme of works shall form basis of Liquidated Damages pursuant to clause 47.1 and 47.2 in addition, cash flow estimates shall be supported with inputs of over drafts organized with the financial institutions at various stages of the projects to meet the funding requirements of the project. The Contractor shall supply and maintain at his site office for his and Engineer's use a licensed copy of the project management computer software package namely MS Project or Primavera or equivalent as used by the Contractor for programming, to monitor the progress. It shall be supplied complete with manuals and technical training and support for the duration of the Contract as per requirements assessed by the Engineer.
- b) In order to assist the Employer's Project Management Team, the Contractor shall be required to submit data at two weeks intervals to the Engineer on the cost and quantities and other data relevant to the monitoring of progress according to a format suitable for computer processing.

- c) The Programme should be computerized and drawn up on the CPM, identifying all items of work including temporary work. Progress reporting by the Contractor should be supported on a monthly basis with an up-to-date analysis of the progress including a statement on items, which are or are about to become critical to the progress of the work along with the proposals on how the Contractor intends to alleviate the situation.

14.2 Revised Programme

Refer to Part I: General Conditions of Contract

14.3 Cash Flow Estimate to be Submitted

The Contractor shall, within 21 days after the date of the Letter of Acceptance, provide to the Engineer for his information a detailed cash flow estimate, in quarterly periods, of all payments to which the Contractor will be entitled under the Contract and the Contractor shall subsequently supply revised cash flow estimates at quarterly intervals, if required to do so by the Engineer.

14.4 Contractor not Relieved of Duties or Responsibilities

Refer to Part I: General Conditions of Contract

The following Sub-Clause 14.5 is added:

14.5 Detailed Programme and Monthly Progress Report

- a) For purposes of Sub-Clause 14.1, the Contractor shall submit to the Engineer detailed programme for the following:
 - (1) Execution of Works;
 - (2) Labour Employment;
 - (3) Local Material Procurement;
 - (4) Material Imports, if any; and
 - (5) Other details as required by the Engineer.

- (b) During the period of the Contract, the Contractor shall submit to the Engineer not later than the 8th day of the following month, 5 copies each of Monthly Progress Reports covering:
 - (1) A Construction Schedule indicating the monthly progress in percentage;
 - (2) Description of all work carried out since the last report;
 - (3) Description of the work planned for the next 56 days sufficiently detailed to enable the Engineer to determine his programme of inspection and testing;

- (4) Monthly summary of daily job record;
- (5) Photographs to illustrate progress ;and
- (6) Information about problems and difficulties encountered, if any, and proposals to overcome the same.

(c) During the period of the Contract, the Contractor shall keep a daily record of the work progress, which shall be made available to the Engineer as and when requested. The daily record shall include particulars of weather conditions, number of men working, deliveries of materials, quantity, location and assignment of Contractor's equipment.

15.1 Contractor's Superintendence

Refer to Part I: General Conditions of Contract

15.2 Language Ability of Contractor's Representative

The Contractor's authorised representative shall be fluent in the English language. Alternately an interpreter with ability of English language shall be provided by the Contractor on full time basis.

15.3 Contractor's Representative

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

The Contractor's authorised representative at Site shall be authorised to exercise adequate administrative and financial powers on behalf of the Contractor so as to achieve completion of the Works as per the Contract.

16.1 Contractor's Employees

Refer to Part I: General Conditions of Contract

16.2 Engineer at Liberty to Object

Refer to Part I: General Conditions of Contract

The following Sub-Clauses 16.3 and 16.4 are added:

16.3 Language Ability of Superintending Staff of Contractor

A reasonable proportion of the Contractor's superintending staff shall have a working knowledge of the English language. If the Contractor's superintending staffs are not fluent in English language, the Contractor

shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer.

16.4 Employment of Local Personnel

The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labour from sources within Pakistan.

17.1 Setting-out

Refer to Part I: General Conditions of Contract

18.1 Boreholes and Exploratory Excavation

Refer to Part I: General Conditions of Contract

19.1 Safety, Security and Protection of the Environment

Deleted the text and substitute with the following:

The Contractor shall, throughout the execution and completion of the Works and the remedying of any defects therein:

- (a) have full regard for the safety of all persons entitled to be upon the Site and keep the Site (so far as the same is under his control) and the Works (so far as the same are not completed or occupied by the Employer) in an orderly state appropriate to the avoidance of danger to such persons,
- (b) provide and maintain at his own cost all lights, guards, fencing, warning signs and watching, when and where necessary or required by the Engineer or by any duly constituted authority, for the protection of the Works or for the safety and convenience of the public or others, and
- (c) take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.
- (d) The Contractor, to ensure protections of the Environment, shall take all necessary measures and precautions in conformity with statutory and Regulatory Environmental requirements enforced and amended from time to time.
- (e) the Contractor shall exercise due care to protect the natural

landscape and shall conduct his construction operations so as to prevent any unnecessary destruction, scarring or defacing of the natural surroundings in the vicinity of the Works, except where clearing is required for Permanent Works, Approved Temporary Works and for excavation operations. All watercourses, ponds, wells, trees and native vegetation shall be preserved and shall be protected from damage, which may be caused, by the Contractor's construction operations and equipment. On completion of the Works, all work areas shall be smoothed and graded in a manner to conform to the natural appearance of the landscape. Where unavoidable, destruction, scarring, damage or defacing may occur as a result of the Contractor's operations, it shall be repaired, replaced, replanted or otherwise corrected at Contractor's expenses to the satisfaction of the Engineer and National and / or Provincial Environment Protection Agency.

- f) During performance for the work, the Contractor shall carryout proper and sufficient measures as often as necessary to reduce dust pollution.

19.2 Employer's Responsibilities

Refer to Part I: General Conditions of Contract

The following Sub-Clauses 19.3 and 19.4 are added:

19.3 Safety Precautions

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.

19.4 Lighting Work at Night

In the event of work being carried out at night, the Contractor shall at his own cost, provide and maintain such good and sufficient light as will enable the work to proceed satisfactorily and without danger. The approaches to the Site and the Works where the night-work is being

carried out shall be sufficiently lighted. All arrangement adopted for such lighting shall be to the satisfaction of the Engineer's Representative.

20.1 **Care of Works**

Refer to Part I: General Conditions of Contract

20.2 **Responsibility to Rectify Loss or Damage**

Refer to Part I: General Conditions of Contract

20.3 **Loss or Damage Due to Employer's Risks**

Refer to Part I: General Conditions of Contract

20.4 **Employer's Risks**

The Employer's risks are:

Delete the text and substitute with the following:

- (a) insofar as they directly affect the execution of the Works in Pakistan:
 - (i) war and hostilities (whether war be declared or not), invasion, act of foreign enemies,
 - (ii) rebellion, revolution, insurrection, or military or usurped power, or civil war,
 - (iii) ionizing radiations, or contamination by radioactivity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radioactive toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof,
 - (iv) pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds,
 - (v) riot, commotion or disorder, unless solely restricted to the employees of the Contractor or of his Subcontractors and arising from the conduct of the Works. For the avoidance of the doubt, it is clarified that riot, commotion or disorder constituting the Employer's Risks shall not include any riot, commotion or disorder in any part of the country where the works are located or to be performed which give rise to generalized security, safety or other concern to the Contractor or his Subcontractor or to their employees.

- (b) loss or damage due to the use or occupation by the Employer of any Section or part of the Permanent Works, except as may be provided for in the Contract;
- (c) loss or damage to the extent that it is due to the design of the Works, other than any part of the design provided by the Contractor or for which the Contractor is responsible; and
- (d) any operation of the forces of nature (insofar as it occurs on the Site) which an experienced contractor:
 - (i) could not have reasonably foreseen, or
 - (ii) could reasonably have foreseen, but against which he could not reasonably have taken at least one of the following measures:
 - (a) prevent loss or damage to physical property from occurring by taking appropriate measures, or
 - (b) insure against.

21.1 Insurance of Works and Contractor's Equipment

Refer to Part I: General Conditions of Contract

21.2 Scope of Cover

Refer to Part I: General Conditions of Contract

21.3 Responsibility for Amounts not Recovered

Refer to Part I: General Conditions of Contract

21.4 Exclusions

The text is deleted and substituted with the following:

There shall be no obligation for the insurances in Sub-Clause 21.1 to include loss or damage caused by the risks listed under Sub-Clause 20.4 paras (a) (i) to (iv).

22.1 Damage to Persons and Property

Refer to Part I: General Conditions of Contract

22.2 **Exceptions**

Refer to Part I: General Conditions of Contract

22.3 **Indemnity by Employer**

Refer to Part I: General Conditions of Contract

23.1 **Third Party Insurance (including Employer's Property)**

Refer to Part I: General Conditions of Contract

23.2 **Minimum Amount of Insurance**

Refer to Part I: General Conditions of Contract

23.3 **Cross Liabilities**

Refer to Part I: General Conditions of Contract

24.1 **Accident or Injury to Workmen**

Refer to Part I: General Conditions of Contract

24.2 **Insurance Against Accident to Workmen**

Refer to Part I: General Conditions of Contract

25.1 **Evidence and Terms of Insurances**

Delete the entire text and substitute as follows:

The Contractor shall provide evidence to the Employer as soon as practicable after the respective insurances have been taken out but in any case prior to the start of work at the Site that the insurances required under the Contract have been effected and shall, within 30 days of the Commencement Date, provide the insurance policies to the Employer. When providing such evidence and such policies to the Employer, the Contractor shall notify the Engineer of so doing. Such insurance policies shall be consistent with the general terms agreed prior to the issue of the Letter of Acceptance. The Contractor shall effect all insurances for which he is responsible with insurers and in terms approved by the Employer.

25.2 **Adequacy of Insurances**

Refer to Part I: General Conditions of Contract

25.3 Remedy on Contractor's Failure to Insure

Refer to Part I: General Conditions of Contract

25.4 Compliance with Policy Conditions

Refer to Part I: General Conditions of Contract

25.5 Insurance Company

The Contractor shall be obliged to place all insurances relating to the Contract (including, but not limited to, the insurances referred to in Clauses 21, 23 and 24) with either National Insurance Company of Pakistan or any other insurance company operating in Pakistan and acceptable to the Employer.

Costs of such insurances shall be borne by the Contractor.

26.1 Compliance with Statutes, Regulations

Refer to Part I: General Conditions of Contract

27.1 Fossil

Delete the entire text and substitute as follows:

All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the Site shall, as between the Employer and the Contractor, be deemed to be the absolute property of the Employer. The Contractor shall take reasonable precautions to prevent his workmen or any other persons from removing or damaging any such article or thing and shall, immediately upon discovery thereof and before removal, acquaint the Engineer of such discovery and carry out the Engineer's instructions for dealing with the same. If, by reason of such instructions, the Contractor suffers delay and/or incurs costs then the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time to which the Contractor is entitled under Clause 44, and / or
- (b) the amount of such costs, determined under sub clause 53.5, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer.

28.1 Patent Rights

Refer to Part I: General Conditions of Contract

28.2 Royalties

Refer to Part I: General Conditions of Contract

29.1 Interference with Traffic and Adjoining Properties

Refer to Part I: General Conditions of Contract

30.1 Avoidance of Damage to Roads

Refer to Part I: General Conditions of Contract

30.2 Transport of Contractor's Equipment or Temporary Works

Refer to Part I: General Conditions of Contract

30.3 Transport of Materials or Plant

Delete the entire text of this Sub-Clause and substitute as follows:

If, notwithstanding Sub-Clause 30.1, any damage occurs to any bridge or road communicating with or on the routes to the Site arising from the transport of materials or Plant, the Contractor shall notify the Engineer with a copy to the Employer, as soon as he becomes aware of such damage or as soon as he receives any claim from the authority entitled to make such claim

The Employer shall not be liable for any costs, charges or an expense in respect of any damage occurs to any bridge or road arising from the transport of Material or Plant by the Contractor. The Contractor shall keep indemnified the Employer against all such claims. The Contractor shall negotiate the settlement of claim with the authority and pay all sums due in respect of all claims, proceedings, damages, costs, charges and expenses.

The Contractor shall notify the Engineer and Employer about the negotiations, in respect of settlement of claim. In case of failure in payment of claimed amount by the Contractor, the Employer shall recover the amount of claim from the Contractor by making deductions from any monies due or to become due to the Contractor and shall notify the Contractor accordingly.

30.4 Waterborne Traffic

Refer to Part I: General Conditions of Contract

30.5 Extraordinary Traffic

Nothing contained above shall excuse the Contractor or any of his Sub-Contractor(s) from complying with state laws regulating traffic on highways and bridges.

31.1 Opportunities for Other Contractors

Refer to Part I: General Conditions of Contract

31.2 Facilities for Other Contractors

Refer to Part I: General Conditions of Contract

The following Sub-Clause 31.3 is added:

31.3 Co-operation with other Contractors

During the execution of the Works, the Contractor shall co-operate fully with other contractors working for the Employer at and in the vicinity of the Site and also shall provide adequate precautionary facilities not to make himself a nuisance to local residents and other contractors.

32.1 Contractor to Keep Site Clear

Refer to Part I: General Conditions of Contract

33.1 Clearance of Site on Completion

Refer to Part I: General Conditions of Contract

34.1 Engagement of Staffs and Labour

Refer to Part I: General Conditions of Contract

34.2 Rates of Wages and Conditions of Labour

The Contractor shall pay rates of wages and observe conditions of labour not less favourable than those established for the trade or industry where the work is carried out. In the absence of any rates of wages or conditions of labour so established, the Contractor shall pay rates of wages and observe conditions of labour which are not less favourable

than the general level of wages and conditions observed by other employers whose general circumstances in the trade or in industry in which the Contractor is engaged are similar.

34.3 Employment of Persons in the Service of Others

The Contractor shall not recruit his staff and labour from amongst the persons in the services of the Employer or the Engineer; except with the prior written consent of the Employer or the Engineer, as the case may be.

34.4 Housing for Labour

Save insofar as the Contract otherwise provides, the Contractor shall provide and maintain such housing accommodation and amenities as he may consider necessary for all his supervisory staff and labour, employed for the purposes or in connection with the contract including all fencing, electricity supply, sanitation, cookhouses, fire prevention, water supply and other requirements in connection with such housing accommodation or amenities. On completion of the contract, the facilities shall be handed over to the Employer or if the Employer so desires, the temporary camps or housing provided by the Contractor shall be removed and the site reinstated to its original condition, all to the approval of the Engineer.

34.5 Health and Safety

Due precautions shall be taken by the Contractor, and at his own cost, to ensure the safety of his staff and labour at all times throughout the period of the Contract. The Contractor shall further ensure that suitable arrangements are made for the prevention of epidemics and for all necessary welfare and hygiene requirements.

34.6 Epidemics

In the event of any outbreak of illness of an epidemics nature, the Contractor shall complete comply with and carry out such regulations, orders and requirements as may be made by the Government, or the local medical or sanitary authorities, for purpose of dealing with and overcoming the same.

34.7 Supply of Water

The Contractor shall, so far as is reasonably practicable, having regard to local conditions, provide on the site, to the satisfaction of the Engineer or his representative, adequate supply of drinking and other water for the use of his staff and labour.

34.8 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Statutes, Ordinances and Government Regulations or Orders for the time being in force, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or suffer any such importation, sale, gift, barter or disposal by his Subcontractors, agents, staff or labour.

34.9 Arms and Ammunition

The Contractor shall not give, or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid. Except to those who are employed or hired for security of the work, plant and equipment, material, Camp Sites, Offices, Housing including Employer's / Engineer's facilities, etc.

34.10 Festivals and Religious Customs

The Contractor shall in all dealings with his staff and labour have due regard to all recognised festivals, days of rest and religious and other customs.

34.11 Disorderly Conduct

The Contractor shall at all times take all reasonable precautions to prevent any unlawful, riotous or disorderly conduct by or amongst staff and labour and for the preservation of peace and protection of persons and property in the neighbourhood of the Works against the same.

34.12 Compliance by Subcontractor

The Contractor shall be responsible for compliance by his Subcontractor of the provisions of this Clause.

34.13 Repatriation of Labour

The Contractor shall be responsible for the return of all persons recruited and employed for this purpose of or in connection with the Contract, and to maintain suitable accommodation and amenities for such persons until they have left the Site.

34.14 Safety Officer

The Contractor shall have on his staff at the site an officer dealing only with questions regarding the safety and protection against accidents for his staff and labour. This officer shall be qualified for this work and shall

have the authority to instructions and shall take protective measures prevent accidents. Adequate number of Site Safety inspectors shall be deployed by the Contractors to assist Accidents prevention officer and ensure safety of works in the hazardous work areas.

34.15 First Aid Facilities

The Contractor shall provide and maintain adequate First Aid Facilities conveniently at the site as per approval of the Engineer.

34.16 Dangerous Materials

The Contractor and his subcontractor shall convey, store and make use of all explosives, dangerous petroleum, acetylene, carbide of calcium and other similar material provided by them for use in or on the Works in strict accordance with the provision of all laws, orders and regulations that are in force at the site or may be issued from time to time by the Government.

34.17 Commercial Activities

The Contractor shall not establish any commercial activity or issue concessions or permits of any kind to third parties for establishing commercial activities on the job site or lands owned or controlled by the Employer. The Contractor shall not allow its employees to engage in any commercial activities on the Site.

34.18 Publication and Photographs

The Contractor shall not make any announcement, take photographs or release any information concerning the Contract or the project or any part thereof to any member of the public, press, business entity or any official body, unless prior written consent of it is obtained from the Employer.

35.1 Returns of Labour and Contractor's Equipment

Refer to Par-I: General Conditions of Contract

The following Sub-Clauses 35.2 and 35.3 are added:

35.2 Records of Safety and Health

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

35.3 Reporting of Accidents

The Contractor shall report to the Engineer details of any accident as soon as possible after its occurrence. In the case of any fatality or serious accident, the Contractor shall, in addition, notify the Engineer immediately by the quickest available means.

36.1 Quality of Materials, Plant and Workmanship

Delete the entire text of this Sub-Clause and substitute as follows:

All materials, Plant and workmanship shall be:

- (a) of the respective kinds described in the Contract and in accordance with the Engineer's instructions, and
- (b) subjected from time to time to such tests as the Engineer may require at the place of manufacture, fabrication or preparation, or on the Site or at such other place or places as may be specified in the Contract, or at all or any of such places.

The Contractor shall provide such assistance, labour, electricity, fuels, stores, apparatus and instruments as are normally required for examining, measuring and testing any materials or Plant and shall supply samples of materials, before incorporation in the Works, for testing as may be selected and required by the Engineer. The place of such tests shall be situated in Pakistan and notified to the Contractor whenever the need arises.

36.2 Cost of Samples

Refer to Par-I: General Conditions of Contract

36.3 Cost of Tests

Refer to Par-I: General Conditions of Contract

36.4 Cost of Tests not Provided for

Refer to Par-I: General Conditions of Contract

36.5 Engineer's Determination where Tests not Provided for

Deleted the entire text of this Sub-Clause and substitute as follows:

Where, pursuant to Sub-Clause 36.4, this Sub-Clause applies the Engineer

shall, after due consultation with the Employer and the Contractor, determine:

- (a) any extension of time of which the Contractor is entitled under Clause 44, and
- (b) the amount of such costs, which shall be added to the Contract Price, and shall notify the Contractor accordingly, with a copy to the Employer.

The following Sub-Clause 36.6 is added:

36.6 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.

37.1 Inspection of Operations

Refer to Par-I: General Conditions of Contract

37.2 Inspection and Testing

Refer to Par-I: General Conditions of Contract

37.3 Dates for Inspection and Testing

Refer to Par-I: General Conditions of Contract

37.4 Rejection

Refer to Par-I: General Conditions of Contract

37.5 Independent Inspection

Refer to Par-I: General Conditions of Contract

38.1 Examination of Work before Covering up

Refer to Par-I: General Conditions of Contract

38.2 Uncovering and Making Openings

Refer to Par-I: General Conditions of Contract

39.1 Removal of Improper Work, Materials or Plant

Refer to Par-I: General Conditions of Contract

39.2 Default of Contractor in Compliance

Refer to Par-I: General Conditions of Contract

40.1 Suspension of Work

Refer to Par-I: General Conditions of Contract

40.2 Engineer's Determination following Suspension

Delete the entire text of this Sub-Clause and substitute as follows:

Where, pursuant to Sub-Clause 40.1 this Sub-Clause applies the Engineer shall, after due consultation with the Employer and the Contractor, determine:

- (a). any extension of time to which the Contractor is entitled under Clause 44, and / or
- (b). the amount of such costs, determined under sub clause 53.5, which shall be added to the Contract price and shall notified the Contractor accordingly, with a copy to the Employer.

40.3 Suspension lasting more than 84 Days

Refer to Par-I: General Conditions of Contract

41.1 Commencement of Works

The text is deleted and substituted with the following:

The Contractor shall commence the Works on site within the period named in appendix "A" Bid from the date of receipt by him from Engineer of a written notice to commence. Thereafter, the Contractor shall proceed with the Works with due expedition and without delay.

42.1 Possession of Site and Access Thereto

Refer to Par-I: General Conditions of Contract

42.2 Failure to Give Possession

Refer to Par-I: General Conditions of Contract

42.3 Rights of Way and Facilities

Refer to Par-I: General Conditions of Contract

43.1 Time for Completion

Delete the entire text of this Sub-Clause and substitute as follows:

The whole of the Works and, if applicable, any Section required to be completed within a particular time as stated in the Appendix "A" to Bid, shall be completed, in accordance with the provisions of Clause 48, within the time stated in the Appendix "A" to Bid for the whole of the Works, calculated from the Commencement Date, or such extended time as may be allowed under Clause 44.

44.1 Extension of Time for Completion

Delete the entire text of this Sub-Clause and substitute as follows:

In the event of:

- (a) the amount or nature of extra or additional work,
- (b) any cause of delay referred to in these Conditions,
- (c) exceptionally adverse climatic conditions,
- (d) any delay, impediment or prevention by the Employer, or
- (e) other special circumstances which may occur, other than through a default of or breach of contract by the Contractor or for which he is responsible,

being such as fairly to entitle the Contractor to an extension of the Time for Completion of the Works, or any Section or part thereof, the Engineer shall, after due consultation with the Employer and the Contractor, determine the amount of such extension and shall notify the Contractor accordingly, with a copy to the Employer. For the avoidance of doubt, it is clarified that the special circumstances referred to in this Sub-Clause 44.1(e) shall not include any occurrence in any part of the country where the works are located or to be performed which gives rise to

generalize security, safety or other concern to the Contractor or his Subcontractor or to the their employees.

44.2 Contractor to Provide Notification and Detailed Particulars

Refer to Par-I: General Conditions of Contract

44.3 Interim Determination of Extension

Refer to Par-I: General Conditions of Contract

45.1 Restriction on Working Hours

Refer to Par-I: General Conditions of Contract

46.1 Rate of Progress

Refer to Par-I: General Conditions of Contract

47.1 Liquidated Damages for Delay

Delete the entire text of this Sub-Clause and substitute as follows:

If the Contractor fails to comply with the Time for Completion in accordance with Clause 48, for the whole of the Works or, if applicable, any Section within the relevant time prescribed by Clause 43, then the Contractor shall pay to the Employer the relevant sum stated in the Appendix to Tender as liquidated damages for such default and not as a penalty (which sum shall be the only monies due from the Contractor for such default) for every day or part of a day which shall elapse between the relevant Time for Completion and the date stated in a Taking-Over Certificate of the whole of the Works or the relevant Section, subject to the applicable limit stated in the Appendix to Tender. The Employer may, without prejudice to any other method of recovery, deduct the amount of such damages from any monies due or to become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works, or from any other of his obligations and liabilities under the Contract.

In addition to the Liquidated damages the Contractor shall borne all the cost / expenses related to the supervision of the works by the project consultant covering salaries of the Engineer and all of his site supervision staff including all the benefits, providing, running and maintenance of all the Engineer's Facilities up to the issuance of the Taking Over Certificate by the Employer. All the above cost / expense will not be reimbursed / paid to the Contractor beyond the approved completion period of the works.

47.2 Reduction of Liquidated Damages

Refer to Par-I: General Conditions of Contract

47.3 Bonus for Early Completion of Works

This Sub-Clause is deleted in its entirety.

48.1 Taking-Over Certificate

Refer to Par-I: General Conditions of Contract

48.2 Taking Over of Sections or Parts

Delete the entire text of this Sub - Clause and substitute as follow:

Similarly, in accordance with the procedure set out in Sub-Clause 48.1, the Contractor may request and the Engineer after obtaining approval of the Employer shall issue a Taking-Over Certificate in respect of:

- (a) any Section in respect of which a separate Time for Completion is provided in the Appendix "A" to Bid. Special Stipulation"
- (b) any substantial part of the Permanent Works which has been both completed to the satisfaction of the Engineer and, otherwise than as provided for in the Contract, occupied or used by the Employer, or
- (c) any part of the Permanent Works which the Employer has elected to occupy or use prior to completion (where such prior occupation or use is not provided for in the Contract or has not been agreed by the Contractor as a temporary measure).

48.3 Substantial Completion of Parts

Refer to Par-I: General Conditions of Contract

48.4 Surfaces Requiring Reinstatement

Refer to Par-I: General Conditions of Contract

49.1 Defects Liability Period

Refer to Par-I: General Conditions of Contract

49.2 Completion of Outstanding Work and Remedying Defects

Refer to Par-I: General Conditions of Contract

49.3 Cost of Remedying Defects

Refer to Par-I: General Conditions of Contract

49.4 Contractor's Failure to Carry Out Instructions

Refer to Par-I: General Conditions of Contract

50.1 Contractor to Search

Refer to Par-I: General Conditions of Contract

51.1 Variations

Refer to Par-I: General Conditions of Contract

51.2 Instructions for Variations

Delete the entire text of this Sub - Clause and substitute as follow:

The Contractor shall not make any such variation without an instruction of the Engineer. Provided that no instruction shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an instruction given under this Clause, but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities.

52.1 Valuation of Variations

Delete the entire text of this Sub - Clause and substitute as follow:

All variations referred to in Clause 51 and any additions to the Contract Price which are required to be determined in accordance with Clause 52 (for the purposes of this Clause referred to as "varied work"), shall be valued at the rates and prices set out in the Contract if, in the opinion of the Engineer, the same shall be applicable. If the Contract does not contain any rates or prices applicable to the varied work, the rates and prices in the Contract shall be used as the basis for valuation so far as may be reasonable, failing which, after due consultation by the Engineer with the Employer and the Contractor, suitable rates or prices shall be agreed upon between the Engineer and the Contractor. In the event of disagreement the Engineer shall within a period not exceeding one-eighth of the completion time subject to a minimum of 56 days from the date of disagreement whichever is later, fix such rates or prices as are, in his opinion, appropriate and shall notify the Contractor accordingly, with a copy to the Employer. Until such time as rates or prices are agreed or

fixed, the Engineer shall determine provisional rates or prices to enable on-account payments to be included in certificates issued in accordance with Clause 60.

52.2 Power of Engineer to Fix Rates

Refer to Par-I: General Conditions of Contract

52.3 Variations Exceeding 15 per cent

Refer to Par-I: General Conditions of Contract

52.4 Daywork

Refer to Par-I: General Conditions of Contract

53.1 Notice of Claims

Refer to Par-I: General Conditions of Contract

53.2 Contemporary Records

Refer to Par-I: General Conditions of Contract

53.3 Substantiation of Claims

Refer to Par-I: General Conditions of Contract

53.4 Failure to Comply

This Sub-Clause is deleted in its entirety.

53.5 Payment of Claims

Refer to Par-I: General Conditions of Contract

**54.1 Contractor's Equipment, Temporary Works and Materials;
Exclusive Use for the Works**

Delete the entire text of this Sub - Clause and substitute as follow:

All Contractor's Equipment, Temporary Works and materials provided by the Contractor shall, when brought on to the Site, be deemed to be exclusively intended for the execution of the Works and the Contractor shall not remove the same or any part thereof, except for the purpose of moving it from one part of the Site to another, without the consent of the Engineer. Provided that consent shall not be required for vehicles

engaged in transporting any staff, labour, Contractor's Equipment, Temporary Works, Plant or materials to or from the Site.

The Contractor shall forward to the Engineer at the end of each month returns, showing the Construction Plant, Materials, etc., on site in a form prescribed by the Engineer.

54.2 Employer not Liable for Damage

Refer to Par-I: General Conditions of Contract

54.3 Customs Clearance

Refer to Par-I: General Conditions of Contract

54.4 Re-export of Contractor's Equipment

Refer to Par-I: General Conditions of Contract

54.5 Conditions of Hire of Contractor's Equipment

Delete the entire text of this Sub - Clause and substitute as follow:

With a view to securing, in the event of termination under Clause 63, the continued availability, for the purpose of executing the Works, of any hired Contractor's Equipment, the Contractor shall not bring on to the Site any hired Contractor's Equipment unless there is an agreement for hire thereof (which agreement shall be deemed not to include an agreement for hire purchase) which contains a provision that the owner thereof will, on request in writing made by the Employer within 7 days after the date on which any termination has become effective, and on the Employer undertaking to pay all hire charges in respect thereof from such date, hire such Contractor's Equipment to the Employer on the same terms in all respect as the same was hired to the Contractor save that the Employer shall be entitled to permit the use thereof by any other contractor employed by him for the purpose of execution and completing the Works and remedying any defects therein, under the terms of the said Clause 63.

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

54.6 Costs for the Purpose of Clause 63

Refer to Par-I: General Conditions of Contract

54.7 Incorporation of Clause in Subcontracts

Refer to Par-I: General Conditions of Contract

54.8 Approval of Materials not Implied

Refer to Par-I: General Conditions of Contract

55.1 Quantities

Refer to Par-I: General Conditions of Contract

56.1 Works to be Measured

Refer to Par-I: General Conditions of Contract

57.1 Method of Measurement

Refer to Par-I: General Conditions of Contract

57.2 Breakdown of Lump Sum Items

Refer to Par-I: General Conditions of Contract

58.1 Definition of "Provisional Sum"

Refer to Par-I: General Conditions of Contract

58.2 Use of Provisional Sums

Refer to Par-I: General Conditions of Contract

58.3 Production of Vouchers

Refer to Par-I: General Conditions of Contract

59.1 Definition of "Nominated Subcontractors"

Refer to Par-I: General Conditions of Contract

59.2 Nominated Subcontractors; Objection to Nomination

Refer to Par-I: General Conditions of Contract

59.3 Design Requirements to be Expressly Stated

Refer to Par-I: General Conditions of Contract
The following Sub-Clauses 59.4 & 59.5 are added:

59.4 Payments to Nominated Subcontractors

The Contractor shall pay to the nominated Subcontractor the amounts which the Engineer certifies to be due in accordance with the subcontract. These amounts plus other charges shall be included in the Contract Price in accordance with Clause 58 [Provisional Sums], except as stated in Sub-Clause 59.5 [Certification of Payments].

59.5 Certification of Payments & Nominated Subcontractors

Before issuing a Payment Certificate which includes an amount payable to a nominated Subcontractor, the Engineer may request the Contractor to supply reasonable evidence that the nominated Subcontractor has received all amounts due in accordance with previous Payment Certificates, less applicable deductions for retention or otherwise. Unless the Contractor:

- a) submits reasonable evidence to the Engineer, or
- b)
 - i) satisfies the Engineer in writing that the Contractor is reasonably entitled to withhold or refuse to pay these amounts, and
 - ii) submits to the Engineer reasonable evidence that the nominated Subcontractor has been notified of the Contractor's entitlement,

then the Employer may (at his sole discretion) pay direct to the nominated Subcontractor, part or all of such amounts previously certified (less applicable deductions) as are due to the nominated Subcontractor and for which the Contractor has failed to submit the evidence described in sub-paragraphs (a) or (b) above. The Contractor shall then repay, to the Employer, the amount which the nominated Subcontractor was directly paid by the Employer.

60.1 Monthly Statements

Delete the entire text of this Sub - Clause and substitute as follow:

The Contractor shall on the basis of the joint measurements of work done under clause 56.1, submit to the Engineer after the end of each month six

copies, each signed by the Contractor's representative approved by the Engineer in accordance with the Sub-Clause 15.1, of a statement, in such form as the Engineer may from time to time prescribe, showing the amounts to which the Contractor considers himself to be entitled up to the end of the month in respect of:

- (a) the value of the Permanent Works executed,
- (b) any other items in the Bill of Quantities including those for Contractor's Equipment, Temporary Works, dayworks and the like,
- (c) the percentage of the invoice value of listed materials, all as stated in Sub-Clause 60.11(a)(6) hereof, and Plant delivered by the Contractor on the Site for incorporation in the Permanent Works but not incorporated in such Works,
- (d) any other sum to which Contractor may be entitled under the Contract or otherwise:

60.2 Monthly Payments

Refer to Par-I: General Conditions of Contract

60.3 Payment of Retention Money

Refer to Par-I: General Conditions of Contract

60.4 Correction of Certificates

Refer to Par-I: General Conditions of Contract

60.5 Statement at Completion

Refer to Par-I: General Conditions of Contract

60.6 Final Statement

Refer to Par-I: General Conditions of Contract

60.7 Discharge

Refer to Par-I: General Conditions of Contract

60.8 Final Payment Certificate

Delete the entire text of this Sub - Clause and substitute as follow:

Within 28 days after receipt of the Final Statement, and the written discharge, the Engineer shall issue to the Employer (with a copy to the Contractor) a Final Payment Certificate stating:

- (a) the amount which, in the opinion of the Engineer, is finally due under the Contract or otherwise, and
- (b) after giving credit to the Employer for all amounts previously paid by the Employer and for all sums to which the Employer is entitled, the balance, if, any due from the Employer to the Contractor or from the Contractor to the Employer as the case may be.
The Contractor shall also submit the following documents with his final statement to the Engineer.

- (a). approved final as-built drawings.

- (b). Affidavit by the Contractor that the works have been executed according to approved specification, drawings, designs and standard and have not concealed and defects known to him together with a "No Claim Certificate"

60.9 Cessation of Employer's Liability

Refer to Par-I: General Conditions of Contract

60.10 Time for Payment

The text is deleted and substitute with the follows:

The amount due to the Contractor under any Interim Payment Certificate issued by the Engineer pursuant to this Clause, or to any other term of the Contract, shall, subject to Clause 47, be paid by the Employer to the Contractor within 30 days after such Interim Payment Certificate has been jointly verified by Employer and Contractor, or, in the case of the Final Certificate referred to in Sub-Clause 60.8, within 60 days, after such Final Payment Certificate has been jointly has been jointly verified by Employer or Contractor.

All payments to the Contractor shall be made in Pakistani Rupees only under the Contract and no payment in foreign currency is admissible.

The following Sub-Clause 60.11is added:

60.11 Secured Advance on Materials

The Contractor shall be entitled to receive from the Employer Secured

Advance on Steel Reinforcements and Cement against an indemnity bond acceptable to the Employer of such sum as the Engineer may consider proper in respect of non-perishable materials brought at the Site but not yet incorporated in the Permanent Works provided that:

- (1) The materials are in accordance with the Specifications for the Permanent Works;
- (2) Such materials have been delivered to the Site and are properly stored and protected against loss or damage or deterioration to the satisfaction of the Engineer but at the risk and cost of the Contractor;
- (3) 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;
- (4) 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 therefor;
- (5) Ownership of such materials shall be deemed to vest in the Employer and these materials shall not be removed from the Site or otherwise disposed of without written permission of the Employer; and
- (6) The sum payable for such materials on Site shall not exceed 60% 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 other materials.
 - (b) The recovery of Secured Advance paid to the Contractor under the above provisions shall be effected from the monthly payments on actual consumption basis.

60.11 Financial Assistance to Contractor

Financial assistance shall be made available to the Contractor by the Employer by adopting the following.

- (a) An interest-free Mobilization Advance up to 10% of the Contract Price stated in the Letter of Acceptance shall be paid by the Employer to the Contractor in two equal parts upon submission by the Contractor of a Mobilization Advance Guarantee/Bond for the full amount of the Advance in the specified form from a Scheduled Bank in Pakistan.

- (1) First part within 14 days after signing of the Contract Agreement or date of receipt of Engineer's Notice to Commence, whichever is earlier; and
 - (2) Second part within 42 days from the date of payment of the first part, subject to the satisfaction of the Engineer as to the state of mobilization of the Contractor.
- (b). This Advance shall be recovered in equal monthly instalments; first instalment at the expiry of second month after the date of payment of first part of Advance and the last instalment one months before the date of completion of the Works as per Clause 43 hereof.

61.1 Approval only by Defects Liability Certificate

Refer to Par-I: General Conditions of Contract

62.1 Defects Liability Certificate

Refer to Par-I: General Conditions of Contract

62.2 Unfulfilled Obligations

Refer to Par-I: General Conditions of Contract

63.1 Default of Contractor

Delete the entire text of this Sub-Clause and substitute as follows:

If the Contractor is deemed by law unable to pay his debts as they fall due, or enters into voluntary or involuntary bankruptcy, liquidation or dissolution (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), or becomes insolvent, or makes an arrangement with, or assignment in favour of, his creditors, or agrees to carry out the Contract under a committee of inspection of his creditors, or if a receiver, administrator, trustee or liquidator is appointed over any substantial part of his assets, or if, under any law or regulation relating to reorganization, arrangement or readjustment of debts, proceedings are commenced against the Contractor or resolutions passed in connection with dissolution or liquidation or if any steps are taken to enforce any security interest over a substantial part of the assets of the Contractor, or if any act is done or event occurs with respect to the Contractor or his assets which, under any applicable law has a substantially similar effect to any of the foregoing acts or events, or if the Contractor has contravened Sub-Clause 3.1, or has an execution levied on his goods, or Contract, if the Engineer certifies to the Employer, with a copy to the Contractor, that, in his opinion, the Contractor:

- (a) has repudiated the Contract, or
- (b) without reasonable excuse has failed
 - (i) to commence the Works in accordance with Sub-Clause 41.1,
 - (ii) to proceed with the Works, or any Section thereof, within 28 days after receiving notice pursuant to Sub-Clause 46.1,
- (c) has failed to comply with a notice issued pursuant to Sub-Clause 37.4 or an instruction issued pursuant to Sub-Clause 39.1 within 28 days after having received it
- (d) despite previous warning from the Engineer, in writing, is otherwise persistently or flagrantly neglecting to comply with any of his obligations under the Contract, or
- (e) has contravened Sub-Clause 4.1, then the Employer may, after giving 14 days' notice to the Contractor, enter upon the Site and the Works and terminate the employment of the Contractor without thereby releasing the Contractor from any of his obligations or liabilities under the Contract, or affecting the rights and authorities conferred on the Employer or the Engineer by the Contract, and may himself complete the Works or may employ any other contractor to complete the Works. The Employer or such other contractor may use for such completion so much of the Contractor's Equipment, Temporary Works and materials as he or they may think proper.

Provided further that in addition to the action taking by the Employer against the Contractor this Clause, the Employer 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.

63.2 Valuation at Date of Termination

Refer to Par-I: General Conditions of Contract

63.3 Payment after Termination

Refer to Par-I: General Conditions of Contract

63.4 Assignment of Benefit of Agreement

Refer to Par-I: General Conditions of Contract and add the following paragraph.

The Contractor should quote the rates for items of similar nomenclature and specifications as appearing in Bill of Quantities attached in Tender Documents. In case of any diversity of rates, the lowest of all the rates shall be taken for evaluation and payments. Any departure from above may also render the bid invalid.

64.1 Urgent Remedial Work

Refer to Par-I: General Conditions of Contract

65.1 No Liability for Special Risks

Refer to Par-I: General Conditions of Contract

65.2 Special Risks

The text is deleted and substituted with the following:

The special Risks are the risks defined under Sub-Clause 20.4 Sub Paragraphs (a) (i) to (a) (v).

65.3 Damage to Works by Special Risks

Refer to Par-I: General Conditions of Contract

65.4 Projectile, Missile

Refer to Par-I: General Conditions of Contract

65.5 Increased Costs arising from Special Risks

Refer to Par-I: General Conditions of Contract

65.6 Outbreak of War

Refer to Par-I: General Conditions of Contract

65.7 Removal of Contractor's Equipment on Termination

Refer to Par-I: General Conditions of Contract

65.8 Payment if Contract Terminated

Refer to Par-I: General Conditions of Contract

66.1 Payment in Event of Release from Performance

Refer to Par-I: General Conditions of Contract

67.1 Engineer's Decision

Refer to Par-I: General Conditions of Contract

67.2 Amicable Settlement

Refer to Par-I: General Conditions of Contract

67.3 Arbitration

Delete the entire text of this Sub-Clause and substitute as follows:

Any dispute in respect of which:

- (a) the decision, if any, of the Engineer has not become final and binding pursuant to Sub-Clause 67.1, and
- (b) amicable settlement has not been reached within the period stated in Sub-Clause 67.2,

shall be finally settled under the provision of the arbitration at, 1940 as amended or any statutory modifications or re-enactment, thereof for the time being in force. The said arbitrator/s shall have full power to open up, review and revise any decisions, opinion, instructions, determination, certificate or valuation of the Engineer related to the dispute.

Neither party shall be limited in the proceedings before such arbitrators to the evidence nor arguments put before the Engineer for the purpose of obtaining his said decisions pursuant to Sub-Clause 67.1. No such decision shall disqualify the Engineer from being called as a witness and giving evidence before the arbitrator/s on any matter whatsoever relevant to the dispute.

Arbitration may be commenced prior to or after completion of the Works, provided that the obligations of the Employer, the Engineer and the Contractor shall not be altered by reason of the arbitration being conducted during the progress of the Works.

The Place of arbitration shall be Karachi, Pakistan.

67.4 Failure to Comply with Engineer's Decision

Refer to Par-I: General Conditions of Contract

68.1 **Notice to Contractor**

Delete the entire text of this Sub-Clause and substitute as follows:

All certificates, notices or instructions to be given to the Contractor by the Employer or the Engineer under the terms of the Contract shall be sent by post, cable, telex or facsimile transmission to or left at the Contractor's principal place of business or such other address as the Contractor shall nominate for that purpose.

For the purposes of this Sub-Clause, the Contractor shall, immediately after receipt of Letter of Acceptance, intimate in writing to the Employer and the Engineer by registered post, the address of his principal place of business or any change in such address during the period of the Contract.

68.2 **Notice to Employer and Engineer**

Delete the entire text of this Sub-Clause and substitute as follows:

Any notice to be given to the Employer or to the Engineer under the terms of the Contract shall be sent by post, cable, telex or facsimile transmission to or left at the respective addresses nominated below.

The Employer:

**NED University of Engineering & Technology, University Road,
Karachi – 75270,**

Phone: (92-21) 9926-1261-8

Fax No: (92-21) 9926-1255

The Engineer:

M/s. Shahzad Associates

Consulting Architects, Engineers & Planners

2nd Floor, Farzana Building,

Shaheed-e-Millat Road, Karachi.

Tel: 021-3438-4591, 3438-8857,

Fax: 021-3453-0754

68.3 **Change of Address**

Refer to Par-I: General Conditions of Contract

69.1 **Default of Employer**

Refer to Par-I: General Conditions of Contract

69.2 Removal of Contractor's Equipment

Refer to Par-I: General Conditions of Contract

69.3 Payment on Termination

Refer to Par-I: General Conditions of Contract

69.4 Contractor's Entitlement to Suspend Work

Refer to Par-I: General Conditions of Contract

69.5 Resumption of Work

Refer to Par-I: General Conditions of Contract

70.1 Increase or Decrease of Cost

Delete the entire text of this Sub-Clause and substitute as follows:

The amounts payable to the Contractor, pursuant to Sub-Clause 60.1, shall be adjusted in respect of the rise or fall in the cost of labor, 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:-

$$P_n = A + b \frac{L_n}{L_o} + c \frac{C_n}{C_o} + d \frac{R_n}{R_o} + e \frac{H_n}{H_o}$$

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 Paragraph 60.1 (a), and with Paragraphs 60.1 (b) and (e), where any variations and daywork are not otherwise subject to adjustment;

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

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

Ln, Cn, Rn, Hn, are the current cost indices or reference prices of the cost elements for month "n", determined pursuant to Sub-Clause 70.1(d), applicable to each cost element; and

Lo, Co, Ro, and Ho, etc are the base cost indices or reference prices corresponding to the above cost elements at the date specified in Sub-Clause 70.1(d).

If 'P' is the amount payable (prior to adjustment) at B.O.Q rates for the work carried out in period 'n' than adjusted amount payable to the Contractors for work carried out in period 'n' = P X Pn.

(c) Sources of Reference Prices

The sources of reference prices shall be as under:

For Cement and Reinforcing Steel, intercity Prices of Construction input items, as stated in the Monthly Statistical Bulletin published by Federal Bureau of Statistics Division; Government of Pakistan shall be used as follows:

For ordinary Portland and Sulphate Resistant Cement, the rate of ordinary Portland cement (referred as "cement" in the said Bulletin) per bag shall be used.

For reinforcing steel bars (referred as "iron bars ½" round M.S" in the said Bulletin) per tonne shall be used. The (Karachi city) rates shall be applicable for the above items.

(d) Base, Current and Provisional Reference Prices

The base prices shall be those prevailing on the day twenty eight (28) days prior to the latest date for submission of tender. Current reference prices shall be those prevailing on 28 days prior to the last

day of the period to which a particular Interim Certificate is related. If at any time, the current reference prices are not available, provisional reference price as determined by the Engineer will be used, subject to subsequent correction of amount paid to the Contractor when the current reference prices become available.

(e) Adjustment after Completion

If the Contractor fails to complete the Works within the Time for Completion prescribed under Clause 43, 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 Clause 44, 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 51. Such adjustment(s) shall have to be agreed in the variation order.

70.2 Subsequent Legislation

Refer to Par-I: General Conditions of Contract

71.1 Currency Restrictions

Refer to Par-I: General Conditions of Contract

72.1 Rates of Exchange

Refer to Par-I: General Conditions of Contract

72.2 Currency Proportions

Refer to Par-I: General Conditions of Contract

72.3 Currencies of Payment for Provisional Sums

Delete the sub-clause in its entirety

The following Sub-Clauses 73.1, 73.2, 73.3, 74.1, 75.1, 76.1, and 77.1 are added.

73.1(a) Payment of Income Tax

The Contractor, Subcontractor and their employees shall be responsible for payment of all their income tax, super tax and other taxes

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applicable under the laws of Pakistan, as amended from time to time, on income, or any loss of income, arising out of the Contract and the rates and prices stated in the Contract shall be deemed to cover all such taxes.

The Employer shall apply source deduction of Taxes (with holding) at the applicable rate during currency of the contract for all the amounts payable in terms of the Contract as per Income Tax Laws of Pakistan under the above clause.

73.1(b) Payment of Local Tax

The prices bid by the Contractor shall include all customs duties, import duties, sales tax, octroi and other taxes that may be levied in accordance with the laws and regulations in force on the date 28 days prior to the latest date for submission of bids in Pakistan on the Contractor's equipment, plant, materials and supplies (permanent, temporary and consumable) acquired for the purpose of the Contract and on the services performed under the Contract. Nothing in the Contract shall relieve the Contractor from his responsibility to pay any tax that may be levied in Pakistan in relation to execution of the Contract.

73.1(c) Foreign Taxation

The Prices bid by the Contractor shall include all taxes, duties and other charges imposed outside the Employer's country on the production, manufacture, sale and transport of the Contractor's Equipment, Plant, Materials and supplies to be used on or furnished under the Contract, and on the services performed under the Contract.

73.2 (a) Custom Duty & Taxes

The rates and prices stated in the Priced Bill of Quantities shall be deemed to include every element of duty or tax leviable on or in relation to the production, import, purchase, sale, delivery and transportation of materials and to the bringing thereof to the Site and no such duty or tax shall be separately reimbursable.

73.3(b) Custom Clearance

It is the responsibility of the Contractor to make all arrangements and payments necessary for obtaining customs clearances of all materials, goods and equipment. The Employer shall not assume any responsibility in respect of the aforementioned obligations of the Contractor, except as otherwise provided in the Contract.

74.1 Integrity Pact

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 Employer 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 Employer 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 63.1 to 63.4 and the payment under Sub-Clause 63.3 shall be made after having deducted the amounts due to the Employer under Sub-Para (a) and (c) of this Sub-Clause.

75.1 Termination of Contract for Employer's Convenience

The Employer shall be entitled to terminate the Contract at any time for the Employer's convenience after giving 56 days prior notice to the Contractor, with a copy to the Engineer. In the event of such termination, the Contractor:

- (a) shall proceed as provided in Sub-Clause 65.7 hereof; and
- (b) shall be paid by the Employer as provided in Sub-Clause 65.8 hereof.

76.1 Liability of Contractor

The Contractor or his Subcontractors or assigns shall follow strictly, all relevant labour laws including the Workmen's Compensation Act and the Employer shall be fully indemnified for all claims, damages etc. arising out of any dispute between the Contractor, his Subcontractors or assigns and the labour employed by them.

77.1 Joint and Several Liability

If the Contractor is a joint venture of two or more persons, all such persons shall be jointly and severally bound to the Employer for the fulfilment of the terms of the Contract and shall designate one of such persons to act as leader with authority to bind the joint venture. The composition or the constitution of the joint venture shall not be altered without the prior consent of the Employer.

78.1 Details to be Confidential

The Contractor shall treat the details of the Contract as private and confidential, save in so far as may be necessary for the purposes thereof, and shall not publish or disclose the same or any particulars thereof in any trade or technical paper or elsewhere without the prior consent in writing of the Employer or the Engineer. If any dispute arises as to the necessity of any publication or disclosure for the purpose of the Contract, the same shall be referred to the decision of the Engineer whose award shall be final.

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PART A- SPECIAL PROVISIONS

1. GENERAL

These Special Provisions shall be used as supplementary and in conjunction with other Contract Documents and shall be deemed to be incorporated and become part of the Contract Documents. In case any provision is at variance with any of Special Provisions the Special shall prevail.

All works shall be carried out in accordance with following provisions, supplemented by detailed technical specifications. Any inconsistencies or ambiguities shall be brought to the notice of the Engineer for his clarification/decision. Decision and direction of the Engineer, in all such cases, shall be final and binding.

The Contractor shall make himself thoroughly familiar with the site conditions, foresee any and all problems likely to encountered during execution of the works, and shall be able and ready to solve them effectively. Proposals for solutions to the problems shall be submitted to the Engineer for approval before proceeding with the work.

2. APPLICABLE CODES AND STANDARDS

In the absence of other standards being required by the Contract Documents all work and materials shall meet the requirement of the Uniform Building Code of the United States, and/or applicable American Society for Testing Material (ASTM) American Association of State Highway and Transportation Officials (AASHTO) Specifications and the latest American Concrete Institute Manual of Concrete Practice and American Institute of Steel Construction (AISC) Manual Relevant to the Works except in cases where the Pakistan Building Code requires a higher standard. In such cases the Pakistani Code shall govern. Where the abbreviations listed below are used it refers to the latest code, standards, or publication of the following organizations:

AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AISC	American Institute of Steel Construction
ANSI	American National Standards Institute
ASA	American Standard Association
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing and Material
AWS	American Welding Society
BSI	British Standard Institutes

ICAO	International Civil Aviation Organization
BSICP	British Standard Institute Code of Practice
PCA	Portland Cement Association
PSI	Pakistan Standard Institute
UBC	Uniform Building Code

Should the Contractor, at any time and for any specific reasons wish to deviate from the above standards or desires to use material or equipment other than those provided for by the above standards, then he shall state the exact nature of the change giving the reasons for making the change and shall submit complete specifications of the materials and description of the equipment for the Engineer's approval, whose decisions shall be conclusive and binding upon the Contractor.

3. **CODES, STANDARDS, CERTIFICATES**

The Contractor shall supply and have at his site office:

Copies of all latest editions of codes and standards referred to in these Specifications by number or equivalent codes and standards approved by the Engineer.

Catalogues and published recommendations from manufacturers supplying products and material for the project.

The contractor shall provide manufacturer's or supplier's certificate to the Engineer for all products and materials which must meet the requirements of specific code or standard as stated in these specifications.

4. **MANUFACTURER'S RECOMMENDATIONS**

Installation of manufactured items shall be in accordance with procedures recommended by the manufacturer or as approved by the Engineer.

5. **SEQUENCE OF CONSTRUCTION**

The Contractor shall submit his proposal for approval of the Engineer the sequence of construction, prior to starting the Works. The Work shall be executed as per approved sequence of construction.

6. **UNITS OF MEASUREMENTS**

The International System of Unit (SI) shall be used throughout this Project.

7. PLANT, EQUIPMENT AND TOOLS

The Contractor shall provide at his cost modern plant, equipment, machinery and tools, adequate and befitting to the nature, magnitude and size of this Contract, in strict compliance with the requirements of relevant Clause of the Conditions of Contract. The Contractor shall own, provide and install at site of work earth excavating and moving equipment such as excavator, graders, dozers, rollers, dump trucks, pipe laying equipments, concrete mixers, pavers, asphalt plant etc. for rapid laying of pipes, placing of good quality concrete and construction of road works.

8. CONSTRUCTION AREA

The Contractor shall confine his operations to the areas that are actually required for the Works. Arrangements for haulage of materials are to be made by the Contractor at his cost.

9. STORAGE & HANDLING FACILITIES

The employer will provide the Contractor possible space within or nearby the area site of Works for the storage of materials, equipment, workshop and for Contractor's temporary office, laboratory during the currency of the Contract. On no account shall such temporary installations conflict/interfere with any of the permanent installations, service and any operational function of Employer. The handling and storage of all plants equipments and material at site shall be the sole responsibility of the Contractor and at no risk and cost to the Employer. If the contractor wishes to use any other land/area for camps he shall pay rentals or others costs connected therewith.

10. TEST LABORATORY AND TESTING

- 10.1 The Contractor shall establish and maintain at the project site at his own material testing laboratory for performing the necessary tests specified in the Contract. Testing for which facilities are not available in the Contractor's Project Laboratory shall be performed by testing agencies / laboratories as approved by the Engineer. The Contractor shall furnish sample of all materials, provide laboratory technicians, helpers for his and the Engineer's supervision staff. All testing shall be carried out by the Contractor under the supervision of the Engineer or his designated representatives. All costs for establishing and maintaining site laboratory, providing samples, technicians/helpers, testing/reports shall borne by the Contractor.

- 10.2 The quality control testing shall be performed by the Contractor's competent personnel under supervision of the Engineer's Staff in accordance with site testing and quality control program to be established by the Contractor and approved by the Engineer or his Representative. The contractor shall keep a complete record of all quality tests performed and submit the same to the Engineer. All quality control and related tests shall be carried out in accordance with applicable standards and codes.

11. CONSTRUCTION AND CHECKING AT SITE

The bidders shall provide with their bid a list of the main Construction equipment they would propose to use on site.

The Contractor shall submit to the Engineer in due time for approval and discussion, his proposals and plans as to the method and procedure to be adopted for the execution of Works.

The submitting of these suggestions and arrangements and the approval thereof by the Engineers shall not relieve the Contractor of his responsibilities and duties under the Contract.

The carrying out of all work included in the Contract is to be supervised by a sufficient number of qualified representative of the Contractor and full facilities and assistance are to be afforded by the Contractor for the Engineer and his supervision staff to check and examine the execution of the Works.

The Engineer reserves the right to inspect all parts of the works but may at his discretion waive inspection on certain items. This shall in no way absolve the Contractor from his responsibilities. This particularly applies to the checking of materials, leveling, setting and aligning of the various parts and of road work and to the proper fitting and adjustment of manufactured and finished material and fixtures in position.

If the Engineer or his Representative sees that the work progress is slow in such a way that the works or part thereof will not be completed in accordance with the approved work program, then he may order the Contractor to work overtime or in shifts and the Contractor shall comply. All financial implication for these arrangements will be borne by the Contractor and at no additional costs to the Employer.

In the event of night work, the Contractor shall provide sufficient and adequate lighting to the satisfaction of the Engineer or his Representative and shall supply the necessary manpower for satisfactory continuation of the work after normal hours.

12. BAR BENDING SCHEDULE

The Contractor shall provide 6 copies including reproducible copy of Bar Bending Schedule for all the steel and reinforcement shown on the drawings before execution of structural elements on site and also at the time of interim payments in proper documented format and submit for approval to the Engineer.

13. DRAWINGS

13.1 **Tender Drawings:** The drawings listed and provided in the Bidding Documents are referred to as Tender Drawings and these show the scope of work to be performed by the Contractor. Tender Drawings shall not be used as a basis for fabrication or construction but may be used as basis for placing preliminary order for materials. Subject to corrections based on the future issue of drawings as provided under sub-clause 13.2.

13.2 **Drawing issued for Construction:** After Award of contract, Tender Drawings shall be replaced by Drawings issued for construction including supplementary specifications as may be necessary. Drawings issued for Construction may include some of the Tender Drawings with or without modification and additional drawings as required to express design intent in greater detail. Such drawings may also be modified from time to time. Drawings issued for construction will be the drawings from which shops, fabrication, erection, installation, concrete placing, formwork or other construction detail drawings shall be prepared by the Contractor. The work shall be executed in conformity with drawings issued for construction.

13.3 **Study of Drawings:** The Contractor shall study all drawings issued for construction carefully as soon as practicable after receipt thereof, and any errors discovered shall promptly be brought to the knowledge of the Engineer for his instructions.

13.4 Drawings to be Furnished by the Contractor:**(a). Shop Drawings:**

All shop drawings shall be prepared by the Contractor and submitted to the Engineer required for the work including all kinds of fabrications, field erection, installation, placement and layout drawings shall be furnished by the Contractor for approval of the Engineer. If additional detail drawings are necessary to complete any part of the work, such details shall be incorporated. Drawings shall be prepared by the Contractor and submitted to the Engineer for approval. All

drawings shall be complete and submitted in due time and in logical order to facilitate proper coordination. All drawings submitted and approved will form part of the Contract.

(b). Construction Plant Layout Drawings:

Three prints of drawings, showing the layout of construction plant and equipment the contractor purposes to use on the work shall be submitted the Contractor for review to the Engineer. The drawings shall show the location of the principal component of the Construction plant, offices, storage areas and yards which the contractor purposes to construct or use at the site of the work and elsewhere. The drawings shall also show the unloading facilities for materials and equipment at the work site.

13.5 **Submissions and Approvals:**

- (a). Except as otherwise specified, three copies of each drawing for approvals or review shall be furnished to the Engineer. Within ten (10) calendar days after receipt, the Engineer will send one copy to the Contractor marked "Approved", "Approved/Except as Noted", or "Returned for Correction". The notations "Approved" and "Approved/Except as Noted" will authorize the Contractor to proceed with the works. Drawings returned for correction will be resubmitted for approval in the same manner, as for new drawings every revision block.
- (b). Upon receipt of prints which have been "Approved" or "Approved / Except as Noted" the contractor shall furnish three prints plus one reproducible of each drawing to the Engineer. If revisions are made after a drawing has been approved, the Contractor shall furnish 3 additional points and one reproducible subsequent to each approved revision.
- (c). Shop drawings to be prepared by a Sub-Contractor shall be submitted in the same manner as (a) & (b) above but they will be submitted through the Contractor.
- (d). All of the Applicable requirements of this Clause with reference to drawings to be prepared by the Contractor, including Sub-Contractors, shall apply equally to catalogue cuts, illustrations, printed specifications or other data submitted for approval.

- (e). Any work done on Contractor's drawings shall be at the Contractor's risk. The Engineer will have the right to request any additional details and to require the Contractor to make any changes in the drawings which are necessary to confirm to the provisions and intent of design and specifications without additional cost to the employer. The approval of the drawings by the Engineer shall not be construed as complete check but will indicate only that the general method of construction and detailing is satisfactory. Approval by the Engineer of the Contractor's drawings shall not be held to relieve the Contractor of his obligation to meet all the requirements of the specifications or of his responsibility for the correctness of the Contractor's Drawings or of his responsibility for correct fit of assembled part in final position or of his responsibility for the adequacy of method of construction.

14. AS-BUILT DRAWINGS

The Contractor shall at all times keep on the site one copy of all drawings and approved samples together with copies of all public safety codes and relevant standards applicable to the works. All such material shall be made available to the Engineer.

In addition, the Contractor shall, at all times, keep on Site a separate set of prints on which shall be noted neatly, accurately and promptly Site work progresses all insignificant changes between the work shown on the Drawings and that which is actually constructed.

At the completion of works, the Contractor shall at his expense, supply to the Engineer six copies and one reproducible copy of all Drawings amended to comply with work "As Built". The Contractor shall provide in the same format as the original Drawings and additional Drawing required to record the work.

15. PROTECTION OF THE WORKS

The Contractor shall whenever necessary cover up and protect the works from weather and damage by his own or other workmen performing subsequent operation. He shall provide all necessary dust sheets, barriers and guard rails and clear away the same at completion.

The Contractor shall take all proper steps for protection at all places on or about the works which may be dangerous to his workmen or any other

person or to traffic. The Contractor shall provide and maintain warning signs, warning lamps and barricades as necessary.

The entire responsibility for the safety and stability of the works and safety of people inside and around the works, in any and all cases, shall rest and remain with Contractor, who may add other appropriate safety measures as approved by the Engineer, to meet this obligation.

16. RESTORATION AND CLEANING

The Contractor shall do regular cleaning and clean away all rubbish and excess materials that may accumulate from time to time on completion and before handing over. Upon completion of the works he shall obliterate all signs of temporary construction facilities such as work areas, stock piles of excess or waste materials, or any other wasters of construction, unless, otherwise directed by the Engineer. The works and Site shall be left in a clean and satisfactory state for immediate use and occupation. Care shall be taken not to use any cleaning materials which may causes damage to the surface to be cleaned.

17. PRODUCT DATA

Manufacturer's catalogue sheets, brochures, diagrams, schedules, performance charts, illustrations and other standard descriptive literature shall be clearly marked to identify pertinent materials products or models. Dimensions and required clearances shall be indicated.

18. SAMPLES

- 18.1 The Contractor shall furnish for approval of the Engineer with reasonable promptness all samples as directed by the Engineer or specifically called for in these specifications. The Engineer shall check and approve such samples with reasonable promptness for compliance with the requirements of contract documents. All work shall be in accordance with approved samples.
- 18.2 Duplicate final approved samples, in addition to any required for the Contractor's use shall be furnished to the Engineer one for Office use and other for the Site.
- 18.3 Samples shall be furnished so as not to delay fabrication, allowing the Engineer reasonable time for consideration of the sample submitted.
- 18.4 Each sample shall be properly labeled with the name, name of the project, the Contractor's name and the date of submission,

and the Specifications Article number to which the sample refers.

- 18.5 The manufacture's installation directions shall be provided with each sample. The Contractor shall pay all transportation costs and deliver samples to the Engineer's Office, Site or testing laboratory as directed by the Engineer.
- 18.6. Samples will not be returned unless return is requested at the time of submission, all packing and transportation cost for the return of samples shall be paid by the Contractor.
- 18.7. No acceptance or approval of any Shop Drawings or sample, or any indication or request by the Engineer on any Shop Drawings shall constitute an authorization for any increase in the Contract Sum.

19. MATERIAL SOURCE

Quarry materials such as sand, gravel, earth, rock or other mineral materials, other than local borrow or selected materials obtained on the project, for use in the works shall be provided by the Contractor from sources to be identified and established by the Contractor who will be responsible for survey, investigation and testing to prove the extent and suitability of materials, for land and royalty / malkana costs, for access roads, Site facilities, stripping overburden, separation of materials, processing and other cost. All costs shall be considered as included within the rates inserted for the items included in the Bill of Quantities.

20. QUALITY OF MATERIAL

- 20.1 All materials and supplies furnished under the Contract Documents shall be new and of standard first grade quality and of best workmanship and design. No inferior or low grade materials supplies or articles will be either approved or accepted and all works of construction shall be made in neat, first class and workmanlike manner.
- 20.2 Prior to procurement, the Contractor shall furnish to Engineer for his approval, the names of the manufactures of all Equipment and materials which he contemplates incorporating in the works, samples of material shall be submitted to the Engineer for approval. Equipment, material supplies and articles installed or used without the Engineer's approval shall be at the risk of subsequent rejection.

21 INSPECTION & TESTS REPORTS

21.1 All Equipment and materials furnished under these specifications and all work performed in connection therewith will be subject to rigid inspection by the Engineer. Acceptance of Equipment and material or the waiving off inspection thereof shall in no way relieve the Contractor of his responsibility for meeting the requirements of the contract.

21.2 The Contractor shall furnish to the Engineer Representative four certified true copies of reports of the tests of all materials used in the manufacture and fabrication of all Equipments and materials. The result of these tests shall be in such form as to show compliance with the applicable specifications, standards and codes of the material used.

22 ACCIDENT PREVENTION, PROTECTIVE EQUIPMENT

The Contractor shall comply with the highest standard of safety and accident prevention in accordance with international standards and in compliance with all applicable laws, ordinances and statutory provisions in Pakistan.

All requisite barriers, fences, warning signs, lights and other safety precautions as required for the protection of persons and property on or adjacent to the Site shall be provided at the Contractor's cost.

All falsework, scaffolding and hand rails shall be well constructed and secured at all times. Where overhead work is being carried out warning signs shall be installed at different level clearly warning the overhead work.

All warning signs shall be in two languages, English and Urdu, and shall at all times be maintained in a clean and legible condition, to the satisfaction of the Engineer.

Trash shall be removed at frequent intervals to the satisfaction of the Engineer.

23 TEMPORARY FACILITIES

The Contractor shall provide, erect or install, maintain alter as necessary and remove on completion except as otherwise directed by the Engineer all temporary facilities and services as described hereinafter and / or in the Contract Documents and / or instructed and approved by the Engineer.

The Contractor temporary Site Office shall be available for use not later than one month after the date of the Site handing over. Installation of temporary services at the Site shall be given priority over all other construction at the Site.

23.1 TEMPORARY SERVICES

a) Temporary Water Supply and Electricity

The Contractor shall supply at his own cost temporary supply of water and eclectic power as necessary for all construction activities and proper performance of the works during the period of the contact.

b) Waste Disposal

The Contractor shall make such temporary provisions as may be required in order to dispose off any chemicals, fuels, oils, grease, bituminous materials, waste and soil waste and the like without causing pollution to either the Site or the environment. Disposal of any materials, wastes, effluents, garbage, oil, grease, chemicals and the like shall be in areas specified by the concerned local authority proposed by the Contractor and subject to the approval of the Engineer. If any waste material is dumped in unauthorized areas the Contractor shall remove the material and restore the area to the condition of the undisturbed area. If necessary contaminated ground shall be excavated, disposed off as directed by the Engineer and replaced with suitable fill material compacted and finished with topsoil all at the expense of the Contractor.

c) Fire Protection

The Contractor shall provide and maintain adequate fire protection in the form of barrels of water with buckets, fire bucket tanks, fire extinguishers, or other effective means ready for instant use, distributed around the project and in and about temporary inflammable structures during construction of the works.

Gasoline and other flammable liquids shall be stored in and dispensed from safety containers approved by the Engineer and storage shall not be within building.

Torch-Cutting and welding operations performed by the Contractor shall have the approval of the Engineer before such work is started and a chemical extinguisher is to be available at the location where such work is in progress.

The Contractor shall follow the instructions and specifications of the Civil Defence Department and or other local authority.

24 CONSTRUCTION SCHEDULE

- 24.1 A Construction schedule shall be maintained in accordance with the provisions of the Conditions of Contract.
- 24.2 The schedule shall be accompanied with sufficient data and information including all necessary particulars of plant, Equipment, machinery, temporary works, arrival of plant, Equipment at Site and their installation, method of operation, work forces employed, etc., for all activities of the Works.
- 24.3 Should the Engineer consider any alteration or addition in the programme and time schedule the Contractor shall conform thereto without any cost to the Employer.
- 24.4 Whenever necessary and wherever the progress of the work shows departure, the programme and time schedule shall be updated and submit to the Engineer for his approval.

25 NOTIFICATION TO ENGINEER

The Engineer representative shall be notified daily in writing of the nature and location of the work the Contractor intends to perform the next day so as to enable necessary inspection and measurement to be carried out. The Engineer may, if necessary, direct that at longer notice be given for certain operations.

26 NIGHT WORK

No work shall be done at night without approval of the Engineer. When work is required to be done at night for which approval as being acquired from Engineer, the Contractor shall maintain from sunset to sunrise such lights on or about his work and plant as the Engineer may deem necessary for the proper observation of the work and the efficient execution thereof.

27 WEATHER

No work is to be undertaken when, in the opinion of the Engineer, the weather is so unsuitable that proper protection of the works can not be ensured.

28 CO-ORDINATION WITH OTHER CONTRACTORS

It shall be the responsibility of Contractor to co-ordinate and keep up good relations with other Contractors employed on Site by the Employer.

29 SURVEY INSTRUMENT

The Contractor shall maintain on Site the following surveying instrument in perfect conditions to enable the Engineer's Representative to check levels and lines of the work at all times.

- One Total Station Survey Unit complete with tripods, range, Pole Prisms, Coaxial Targets, Tilting Prisms and any other accessories.
- One Electronic Digital Level complete with Tripod and other Standard Accessories.
- Leveling Staves as required.
- Ranging Poles, as required.
- Two Measuring Steel Tapes, 50m long with Thermometer and other accessories.
- Five Measuring Steel Tapes, same as above but 30m long.

These instruments and water carriers will be kept at the Office of the Engineer. The Contractor shall also provide Survey Helpers and adequate supplies of Expendable Materials, such as Pencils, Rubbers, Inks, Notes Books, Drawings, Papers, Survey Pegs, Brushes and Paints as required by the Engineer / Engineer Representative. The Survey Equipment shall remain the property of the Contractor after completion of the Contract Works.

30 SETTING OUT

- 30.1 Setting out shall be in accordance with the applicable clauses of Conditions of Contract.
- 30.2 The Engineer / Engineer Representative will furnish design survey data and jointly locate with the Contractor all points of intersections, tangents and basic benchmarks. The Contractor shall set construction stake establishing lines, slopes, grades etc. all other work shall be laid out from these marks and / or lines. The Contractor shall be responsible for the accuracy of all lines, slopes, grade and other survey works.
- 30.3 Temporary pillars and other monuments used in setting out shall be removed after completion of the required work.

31 WEEKLY PROGRESS REPORT AND PHOTOGRAPHS

- a) During the continuance of the works the Contractor shall submit weekly progress reports on forms as approved by the Engineer.

Such weekly reports shall show the actual progress completed as of date of the report plotted against the planned scheduled as given by the Contractor at the start of work and shall be broken down so as to indicate status all activities associated with mobilization, design, material procurement, manufacture, surveys works, tests with regards to the approved work programme.

- b) When the work commences at the Site, the Engineer shall provide the Contractor with a standard report form which shall be filled in each week and submitted by the Contractor to indicate the progress of construction, and to serve as a basic for making progress payments to the Contractor. The progress indicated on the report each month shall be mutually agreed upon by the Contractor and the Engineer's Representative at the Site before it is formally submitted to avoid delays in making progress payments.
- c) The Employer and the Engineer reserve the right to coordinate the schedules of the Contractor and other Contractors working at the Site, and to adjust and / or change any and all such schedules as required during the course of construction in order to achieve a coordinated project in harmony with the completion date.
- d) Commencing after the first week of construction, and continuing every week until completion, the Contractor shall have photographs taken, where directed by the Engineer's Representative, to show progress of his work and completion of each structure of major features.

32 CONTRACTOR TO NOTIFY DELAYS ETC.

Any delay which will affect the completion of works shall be detail by the Contractor who shall state the action he is taking for effective completion of the contract programme.

The Contractor shall submit a report in respect of the various sections of the works, the Equipment in use or held in readiness, a return of labour and supervisory Staff and details of any manners arising which may generally affect the progress of the work.

The Contractor shall give a summary of the detailed progress report giving the position with regard to the agreed contract programme.

The progress report shall be set out in a format to the approval of the Engineer, and forwarded promptly so that on receipt the information contained therein is not more than ten days out of date.

If during execution of the contract, the Employer considers the progress position of any section of the work to be unsatisfactory, or for any other reason Contractors Representative are to attend such meetings.

The Contractor shall prepare and submit six copies of weekly progress report to the Engineer's Representative. This report shall summarize Site activities and record and details where difficulties in maintaining the approved programme are being experienced or are likely to cause subsequent delays.

The Contractor shall also prepare and submit to the Engineer's Representative six copies of a daily activities report summarizing the main activities to be undertaken. Each day, nothing special activities such as tests, alignments checks etc. the Contractor shall be responsible for expediting the delivery of all materials and Equipment to be provided by him and his Sub-Contractors

33 PHOTOGRAPHS

As soon as work commences on Site, the Contractor shall provide Photographs (at least 10 to 12) of the works from positions to be selected by the Engineer or his Representative. Each Photographic Print shall not be less than 297mm X 210mm or as directed by the Engineer and shall bear a printed description, a serial number and the date when taken.

The negative of all Photographs shall be held at the Contractor's Site Office, numbered and handed over to the Employer at the completion of works.

The Contractor shall provide a number of selected Photographs for submission with each copy of the monthly report as required by the Engineer. The Contractor shall also provide from time to time as and when required by the Engineer, further Photographs of the contract works to record or illustrate specific events.

34 FACILITIES FOR THE EMPLOYER / ENGINEER

Temporary Site Office for Consultants Engineer Representative and his Staff

The Contractor shall provide, clean and maintain Office Accommodation facilities for the Consultant Engineer Representative and his staff of appropriate area (as required by the Consultant) including washroom and kitchen. The Office shall be located as directed by the Engineer Representative and his prior approval.

The Consultant Engineer's Site Office shall be furnished and equipped by the Contractor with new, unused Furniture, Equipment including suitable Sanitary, Electrical etc. and necessary arrangements as per the list given below:

- a) Executive desk with lockable drawers and Glass top
- b) Air-Condition (1 Ton) manufacturer as recommended
- c) Executive type upholstered desk chair
- d) Standard Wooden Office Tables with Drawers
- e) Standard Office Chairs
- f) Steel Filing Cabinet (standard size)
- g) Display Board
- h) Electric Fans
- i) Scientific Calculators (CASIO)
- j) Electric Water Cooler (Dispenser)
- k) Office Stationery and Consumables
- l) Steel Cabinets and Shelves of required size
- m) Computer (Dual Core) with complete accessories, Internet Facility and Engineering Software as required by Engineer and Computer Operator
- n) Printer (Size A-4/A-3)
- o) Complete Furniture for Sitting Arrangements etc.

Other reasonable facilities such as, but not limited to Drawing Printing, Photocopies, Book Binding etc.

The Site Office including Fittings, Fixtures, Equipment and Furnishing shall remain the property of the Employer after completion of the works and in case the Employer does not want to retain the Site Office then the Contractor shall remove the Site Office and clear the area. The land shall be restored to its original condition.

No payment shall be made to the Contractor for the works involved under this Sub-Clause.

35 MEASUREMENT AND PAYMENT

No measurement or payment shall be made for the works involved within the scope of these Special Provisions and all costs thereof shall be

deemed to be included in the quoted rates of other pay items of the Bill of Quantities.

36. Transport Facilities

Not Applicable

37. Contractor's Representative

The Contractor shall appoint an experienced Site Engineer (Professional Engineer) Registered with PEC (Pakistan Engineering Council) and duly licensed, who will be posted at the site of work for execution of the project properly.

The Contractor shall also have a responsible person permanently on the Site during normal working hours who is capable of receiving, and acting upon, instructions received from the Engineer or Employer representative.

The Contractor shall provide such assistance and supply such labour, materials and equipment as may be required by the Engineer's representative and his staff to enable them to carry out their duties under the contract.

38. Security Passes

The Contractor shall ensure that all his employees and those of his sub Contractors are issued with security passes and identification cards required by Employer.

39. Visitors

The Contractor shall not allow any unauthorized visitors on the Site. He is to keep visitors book which all authorized visitors shall sign. The Contractor shall provide safety helmets and any other appropriate protective clothing for such visitors for the duration of their visit.

LIST OF APPROVED MANUFACTURERS / SUPPLIERS

All equipment and material provided under this contract shall be procured from the following manufacturers / suppliers only.

CIVIL WORK

S. NO	NAME OF MATERIAL	NAME OF MANUFACTURER / SUPPLIER
C-01	Cement	Lucky, Attock (Falcon)and Pakland
C-02	White Cement	Anwarzeb or approved equivalent
C-03	Reinforcement	Amreli Steel, Razzaque & Nawab
C-04	Testing Laboratories	NED, PCSIR, Karachi Shipyard Engineering & Mehran University
C-05	Ceramic Tiles	Master, STILE, EMCO, PORTA, National Tiles
C-06	Marble Tiles	Boticina, Fancy, Tavera, Chippi or approved equivalent
C-07	Terrazo Tiles	Noor, Al-Muhammad Tiles & Concrete Technologies
C-08	Paint	ICI, Berger, Dulux, Jotun, Nelson, Kansai
C-09	Aluminum	Alcop, Pakistan Cables & A.C.P or approved equivalent
C-10	Door Shutter	Interwood & Sterling or approved equivalent
C-11	Glass	Imported make i.e. Jeddah, Dubai, Prince Glass & Ghani Glass
C-12	Tinted Glass	Imported make i.e. USA and Belgium or approved equivalent
C-13	Lock	Imported make i.e. Japan, Germany, UK, Italian and Mandali
C-14	Expansion Joint Chemical	Zahabya's & Sikka or approved equivalent
C-15	Composite Doors	AVT & Homezone or approved equivalent
C-16	Porcelain Tiles	Imported make, Rocka (Dubai), Malaysia
C-17	Granite	Salim Industries, Imported or as approved
C-18	Facing Block	Envicrete or Equivalent, Stone Tiles, Glazed Tiles
C-19	Paver	Envicrete, Hubcrete & Meqnacrete

PLUMBING WORK

S. NO	NAME OF MATERIAL	NAME OF MANUFACTURER / SUPPLIER
P-01	Ceramic Fixture	ICL, ASIF, PORTA, Karamcera
P-02	G.I. Pipes	IIL, Steellex, Jamal Pipes, Bashir Pipe
P-03	G.I. Pipe Fittings	HE China and TG China
P-04	Cast Iron Pipes	CME, TIPPU & Singer or approved equivalent
P-05	RCC Pipes	Razia & Dawood or approved equivalent
P-06	PVC Pipes	AGM, DADEX, BEETA and Jeddah Pipes
P-07	uPVC Pipes	Dadex, AGM, LANSO, Jeddah and Pak Arab
P-08	PPRC Pipes	AGM, DADEX, KELEN, MARLEY (U.K) or approved equivalent
P-09	C.I. Pipes & Fittings	Al-Pine Steel (Pvt.) Ltd. Sandal Engineering, Teepu Supreme
P-10	Bathroom Fittings	Master, SONEX, K.S or approved equivalent
P-11	Water Cooler	MECO and Sunny or approved equivalent
P-12	Geyser	Singer, Skyline, Skyflame or approved equivalent
P-13	Fiber Glass	Master, TINO, Popular or approved equivalent
P-14	Kitchen Sinks	Super Asia & Atlas or approved equivalent
P-15	Sanitary Fittings	Master, Faisal & Perfect Industries. or approved equivalent
P-16	Valves	KITZ-JAPAN or approved equivalent
P-17	Gas Water Heaters	Singer, Corona, Adnurak or approved equivalent
P-18	C.I. Covers with Frame Floor Drains & Floor Cleanouts	Al-Pine Steel (Pvt.) Ltd & Sandal Engineering

ELECTRICAL WORK

S. NO	NAME OF MATERIAL	NAME OF MANUFACTURER / SUPPLIER
E-01	PVC Pipes & Accessories	Jeddah, Prince, Galco & Pak Arab
E-02	Wires & Cables	Pioneer Cables Ltd, Pakistan Cables, Fast & AGE
E-03	Switches & Sockets	Linker, Clipsal, MK, Busch, Milano, Legrand, ABB, HILIFE & Orange
E-04	Light Fixtures	Philips, Zainlight with Philips components, Bega & Sunlight, Pierlite or equivalent
E-05	Distribution Boards, Main & Sub	Zelon, Unique, Babar Bros, PEL & Tarasaki, Shinader, ABB, Nadeem & Co. or approved equivalent
E-06	Main Panel	Siemens, Elmatech, Electromech, Alstom & Babar Bros, Shinader, ABB, Nadeem & Co. or equivalent
E-07	Back Boxes, Pull Boxes, Floor Boxes	Busch, Milano, Legrand, ABB, Laeeq Sons, Pesco & Zeltec
E-08	Emergency Lights	Local or as approved
E-09	Circuit Breakers	ABB, Terasaki & MG, Shinader or approved equivalent
E-10	Fans	Pak Fan, GFC, Millat Climax & F.G or approved equivalent
E-11	Control Fuse	Tarasaki, Shinader, ABB
E-12	MCCBS & MCBS ELCBS	Marlin Gerlin (MG) (France), Siemens (Germany) ABB & (Italy), Terasaki, Shinader or approved equivalent
E-13	PVC Conduit & Accessories	Beta & Tesco, Galco, PAK ARAB
E-14	Steel Conduit & Accessories	hilal Industries, IIL, Jamal, Pioneer & Bashir
LOW VOLTAGE SYSTEM		
E-15	Data / Voice Cables CAT-6	Clipsal (Australia) or approved equivalent 3M, Shinader
E-16	Face Plate with CAT-6 I/O	Clipsal (Australia) or approved equivalent 3M, Shinader
E-17	Telephone Cables	Pakistan Cables, Siemens (Germany), Pioneer Cables, Comscope (USA) & 3M
E-18	Telephone Junction Box	S.A. Electric, N.R. Industries, Misto Industries
E-19	Fire Alarm System	ZITON (UK), ZETA (UK) & GENT (UK)
E-20	CC TV Cables	Saxton (USA) or approved equivalent
E-21	CC TV Camera	Samsung / Proline (Korea / UK) or approved equivalent
E-22	Speakers	TOA (Japan), Pioneer (Japan) or approved equivalent
SPLIT TYPE AIR-CONDITIONERS & ACCESSORIES		
E-23	uPVC Pipes / Accessories	Nepro, AGM, Jeddah, Pak Arab
E-24	Face Plate with CAT-6 I/O	Clipsal (Australia), Shinader or approved equivalent
E-25	Split Type Air-Conditioner	Panasonic, Mitsubishi, Gree, Acson & Haier



ACADEMIC BLOCK - II & SHED FOR LIGHT VEHICLES

N. E. D. U. E. T, KARACHI



TENDER DOCUMENT VOLUME – III BILL OF QUANTITIES

 **SHAHZAD
ASSOCIATES**

CONSULTING ARCHITECTS, ENGINEERS & PLANNERS

KARACHI OFFICE :- 2ND FLOOR, FARZANA BUILDING, SHAHEED-E-MILLAT ROAD,

KARACHI. TEL: 4348591 - 4388857, FAX: (92 - 021) 4530754. E-MAIL: shahzadarch@yahoo.com

ISLAMABAD OFFICE :- 66, STREET NO. 59, 1/8-3, ISLAMABAD. PH: 444741

QUETTA OFFICE: 4-B, 1ST FLOOR, HASSAN APARTMENTS, PATEL BAGH, QUETTA. PH: 839033

**CONSTRUCTION OF ACADEMIC BLOCK - II AND SHED FOR LIGHT VEHICLE
(MEGA - IV) AT NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

SUMMARY OF COST

S #	SUB HEAD	TOTAL AMOUNT
1	Cost of Building Work (Page No. 02 - 33)	Rs=
2	Cost of Car Parking Shed (Page No. 34 - 36)	Rs=
3	External Development Work (Page No. 37 - 43)	Rs=
4	Installation of Wall Mounted AC (Page No. 44 - 45)	Rs=
TOTAL COST OF ACADEMIC BLOCK - II		Rs=

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

SUMMARY OF COST

S #	SUB HEAD	TOTAL AMOUNT
BUILDING WORK		
CIVIL WORK		
1	Civil Work (Schedule Work) (Page No. 03 - 12)	Rs=
2	Civil Work (Non-Schedule Work) (Page No. 13 - 19)	Rs=
(A)		Rs=
PLUMBING WORK		
3	Plumbing Work (Schedule Work) (Page No. 20 - 22)	Rs=
4	Plumbing Work (Non-Schedule Work) (Page No. 23 - 24)	Rs=
(B)		Rs=
ELECTRICAL WORK		
5	Electrical Work (Schedule Work) (Page No. 25 - 27)	Rs=
6	Electrical Work (Non-Schedule Work) (Page No. 28 - 33)	Rs=
(C)		Rs=
Total Cost of Academic Block-II Building Work (A+B+C)		Rs=

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	EXCAVATION				
a	Excavation in foundation in ordinary soil of Building Bridges and other structures including dagbelling dressing, refilling around structure with excavated earth watering and ramming lead upto 5 ft. (Page No.4, Item No.18-b)	21,552.00	%0Cft	3,176.25	68,454.54
b	Cutting hard rock such as granite, ballast, hard lime stone or sand stone etc. with chisels and hammers for small foundation. (Page No. 04, Item No. 19)	14,368.00	%0Cft	28,672.05	411,960.01
2	IMPORTED EARTH FILL				
a	Filling, watering and ramming earth under floor with new earth (excavated from outside) lead upto one chain and lift upto 5 feet. (Page No.4, Item No.22)	47,956.00	%0Cft	3,630.00	174,080.28
b	Add: extra lead 6 mile (referred from carriage of material schedule)	47,956.00	%Cft	774.96	371,639.82
3	CC IN FOUNDATION, SITU WALL, SUB FLOORING STEPS				
	Cement concrete plain (ratio1:3:6) including placing compacting, finishing and curing complete (including screining and washing at stone aggregate without shuttering (Page No.15, Item No.5-h)	13,120.00	%Cft	12,595.00	1,652,464.00
4	FORM WORK				
	Erection and removal of centering RCC or plain cement concrete works of Partal wood (2nd Class) Horizontal (Page No.17, Item No.19-bi)	12,298.00	%Sft	3,588.48	441,311.27
5	TERMITE PROOFING				
	Providing anti-termite treatment by spraying / sprinkling / spreading Neptachler 0.5% Emulsion as an overall pre-construction treatment in slab type construction under the slab and attached perches or entrances etc. Complete in all respect as per directions of the Engineering-inCharge (Page No.108, Item No.92)	15,309.00	Per Sft	9.47	144,976.23

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
6	RCC WORK Reinforced cement concrete work including all labour and material except the cost of steel reinforcement and its labour for bending and binding which will be separately. This rate also includes all kind of forms molds lifting shuttering curing rendering and finishing the exposed surface (including screening and washing of shingle) Page No.15 Item No.6. R.C. work in roof slab, beams columns rafts, lintels and other structural members laid in situ or precast laid in position complete in all respects.				
a	Columns Footing - Ratio (1:1½:3)	7,469.00	P. Cft	349.00	2,606,681.00
b	Plinth Beams - Ratio (1:1½:3)	2,718.00	P. Cft	349.00	948,582.00
c	Beam, Lintels Projection, Retaining & Lift Wall Ratio (1:1½:3)				
i	Ground Floor	5,875.00	P. Cft	349.00	2,050,375.00
ii	First Floor	3,392.00	P. Cft	349.00	1,183,808.00
iii	Second Floor	2,858.00	P. Cft	349.00	997,442.00
iv	Top Roof	160.00	P. Cft	349.00	55,840.00
d	Slab and Projection Ratio (1:1½:3)				
i	Ground Floor	5,970.00	P. Cft	349.00	2,083,530.00
ii	First Floor	7,440.00	P. Cft	349.00	2,596,560.00
iii	Second Floor	5,168.00	P. Cft	349.00	1,803,632.00
iv	Top Roof	315.00	P. Cft	349.00	109,935.00
e	Stair Case Ratio (1:1½:3)				
i	Ground Floor	578.00	P. Cft	349.00	201,722.00
ii	First Floor	359.00	P. Cft	349.00	125,291.00
iii	Second Floor	359.00	P. Cft	349.00	125,291.00
f	Parapet Wall Ratio (1:1½:3)	1,202.00	P. Cft	349.00	419,498.00
g	Extra Labours for laying concrete plain or reinforced. 20' - 40' height (Page No. 17, Item No. 12(a))	21,827.00	%Cft	1,210.00	264,106.70
7	RAIN WATER SPOUT Rain water down pipe cast iron heads fixed in place including cost of clamp, hold fast and painting (Page No. 36, Item No. 23)	12.00	Each	873.29	10,479.48

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
8	DAMP PROOF COURSE Damp proof course 2" thick with (cement sand and shingle concrete 1:2:4) including 2 coats of asphaltic mixture. (Page No. 18, Item No. 28-b)	1,183.00	%Sft	3,912.85	46,289.02
9	BLOCK MASONRY (Above 6" Thick) Providing and laying 1:3:6 cement concrete solid block masonry wall above 6" in thickness set in 1:6 cement mortar in ground floor Super Structure including raking out joints and curing etc. complete. (Page No. 18, Item No. 23)				
a	Ground Floor	4,844.00	%Cft	14,621.44	708,262.55
b	First Floor	4,844.00	%Cft	14,621.44	708,262.55
c	Second Floor	3,353.00	%Cft	14,621.44	490,256.88
d	Top Roof	315.00	%Cft	14,621.44	46,057.54
10	BLOCK MASONRY (6" Thick) Providing and laying 1:3:6 cement concrete solid block masonry wall 6" and below in thickness set in 1:6 cement mortar in ground floor Super Structure including raking out joints and curing etc. complete. (Page No. 18, Item No. 24)				
a	Ground Floor	4,147.00	%Cft	15,771.01	654,023.78
b	First Floor	3,652.00	%Cft	15,771.01	575,957.29
c	Second Floor	3,652.00	%Cft	15,771.01	575,957.29
d	Top Roof	263.00	%Cft	15,771.01	41,477.76
11	Add Extra Labours for Block Massonary in (Page No. 18, Item No. 30)				
a	First Floor	12,679.00	%Sft	328.97	41,710.11
b	Second Floor	10,455.00	%Sft	760.03	79,461.14
c	Top Roof	861.00	%Sft	1,191.09	10,255.28

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
12	G.I FRAME Providing and fixing G.I. Frames / Choukhats of size 7" X 2" or 4½ X 3" for door using 20 gauge G.I. sheet including welded hinges and fixing at site with necessary hold fasts, filing with cement sand slurry of ratio 1:6 and repairing the jambs. The cost also includes all carriage tools and plants used in making and fixing. (Page No. 92, Item No. 29)	1,515.00	Per Rft	228.90	346,783.50
13	SURFACE RENDERING Cement Plaster 1:5 upto 12' height ½" thick Ceiling & Wall Plaster (Page No.51, Item No. 12-b)				
	i Ceiling Plaster				
a	Ground Floor	9,824.00	%Sft	2,241.80	220,234.43
b	First Floor	12,399.00	%Sft	2,241.80	277,960.78
c	Second Floor	9,729.00	%Sft	2,241.80	218,104.72
d	Top Roof	1,050.00	%Sft	2,241.80	23,538.90
	ii Wall Plaster				
a	Ground Floor	28,203.00	%Sft	2,241.80	632,254.85
b	First Floor	28,203.00	%Sft	2,241.80	632,254.85
c	Second Floor	26,103.00	%Sft	2,241.80	585,177.05
d	Top Roof	4,200.00	%Sft	2,241.80	94,155.60
	iii Cement Plaster ½" thick 1:4 upto 12' height External Plaster 1st Layer (Page No. 51, Item No. 11b)				
a	Ground Floor	10,912.00	%Sft	2,283.93	249,222.44
b	First Floor	8,656.00	%Sft	2,283.93	197,696.98
c	Second Floor	8,656.00	%Sft	2,283.93	197,696.98
d	Top Roof	7,294.00	%Sft	2,283.93	166,589.85
	iv Cement Plaster ¾" thick 1:4 upto 12' height External Plaster 2nd Layer (Page No. 51, Item No. 11c)				
a	Ground Floor	10,912.00	%Sft	3,015.76	329,079.73
b	First Floor	8,656.00	%Sft	3,015.76	261,044.19
c	Second Floor	8,656.00	%Sft	3,015.76	261,044.19
d	Top Roof	7,294.00	%Sft	3,015.76	219,969.53

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
14	FINISH FLOOR Providing and laying 2" thick topping cement concrete (1:2:4) including Surface finishing and dividing into panels (Page No. 41, Item No. 16c)	1,150.00	%Sft	3,275.50	37,668.25
15	GLAZED TILE DADO (BATHROOM) Glazed tiles dado ¾" thick laid in pigment over 1:2 cement sand mortar ¾" thick including finishing. (Page No. 44, Items No. 38)				
a	Ground Floor	2,847.00	%Sft	28,299.30	805,681.07
b	First Floor	2,611.00	%Sft	28,299.30	738,894.72
c	Second Floor	2,611.00	%Sft	28,299.30	738,894.72
16 a	ALUMINUM WINDOWS & VENTILATORS Supply & fixing Deluxe Model (Bronze) in position Aluminum channels framing for sliding windows & ventilators of Alcop made with 5mm thick tinted glass glazing (Belgium) & Aluminum fly screen including handless stoppers & locking arrangement etc. complete (Page No. 107, Item No. 84b)				
a	Ground Floor	1,397.00	P. Sft	1,318.15	1,841,455.55
b	First Floor	1,291.00	P. Sft	1,318.15	1,701,731.65
c	Second Floor	1,291.00	P. Sft	1,318.15	1,701,731.65
d	Top Roof	136.00	P. Sft	1,318.15	179,268.40
16 b	ALUMINIUM DOORS Supplying & fixing Deluxe Model (Bronze) in position Aluminium channels framing for hinged door or Alcop made with 5mm thick tinted glass glazing (Belgium) and Alpha (Japan) Lock including handles, Stoppers etc. (Page No. 107, Item No. 83 b)	305.00	P. Sft	1,507.66	459,836.30
17	STEEL GRATED DOOR Making & fixing steel grated door with 1/16" thick sheeting including angle iron frame 2" x 2" ¾" and ¾" square bars 4" centre to centre with locking arrangement (Page No. 91, Item 24)	84.00	P. Sft	726.72	61,044.48

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
18	IRON GRILL Providing and fixing iron still grill using solid square bars of size ½" x ½" placed at 4" including and frame of flat iron patti of ¾" x ¾" including circle shape at 1-0 apart equivalent fitted with screws are pins including painting 3 coats with 1st coat of red oxide paint etc. (Page No. 93, Item No. 30)	3,825.00	P. Sft	194.16	742,662.00
19	COLLAPSIBLE GATE Providing and fixing iron collapsible gate with channel framing of section ¾" X 5/16" at 4" l/c riveted with ¾" x 1/8" flat iron patti placed diagonally and provided with top & bottom T-section 1"x 1" 1/8" along with rollers also l/c locking arrangement and fixing in floor/ ceiling or wall etc, completed. (S.I.No.32/P-94)	105.00	P. Sft	387.04	40,639.20
20	MARBLE ON STAIRS STEPS Laying white marble flooring fine dressed on the surface without winding set in lime mortar 1:2 including rubbing and polishing of the joints. (1" thick) Page No. 42, Item No. 28 b				
a	Ground Floor	1,503.00	P.Sft	503.14	756,219.42
b	First Floor	422.00	P.Sft	503.14	212,325.08
c	Second Floor	422.00	P.Sft	503.14	212,325.08
d	Top Roof	158.00	P.Sft	503.14	79,496.12
21	MARBLE SKIRTING Providing and fixing ¾" thick marble tiles of approved quality and colour and shade size 8" X 4" / 6" X 4" in dado skirting and facing removal / tucking of existing plaster surface etc over ½" thick base of cement mortar 1:3 setting of tiles in slurry of white cement over mortar base including filling the joints and washing the tiles with white cement slurry, curing, finishing, cleaning for new work. (Page No. 48, item No. 68 i)				
a	Ground Floor	605.00	P.Sft	148.83	90,042.15
b	First Floor	211.00	P.Sft	148.83	31,403.13
c	Second Floor	211.00	P.Sft	148.83	31,403.13
d	Top Roof	79.00	P.Sft	148.83	11,757.57

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
22	PRIMING COAT Priming Coat of chalk distemper (Page No.53, item No.23)				
a	Ground Floor	9,824.00	%Sft	442.75	43,495.76
b	First Floor	12,399.00	%Sft	442.75	54,896.57
c	Second Floor	9,729.00	%Sft	442.75	43,075.15
d	Top Roof	1,050.00	%Sft	442.75	4,648.88
23	DISTEMPERING Preparing surface and painting with Distemper- 1st coat over priming coat (Page No. 53, Item No. 24-c) 3 Coats				
a	Ground Floor	9,824.00	%Sft	1,079.65	106,064.82
b	First Floor	12,399.00	%Sft	1,079.65	133,865.80
c	Second Floor	9,729.00	%Sft	1,079.65	105,039.15
d	Top Roof	1,050.00	%Sft	1,079.65	11,336.33
24	INTERNAL WALL PAINTING Preparing surface and painting with matt finish including rubbing the surface with bathy (silicon carbide rubbing brick) filling the voids with zink / chalk/ plaster of paris mixture, applying first coat premix, making the surface smooth and then painting 3 coats with matt finish of approved make etc. complete (new surface). Page No. 54, Item No.36a+36b+36b				
a	Ground Floor	28,203.00	%Sft	3,444.38	971,418.49
b	First Floor	28,203.00	%Sft	3,444.38	971,418.49
c	Second Floor	26,103.00	%Sft	3,444.38	899,086.51
d	Top Roof	4,200.00	%Sft	3,444.38	144,663.96
25	WEATHER COAT Preparing the surface and painting with weather coat i/c rubbing the surface with rubbing brick / sand paper, filling the voids with chalk / plaster of paris and then painting with weather coat of approved make. (Page No.55, Item No.38-a&b) 3 Coat				
a	Ground Floor	10,913.00	%Sft	2,567.95	280,240.38
b	First Floor	8,656.00	%Sft	2,567.95	222,281.75
c	Second Floor	8,656.00	%Sft	2,567.95	222,281.75
d	Top Roof	7,295.00	%Sft	2,567.95	187,331.95

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
26	Extra labours for external surface for distemper / paint / white wash / colour wash / weather coat above 20'-0 height using long ladder or jhoola for each coat (for every 10'-0" additional height) Page No. 55, Item No. 42 + 42)	37,296.00	%Sft	456.18	170,136.89
27	ENAMEL PAINT ON WOOD WORKS Preparing surface and painting of doors and windows any type (including edges) 3 Coats (Page No. 68, Item No. 5-C-i-ii)	3,880.00	%Sft	2,116.41	82,116.71
28	ENAMEL PAINT ON IRON WORKS Painting guard bars, gates iron bars gratings, railing including standard braces etc. and similar open work (3 Coats) Page No.68, Item No.4-d-ii)	189.00	%Sft	977.40	1,847.29
29	WOODEN ARCHITRAVE Providing and fixing with sunk iron screws wooden Architrave approved design / shape having width not less than 2½" as directed by Engineer-in-Charge. (Page No. 60, Item No. 60	3,450.00	Per Rft	49.97	172,396.50
30	FALSE CELING Supplying and fixing false ceiling of plaster of paris in panels including making frame work of deodar wood including painting with soligia paint. (Page No. 63, Item No. 52)				
a	Ground Floor	4,351.00	%Sft	25,293.42	1,100,516.70
b	First Floor	4,465.00	%Sft	25,293.42	1,129,351.20
c	Second Floor	2,943.00	%Sft	25,293.42	744,385.35
31	CEILING BORDER Providing and fixing plaster of Paris ceiling border of 8" - 10" wide of specified design and thickness including fixing besides ceiling with nails / screws with getties (Page No. 38, Item No. 44)	420.00	Per Rft	104.22	43,772.40
32	ALUMINIUM SHEET ON BATHROOM DOORS Providing's and fixing Aluminium Sheet on doors pasted with glue as per requirement (Page No. 65, Item No. 61)	756.00	P.Sft	63.77	48,210.12

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
33	EXPANSION JOINT				
a	Providing and placing in position chip board ¾" thick for filling space between expansion joints of buildings. (Page No. 108, Item No. 93)	210.00	P.Sft	43.26	9,084.60
b	Providing and fixing Aluminum sheet 6" to 9" with V-Notch for expansion joints including fixing with nails / screws. (Page No. 108, Item No. 88)	215.00	Per Rft	207.51	44,614.65
34	ROOF SCREEDING				
a	Providing and laying 3" thick topping cement concrete (1:2:4) including surface finishing and dividing into panels. (Page No. 41, Item No 16-d)	15,309.00	%Sft	4,411.82	675,405.52
b	Two coats of bitumen laid hot using 34 lbs for %Sft over roof and blinded with sand at one cft per %Sft. (Page No. 34, Item No. 13)	15,309.00	%Sft	1,509.92	231,153.65
35	PLINTH PROTECTION AND RAMP				
a	Excavation in Ordinary Soil in foundation of Building Bridges and other structures including dagbelling dressing, refilling around structure with excavated earth watering and ramming lead upto 5ft. (Page No.4, Item No. 18-b)	2,478.00	%0Cft	3,176.25	7,870.75
b	Cement concrete plain including placing compacting, finishing and curing complete (including screining and washing at stone aggregate without shuttering (Page No. 15, Item No. 5)				
c	Ratio 1:4:8	765.00	%Cft	11,288.75	86,358.94
d	Ratio 1:3:6	1,360.00	%Cft	12,595.00	171,292.00
e	FORM WORK				
	Erection and removal of centering RCC or plain cement concrete works of Partal wood (2nd Class) Horizontal (Page No.17, Item No.19-bi)	4,200.00	% Sft	3,588.48	150,716.16

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
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BILL OF QUANTITIES

(Civil Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
f	¾" thick Cement Plaster 1:4 upto 12' height. (Page No.51, Item No.11-C)	1,617.00	%Cft	3,015.75	48,764.68
g	SUB FLOORING Cement concrete plain (ratio1:3:6) including placing compacting, finishing and curing complete (including screening and washing at stone aggregate without shuttering (Page No.15, Item No.5h)	1,249.00	%Cft	12,595.00	157,311.55
h	EARTH FILLING Filling, watering and ramming earth under floor with new earth (excavated from outside) lead upto one chain and lift upto 5 feet. (Page No.4, Item No.22	3,936.00	%0Cft	3,630.00	14,287.68
i	Add: extra lead 6 mile (referred from carriage of material schedule	3,936.00	%Cft	774.96	30,502.43
ii					
i	FINISH FLOOR Providing and laying 2" thick topping cement concrete (1:2:4) including Surface finishing and dividing into panels (Page No. 41, Item No. 16c)	1,301.00	%Sft	3,275.50	42,614.26
Sub Total				Rs=	47,776,774.55
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Civil Work)				Rs=	

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
36	CLEARING THE SITE Cleaning the site cutting of bushes, trees etc. for proper execution of work including layout of structure with making center line, C.C Pillars upto required height etc. complete as per drawing. Specification and instruction of Engineer-in-Charge	Lump sum	Job		
37	EXCAVATION Excavation for foundations, trenches and drains in all kinds of soil general, hard stones, murum, silts stone etc. through manually or mechanically from 5'-0" to 8'-0" and lead with back filling around the structure with excavated suitable earth including sorting the excavated stuff breaking clods, watering consolidation by ramming in layers not exceeding 9" inches in depth to full compaction, dressing, after approval disposal of surplus excavated stuff as directed. Complete in all respect as per drawing, specification & instructions of the Engineer. Payment of excavation will be as per drawing.	10,200.00	P.Cft		
38	All water which may accumulate on the site during excavation, concreting, cast in situ concrete or masonry work in foundation due to raising of sub soil water or abnormal rain shall be bailed / Pump out. Complete in all respect as per specification and instruction of the Engineer-in-charge.	Lump sum	Job		
39	EARTH FILLING WITH EXCAVATION SURPLUS EARTH Filling, watering and ramming earth under floor with surplus excavate earth including cost of all labours, tools, tackles etc. complete as per drawing and as per directed by the Engineer	525.00	Per Cft		
40	STUB COLUMNS Providing and casting ratio fc' 8501 PSI OPC stub columns at roof level for future extension of columns at roof level for future extension of additional floors. Complete in respect	683.00	P.Cft		

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
41	RCC WORK (RATIO1:1:2) Reinforced cement concrete work including all labours and material except the cost of steel reinforcement and its labours for bending and binding which will be separately. This rate also includes all kind of forms molds lifting, shuttering curing rendering and finishing the exposed surface (including screening and washing of shingle) as per drawings, specification and as directed by the Engineer-In-Charge				
a	Columns upto Plinth (Ratio 1:1:2) - 4375 PSI	1,106.00	P.Cft		
b	Column Super Structure (Ratio 1:1:2) - 4375 PSI				
i	Ground Floor	1,637.00	P.Cft		
ii	First Floor	1,637.00	P.Cft		
iii	Second Floor	1,103.00	P.Cft		
iv	Top Roof	160.00	P.Cft		
42	STEEL REINFORCEMENT Providing and laying hard grade deformed steel ASTM A615 reinforcement bars 60,000 PSI yield stress with and including the cost of straightening, cutting, bending, binding, chairs, wastage and such overlaps as are not shown in the drawings, placing in position on cements concrete 1:1½:3 precast or m.s chairs, tying with binding wire 18 BSWG, cost of chairs and wires etc. in all kinds of RCC work in foundation, basement, plinth and all floors of building and in projections for future extension as per drawings, specification and as directed by the Engineer-In-Charge	180.00	M.Ton		
43	BITUMEN COATING ON STRUCTURAL WORK Providing and applying a coat of bitumen emulsion at 10 Lbs. per % Sft(0.49 Kg/sm) on walls, foundation, column, plinth beam and situ or where ever required upto Plinth level including cost of all materials, labours, tools, tackles, lifting, hosting transportation, wastage etc complete as per drawing, specification and instructions of the Engineer.	10,290.00	P.Sft		

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
44	STONE SOLING Providing and laying soling stone 6" thick under floor including packing with spawls and chips and consolidation with compactor, watering etc. complete in all respect as per instructions of the Architect / Engineer-in-Charge.	10,338.00	P.Cft		
45	G.I FRAME Providing and fixing G.I. Frames / Choukhats of size 10" X 2" for door using 16 gauge G.I. sheet including welded hinges and fixing at site with necessary hold fasts, filing with cement sand slurry of ratio 1:6 and repairing the jambs. The cost also includes all carriage tools and plants used in making and fixing complete in all respect as per drawings, specification and as directed by the Engineer-in-Charge	210.00	Per Rft		
46	WATER PROOFING IN SUNK & PLANTER AREA Providing and applying ¾" thick ratio 1:3 plaster mixed with water proofing admixture in planter are. Work complete in all respect as per instructions of the Architect / Engineer-in-Charge	4,368.00	P.Sft		
47	WOODEN FLUSH DOOR Providing and fixing solid core 3mm thick teak veneered plywood on both flush door shutter HDF 1½" thick and lipping 1½" wide x ½" on four sides in teak wood, as commercially produced by Sterling Interwood or similar approved manufacturers under power driven hydraulic press as approved with application of approved wood preservative treatment including brass oxidized fittings 9" long tower bolts on top and bottom and imported butt hinges 5" size 3" size each side etc. complete but excluding the cost of handles locks and glass single / double opening with approved lacquer polishing all as per details and as instructed by the Engineer-in-Charge				
a	Ground Floor	991.00	P. Sft		
b	First Floor	766.00	P. Sft		
c	Second Floor	745.00	P. Sft		

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
48	FACING TILE Providing and fixing best quality approved Facing Tiles 24" X 24" of approved pattern and colour on ¾ thick cement plaster base ratio 1:4 (with matching colour slurry) upto any height. Complete in all respect as per drawings, specification and instruction of the Engineer-in-Charge	160.00	P.Sft		
49	CERAMIC MATT FINISH TILES (BATHROOM) Providing & laying light/ colour Ceramic Matt Finish tiles of ¼" thick (polished) not exceeding 286 Sq. inch each floor foreign make (Italian or equivalent except China make) in any floor laid with dry bond (stile bond) over existing floor including jointing the tiles with joint filler of approved quality as per direction of the Engineer in charge				
a	Ground Floor	840.00	P.Sft		
b	First Floor	776.00	P.Sft		
c	Second Floor	776.00	P.Sft		
50	GROOVE INPLASTER Providing, making horizontal or vertical joints or grooves of approved design & size including cost of all materials, labours, tools, tackles, watering, curing, transportation, wastage hoisting, scaffolding & its removal etc complete as per drawings, specification and as directed by the Engineer	525.00	Per Rft		
51	PLASTER BAND Providing & Making 1/2" thick plaster band 4" to 6" wide with 1:4 cement mortar in all floors including including cost of all materials, labours, tools, tackles, transportation, wastage watering, curing, hoisting, scaffolding & its removal etc complete as per drawings, specification and as directed by the Engineer	105.00	Rft		
52	MARBLE SLAB ON COUNTER Providing and fixing 1" thick prepolished marble slab of approved size, colour and quality over wash basin including making opening in slab for wash basin fixing. Complete in all respect as per instructions of the Architect / Engineer-in-Charge.	231.00	P.Sft		

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
53	PORCELAIN TILES FLOORING Providing & laying light/ colour unglazed vitrified porcelain tiles (polished) not exceeding 576 Sq. inch each floor foreign make (Italian or equivalent except China make) in any floor laid with dry bond (stile bond) over existing floor including jointing the tiles with joint filler of approved quality as per direction of the Engineer in charge				
a	Ground Floor	8,090.00	P.Sft		
b	First Floor	8,375.00	P.Sft		
c	Second Floor	8,200.00	P.Sft		
54	PORCELAIN TILES SKIRTING / DADO Providing & laying light/ colour unglazed vitrified porcelain tiles (polished) not exceeding 144 Sq. inch each wall foreign make (Italian or equivalent except China make) in any floor laid with dry bond (stile bond) over existing floor including jointing the tiles with joint filler of approved quality as per direction of the Engineer in charge				
a	Ground Floor	834.00	P.Sft		
b	First Floor	758.00	P.Sft		
c	Second Floor	754.00	P.Sft		
55	SULPHATE RESISTING CEMENT Providing and using Sulphate Resisting Cement in place of ordinary Portland cement	278,569.00	Per K.G		
56	C.C GOLA Providing and laying gola 3" X 3" concrete 1:2:4 using graded screened bajri at junction of slab and walls and finished with cement plaster 1:4 including curing etc. complete.	906.00	P.Rft		
57	DRIP COURSE Making drip course ½" x ¾" (13mm x9.5mm) size under R.C.C or C.C coping and chajja etc, complete in all floors including cost of extra cement mortar 1:3 and curing etc complete	530.00	Rft		

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
58	FOAM CONCRETE IN SUNK AREA Providing and laying foam concrete 18" thick in sunk toilet areas with cement concrete 1:6 mixed with mico-air 100 as manufactured by DUGUSSA or equivalent @ 100 ml / 100 kg of cement, all as per specifications, drawings and including 2" thick concrete 1:2:4 on top mixed with water proofing admixture of approved manufacture laid to slope (all floors)	3,820.00	Sft		
59	STAINLESS STEEL HANDRAILING				
a	Providing and fixing stairs railing of stainless steel pipe horizontal pipe rail of 50mm dia on top including 25mm tube in centre, bottom & vertical post at each alternate step with flange and flange cover as shown on drawings and as directed by the Engineer. with &including the cost of Erection in position and cartage at any height in any floor.	252.00	Per Rft		
b	Providing and fixing 50 mm dia stainless steel pipe rail fixed on stair side wall as per drawings and directions of the Engineer with and including cutting holes in walls / RCC for fixing and making good the same. The cost includes erection in position and cartage at any height in any floor.	126.00	Per Rft		
60	MILD STEEL WITH WOODEN TOP HAND RAIL Providing and fixing M.S Railing with deodar wooden top 2" x 4" with MS vertical post 1" x 1" and horizontal, top flat iron strip 1" x ¼" including fixing, embedding, welding, painting a base primer coat and 2 coat of enamel painting, finishing, installing, bracing, transportation, wastage etc complete as per drawings, specification and as directed by Engineer				
a	Floor Mounted	280.00	P.Rft		
b	Wall Mounted	85.00	P.Rft		
61	DOOR LOCKS (HEAVY DUTY) Providing and fixing Heavy Duty with C.P brass screws Alpha knob set lock of approved design, manufacturer, and color, cutting wood to required shape and size with three operation keys (Taiwan make). Complete in all respect as per specification & instruction of the Engineer-in-Charge	57.00	each		

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Civil Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
62	DOOR LOCKS Providing and fixing Washroom door locks with C.P brass screws Alpha knob set lock of approved design, manufacturer, and color, cutting wood to required shape and size with three operation keys (Taiwan make). Complete in all respect as per specification & instruction of the Engineer-in-Charge	31.00	each		
63	DOOR CLOSER Providing and fixing with brass screws or specially supplied screws hydraulic door closer of approved design and manufacturer, cutting wood etc to required shape and size (Japan make). Complete in all respect as per specification and instruction of the Engineer-in-Charge.	25.00	each		
64	GLASS WALL AT FRONT ENTRANCE Providing fabrication and fixing 08 mm thick imported tinted & tempered glass in premium model box section aluminum assembly champagne anodized complete in all respect as per drawings, specification and instruction of Engineer-in-Charge	630.00	P.Sft		
65	WATER STORAGE TANK OVER ROOF Construction of storage tank over roof of the required size poured and cast in RCC 1:2:4 including formwork in all walls and slabs laying 2" thick 1:4 cement concrete floor finished with neat cement slurry, ½" thick cement plaster in 1:3 cement mortar internally all using approved water proofing agent pudlo or its equivalent grade @ 5lbs/bag of cement and ¾" thick in cement plaster in 1" to 3" cement mortar externally including curing etc. 1 no. manholes opening size 18"X18" and C.L water tight Manhole cover and frame weight 40. Kg/ each with proper locking arrangement complete all as per drawing and design. Complete in all respect as per specification & instruction of the Engineer-in-Charge	3,200.00	Per Glen		
Cost of Non-Scheduled Items (Civil Work)				Rs=	

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Plumbing Works)
Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
66	PAKISTANI WC Providing and fixing squatting type white glazed earthen ware W.C. Pan with front flush inlet and complete with including the cost of flushing cistern with internal fitting and flush pipe with bend and making requisite number of holes in walls plinth and floor for pipe connection and making good in cement concrete 1:2:4 (foreign equivalent) with 4" dia C.I. Trap (Page No. 1, Item No. 2-a)	9	Each	5,728.80	51,559.20
67	EUROPEAN WC Providing and fixing European white glazed earthen ware wash down W.C. Pan complete with and including the cost of white / black plastic seat (best quality) and lid with c.p. brass hinges and buffers, 3 gallons white glazed earthen ware low level flushing cistern with siphon fitting 1½" dia white porcelain enamelled flush bend ¾" dia and making requisite number of holes in walls plinth and floor for pipe connections and making good in cement 1:2:4 (foreign quality) Page No. 2, Item No. 5.	21	Each	11,477.40	241,025.40
68	GULLY TRAP Providing and fixing 6" X 6" X 4" CC Guly Trap with 4" outlet complete 4" thick 1:2:4 CC for bed & ½" thick cement plaster (1:3) to the kerb, C.I. grating 6" X 6" & C.I. Cover and frame 12" X 12" (inside) etc. complete (Page No. 23, Item No. 1)	9	Each	1,193.17	10,738.53
69	NYLON CONNECTION Providing and fixing in position nylon connection complete with ½ dia brass stop cock with pair of bass nuts and lining joints and nylon connections. (CH-I, Page No. 6, Item No. 22)	29	Each	689.00	19,981.00

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Plumbing Works)
Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
70	LAVATORY BASIN				
a	Providing and fixing 24" X 18" lavatory basin in white glazed earthen ware complete with & including the cost of W.I. or C.I. cantilever brackets 6" built into walls painted white in two cats after a primary coat of red lead paint a pare of ½" dia rubber plug and chrome plated brass chain 1¼" dia malleable iron or brass unions and making requisite number of holes in walls, plinth and floor for pipe connections and making good in cement concrete 1:2:4 (foreign equivalent) Page No. 3, Item No. 10.	19	Each	4,928.00	93,632.00
b	Add extra labour for providing fixing of earthen ware PEDESTAL WHITE OR COLOUR GALZAED) CH-I: Page No. 4, Item No. 10 +11)	1	Each	2,533.47	2,533.47
71	BATHROOM ACCESSORIES				
	Supply and fixing Bathroom Accessories set (7 Piece) including towel rod, brush holder, soap tray, shelf of approved design including cost of screws, nuts etc. complete (Master Brand or as recommended by Engineer-in-Charge). Page No. 19, Item No. 23	29	Each	10,322.40	299,349.60
72	C.I.TRAP				
	Providing and fixing C.I. trap with 4" dia inlet and 4" dia outlet of the approved self cleaning design with a C.I. grating with or without a vent arm including cost of jointing requisite number of holes in walls, plinth and floor for pipe connection and making good cement concrete 1:2:4. (CH-I, Page NO. 6, Item No. 20)	10	Each	2,024.43	20,244.30
73	BIB COCKS				
	Supply and fixing C.P. Muslim Shower with double Bib Cock and ring pipe etc. complete (Page No. 19, Item No. 19-a)	5	Each	3,432.00	17,160.00
74	TEE STOP COCKS				
	Supply and fixing ½" dia concealed tee stop cock of superior quality with cp head (CH-VI-Page No. 18, Item No. 12-b)	40	Each	889.46	35,578.40

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Plumbing Works)
Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
75	LONG BIB COCKS Supply and fixing ½" dia long bib cock of crystal head of superior quality. Complete (CH-VI-Page No. 19, Item No. 13-b)	5	Each	1,384.24	6,921.20
76	PILLER COCK Supply and fixing swan type piller cock of superior quality with crystal head. complete (CH-VI, Page No. 19, Item No. 16-b)	19	Each	877.80	16,678.20
77	MUSLIM SHOWER Supply and fixing C.P. Muslim Shower with double Bib Cock and ring pipe etc. complete (Page No. 19, Item No. 19-a)	30	Each	3,432.00	102,960.00
78	STOP COCK Supply and fixing concealed tee- stop cock of superior quality with c.p. head ½" dia (Page No. 18, Item No. 12-a)	15	Each	843.92	12,658.80
79	LOOKING MIRROR Providing and fixing 24" X 18" bavelled edge mirror of Belgium glass complete with ½" thick hard. (Superior Quality) CH-II-Page No. 7, Item No. 3-b	35	Each	2,376.00	83,160.00
80	HANDLE VALVE Providing and fixing handle valves (china) with wheels, threaded or flanged ends with rubber washers (standard pattern)				
a	CH-VI-Page No. 17, Item No. 5-ii	12	Each	271.92	3,263.04
b	CH-VI-Page No. 17, Item No. 5-iii	12	Each	365.42	4,385.04
81	MANHOLE (TYPE A SMALL) Constructing manhole or inspectoin chamber for the required diameter of circular sewer and 3'-6" (1067 mm) dept with walls of BB in cement sand mortar 1:3 cement plastered 1:3, ½" thick inside of walls and 1" thick over benching and channel including fixing C.I.Mahole cover with frame of clear opening 1-½' X 1-½' of 1.75 cwt. (88.9 kg) embaded in plain CC 1:2:4 and fixing " dia MS steps 6" wide projecting 4" from the face of wall at 12" CC duly painted etc. complete as per standard specifications and drawing. (4" to 12" dia 2' X 2' X 3'-6") Page No. CH-II, Page No. 46, Item No. P-a.	10	Each	14,748.00	147,480.00
Sub Total				Rs=	1,169,308.18
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Plumbing Work)				Rs=	_____

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

Non-Schedule Items (Plumbing Work)

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
82	<p>DOUBLE BIB COCK Providing and fixing chrome plated Muslim Double-Bib-Cock with Muslim Shower of (Master Make best quality). Complete in all respect as per instructions of Architect / Engineer-in-charge</p>	30	Each		
83	<p>PPRC Providing and fixing PPRC Pipes and specials, etc.; including fixing, cutting and fitting, complete with and including the cost of cutting trench upto 2'-6" feet deep, refilling watering, ramming and disposal of surplus earth within one chain and painting 2 coats of bitumen paint to pipes and specials after cleaning and hessian cloth soaked in maxphalt composition wrapped tightly round the pipes and testing to a pressure head of 200 feet and cartage within 10 miles (16.09 km).</p>				
a	Do. Do ½ inch (12 mm) Dia Pipe.	10.00	P.Rft		
b	Do. Do ¾ inch (20 mm) Dia Pipe.	10.00	P.Rft		
c	Do. Do 1 inch (25 mm) Dia Pipe.	10.00	P.Rft		
d	Do. Do 1¼ inch (32mm) Dia Pipe	10.00	P.Rft		
e	Do. Do 2" inch (50mm) Dia Pipe	10.00	P.Rft		
84	<p>NON RETURN VALVE Providing & fixing 2" dia non return valve. Complete in all respect as per instructions of the Engineer-in-charge</p>	1	Each		
85	<p>MONO BLOCK PUMPING SET Providing and fixing mono block pumping set complete with ½ HP pump 2800 RPM complete with AC 220 V single phase motor on a common base plate having suction & discharge 1" X 1" and 40' head as approved including excavation, cast of RC foundation in ratio 1:2:4 S.R.C fairface including supply and installation of foundation bolts and nuts etc. of required dia meter. Complete in all respect as per instructions of the Engineer-in-Charge.</p>	1	Each		

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

Non-Schedule Items (Plumbing Work)

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
86	U.P.V.C Providing and fixing Un Ployvinyl Chloride Pipe (P.V.C) "E" Class and tee, Bend & Elbow Specials etc. including cutting and fitting, complete with and including the cost of trench up to 1-1½ feet deep refilling, watering , ramming and disposal of surplus earth within one chain and after cleaning the pipe and cartage within 10 miles (working pressure 12/kg/cm ²)				
a	Do. Do ½ inch (12 mm) Dia Pipe.	790.00	P.Rft		
b	Do. Do ¾ inch (20 mm) Dia Pipe.	450.00	P.Rft		
c	Do. Do 1 inch (25 mm) Dia Pipe.	230.00	P.Rft		
d	Do. Do 1¼ inch (32mm) Dia Pipe	200.00	P.Rft		
e	Do. Do 2" inch (50mm) Dia Pipe	500.00	P.Rft		
f	Do. Do 3 inch (75 mm) Dia Pipe.	1,020.00	P.Rft		
g	Do. Do 4 inch (100 mm) Dia Pipe.	616.00	P.Rft		
h	Do. Do 6 inch (150 mm) Dia Pipe.	200.00	P.Rft		
i	Do. Do 9 inch (225 mm) Dia Pipe.	380.00	P.Rft		
Cost of Non-Scheduled Items (Plumbing Work)				Rs=	

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Electrical Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUB HEAD: INTERNAL ELECTRIFICATION				
87	Wiring for light or fan point with 3/.029 PVC insulated wire in 20 mm (3/4") PVC conduit recessed in wall or in columns as required.(Page No. 15, Item No. 124) (Pak/AGE/Fast)	623.00	Per Point	1,130.00	703,990.00
88	Wiring for Plug point with 3/.029 PVC insulated wire in 20 mm (3/4") PVC conduit recessed in the wall or column as required.(Page No. 15, Item No. 126) (Pak/AGE/Fast)	194.00	Per Point	985.00	191,090.00
89	Wiring for call bell point with (3/.029") PVC insulated wire in 20 mm ² , (3/4")dia PVC conduit recessed in the wall, column as required (Page No 15, Item No. 128) (Pak/AGE/Fast)	3.00	Per Point	1,380.00	4,140.00
90	Providing and fixing brass ceiling fan 56" (good quality)(Page No. 34, Item No. C-235) (PAK/ Millat/ Asia)	73.00	Each	3,185.00	232,505.00
91	Providing & fixing brass Bracket Fan 18" (Page No. 18" good quality (Page No. 34, Item C-236)	8.00	Each	2,791.00	22,328.00
92	Providing and fixing circuit breaker 6,10,15,20,30,40,50,&63 amps DP (TB-55)on prepared board as required. (Page No. 31/204) (Traski, Senidar)	55.00	Each	2,456.00	135,080.00
93	Providing and fixing circuit breaker 6,10,15,20,30,40,50,&63 amps SP (TB-55) on prepared board as required. (Page No. 31/203) (Traski, Senidar)	166.00	Each	916.00	152,056.00
94	Providing and fixing circuit breaker 15,20,30,40,50,&60 amps TP (XE-100CS [CB]) on prepared board as required. (Page No. 31/206) (Traski, Senidar)	15.00	Each	5,521.00	82,815.00
95	Providing and fixing circuit breaker 15,20,30,40,50,60,75,100 amps TP (XS-100NS) on prepared board as required. (Page No. 31/207) (Traski, Senidar)	3.00	Each	9,261.00	27,783.00

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Electrical Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
96	Providing and fixing circuit breaker 125, 150, 200 & 225amps TP (XS-225NS) on prepared board as required. (Page No. 31/208) (Traski, Senidar)	9.00	Each	25,541.00	229,869.00
	MAIN CABLING				
97	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 4-7/.064 (16 mm ²) copper conductor in 1.5" dia PVC conduit recessed in the wall or column as required. (Page No. 6, Item No. 42)	185.00	P.Mtr	1,213.00	224,405.00
98	Providing and laying (MAIN or SUB MAIN) PVC insulated and PVC sheeted with 4 core copper conductor 600/1000 volts size 150mm ² (Page No. 13, Item No. 109)	23.00	P.Mtr	10,028.00	230,644.00
	MAIN OR SUB MAIN				
99	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 3-3/.036 copper conductor in ¾" dia PVC conduit recessed in the wall or column as required (Page No. 4, Item No. 23)	300.00	P.Mtr	247.00	74,100.00
100	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 3-7/.029 (4mm) copper conductor in ¾" dia PVC conduit recessed in the wall or column as required (Page No. 4, Item No. 24) (Pak./ Poineer- Fast)	300.00	P.Mtr	294.00	88,200.00
101	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 3-7/.044 (6mm) copper conductor in 1" dia PVC conduit recessed in the wall or column as required (Page No. 4, Item No. 26) (Pak./ Poineer- Fast)	300.00	P.Mtr	468.00	140,400.00
102	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 4-7/.052 (10mm) copper conductor in 1½" dia PVC conduit recessed in the wall or column as required (Page No. 4, Item No. 26) (Pak./ Poineer- Fast)	20.00	P.Mtr	1,213.00	24,260.00

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Electrical Works)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
103	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 4-3/.029 copper conductor in 1" dia PVC conduit recessed in the wall or column as required (Page No. 5, Item No. 36)	300.00	P.Mtr	255.00	76,500.00
104	Providing and laying (MAIN or SUB MAIN) PVC insulated with single core copper conductor 250 / 440 volts size (2-7/.064) 16mm ² (Page No. 6, Item No. 49)	60.00	P.Mtr	524.00	31,440.00
105	Providing and laying (MAIN or SUB MAIN) PVC insulated with single core copper conductor 250 / 440 volts size (2-7/.052) 10mm ² (Page No. 6, Item No. 48)	60.00	P.Mtr	335.00	20,100.00
106	Providing and laying (MAIN or SUB MAIN) PVC insulated and PVC Sheed with 4 core copper conductor 600 / 1000 volts size 150mm ² (Page No. 13, Item No. 109)	85.00	P.Mtr	10,028.00	852,380.00
Sub Total				Rs=	3,544,085.00
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Electrical Work)				Rs=	_____

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	ACCESSORIES				
107	Providing & fixing 10 Amps Polycarbonate flame retardant S.P switch with fancy required gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (E31-36/1/2A Clipsal make)	593.00	Each		
108	Providing & fixing 10 Amps Polycarbonate flame retardant Bell Push with fancy gang plate fixed on die fabricated, powder coated, metal board recessed in wall or column including connection as required. (E31MBPR Clipsal make)	3.00	Each		
109	Providing & fixing 13 Amps Polycarbonate flame retardant 3-Pin switch socket unit with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (E15 Clipsal make)	194.00	Each		
110	Providing & fixing Polycarbonate flame retardant, 400 watts fan dimmer with plate fixed on die fabricated, powder coated, metal board recessed in the wall or column including connection as required. (E32V400F Clipsal make)	73.00	Each		
111	Providing & fixing 3"x4"x5" size 1/8" thick recessed type fan clamp box with 5/8" dia MS bar fan clamp fixed in riif at casting time as required.	73.00	Each		
112	Providing & installing 30 Cm (12") sweep, Plastic body Exhaust fan complete with blades, motor, etc fixed in existing hole including connection with 14/.0076" flexible wire complete as required Millat / Pak / Asia / Younas / Climax / Royal.	1.00	Each		
113	Providing & installing 30 Cm (12") sweep, mettalic body Exhaust fan complete with blades, motor, etc fitted in existing hole including connection with 14/.0076" flexible wire complete as required Millat/Pak/Asia/ Younas/Climax/ Royal.	10.00	Each		

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

(Electrical Works)
Non-Schedule Items

BILL OF QUANTITIES

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
114	Making hole in the wall for 12" to 16" sweep metallic exhaust fan and fixing of holefast, duly palaster and making good the damage as required.	11.00	Each		
115	Providing & fixing Cubical type metal sheet Distribution board with locking arrangment as per drawing ,vermin protected duly powder coated paint i/c all fastening material including wiring with suitable gauge PVC x PVC wire complete as required. (Hussain co/ Nadeem co.)	40.00	Per Sft		
116	Providing & fixing cubical type metal sheet vermin protected LT pannel board as per drawing with locking arragement duly powder coated I/c all fastening devices and electrical wire/ leads for internal connection complete as required for pannel and ups DB. (Hussain co/ Nadeem co.)	10.00	Per Sft		
117	Providing & fixing pilot lamp set fitted on existing board I/c connection as required. (Traski, Senidar)	21.00	Set		
118	Supply & fixing 20mm (3/4") dia PVC conduit with all especial such as bends, sockets, Junction etc fitted on surface as required. (Gelco, Jaddah)	3,000.00	Per Rft		
119	Providing and fixing earthing set with 2'x2'x1/4" copper plate buried in the ground at a depth of 12 feet or less if water comes out from the ground level (with salt and charcoal, or Earthing chemical Power) etc making the pit 12 feet deep by excavation of all type of soil (except soft or hard rock) i/c fixing of 8 SWG copper wire in 1/2" G.I conduit complete in all respect as required.	7.00	Job		

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
	SUB HEAD: TELEPHONE				
120	Providing & fixing Polycarbonate flame retardant Telephone socket 4 contact single 2 line with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (E31RJ64SM Clipsal make)	21.00	Each		
121	Providing & fixing Polycarbonate flame retardant data socket unit with 8 contact cat 5 with fancy gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (E31RJ64SM Clipsal make)	30.00	Each		
	DRY CHEMICAL POWDER TYPE - 5KG TYPE				
122	Dry chemical powder type fire extinguisher of 5 Kgs. Capacity, with initial filling in brand new cylinder with powder coated finish, fitted with Gun metal union, high pressure CO2 gas cartridge, discharge hose, wall mounting bracket etc. complete, confirming to IS:2171.	30.00	Each		
	SUB HEAD: FITTING & FIXTURE				
123	Providing and fixing 10" size imported concealed / surface type LED pannel light 18 W. complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	236.00	Each		
125	Providing and fixing stair / step light fitting as per step size (round / square shape day light or soon) imported concealed / surface type LED pannel light 4 W. complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	71.00	Each		
125	Providing and fixing 6" size (round / square shape) imported concealed / surface type LED pannel light 9 W. complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	71.00	Each		

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
126	Providing and fixing 1' feet long LED mirror light fitting imported surface type 5-6 W. complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	3.00	Each		
127	Providing and fixing 24 watt LED 2 x 2 size fittings with decorative base plate complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	82.00	Each		
128	Providing and fixing 70W imported concealed / surface type LED Flood light weather proof. complete in all respect including connection as approved by the Engineer-in-Charge. (imported or as recommended by Engineer)	3.00	Each		
129	Providing & installing Cassett Fan recessed type with blades,grill, having size of 2 x 2 including connection with 14.0076" flexible wire complete as required. (without regulator) Millat / Pak / Asia / Younas / Climax / Royal.	69.00	Each		
130	Providing & fixing 20 amps DP MCCB in metal box recessed in the wall or column complete with plastic / fiber sheet and connection as required	29.00	Each		
	SUB HEAD: NETWORKING				
131	Supplying, Termination, Installing and deploying, CAT-6 ethernet wires for all the required nodes mentioned in drawings with end to end fluke testing in ¾" dia PVC pipes, proper harnessed and structured cabling including labelling, tagging at both ends and fixing them in communication racks, with available manageable switches copper /SFP Modules as Duplex SFP ports / for Fiber uplinks, with Cable Manager, patch panels inside to accommodate each and every node, with all accessories complete in respect as needed or as required, Make 3-M / Schneider/ Vivanco (114 Nodes for Wired Connection and 56 Nodes for Wireless AP's and etc)	5,000.00	Per Rft		

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
132	Supplying, Providing, and installing communication Rack 15U with all rack mount and other required accessories, with one sliding tray an two fixed trays with bolts and nuts, with 3M/ Pamduit front	2.00	Each		
133	Deploying 1 Meter Long CAT-6 UTP RJ-45 to RJ-45 data wire for conncting both ends from patch panel to switch with in the rack Make 3-M / Schneider/ Vivanco	30.00	Each		
134	Deploying 3 Meter Long CAT-6 UTP RJ-45 to RJ-45 data wire as drop cable from faceplate to system Make 3-M/ Schneider/ Vivanco	30.00	Each		
	TELEPHONE SET & CABLING				
135	Providing and installing testing and commissioning Complete Digital Telephone set approved colour and designe as approved by the Engineer as required.	21.00	Nos		
136	Wiring for 02 pair cable PVC Insulated for the Telephone set in an existing conduit recessed in the wall or column as required or as approved by the Engineer In charge. (Pak cable or euqivalent)	2,000.00	P.Rft		
137	Supply & drawing of 25 mm ² , 4 core, PVC x PVC insulated, sheeted flexible flat type cable in all kinds of existing or given conduit/cable duct as required. (Pak./ Poineer- Fast)	130.00	Per Rft		
138	Providing & fixing Cubical type G.I sheet not less then 14 SWG cable tray with hanging rode with complete arrangement of hanging of tray with duly powder coated enamel paint as required. (Hussain co/ Nadeem co.)	44.00	Per Sft		
139	Wiring for 25 pair cable PVC Insulated for the Telephone set in an existing conduit recessed in the wall or column as required or as approved by the Engineer In charge. (Pak cable or euqivalent)	1,000.00	P.Rft		

**CONSTRUCTION OF ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Electrical Works)
Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
140	Providing and installing testing and commissioning Complete Digital Telephone DB Board made of heavy gauge metal sheet and powder coated with locking arrangements i/c telephone connectors set as approved as approved by the Engineer as required.	5.00	P.Sft		
141	Providing & fixing upto 250 Amps, 4 pole, three phase bus bar strip fitted in given Distribution board complete with bus bar insulator, screws , bolts etc as required. Complete in all respect as per direction of the Engineer-in-Charge.	3.00	Job		
142	Providing and fixing mechanical interlock change over switch 400 amps in existing main panel board operation with 380/440 Volts AC supply including interconnections. Complete in all respect as per instruction of the Engineer-in-Charge.	1.00	Job		
143	ELECTRIC WATER COOLER Providing and fixing of electric water cooler totally rust proof, pressure type with stainless steel body as manufactured by MECO including 3 stage water filter (mabzi or equivalent) as approved by the Engineer. (40 gln capacity)	3	Each		
Cost of Electrical Work (Non-Schedule Items)				Rs=	

**CONSTRUCTION OF CAR PARKING SHED, ACADEMIC BLOCK-II (MEGA - IV) AT NED UNIVERSITY OF
ENGINEERING AND TECHNOLOGY, KARACHI**

SUMMARY OF COST

S #	SUB HEAD	TOTAL AMOUNT
	PARKING SHED	
	CIVIL WORK	
1	Parking Shed (Non-Schedule Item) (Page No. 35 - 35) (A)	Rs= Rs=
	ELECTRICAL WORK	
2	Electrical Work (Schedule Items) (Page No. 36 - 36)	Rs=
3	Electrical Work (Non-Schedule Items) (Page No. 36 - 36) (B)	Rs= Rs=
Total Cost of Parking Shed (A+B)		Rs=

**CONSTRUCTION OF CAR PARKING SHED, ACADEMIC BLOCK-II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

Parking Shed
Non-Schedule Item

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	POLYCARBONATED SHEET (LIGHT VEHICLES SHED) Providing, fixing and erecting Light Vehicles Shed with Poly Carbonated sheet 4mm thick. The work including fabricating and erecting steel truss / frame as per design on 4 mm dia M.S Pipe supports embedded in concrete at required distances given in drawings and painting the iron work with synthetic with base cost of red oxide and 2 coat of enamel paint of approved make and shade. work complete in all respect as per manufacture specification, drawings and instruction of the Architect / Engineer-In-Charge	2,000.00	P.Sft		
Cost of Non-Scheduled Items Parking Shed				Rs=	

**CONSTRUCTION OF CAR PARKING SHED, ACADEMIC BLOCK-II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Ext.Dev. Work)

(Electrical Work) Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
2	Wiring for light or fan point with 3/.029 PVC insulated wire in 20 mm (3/4") PVC conduit recessed in wall or in columns as required.(Page No. 15, Item No. 124) (Pak/AGE/Fast)	10.00	Per Point	1,130.00	11,300.00
3	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 3-7/.044 (6mm) copper conductor in 1" dia PVC conduit recessed in the wall or column as required (Page No. 4, Item No. 26) (Pak./ Poineer- Fast)	100.00	P.Mtr	468.00	46,800.00
4	Providing and fixing circuit breaker 6,10,15,20,30,40,50,&63 amps DP (TB-55)on prepared board as required. (Page No. 31/204) (Traski, Senidar)	3.00	Each	2,456.00	7,368.00
Sub Total				Rs=	65,468.00
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Electrical Work)				Rs=	_____

Parking Shed
(Electrical Work) Non-Schedule Item

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
5	Providing & fixing 10 Amps Polycarbonate flame retardant S.P switch with fancy required gang plate fixed on die fabricated, powder coated metal board recessed in wall or column including connection as required. (E31-36/1/2A Clipsal make)	10.00	Each		
6	Providing and fixing basic batten, surface type, fitting complete TL'D 1x36W White day light lamp, starter, electro magnetic ballast & capacitor as Philips Cat. (TMS-015/136)	10.00	Each		
7	Providing & fixing Cubical type metal sheet Distribution board with locking arrangment as per drawing ,vermin protected duly powder coated paint i/c all fastening material including wiring with suitable gauge PVC x PVC wire complete as required. (Hussain co/ Nadeem co.)	1.50	Per Sft		
Cost of Non-Scheduled Items (Electrical Work)				Rs=	_____

**CONSTRUCTION OF WALK WAY, PAVING AREA AND ROAD AREA AT ACADEMIC BLOCK - II
(MEGA - IV) AT NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

SUMMARY OF COST

S #	SUB HEAD	TOTAL AMOUNT
	EXTERNAL DEVELOPMENT	
1	WALK WAY AND PAVER AREA	
	CIVIL WORK	
a	Civil Work (Schedule Work) (Page No. 37 - 39)	Rs=
b	Civil Work (Non-Schedule Work) (Page No. 39 - 39)	Rs=
	(A)	Rs=
2	PLUMBING WORK	
a	Plumbing Work (Schedule Work) (Page No. 40 - 40)	Rs=
	(B)	Rs=
3	ELECTRICAL WORK	
a	Electrical Work (Schedule Work) (Page No. 41 - 41)	Rs=
b	Electrical Work (Non-Schedule Work) (Page No. 41 - 41)	Rs=
	(C)	Rs=
4	ROAD WORK	
	CIVIL WORK	
a	Civil Work (Schedule Work) (Page No. 42 - 43)	Rs=
	(D)	Rs=
	Total Cost of ACADEMIC BLOCK - II (External Development) (A+B+C+D)	Rs=

**CONSTRUCTION OF WALK WAY AND PAVING AREA AT ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Ext.Dev. Work)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	EXCAVATION IN FOUNDATION Excavation in foundation in ordinary soil of Building Bridges and other structures including dagbelling dressing, refilling around structure with excavated earth watering and ramming lead upto 5 ft. (Page No.4, Item No.18-b)	2,570.00	%0Cft	3,176.25	8,162.96
2	IMPORTED EARTH FILL Filling, watering and ramming earth under floor with new earth (excavated from outside) lead upto one chain and lift upto 5 feet. (Page No.4, Item No.22	22,556.00	%0Cft	3,630.00	81,878.28
a	Add: extra lead 6 mile (referred from carriage of material schedule	22,556.00	%Cft	774.96	174,799.98
b					
3	KERB STONE Providing & fixing Precast Edge Block 3750 PSI Industrial Made Size 6 inches thick x 12" long x 18" high including the cost of Cartage, excavation, form work for haunching, 1450 PSI lean concrete, 2250 PSI concrete for haunching, 1:4 cement sand mortar (Vol-III-Part-IV Page No. 15, Item No. 14)	1,180.00	Per Rft	297.01	350,471.80
4	PAVING BLOCK Providing and fixing cement paving block flooring having size of 197 x 197 x 80mm of city / quddra Cobble shape with pigment having strength between 5000 psi to 8500 psi including filling the joints with hill sand and laying in specified manner / pattern and design etc. complete (Page No. 49, Item No. 74)	11,278.00	Per Sft	248.17	2,798,861.26
5	CC (1:4:8) IN FOUNDATION Cement concrete plain (ratio1:4:8) including placing compacting, finishing and curing complete (including screening and washing at stone aggregate without shuttering (Page No.15, Item No.5-i)	888.00	%Cft	11,288.75	100,244.10
6	SITU WALL & SUB FLOORING Cement concrete plain (ratio1:3:6) including placing compacting, finishing and curing complete (including screening and washing at stone aggregate without shuttering (Page No.15, Item No.5-h)	7,174.00	%Cft	12,595.00	903,565.30

**CONSTRUCTION OF WALK WAY AND PAVING AREA AT ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Ext.Dev. Work)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
7	FORM WORK Erection and removal of centering RCC or plain cement concrete works of Partal wood (2nd Class) Horizontal (Page No.17, Item No.19-bi)	3,015.00	%Sft	3,588.48	108,192.67
Sub Total				Rs=	4,526,176.35
_____ % Above / Below				Rs=	
Cost of Scheduled Items (Civil Work)				Rs=	

(Ext.Dev. Work)

Non-Schedule Items

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
8	STONE SOLING Providing and laying soling stone 6" to 9" thick under floor including packing with sprawls and chips and consolidation with compactor, watering etc. complete in all respect as per instructions of the Architect / Engineer-in-Charge.	5639.00	Per Cft		
9	SUPPLY GARDEN SOIL (SWEET EARTH) Supply and stacking garden approved garden soil (sweet earth) free from salts, pebbles and grass roots etc. including all leads and lifts. Complete in all respect as per specification and instruction of the Architect / Engineer-in-Charge.	1,500.00	Per Cft		
10	SPREADING GARDEN OIL (SWEET EARTH) Spreading approved garden soil (sweet earth) in uniform thickness including mixing and breaking clods and dressing fine for grassing including disposal of rubbish with 3 chains (92 m) Complete in all respect as per specification and instruction of the Architect/ Engineering-in-Charge	1,500.00	Per Cft		
11	GRASSING Grassng fine by dribbling grass roots 3" apart including watering, weeding till such time the grass is set and become green and is fit for mowing. Complete in all respect as per specification and instruction of the Architect/ Engineer-in-Charge.	1,200.00	Per Sft		
Cost of Non-Scheduled Items (Civil Work)				Rs=	

**CONSTRUCTION OF WALK WAY AND PAVING AREA AT ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Ext.Dev. Work)

(Plumbing Work) Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
12	RCC PIPE Providing, laying RCC pipes and collars of class 'A' and fixing in trench i/c cutting, fitting and jointing with maxphalt composition and cement mortar (1:1) i/c testing with water to head of 4.5 meter or 15 ft				
a	CH-II, Page No. 15 1c (150 mm - 6" Dia)	150	Rft	142.00	21,300.00
b	CH-II, Page No. 15 1d (225 mm - 9" Dia)	150	Rft	142.00	21,300.00
c	CH-II, Page No. 15 1e (300 mm - 12" Dia)	150	Rft	246.00	36,900.00
Sub Total				Rs=	79,500.00
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Civil Work)				Rs=	_____

**CONSTRUCTION OF WALK WAY AND PAVING AREA AT ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Ext.Dev. Work)

(Electrical Work) Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
13	Providing and laying (MAIN or SUB MAIN) PVC insulated with size 3-7/.044 (6mm) copper conductor in 1" dia PVC conduit recessed in the wall or column as required (Page No. 4, Item No. 26) (Pak./ Poineer- Fast)	500.00	P.Mtr	468.00	234,000.00
14	Providing and fixing circuit breaker 6,10,15,20,30,40,50,&63 amps DP (TB-55)on prepared board as required. (Page No. 31/204) (Traski, Senidar)	6.00	Each	2,456.00	14,736.00
Sub Total				Rs=	248,736.00
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Civil Work)				Rs=	_____

(Ext.Dev. Work)

(Electrical Work) Non-Schedule Item

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
15	Providing and fixing 4' height LED walkway light fitting complete with conopy glass and 1-¼" dia G.I Pipe with base plate fixing in ground in depth of 2' including 18W LED Lamp, glass holder etc with inter connect as approved by the Engineering approved by the Engineer-in-Charge. the job including the cost of 2 coat of enemal paint of with match the lighting fixture.	25.00	Each		
16	Providing and fixing 13' height LED street light fitting complete with fiber glass and 2" dia G.I Pipe with base plate fixing in ground in depth of 3' also the foundation of pole with junction box for wire connection. The fixture light having 30W LED Lamp, glass holder etc with inter connect as approved by the Engineering approved by the Engineer-in-Charge. the job including the cost of 2 coat of enemal paint of with match the lighting fixture.	13.00	Each		
17	Providing & fixing Cubical type metal sheet Distribution board with locking arrangment as per drawing ,vermin protected duly powder coated paint i/c all fastening material including wiring with suitable gauge PVC x PVC wire complete as required. (Hussain co/ Nadeem co.)	4.00	Per Sft		
Cost of Non-Scheduled Items (Electrical Work)				Rs=	_____

**CONSTRUCTION OF ROAD AREA AT ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Ext.Dev. Work)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	EARTHEN EMBANKMENTS Earth work for road embankment by bulldozer including ploughing, mixing clod breaking dressing and compacting with optimum moisture content lead upto 100 ft. and lift 5ft: in all types of soil except rock (Volume III - Part VI, Page No. 01, Item No. 6ii a)	7,000.00	%0Cft	6,190.17	43,331.19
2	IMPORTED EARTH FILL				
a	Filling, watering and ramming earth under floor with new earth (excavated from outside) lead upto one chain and lift upto 5 feet. (Page No.4, Item No.22	5,000.00	%0Cft	3,630.00	18,150.00
b	Add: extra lead 6 mile (referred from carriage of material schedule	5,000.00	%Cft	774.96	38,748.00
3	COMPACTION Compaction of Natural Ground upto a depth of 20 cm (8" inch) below the natural ground level compacted upto 90% density modified AASHTO (Volume III - Part VI, Page No. 01, Item No. 2)	7,000.00	%Sft	177.56	12,429.20
4	SUB-BASE COURSE Preparing sub grade including earth excavation or filling to an average depth of 9" dressing to camber and consolidation with power rollers (Volume III - Part VI, Page No. 02, Item No. 9)	5,250.00	%Sft	526.28	27,629.70
5	BASE COURSE Preparing sub-base by supplying and preading stone metal 1½" - 2" guage of approved quality from approved quarry in required thickness to proper camber and grade including hand packing filling void with 10 cft: screening & nonplastic quarry fines of approved quality and gauge from approved source, watering & compacting to achieve 98 - 100% density as per modified AASHO specifications. (rate includes all cost of materials T&P and carriage upto 3 chains) (Volume III - Part VI, Page No. 03, Item No. 11c)	3,500.00	%Cft	4,359.76	152,591.60

**CONSTRUCTION OF ROAD AREA AT ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

(Ext.Dev. Work)

Sindh Schedule of Rates 2012

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
6	<p>3" 75mm THICK ASPHALTIC BASE COURSE PLANT MIX</p> <p>Providing and laying Plant mixed Asphalt Concrete Binder Course compacted thickness 3" (75mm thick) as per approved job mixed formula using crush aggregate from approved sources. Using asphalt of grade 60/70 during laying temperature not less than 140C compacted by steel wheel & PTR roller. The procedure of laying binder course material & methodology shall fully comply with AASHTO and as directed by Engineer Incharge. Minimum bitumen content should be 3.5% binder course shall be spreading using paver machine.Rolling & finishing to design proper grade line level and camber etc. (Machinery with POLs cost of material carriage) (Volume III - Part VI, Page No 8, Item No 23A)</p>	7,000.00	%Sft	10,769.91	753,893.70
7	<p>1½" ASPHALT CONCRETE WEARING COURSE</p> <p>Laying mechanically to proper line and grade plant mixed Asphalt concrete specified formula according to job mixed formula approved by the Engineer incharge rolling and finishing to design Proper grade line level and comber etc (Machinery with POLs cost of material carriage) (Volume III - Part VI, Page No. 09, Item No24A)</p>	7,000.00	%Sft	6,873.79	481,165.30
8	<p>TACK COAT</p> <p>Applying priming coat or tack coat with approved binder at the required rate including cleaning the road surface thoroughly, heating to the required temperature and spraying the binder with pressure as directed etc., complete (Volume III - Part VI, Page No 11, Item No 31)</p>	14,000.00	%Sft	64.96	9,094.40
Sub Total				Rs=	1,537,033.09
_____ % Above / Below				Rs=	_____
Cost of Scheduled Items (Civil Work)				Rs=	_____

**INSTALLATION OF WALL MOUNTED AC AT ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

SUMMARY OF COST

S #	SUB HEAD	TOTAL AMOUNT
1	WALL MOUNTED AC (Page No. 43 - 43)	Rs:
TOTAL COST OF WALL MOUNTED AC		Rs=

**INSTALLATION OF WALL MOUNTED AC AT ACADEMIC BLOCK - II (MEGA - IV) AT
NED UNIVERSITY OF ENGINEERING AND TECHNOLOGY, KARACHI**

BILL OF QUANTITIES

Non-Schedule Item

S.NO	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
1	<p>WALL MOUNTED SPLIT Providing, fixing & installation of the following capacity wall mounted BTU / Hr Air Conditioner unit in the specified place including gas charging of the unit. The job includes copper piping of out door unit fitted on roof or angle iron frame making inter connection of the unit with suitable sizes of wire also piping for condensed water etc as required approved make (Imported). including cost of all materials, labours, tools, rawal bolts, hoisting, transportation, wastage as per drawings, specification and as directed by the Engineer</p>				
a	1.5 Ton, 18,000 BTU	1	Each		
b	2 Ton, 24,000 BTU	22	Each		
TOTAL COST OF WALL MOUNTED AC				Rs=	