



TWO VOLUMES
Volume-I: Instructions to Bidders
& Conditions of Contract
Volume-II: Financial Bid

STATE BANK OF PAKISTAN
SBP BANKING SERVICES CORPORATION
HEAD OFFICE KARACHI

VOLUME-I

(Technical Proposal)

Bidding documents

For

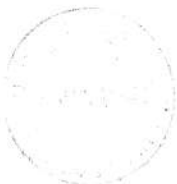
Renovation of Toilet Blocks at Ground Floor and Mezzanine Floor of Tower Block Building at SBP BSC
Peshawar

BIDDING AND CONTRACT DOCUMENT

INVITATION TO BID
INSTRUCTIONS TO BIDDERS
BIDDING DATA
FORM OF BID
QUALIFICATION CRITERIA
CONDITIONS OF CONTRACT
STANDARD FORM
DRAWINGS
SPECIFICATIONS



July-2022



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For Contractor



INSTRUCTIONS TO BIDDERS

A. GENERAL

IB.1. Scope of Bid & Source of Funds

1.1. Scope of Bid

The Employer as defined in the Bidding Data (hereinafter called "the Employer") wishes to receive Bids for the works summarized in the Bidding Data (hereinafter referred to as "the Works"). Bidders must quote for the complete scope of works. Any Bid covering partial scope of works will be declared non-responsive.

1.2. Source of Funds

The Employer has arranged funds from its own sources.

IB.2. Eligible Bidders

- 2.1. This Invitation for Bids is open to all persons, firms or companies dealing in the similar Works and not have been blacklisted or in litigation with any government department, autonomous body or any other organization. Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the Employer or any other organization. Firms owned wholly or partly by persons having business interests with any official of the Employer / Consultant responsible for preparation of bidding documents, specifications and procurement of the works in whatsoever capacity cannot participate in the bidding process.

2.2. Bidding Procedure

Bidding shall be conducted using the National Competitive Bidding Procedure specified in the PPRA Rules-2004, **Rule-36(b) i.e Single stage – two envelope procedure**. The bid shall comprise a single package containing two separate envelopes. Each envelope shall contain separately the Financial Proposal and the Technical Proposal. The envelopes shall be marked as "FINANCIAL PROPOSAL" and "TECHNICAL PROPOSAL" in bold and legible letters to avoid confusion. Initially, only the envelope marked "TECHNICAL PROPOSAL" shall be opened and the envelope marked as "FINANCIAL PROPOSAL" shall be retained in the custody of the Employer without being opened. The Employer will evaluate the technical proposal in a manner prescribed in Schedule B to Bid, without reference to the price and reject any proposal which does not conform to the specified requirements.

IB.3. Cost of Bidding

- 3.1. The bidder shall bear all costs associated with the preparation and submission of its bid and the Employer will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

B. BIDDING DOCUMENTS

IB.4. Contents of Bidding Documents

- 4.1. In addition to Invitation for Bids, the Bidding Documents are those stated below, and should be read in conjunction with any Addendum issued in accordance with Sub-Clause IB.6.1.
- 4.2. Instructions to Bidders & Bidding Data
- 4.2.1. Form of Bid & Schedules to Bid.

Schedules to Bid comprise the following:

- | | | |
|------|-------------|--|
| i. | Schedule A: | Schedule of Prices |
| ii. | Schedule B: | Post Qualification information and Bid Evaluation Criteria |
| iii. | Schedule C: | Specific Works Data |
| iv. | Schedule D: | Works to be performed by Sub-Contractors |
| v. | Schedule E: | Proposed Methodology/ Work Program of the Bidder |



vi. Schedule F: Integrity Pact

- 4.3. Conditions of Contract & Contract Data
- 4.4. Standard Forms:
 - a. Form of Performance Security
 - b. Form of Contract Agreement
 - c. Form of Mobilization Advance
 - d. Form of Indemnity Bond
- 4.5. Specifications (if any)
- 4.6. Drawings (if any)

IB.5. Clarification of Bidding Documents

- 5.1. A prospective bidder requiring any clarification(s) in respect of the Bidding Documents may notify the Employer at the Employer's address.
- 5.2. The Employer will respond to any request for clarification which it receives not later than ten (10) days prior to the deadline for the submission of Bids. Copies of the Employer's response will be forwarded to all prospective bidders, who have received the Bidding Documents including a description of the enquiry but without identifying its source.

IB.6. Amendment of Bidding Documents

- 6.1. 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.
- 6.2. Any addendum thus issued shall be part of the Bidding Documents pursuant to Sub-Clause 6.1 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.
- 6.3. To afford prospective bidders reasonable time in which to take an addendum into account in preparing their Bids, the Employer may at its discretion extend the deadline for submission of Bids.

C. PREPARATION OF BIDS

IB.7. Language of Bid

- 7.1. The bid prepared by the bidder and all correspondence and documents relating to the Bid, exchanged by the bidder and the Employer shall be written in the English or Urdu language, provided that any printed literature furnished by the bidder may be written in another language so long as accompanied by an English or Urdu translation of its pertinent passages in which case, for purposes of interpretation of the Bid, the English or Urdu translation shall govern.

IB.8. Documents Comprising the Bid

- 8.1. The bid shall comprise the following documents:

8.1.1. Technical Proposal;

- a. Covering Letter on company letter head.
- b. Form of Bid duly filled & signed and stamped in accordance with IB.14.3.
- c. Schedules (B to E) to Bid duly filled and initialed, in accordance with the instructions contained therein & in accordance with Sub-Clause IB.14.3.
- d. Bidder's 'Company Profile' including list of tools, equipment and other facilities owned by the Bidder.
- e. Bidding Documents (in original) duly signed and stamped on each page/sheet (excluding

For Contractor



Schedule-A (Schedule of Prices)).

- f. Power of Attorney in accordance with Sub-Clause IB 14.5.
- g. Documentary evidence in accordance with Clause IB.11
- h. Documentary evidence in accordance with Clause IB.12.
- i. Bid Security in line with IB-13

8.1.2. Financial Bid;

- a. Bidding Documents Schedule-A (Schedule of Prices), in original, duly signed and stamped on each page/sheet.

IB.9. Sufficiency of Bid

- 9.1. Each bidder shall satisfy himself before Bidding as to the correctness and sufficiency of his Bid and of the rates and prices entered in the Schedule of Prices, which rates and prices shall except in so far as it is otherwise expressly provided in the Contract, cover all his obligations under the Contract and all matters and things necessary for the proper completion of the Works.
- 9.2. The bidder is advised to obtain for himself at his own cost and responsibility all information that may be necessary for preparing the bid and entering into a Contract for execution of the Works.
- 9.3. The Bidders, at their own responsibility, risk & cost, are encouraged to visit and examine the site and obtain all information that may be necessary for preparing the Bid and entering into a contract for the Works.

IB.10. Bid Prices, Currency of Bid and Payment

- 10.1. The bidder shall fill up the Schedule of Prices (Schedule-A to Bid) indicating the unit rates and prices of the Works to be executed under the Contract. Prices in the Schedule of Prices shall be entered in Pak Rupees keeping in view the instructions contained in the Preamble to Schedule of Prices.
- 10.2. Unless otherwise stipulated in the Conditions of Contract, prices quoted by the bidder shall remain fixed during the bidder's performance of the Contract and not subject to variation on any account.
- 10.3. The unit rates and prices in the Schedule of Prices shall be quoted by the bidder in the currency as stipulated in Bidding Data.

IB.11. Documents Establishing Bidder's Eligibility and Qualifications

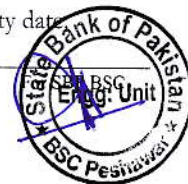
- 11.1. Bidder must possess and provide evidence of its capability and the experience as stipulated in Schedule-B to bid (Post-Qualification information and Bid Evaluation Criteria).

IB.12. Documents Establishing Works Conformity to Bidding Documents

- 12.1. The documentary evidence of the Work's conformity to the Bidding documents may be in the form of literature, drawings and data and the bidder shall furnish documentation as set out in Bidding Data.
- 12.2. The bidder shall note that standards for workmanship, material and equipment, and references to brand names or catalogue numbers, if any, designated by the Employer in the Technical Provisions are intended to be descriptive only and not restrictive.

IB.13. Bid Security

- 13.1. Each bidder shall furnish, as part of his bid a Bid Security in the amount stipulated in Bidding Data in Pak. Rupees in the form of Deposit at Call, Bank Draft or Pay Order issued by a Scheduled Bank in Pakistan in favour of the Employer valid for a period up to twenty-eight (28) days beyond the bid validity date.



- 13.2. Any bid not accompanied by an acceptable Bid Security shall be rejected by the Employer as non-responsive.
- 13.3. The bid securities of unsuccessful bidders will be returned upon award of contract to the successful bidder or on the expiry of validity of Bid Security whichever is earlier.
- 13.4. The Bid Security of the successful bidder will be returned when the bidder has furnished the required Performance Security, pursuant to Clause IB.21 and signed the Contract Agreement, pursuant to Sub-Clauses IB.22.
- 13.5. The Bid Security may be forfeited:
 - a. If a bidder withdraws his bid during the period of bid validity; or
 - b. If a bidder does not accept the correction of his Bid Price, or
 - c. In the case of a successful bidder, if he fails to:
 - i. Furnish the required Performance Security in accordance with Clause IB.21, or
 - ii. Sign the Contract Agreement, in accordance with Sub-Clauses IB.22.
- 13.6. In any event as specified in IB: 13.5, the Employer at his sole discretion may award works to second most advantageous bid.

IB.14. Validity of Bids, Format, Signing and Submission of Bid

- 14.1. Bids shall remain valid for the period stipulated in the Bidding Data after the date of bid opening.
- 14.2. All Schedules to Bid are to be properly completed and signed.
- 14.3. No alteration is to be made in the Form of Bid except in filling up the blanks as directed. If any alteration be made in the Form of Bid or any other part of Bidding Documents, or if these instructions be not fully complied with, the bid may be rejected.
- 14.4. Each bidder shall prepare Original and number of copies specified in the Bidding Data of the documents comprising the bid as described in Clause IB.8 and clearly mark them "ORIGINAL" and "COPY" as appropriate. In the event of discrepancy between them, the original shall prevail.
- 14.5. The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign (in the case of copies, Photostats are also acceptable). This shall be indicated by submitting a written Power of Attorney authorizing the signatory of the bidder to act for and on behalf of the bidder. All pages of the bid shall be initialed and official seal be affixed by the person or persons signing the bid.
- 14.6. In accordance with Clause IB-8, Technical Proposals & Financial Proposals shall be sealed in separate envelopes clearly marking the "Technical Proposal" & "Financial Proposal" and then both envelopes sealed in an outer envelope addressed to the Employer, with description of the contract and a warning regarding not to open before the specified date & time.

D. SUBMISSION OF BIDS

IB.15. Deadline for Submission, Modification & Withdrawal of Bids

15.
 - 15.1. Bids must be received by the Employer at the address/provided in Bidding Data not later than the time and date stipulated therein.
 - 15.2. Bids submitted through telegraph, telex, fax or e-mail shall not be considered.

For Contractor



- 15.3. Any bid received by the Employer after the deadline for submission prescribed in Bidding Data will be returned unopened to such bidder.
- 15.4. Any bidder may modify or withdraw his bid after bid submission provided that the modification or written notice of withdrawal is received by the Employer prior to the deadline for submission of bids.
- 15.5. 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 pursuant to Sub-Clause IB.13.5 (a).

E. BID OPENING AND EVALUATION

IB.16. Bid Opening, Technical Qualification, Clarification and Evaluation

- 16.1. The Employer will open the Technical Proposals in the presence of bidders' representatives who may choose to attend, at the time, date and location stipulated in Bidding Data.
- 16.2. The Employer will conduct post-qualification of the bidders in line with the stipulations of Schedule-B to Bid (Technical Bid Evaluation Criteria) on the basis of documents provided by Bidder. Bids shall be evaluated according to the provisions of Schedule-B to Bid (Technical Bid Evaluation Criteria). Any bid not meeting the requirements of Schedule-B shall be rejected and declared as non-responsive. The Bidders should submit detailed technical data regarding the services and brochures of the offered equipment and materials etc.
- 16.3. After finalization of Technical qualification results, the Employer will open publicly, the Financial Proposals *of technically accepted bid(s), in the presence of bidders' representatives who may choose to attend, at the time, date and location.*
- 16.4. The bidder's name, Bid Prices, any discount, the presence or absence of Bid Security, and such other details as the Employer at its discretion may consider appropriate, will be announced by the Employer at the bid opening. Representatives of the bidders who choose to attend shall sign the attendance sheet.
- 16.5. To assist in the examination, evaluation and comparison of Bids the Employer may, at its discretion, ask the bidder for a clarification of its Bid. The request for clarification and the response shall be in writing and no change in the price or substance of the Bid shall be sought, offered or permitted.
- 16.6. The Financial Bids of bidders found technically non-responsive/ not-qualified shall be returned unopened to the respective bidders. During tender evaluation no amendment in the bid is allowed.
- 16.7. Arithmetical errors will be rectified on the following basis:

If there is a discrepancy between the unit price and total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between the words and figures the amount in words shall prevail.
If the bidder does not accept the corrected amount of Bid, his Bid will be rejected and his Bid Security shall be forfeited.
- 16.8. Any minor informality or non-conformity or irregularity in a Bid which does not constitute a material deviation may be waived by Employer, provided such waiver does not prejudice or affect of any other bidders.
- 16.9. The Employer will evaluate and compare only the bids previously determined to be substantially responsive and Post-qualified pursuant to Sub-Clauses IB.16.4 to 16.9 as per requirements given hereunder. Bids will be evaluated for complete scope of services. The prices will be compared on the basis of the Evaluated Bid Price pursuant to Sub-Clause 16.11 herein below.



16.10. Evaluated Bid Price;

In evaluating the bids, the Employer will determine for each bid in addition to the Bid Price, the following factors (adjustments) in the manner and to the extent indicated below to determine the Evaluated Bid Price:

- i. making any correction for arithmetic errors pursuant to Sub-Clause 16.7 hereof.
- ii. making an appropriate price adjustment for any other acceptable variation or deviation.
- iii. discount, if any, offered by the bidders.

16.11. After opening and scrutinizing the Financial Bids, the bids having item rates which are found imbalanced (abnormally high/low rates than market/ Engineer's estimate) will be rejected unless the bidder provides the justifiable rate analysis corresponding to the Engineer's Estimate. The payments against such running bills will be made as provided in clause 11 (b) of Conditions of Contract.

16.12. No alternate proposal(s) shall be entertained. Bidders offering more than one proposal(s) shall be disqualified and its bid shall be deemed to be non-responsive.

IB.17. Process to be Confidential

17.1. Subject to Sub-Clause IB.16.5 heretofore, no bidder shall contact Employer on any matter relating to its Bid from the time of the Bid opening to the time the bid evaluation results are announced by the Employer. The evaluation results shall be announced as under:

- a. Technical Evaluation Report would be hoisted for Seven days on SBP website and on Notice Board of the office
- b. Financial / Final Evaluation Report would be hoisted for fifteen days on PPRA and SBP websites and on Notice Board the office

17.2. Any effort by a bidder to influence Employer in the Bid evaluation, Bid comparison or Contract Award decisions may result in the rejection of his Bid and will be blacklisted as per provisions of Public Procurement Rules, 2004. Whereas, Any bidder feeling aggrieved by any act of the procuring agency after the submission of his bid may lodge a written complaint concerning his grievances to Grievance redressal committee (GRC) as provided in Bid Data Sheet within seven days of announcement of the technical evaluation report and five days after issuance of final evaluation report.

F. AWARD OF CONTRACT

IB.18. Post Qualification

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

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

IB.19. Award Criteria & Employer's Right

19.1. Subject to IB.19.2, the Employer will award the Contract to the bidder whose bid has been found most advantageous bid i-e the bid which has been determined to be substantially responsive to the eligibility criteria and other terms of Bidding Documents and which has the lowest evaluated Bid Price.

19.2. Notwithstanding Sub-Clause IB.19.1, 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 to inform the affected bidders of the grounds for the Employer's action except that the grounds for its rejection of all bids shall upon request be

For Contractor



communicated, to any bidder who submitted a bid, without justification of the grounds. Notice of the rejection of all the bids shall be given promptly to all the bidders.

IB.20. Notification of Award

- 20.1. 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.

IB.21. Performance Security

- 21.1. The successful bidder shall furnish to the Employer a Performance Security in the form and the amount stipulated in the Conditions of Contract within a period of fourteen (14) calendar days after the receipt of Letter of Acceptance.
- 21.2. Failure of the successful bidder to comply with the requirements of Sub-Clauses IB.21.1 and / or IB.22 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security.

IB.22. Signing of Contract Agreement

- 22.1. The Contractor will prepare Contract Agreement in the Form of Contract Agreement provided in the Bidding Documents, incorporating all agreements between the parties. All cost in this regard including stamp duty shall be borne by the Contractor
- 22.2. The formal Agreement between the Employer and the successful bidder shall be executed within seven (07) days of the receipt of Form of Contract Agreement.

IB.23. Integrity Pact

- 23.1. The Bidder shall sign and stamp the Form of Integrity Pact provided at Schedule-F to Bid in the Bidding Document for all Federal Government procurement contracts exceeding Rupees ten (10) million. Failure to provide such Integrity Pact shall make the bid non-responsive.

IB.24. Rates inclusive of all taxes .

- 24.1. The quoted rates should be inclusive of all applicable taxes, duties, liabilities, overheads, transportation charges etc. The exemption in Taxes will only be allowed against the Exemption Certificate issued by the relevant Tax Department. The bidders should be registered with all applicable tax departments.

IB.25. Code of Conduct

- 25.1. It is the Employer's policy that Contractors to observe the highest standards of ethics during the procurement and execution of contracts. In pursuit of this policy, the Employer follows, inter alia, the instructions contained in PPR-2004 which defines:

"blacklisted" means a bidder that is declared by the Authority untrustworthy after establishing the fact that the bidder was found involved in any corrupt and fraudulent practice or practices; or if the bidder is declared incapable by the Authority due to its established performance failure during the execution of the contract; or if the bidder deviates from its prior commitment or declaration made regarding the bid or proposal submitted by the bidder.

"corrupt and fraudulent practices" in respect of procurement process, shall be either one or any combination of the practices including:-

- i. "coercive practices" which means any impairing or harming or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party;



- ii. "collusive practices" which means any arrangement between two or more parties to the procurement process designed to stifle open competition for any wrongful gain, and to establish prices at artificial, non-competitive levels;
 - iii. "corrupt practices" which means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;
 - iv. "fraudulent practices" which means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation; and
 - v. "obstructive practices" which means harming or threatening to harm, directly or indirectly, persons to influence their participation in a procurement process, or affect the execution of a contract;
- 25.2. Under PPR-2004, the Employer can inter alia blacklist bidders found to be indulging in corrupt or fraudulent practices. Such barring action will be duly publicized and communicated to the PPRA. Such matters would be referred to the Blacklisting Committee that is empowered to take action accordingly.

NATURE OF OFFENSE / FAULT	MEANS OF VERIFICATION
Corruption	Actual instance verifiable as per law of land and applicable rules and regulations of SBP
Deviation from commitment	If the bidder deviates from its prior commitment or declaration made regarding the bid or proposal submitted by the bidder.
Fraud	Cross verification of documentary undertakings submitted by Contractor/ Bidder/Consultant/Supplier
Collusion	Results of Bid/Proposal analysis resulting in substantive evidence of collusion
Performance Deficiencies	Documented evidence in form of performance deficiencies not suitably responded or defended by Contractor/ Bidder/ Supplier/ Consultant

However such barring action shall be undertaken only after Contractor who is to be barred and blacklisted shall be accorded adequate opportunity of being heard. Decision of the Blacklisting Committee of SBP BSC will be final and conclusive.

- 25.3. The receipt for any money paid by the bidders will not be considered as any acknowledgement of payment to the Contractor unless such receipt is signed by a duly authorized officer of the Employer and Contractor shall be solely responsible for seeing that a proper receipt is provided.
- 25.4. Attention of bidders is drawn to Rule-32 of PPR-2004 whereby they are required to identify any discriminatory and difficult conditions, introduced by Employer which discriminates between bidders or that is considered to be met with difficulty. In ascertaining the discriminatory or difficult nature of any condition reference shall be made to the ordinary practices of that trade, manufacturing, construction business or service to which that particular procurement is related. However in certain conditions Employer may describe exceptions or preferences consistent with Rule-4 of PPR-2004.
- 25.5. Employer's policy requires that selected Contractor shall provide professional, objective, and impartial advice and services and at all times hold the Employer's interests paramount, strictly avoid conflicts with other assignments or their own corporate interests and act without any consideration for future work. Bidders have an obligation to disclose any situation of actual or potential conflict that impacts their capacity to serve the best interest of the Bank, or that may reasonably be perceived as having this effect. Failure to disclose said situations may lead to the disqualification of the bidder and termination of contract arising out of this procurement
- 25.6. Without limitation on the generality of the foregoing, Contractors and any of their affiliates, shall be considered to have a conflict of interest and shall not be recruited, under any of the circumstances set forth below:
- a) A Contractor that has been engaged by the Employer to provide goods, works or services other than consulting services for a project, and any of its affiliates, shall be disqualified from providing

For Contractor



consulting services related to those goods, works or services. Conversely, Contractor hired to provide consulting services for the preparation or implementation of a project, and any of its affiliates, shall be disqualified from subsequently providing goods or works or services other than consulting services resulting from or directly related to the firm's consulting services for such preparation or implementation.

- b) A Contractor (including its Personnel and Sub-Contractor(s) or any of its affiliates shall not be hired for any assignment that, by its nature, may be in conflict with another assignment of the Contractor to be executed for the same or for another client.
- c) A Contractor (including its Personnel and Sub-Contractor(s) that has a business or family relationship with a member of the Bank's staff who is directly or indirectly involved in any part of (i) the preparation of the specifications of the goods, (ii) the selection process for such assignment, or (iii) supervision of the Contract, may not be awarded a Contract, unless the conflict stemming from this relationship has been resolved in a manner acceptable to the appropriate authority of the Employer.
- d) Bidders shall not recruit or hire any agency or current employees of the Bank. Recruiting former employees of the Employer or other civil servants to work for the bidders is acceptable provided no conflict of interest exists. When the Contractor nominates any government employee as Personnel in their bid, such Personnel must have written certification from their government or employer confirming that they are on leave without pay from their official position and allowed to work full-time outside of their previous official position. Such certification shall be provided to the Employer by the Contractor as part of bid.

IB.26. Overriding Effect:

- 26.1. The provision of Public Procurement Rules-2004 shall have prevailing effect.

IB.27. One Bid per Bidder

- 27.1. 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 will be disqualified

IB.28. Beneficial Ownership information

- 28.1. For works worth Rs.50M or above, the bidder shall provide Beneficial Ownership information on the prescribed Form. Failure to provide the required information of the beneficial ownership by the company or submission of false or partial information, the procuring agency shall:
 - i. Blacklist the said company in accordance with rule 19(1)(a) of Public Procurement Rules, 2004,
 - ii. Reject the bid of the said company.



*(Bidding Documents, Section-1, Part-2)***BID DATA SHEET (BDS)**

The following specific data for goods and services to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB) Section III. Whenever there is a conflict between BDS and ITB, the provisions of BDS shall prevail over those in ITB.

BDS 1.	The Employer	ITB 1.1
SBP BSC (Bank) Peshawar		
BDS 2.	Works	ITB 1.1
Renovation of Toilet Blocks at Ground Floor and Mezzanine Floor of Tower Block Building at SBP BSC Peshawar		
BDS 3.	Method of Procurement	ITB 2.2
Bidding shall be conducted using the National Competitive Bidding Procedure specified in the PPRA Rules-2004, Rule-36(b) i.e Single stage – two envelope procedure. The bid shall comprise a single package containing two separate envelopes. Each envelope shall contain separately the Financial Proposal and the Technical Proposal. The envelopes shall be marked as “FINANCIAL PROPOSAL” and “TECHNICAL PROPOSAL” in bold and legible letters to avoid confusion. Initially, only the envelope marked “TECHNICAL PROPOSAL” shall be opened and the envelope marked as “FINANCIAL PROPOSAL” shall be retained in the custody of the Employer without being opened. The Employer will evaluate the technical proposal in a manner prescribed in Schedule B to Bid, without reference to the price and reject any proposal which does not conform to the specified requirements.		
BDS 4.	Employer Address	ITB 5.1
Main Saddar Road, SBP BSC (Bank) Peshawar		
BDS 5.	Currency of Bid	ITB 10.3
Bid shall be quoted entirely in Pak. Rupees. The payment shall be made in Pak. Rupees.		
BDS 6.	Bid Security	ITB 13.1
Each bidder shall furnish, as part of his bid a Bid Security of minimum Rs 90,000/- in the shape of Pay Order / Demand Draft / Deposit at call in favor of <u>SBP-Banking Service Corporation</u> valid for a period 28 days beyond the Bid Validity date. The Bid Security in original is required to be submitted with Technical Bid.		
BDS 7.	Bid Validity	ITB 14.1
Bid Validity period is 180 days from the date fixed for opening of the Bids		
BDS 8.	No. of Copies	ITB 14.4
Only original Bid is to be submitted		
BDS 9.	Address for Bid Submission	ITB 14.6 & 15.1
As mentioned in Invitation to Bid		
BDS 10.	Deadline for Bid Submission	ITB 15.3
As mentioned in Invitation to Bid		
BDS 11.	Address of Grievances Committee	ITB 17.2
Chairman Grievances Committee,		

For Contractor

For SBP BSC


Office of the Director Human Resource Management Department 1st Floor, BSC House State Bank of Pakistan Main Building Complex, I.I.Chundrigar Road, Karachi		
BDS 12.	Performance Security	ITB 21.1
10% of the Contract Price stated in Letter of Acceptance / Award in the form of		
i. Pay Order, Demand Draft, Deposit at Call or Bank Guarantee from any Schedule Bank registered in Pakistan,		
OR		
ii. Insurance Guarantee from any insurance company with AA rating by PACRA / JCR.		
The Performance Security would remain valid till successful completion of Defect Liability Period and would be released after successful completion of defect liability period.		

For Contractor



FORM OF BID
(LETTER OF OFFER)

Bid Reference No. _____

Renovation of Toilet Blocks at Ground Floor and Mezzanine Floor of Tower Block Building at SBP BSC Peshawar
To: Gentlemen,

1. Having examined the Bidding Documents including Instructions to Bidders, Bidding Data, Conditions of Contract, Contract Data, Specifications, Drawings, Schedule of Prices and Addenda Nos. _____ for the execution of the above-named Works, we, the undersigned, being a company doing business under the name of and address _____ and being duly incorporated under the laws of Pakistan hereby offer to execute the subject works and remedy any defects therein in conformity with the said Documents including Addenda thereto for the Total Bid Price as stated in Volume-II: Schedule of Prices or such other sum as may be ascertained in accordance with the said Documents.
2. We understand that all the Schedules 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 as specified in bidding documents **IB.13 "Bid Security"**
4. We undertake, if we qualify and our Bid is accepted, to commence the whole Works comprised in the Contract within stipulated time for completion as mentioned in the bidding documents.
5. We agree to abide by this Bid for the period of **180** days from the date fixed for opening the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
6. Unless and until a formal Agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
7. We undertake, if our Bid is accepted, to provide the Performance Security referred to in Conditions of Contract for the due performance of the Contract.
8. We understand that you are not bound to accept the most advantageous bid or any bid you may receive.
9. We do hereby declare that the Bid is made without any collusion, comparison of figures or arrangement with any other person or persons making a bid for the Works.

Dated this _____ day of _____, 2022

Signature _____ in the capacity of _____ duly authorized to sign bid for and on behalf of the _____ (name of Bidder)

(Name of Bidder in Block Capitals)

(Seal)

Address

Witness:

(Signature) _____

Name: _____

Address: _____

For Official Use only			
..... ACM (PB-Vault)	 ACM (SMU)	 ACM (IMU)	 DCM (GSU)
..... JD (ENGG)		 CHIEF MANAGER	

For Contractor



(Bidding Documents, Section-1, Part-4)

SCHEDULES TO BID INCLUDE THE FOLLOWING

1. Appendix-A to Bid Price Adjustment under clause 11.10 of **Conditions of Contract**
2. Schedule A to Bid: Schedule of Prices
3. Schedule B to Bid: Qualification Information and Bid Evaluation Criteria
4. Schedule C to Bid: Specific Works Data
5. Schedule D to Bid: Works to be Performed by Subcontractors
6. Schedule E to Bid: Proposed Methodology/ Work Program of the Bidder
7. Schedule F: to Bid Integrity Pact

For Contractor



SCHEDULE-A TO BID
Appendix-A To Bid

PRICE ADJUSTMENT UNDER CLAUSE 11.10
OF CONDITIONS OF CONTRACT

The source of indices and the weightages or coefficients for use in the adjustment formula under Clause 11.10 shall be as follows:

Cost Element	Description	Weightages	Applicable index
1	2	3	4
(i)	Fixed Portion	0.76	
(ii)	Local Labour	0.15	Government of Pakistan (GP) Federal Bureau of Statistics (FBS) Monthly Statistical Bulletin.
(iii)	Cement – in bags	0.06	“ “ “
(iv)	High Speed Diesel (HSD)	0.03	Federal Bureau of Statistics (FBS) Monthly Statistical Bulletin, OGRA / PSO
	Total	1.000	

Notes:

- 1) The base date price (or base date index) of any element shall be the price of the element for the month on the day falling 28 days prior to the latest day for submission of bids.
- 2) The current date price (or current date index) of any element shall be the price of the element for the month falling on the day 28 days prior to the last day of the period to which the particular Payment Certificate relates
- 3) Any fluctuation in the indices or prices of materials other than those given above shall not be subject to adjustment of the Contract Price.

GUIDELINES FOR USER

- A. Weightage of fixed portion (Non-adjustable portion of the estimated cost of the contract), “A” shall be determined as under:
 1. First the weightages of all the cost elements having value of 3 percent or more to be added up to see whether the total is 75 percent or less. In that case the total is to be subtracted from one (01) to determine the weightage of the fixed portion, “A”.
 2. In case total weightage of the cost elements including HSD and labour exceeds 75 percent, the element(s) having lowest weightage(s) other than HSD and labour, shall be excluded in considering the adjustable costs elements.
 3. Fixed portion shall be 25 percent and in case the fixed portion exceeds 25 percent it shall be supported by calculations attached with the bidding documents.
 4. Sum of fixed portion, “A” and weightages b, c, d, etc., of the adjustable portion shall always be one (01).
- B. For further guidelines, please refer “Standard Procedure and Formula for Price Adjustment May 2022 by Pakistan Engineering Council.

For Contractor



SCHEDULE OF PRICES
(Financial Bid)

----- REFER TO VOLUME-II OF THE BIDDING DOCUMENTS -----

For Contractor



TECHNICAL BID EVALUATION CRITERIA**1. Qualification Criteria****1.1. General**

Qualification will be based on all the criteria given in succeeding para. Employer reserves the right to waive minor deviations, if these don't materially affect the capability of an applicant to perform the contract. Joint Venture or consortium is not allowed. The Employer reserves the right to seek further information and / or verify the information furnished by the applicants. In this regard, Employer reserve the right to have site visit to verify the previous installation /work experience etc. The Employer may reject any application for any misrepresentation knowingly made by any applicant in, or pursuant to, their application or for any statement furnished in connection therewith, and intended to be relied upon by the Employer, which is incorrect in any respect.

1.2. Parameters of Bid Evaluation & Qualification

SNO	Description	Annexure / Page No. of attached Document
1.	Bid is un-conditional, conditional bids shall be rejected.	
2.	Duly filled and signed Form of Bid.	
3.	Bid Security as required in clause IB-13	
4.	Bidder must be registered with FBR in Income Tax must active taxpayer as per Federal Board of Revenue (FBR's) revenue Data base i-e Active Tax Payer List.	
5.	Bidder shall be held non-responsive if Bidder's name is found in Schedule-IV (https://nacta.gov.pk/proscribed-persons-2/) and list of organizations / Splinter Outfits https://nacta.gov.pk/proscribed-organizations/ notified by National Counter Terrorism Authority NACTA Pakistan	
6.	i. Name of Company ii. Company Legal Status: (Tick Anyone and provide relevant documents) 1. In case of Individual / Sole Proprietor a) Copy of CNIC b) Affidavit that firm is individual / Sole proprietor 2. In case of Associated of Persons (AOP) a) Partnership Deed b) No. of Partners along with CNIC 3. In case of (Pvt.) limited a) Copy of Article of Association / Memorandum b) Form 29, Form A and Nos of Directors along with copy of CNIC iii. Contact details, a) Telephone, Mobile No. , Fax numbers(if any), email address (if any) b) Postal Address	
7.	Affidavit on non-judicial stamp paper of not being blacklisted , declared ineligible or debarred by any organization / department for corrupt or fraudulent practices, or no failure to perform with SBP BSC in past.	
8.	Bidder shall also provide the satisfactory performance certificates issued by the Bank (SBP BSC). If timely completion of project as per work program and cost is not achieved in any of the previous Contracts executed by the bidder to the Bank (SBP BSC) in the last three years, the bidder shall be held non-responsive.	
9.	The Bidder should also be registered with relevant / concerned Revenue Authority i.e KPRA. If not registered, the 100% tax shall be deducted at source as per applicable law and credited to relevant account.	

For Contractor



10.	Valid registration with Pakistan Engineering Council at least in Category C-6 or above with specialization category CE-10	
11.	Minimum two (2) works (construction/repair/ renovation/ maintenance) of cost Rs. 2.5 Million or more each, executed during last 5 (five) years (Work order/ completion certificates to be attached).	
12.	Minimum available Liquid assets of 1.0 Million (Bank statement of three months produced between date of publication of tender notice and bid submission date be submitted as evidence showing required balance at any one instant in the statement of last three months)	
13.	Acceptance of the Proposed Work Program as given in Schedule-E to Bid or submission of Work Program proposed by the bidder with overall project duration as mentioned in the contract data.	



SCHEDULE-C TO BID

SPECIFIC WORKS DATA

1. Location of Site:

“State Bank of Pakistan, Banking Services Corporation Peshawar”

2. Major Items of Contract:

Renovation of Toilet Blocks at Ground Floor and Mezzanine Floor of Tower Block Building at SBP BSC Peshawar includes works but not limited to

- a. Dismantling works
- b. Water proofing & subflooring works
- c. Masonry and plaster works
- d. Tile/ Marble works
- e. Plumbing, sanitary fittings & fixtures
- f. Electrical works

For Contractor



SCHEDULE-D TO BID

WORKS TO BE PERFORMED BY SUBCONTRACTORS

..... Sub-Contracting Not Allowed

For Contractor



SCHEDULE - E TO BID

Proposed Methodology/ Work Program

Bidder shall provide a program in a bar-chart showing the sequence of work items by which he proposes to complete the Works of the entire Contract. The program should indicate the sequence of work items and the period of time during which he proposes to complete the Works including the activities like designing, schedule of submittal of drawings, ordering and procurement of materials, manufacturing, delivering, construction of civil works, erection, testing and commissioning of Works to be supplied under the Contract. The proposed sequence of execution of various sections of the project shall be according to the given Key Performance Indicators (KPIs) as following;

Sr. No.	Description of Activity	Total Days	Execution Scheduled Days							
			0-30	31-60	61-90	91-120	121-150	151-180	181-210	211-240
01	Dismantling works	30	■							
02	Water proofing & subflooring works	30		■						
03	Masonry and plaster works	60			■	■				
04	Tile/marble works	60					■	■		
05	Plumbing Works	60				■	■			
07	Sanitary fittings & fixtures	30							■	
08	Electrical Works	30							■	
09	Punch List works & Handing/Taking Over	30								■

The above Key Performance Indicators should be taken into consideration by the bidder in order to execute the works.

Signatures:

Stamp:

If the above KPI is not acceptable to any bidder, the bidder will prepare its own Work Program along with detailed justification for its change. Bids without above given Work Program or bidder's own proposed Work Program without justification shall not be considered responsive.

For Contractor



SCHEDULE - F TO BID

(INTEGRITY PACT)

(On non-judicial stamp paper worth Rupees 100)

**DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC PAYABLE BY THE
SUPPLIERS OF GOODS, SERVICES & WORKS IN CONTRACTS WORTH
RS 10.00 MILLION OR MORE**

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

_____(name of Bidder)_____ hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from State Bank of Pakistan - BSC(SBP-BSC) or State Bank of Pakistan and its Subsidiaries through any corrupt business practice.

Without limiting the generality of the foregoing, _____(name of Bidder)_____ 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 SBP-BSC except that which has been expressly declared pursuant hereto.

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

_____(name of Bidder)_____ accepts full responsibilities 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 SBP-BSC under any law, contract or other instrument, be voidable at the option of the SBP-BSC.

Notwithstanding any right and remedies exercised by SBP-BSC in this regard, _____(name of bidder)_____ agrees to indemnify SBP-BSC for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to SBP-BSC in an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by _____(Name of Bidder)_____ 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 SBP-BSC.

Name of Buyer: _____(SBP-BSC)_____
Signature: _____
(Seal)

Name of Supplier/Bidder: _____
Signature: _____
(Seal)



Bidding Documents, Section-2, Part-1)

CONDITIONS OF CONTRACT

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For Contractor



CONDITIONS OF CONTRACT

1. GENERAL PROVISIONS

1.1 Definitions

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

The Contract

- 1.1.1 "Contract" means the Contract Agreement and the other documents listed in the Contract Data.
- 1.1.2 "Specifications" means the document as listed in the Contract Data, including Employer's requirements in respect of design to be carried out by the Contractor (if any), and any Variation to such document.
- 1.1.3 "Drawings" means the Employer's drawings of the Works as attached herewith, and any Variation to such drawings.

Persons

- 1.1.4 "Employer" means the person named in the Contract Data and the legal successors in title to this person, but not (except with the consent of the Contractor) any assignee.
- 1.1.5 "Contractor" means the person named in the Letter of Acceptance and the legal successors in title to this person, but not (except with the consent of the Employer) any assignee.
- 1.1.6 "Party" means either the Employer or the Contractor.

Dates, Times and Periods

- 1.1.7 "Commencement Date" means the date within fourteen (14) days after the date the Contract comes into effect or any other date named in the Letter of Award.
- 1.1.8 "Day" means a calendar day
- 1.1.9 "Time for Completion" means the time for completing the Works as stated in the Contract Data (or as extended under Sub-Clause 7.3), calculated from the Commencement Date.

Money and Payments

- 1.1.10 "Cost" means all expenditure properly incurred (or to be incurred) by the Contractor, whether on or off the Site, including overheads and similar charges but does not include any allowance for profit.

Other Definitions

- 1.1.11 "Contractor's Equipment" means all machinery, apparatus and other things required for the execution of the Works but does not include Materials or Plant intended to form part of the Works.
- 1.1.12 "Country" means the Islamic Republic of Pakistan.
- 1.1.13 "Employer's Risks" means those matters listed in Sub-Clause 6.1.
- 1.1.14 "Force Majeure" means an event or circumstance which makes performance of a Party's obligations illegal or impracticable and which is beyond that Party's reasonable control.
- 1.1.15 "Materials" means things of all kinds (other than Plant) to be supplied and incorporated in the Works by the Contractor.
- 1.1.16 "Plant" means the machinery and apparatus intended to form or forming part of the Works.



- 1.1.17 "Site" means the places provided by the Employer where the Works are to be executed, and any other places specified in the Contract as forming part of the Site.
- 1.1.18 "Variation" means a change which is instructed by the Engineer/Employer under Sub-Clause 10.1.
- 1.1.19 "Works" means any or all the works whether Supply, Installation, Construction etc. and design (if any) to be performed by the Contractor including temporary works and any variation thereof.
- 1.1.20 "Engineer" means the Engineer in-charge to be nominated in Letter of Acceptance.
- 1.1.21 Letter of Acceptance means the formal acceptance of the Bid by the Employer
- 1.1.22 Contract Price means the sum stated in the Letter of Acceptance as payable to the Contractor for execution and completion of the Works.

1.2 Interpretation

Words importing persons or parties shall include firms and organizations. Words importing singular or one gender shall include plural or the other gender where the context requires.

1.3 Priority of Documents

The documents forming the Contract are to be taken as mutually explanatory of one another. If an ambiguity or discrepancy is found in the documents, the priority of the documents shall be in accordance with the order as listed in the Contract Data.

1.4 Law

The law of the Contract is the relevant Law of Islamic Republic of Pakistan.

1.5 Communications

All Communications related to the Contract shall be in English/ Urdu language. A notice shall be effective only when it is delivered to the concerned party.

1.6 Statutory Obligations

The Contractor shall comply with the Laws of Islamic Republic of Pakistan and shall give all notices and pay all fees and other charges in respect of the Works.

2. THE EMPLOYER

2.1 Provision of Site

The Employer shall provide the Site and right of access thereto at the times stated in the Contract Data.

2.2 Permits etc.

The Employer shall, if required under law/ rules and requested by the Contractor, shall cooperate with the Contractor in applying and obtaining permits, licences or approvals etc. in context of the Contract.

2.3 Engineer's/Employer's Instructions

The Contractor shall comply with all instructions given by the Employer or the Engineer, if notified by the Employer, in respect of the Works including the suspension of all or part of the Works.

2.4 Approvals

For Contractor



No approval or consent or absence of comment by the Engineer/Employer shall affect the Contractor's obligations.

3. ENGINEER'S/EMPLOYER'S REPRESENTATIVES

The Employer shall appoint a duly authorized person (The Engineer In-charge), to act for him and on his behalf for the purpose of this Contract. This authorised person shall be fully authorised with respect to the Works except the authority to approve the variations, issuance of suspension and termination notices and sanctioning of the payments to be made to the Contractor under the Contract.

4. THE CONTRACTOR

4.1 General Obligations

The Contractor shall carry out the Works properly and in accordance with the Contract. The Contractor shall provide all supervision, labour, Materials, Plant and Contractor's Equipment which may be required.

4.2 Contractor's Representative

The Contractor shall appoint a qualified representative at site on full time basis to supervise the execution of work and to receive instructions on behalf of the Contractor but only after obtaining the consent of the Employer for such appointment which consent shall not be unreasonable withheld by the Employer. Such authorized representative may be substituted/replaced by the Contractor at any time during the Contract Period but only after obtaining the consent of the Employer as aforesaid.

4.3 Subcontracting

The Contractor shall not subcontract the whole of the Works. The Contractor shall not subcontract any part of the Works without the consent of the Employer.

4.4 Performance Security

The Contractor shall furnish to the Employer within fourteen (14) days after receipt of Letter of Acceptance a Performance Security at the option of the bidder, in the form of Bank Draft or Bank Guarantee or an insurance company having at least AA rating from PACRA/JCR for the amount and validity specified in Contract Data.

4.5 Contractor's Equipment

The Contractor shall have to bring at site of works and maintain the minimum construction equipment required for execution of works at site. Proper record of all such equipment shall be maintained by the Contractor and made available to the Employer as and when asked to do so. Prior approval of the Employer will be required for demobilization/shifting of any tool and plant from the site of works under this Contract

4.6 Employer's Approvals

Contractor shall get approval of all the materials, fixtures and method statements well before the time from the Employer. The absence of supervisory staff or approvals or consent or comments from the Employer shall not affect the Contractor's obligations under the Contract.

4.7 Observance of Law

Contractor shall strictly follow the applicable labour laws, industrial relations acts, standing orders, ordinances, social security acts, employees' old age benefits acts; workmen's compensation acts etc. in their letter and spirit and indemnify the Employer against any claim, compensation or penalty in this regard. This is an independent contract and no employment relation exists between the contractor and the Employer.



5. Employer's Rights

Without prejudice to any other rights under the Contract and / or applicable law, Employer shall have following rights:

- i. The Employer reserves the right to change the scope of works during the executions of the Works; quantities of certain item(s) can be increased, decreased or absolutely deleted or substituted with some alternative item for which new rates shall be decided as per Clause-10.2.
- ii. The Employer reserves the right to reject a part or whole of the Works and hold any amount claimed by the Contractor against the items or Works for which, the prior approval of the samples was required by the Employer but was not obtained by the Contractor.
- iii. The Employer reserves the right to recover any amount from the payable amounts to the Contractor against any losses or damages incurred to the property, data, or persons of the Employer due to the Contractor or his workers negligence.
- iv. The Employer reserves the right to expel out any employee of the Contractor if found involved in a crime or illegal or unethical activities within or outside the Site.

The Contractor agrees that he shall have no right to claim any direct and / or indirect losses resultant of the above acts by the Employer.

6. EMPLOYER'S RISKS

6.1 The Employer's Risks

The Employer's Risks are:-

- a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies, within the Country;
- b) rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, within the Country;
- c) riot, commotion or disorder by persons other than the Contractor's personnel and other employees including the personnel and employees of Sub-Contractors, affecting the Site and/or the Works;
- d) 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 of such an assembly, except to the extent to which the Contractor/Sub-Contractors may be responsible for the use of any radio-active material;
- e) Pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds;
- f) use or occupation by the Employer of any part of the Works, except as may be specified in the Contract;
- g) late handing over of sites, anomalies in drawings, late delivery of designs and drawings of any part of the Works by the Employer's personnel or by others for whom the Employer is responsible;
- h) a suspension under Sub-Clause 2.3 unless it is attributable to the Contractor's failure; and
- i) physical obstructions or physical conditions other than climatic conditions, encountered on the Site during the performance of the Works, for which the Contractor immediately notified to the Employer and accepted by the Employer.

7. TIME FOR COMPLETION

7.1 Execution of the Works

The Contractor shall commence the Works on the Commencement Date as specified in the work order issued by the Employer and shall proceed expeditiously and without delay and shall complete the works within the time stipulated Contract Data observing all the time lines/target dates provided in the approved Work Program.

7.2 Work Program

The Contractor will have to prepare work program on the basis of Key Performance Indicators (KPIs) given in the Schedule-E to Bid or will submit work program its own assumption along with detailed justifications. Once the proposed Work Program has been approved by the Employer, it will have to be followed in letter & spirit.

For Contractor



Failure to perform according to the approved Work Program shall be considered as the Contractor's default and Employer reserves the right to invoke all or any remedy available in clause 12.

7.3 Extension of Time

The Contractor shall, within such time as may be reasonable under the circumstances, notify the Employer of any event(s) falling within the scope of Employer's Risks, or Early Warnings, or adverse ground conditions, force majeure not leading to Contract termination, or any instruction of the Employer to slow down the progress of works or change in the scope of Works by the Employer requiring additional time for completion of the Works as per the revised scope of Works, may request the Employer to extend the Completion Time reasonably. The Contractor must have to provide complete record of the circumstances on account of which extension of time is being applied along with an up-dated program/schedule in bar chart form for completion of the balance works. The Employer may evaluate the request lodged by the Contractor and extend the Completion Time. The decision of the Director Engineering will be final & binding upon the Contractor.

It is being understood and agreed by the Contractor that the sole remedy for delay shall be extension in the time for performance of the Contractor's work, which extension shall not be subject to any valuation.

7.4 Late Completion

If the Contractor fails to complete the Works within the Time for Completion, the Employer without prejudice to any other rights under the Contract and / or applicable law shall deduct liquidated damages at rate as mentioned in the Contract Data.

8. TAKING-OVER

8.1 Completion

The Contractor shall notify to the Employer along with As-built Drawings and Inventory List to issue the Provisional Completion Certificate and take over the Works when he considers that the Works are completed.

8.2 Taking-Over Notice

Within 15 days after receipt of notice, the Employer shall issue a Provisional Completion Certificate to the Contractor and take over the Works if the Works are substantially complete as per the Contract and to the entire satisfaction of the Employer.

If the Works are not completed to the entire satisfaction of the Employer, the Employer will issue a detailed account of the balance or defective works to the Contractor within fifteen (15) days after receipt of notice from the Contractor to take over the whole or a part of the Works. In case of minor defects/ outstanding Works, the Employer at its sole discretion, may take over the Works and issue the Provisional Completion Certificate after obtaining a written undertaking from the Contractor to rectify the punch list items/ outstanding Works during the Defects Liability period.

9. REMEDYING DEFECTS

9.1 Remedying Defects

The Contractor shall for a period stated in the Contract Data from the date of issue of the Provisional Completion Certificate carry out, at no cost to the Employer, repair and rectification work which is necessitated by the earlier execution of poor quality of work or use of below specifications material in the execution of Works and which is so identified by the Employer/Engineer in writing within the said period.



Upon expiry of the said period, and subject to the Contractor's faithfully performing his aforesaid obligations, the Employer/Engineer shall issue a Final Completion Certificate

Failure to remedy any such defects or complete outstanding work within a reasonable time shall entitle the Employer to carry out all necessary works at the Contractor's cost.

9.2 Uncovering and Testing

The Contractor shall give not less than five days' notice in writing to the Engineer-in-charge of work before covering up or otherwise placing beyond the reach of measurement any work in order that same may be measured, and correct dimensions thereof be taken before same is covered or placed beyond the reach of measurement.

The Engineer-in-Charge shall check the Contractor's Work and notify the Contractor of any Defects if found. Such checking shall not affect the Contractor's responsibilities. The Employer may instruct the Contractor to search for a defect and to uncover/ or testing any work that the he considers may have a Defect

9.3 Failure to remedying Defects

Failure to remedy any defect(s) or complete the outstanding Works except the defects not attributable to the Contractor, to the entire satisfaction of the Employer within a notified time shall entitle the Employer to extend the defect liability period and / or carry out all necessary works at the Contractor's risk to cost in accordance with clause 12.

10. VARIATIONS AND CLAIMS

10.1 Right to Vary

The Employer/Engineer may issue Variation Order(s) in writing. Where for any reason it has not been possible for the Employer/Engineer to issue such Variations Order(s), the Contractor may confirm any verbal orders given by the Employer/Engineer in writing and if the same are not refuted/denied by the Employer/Engineer within seven (7) days of the receipt of such confirmation the same shall be deemed to be a Variation Orders for the purposes of this Sub-Clause.

10.2 Valuation of Variations

Variations shall be valued as follows:

- a) at a lump sum price agreed between the Parties, or
- b) where appropriate, at rates in the Contract, or
- c) rates notified by the Government Departments/agencies, or
- d) in the absence of appropriate rates, the rates in the Contract shall be used as the basis for valuation, or failing which
- e) at appropriate new rates, as may be agreed or which the Engineer/Employer considers appropriate, or

Contractor's profit & overheads shall be up to 15% of the cost of labour & materials, cartage, etc. Taxes shall be considered as per actual rate while analyzing rates for any extra items. For valuation of variations and approval of rates for non-BOQ/extra items, the decision of the Director Engineering will be final & binding upon the parties.

10.3 Early Warning

The Contractor shall notify the Engineer/Employer in writing as soon as he is aware of any circumstance which may delay or disrupt the Works, or which may give rise for Extension in time.

For Contractor



To the extent of the Contractor's failure to notify, which results to the Engineer/Employer being unable to keep all relevant records or not taking steps to minimize any delay, disruption, the Contractor's entitlement to extension of the Time for Completion may be reduced/rejected.

10.4 Variation Procedure

The Contractor shall submit to the Engineer/Employer an itemized make-up of the value of variations within twenty eight (28) days of the instruction. The Engineer/Employer shall check and if possible agree the value. In the absence of agreement, the Employer shall determine the value.

11. CONTRACT PRICE AND PAYMENT

11.1 (a) Terms of Payments

The Employer shall verify these bills and payments shall be released to the Contractor within **thirty (30)** days after joint verification of the bill by the Employer & the Contractor and after deduction of retention money, applicable taxes or any such other sum determined by the Employer.

(b) Imbalanced Bid

In case of imbalanced bid (abnormally high/low rates than market/ Employer's Engineer's estimate) duly justified by the contractor, the payments against such running bills will be made by the employer up to 80% of the running bill after required deductions. The remaining amount will be settled at the time of final settlement upon completion of work to the satisfaction of the Employer.

11.2 Submission of Statements of Work Done/ Interim Bills

The Contractor shall submit the bills only after the payment against last or previously submitted bills has been made by the Employer.

11.3 Interim Payments

Within a period not exceeding seven (7) days from the date of submission of a statement for interim payment by the Contractor, the Engineer shall verify the same and within a period not exceeding thirty (30) days from the said date of submission by the Contractor, the Employer shall pay to the Contractor the sum verified by the Engineer less retention money at the rate stated in the Contract Data and all applicable taxes and duties.

11.4 Retention Money

Retention money shall be paid by the Employer to the Contractor after the expiry of defect liability period, the remedying of notified defects and the completion of outstanding work, all as referred to in Sub-Clause 9.1.

If the Contractor fails to complete the Works and rectification of any defects as per the entire satisfaction of the Employer under Clause-9, this Retention Money and Performance Security will be withheld by the Employer and it shall be released after adjustment of any claims against the Contractor or cost of any defects corrected through other sources or Contractors at the risk to cost of the Contractor.

11.5 Final Payment

Upon issuance of Final Completion Certificate, the payments pertaining to the Works completed during Defects Liability Period and / or money as Retention Money shall be released as per sub-Clause-11.4 and the accounts for the contract shall be closed. The Employer shall release payments within sixty (60) days.

11.6 Currency

Payment shall be in the currency stated in the Contract Data.



11.7 Mobilization Advance

If requested by the Contractor, an interest-free Mobilization Advance up to 15 % 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 for the full amount of the Advance in the specified form from a Scheduled Bank in Pakistan subject to approval of Director Engineering Payments shall be made as per the following criteria;

- a) First part of the Mobilization Advance within twenty (20) days after verification of the approved/ legible Bank Guarantee from the issuing bank.
- b) Second part of the mobilization advance on arrival of required tools & plants and commencement of Works at site to the entire satisfaction of the Employer.

Mobilization Advance paid to the Contractor shall be recovered from the interim bills of the Contractor @ 15% of total amount of work done at site for the bill being processed till the time that whole of the amount of Mobilization Advance has been recovered.

11.8 Secured Advance

The Employer at his sole discretion may provide to Contractor Secured Advance against an indemnity bond acceptable to the Employer of such sum as the Engineer in charge may consider proper in respect of non-perishable materials brought at the Site but not yet incorporated in the permanent Works subject to approval of Director Engineering, provided that:

- (a) The materials are in accordance with the Specifications for the permanent works;
- (b) 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 in charge but at the risk to cost of the Contractor;
- (c) The Contractor's records of the requirements, orders, receipts and use of materials are kept in a form approved by the Engineer in charge, and such records shall be available for inspection by the Engineer in charge;
- (d) 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 in charge for the purpose of valuation of materials and providing evidence of ownership and payment therefore;
- (e) 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.
- f) 60% of the purchase price of the item/material or 50% of tender price of the item/material whichever is lesser, after measuring the quantity & verification of the quality of materials at site by the Employer may be paid

The amount of Secured Advance against any item(s)/materials shall be recovered from the next three (03) bill of the Contractor in the form of three equal installments. The Employer reserves the right to recover all outstanding amount of the Secured Advance from very 1st bill of the Contractor submitted after release of the Secured Advance.

11.9 Changes in Taxes and Duties

If, after the date of submission of Bids, there occur changes in the taxes and duties which cause additional or reduced cost to the Contractor in the execution of the Contract, such additional or reduced cost shall be added to or deducted from the Contract Price accordingly. Decision of the Director Engineering will be final & conclusive in this regard.

11.10 Price Adjustment

The amounts payable to the Contractor in respect of work done/work executed 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

For Contractor



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

(b) Adjustment Formula

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

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

Where:

P_n is a price adjustment factor to be applied to the amount for the payment of the work carried out in the subject month, determined in accordance with Paragraph 11.10 (a), and with Paragraphs 11.10 (b) and 11.10(c), where any variations and day work are not otherwise subject to adjustment;

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

b, c, d, etc., 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, etc., shall be one;

L_n , M_n , E_n , etc., are the current cost indices or reference prices of the cost elements for month "n", determined pursuant to Sub-Clause 11.10 (d), applicable to each cost element; and

L_o , M_o , E_o , etc., are the base cost indices or reference prices corresponding to the above cost elements at the date specified in Sub-Clause 11.10(d).

(c) Sources of Indices and Weightages

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

(d) Base, Current, and Provisional Indices

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

(e) Adjustment after Completion

If the Contractor fails to complete the Works within the Time for Completion prescribed under Clause 7, 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 7.3, the above provision shall apply only to adjustments made after the expiry of such extension of time.

12. DEFAULT

12.1 Default, Termination of the Contract and Compensation to the Employer

(a) Default by the Contractor:

For Contractor


For SBP BSC

If the Contractor abandons the Works, delays abnormally, or misses the target dates mentioned in the approved Work Program or refuses or fails to comply with a valid instruction of the Employer, or if Contractor materially or consistently breaches the Contract, the Employer may give a notice under this sub-clause stating the default. If the Contractor has not taken practicable steps to remedy the default or cover up the backlog within fifteen (15) days after receipt of the Employer's notice, the Employer may by serving a second notice within twenty five (25) days, terminate the Contract asking the Contractor to demobilize from the Site leaving behind the Equipment required for completion of the outstanding Works at risk & cost of the Contractor or the Employer may deploy extra resources to cover up the backlog at the risk & cost of the Contractor. The decision of the Director Engineering will be final and conclusive in this regard.

(b) Default by the Employer:

If the Employer fails to pay in accordance with the Contract, or is, despite a written complaint, in breach of the Contract, the Contractor may give a notice under this sub-clause stating the default. If default is not remedied within fifteen (15) days by the Employer after receipt of the notice, the Contractor may suspend execution of all parts of the Works. If the default is not remedied within thirty (30) days after receipt of first notice, the Contractor may serve a second notice within thirty (30) days and terminate the Contract and demobilize from the Site.

(c) Employer's sole discretion:

The Employer shall be entitled to terminate the Contract, at any time for the Employer's convenience, by giving notice of such termination to the Contractor. The termination shall take effect within 15 days after the Contractor receives the notice.

(d) Insolvency:

If either part is declared (or is likely to be declared) insolvent under any applicable law, the other party may terminate the Contract by serving a notice immediately. The Contractor shall demobilize from the Site leaving behind the Equipment required for completion of the outstanding Works in case of Contractor's insolvency.

(e) Criminal/ Offensive act by the Contractor or his employees:

If the Contractor or any of his employees commits a serious crime within the premises of the Employer which can result in police action under Penal Code Act of Pakistan, the Employer may terminate the Contract by serving a notice to the Contractor and the Contractor shall demobilize from the Site leaving behind the Equipment required for completion of the outstanding Works at the risk & cost of the Contractor.

(f) Actions in case of failure of the Contractor:

If the Contractor fails to complete the Works even when the amount of Liquidated Damages has reached to the maximum fixed limit or the Contractor abandons or suspends the Works, or commits breach of the terms & conditions of the Contract, the Contractor or any of his employees commits a serious crime within the premises of the Employer which can result in police action under Penal Code Act of Pakistan or in any case in which the contractor shall have rendered himself liable to pay compensation/liquidated damages, the Director Engineering whose decision shall be final & conclusive, without prejudice to any other right or remedies, shall have power to adopt all or any of the following courses as he may deem best suited to the interest of the Employer;

- i. To rescind the Contract (of which the recession notice in writing to the Contractor under the hand of Director Engineering shall be conclusive evidence) and in which case the retention money and Performance Security of the Contractor shall be forfeited and be absolutely at the disposal of the Bank;
- ii. To employ labour paid by the Employer and to supply materials to carry out the Works or any part of the Works, debiting the Contractor with the cost of all labour and the price of the materials (of the amount of which cost and price a certificate of the Director Engineering shall be final & conclusive against the Contractor) and crediting him with the value of the work done in all respects in the same manner and at the same rates as if it had been carried

For Contractor



out by the Contractor under the terms of this Contract; the certificate of the Director Engineering as to the value of the work done shall be final and conclusive against the Contractor.

- iii. To measure up the works of the Contractor and to take such part thereof as shall be as shall be un-executed out of his hands and give it to another contractor to complete, in which case any expenses which may be incurred in excess of the sum which would have been paid to the original Contractor, if the whole had been executed by him (of the amount of which excess the certificate in writing of the Director Engineering shall be final and conclusive) shall be borne and paid by the original Contractor and may be deducted from any money due to him by the Bank under the Contract or otherwise, or from his retention money or the proceeds of sale thereof or sufficient part thereof;
- iv. If any of the above courses being adopted by the Director Engineering, the Contractor shall have no claim to compensation for any loss sustained by him by reasons or his having purchased or procured any materials, or entered in to any engagements or made any advances on account of, or with a view to the execution of the works or the performance of the Contract. And in case the Contract shall be rescinded under the provisions aforesaid, the Contractor shall not be entitled to recover or be paid any sum for any works theretofore actually performed under this Contract unless and until the Director Engineering will have certified in writing the performance of such works and the value payable in respect thereof and he shall be only be entitled to be paid the value so certified.
- v. In case of Contractor's failure to perform in line with the agreed terms & conditions laid down in the contract, the Employer may blacklist the Contractor for future opportunities at the Employer as per clause 18.2 and decision of the Director Engineering will be final & conclusive. As per Public Procurement Rule-19, the Contractor will be accorded adequate opportunity of being heard.

(g) Payments upon Termination

In case of termination by the Employer, the Contractor shall be entitled to payment of the unpaid balance of the value of the Works executed only after adjustment of any sums to which the Contractor is entitled and any sums to which the Employer is entitled including recovery of all recoverable advance payments. No payment shall be made against the leftover materials, machinery, plants etc. brought by the Contractor and against his demobilization. If the total amount already released by the Employer exceeds any payment due to the Contractor, the difference shall be a recovered from the balance payable amounts or the Retention Money along with the performance Security.

13. Warranty

- 13.1 The Contractor warrants that the goods supplied under the Contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Contractor further warrants that all goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the Procuring agency's specifications) or from any act or omission of the Contractor, that may develop under normal use of the supplied goods in the conditions prevailing in the country of final destination.
- 13.2 If the Contractor, having been notified, fails to remedy the defect(s) within a reasonable period, the Employer may proceed to take such remedial action as may be necessary, at the Contractor's risk and expense and without prejudice to any other rights which the Employer may have against the Contractor under the Contract.

14. RISKS AND RESPONSIBILITIES

14.1 Contractor's Care of the Works

From the Commencement Date until the completion of Works and issuance of Completion Certificate or Termination by the Employer, the risks of loss or damage to Works, personal injury, death, and loss of or damage to property of the Employer due to the negligence of the Contractor, his employees, associates, sub-contractor, assigns etc. all such risks are Contractor's risks. The



Contractor shall have to make good all damages/losses to the Employer after receiving written notice from the Employer.

Unless the loss or damage happens as a result of any of the Employer's Risks, the Contractor shall indemnify the Employer, or his agents against all claims loss, damage and expense arising out of the Works.

14.2 Force Majeure

If the Contract is frustrated by a force majeure, like the outbreak of war, civil commotion, and insurrection or by any other event entirely outside the control of either the Employer or the Contractor, the Employer shall certify that the Contract has been frustrated and is being terminated. If an event of force majeure continues for a period of sixty (60) days, the Contractor can also give a notice of termination. The Contractor shall stop work as quickly as possible after receiving contract frustration certificate from the Employer and shall be paid for all work carried out or services rendered before the frustration/ termination of the Contract and for any work carried out afterwards to which a commitment was made including the cost of materials and plants reasonably delivered to the Site, after adjustment of any sums to which the Contractor is entitled as per the Contract, and cost of his demobilization after recovery of all recoverable advance payments made by the Employer or the sums to which the Employer is entitled. If the reason ceases to exist, the Parties can recommence the performance of the Contract under the original terms & conditions if mutually agreed.

15. INSURANCE

- 15.1 The Contractor shall on joint name of employer and Contractor procure a contractor's all risks of physical loss or damage insurance policy, covering all risk to Works, third party, and all risks of physical loss to labour or damage caused to the Contractor's plants, equipment, materials and any other asset(s) belonging to the Contractor.

Insurance Policy shall cover the damages to the structure, stores if supplied by the Employer caused by fire, including lightening, riots, strikes, storm, cyclones, flood, earthquake, theft, etc.

15.2 Default

If the Contractor fails to effect or keep in force any of the insurances referred to in the previous Sub-Clause, or fails to provide satisfactory evidence, policies or receipts, the Employer may, without prejudice to any other right or remedy, effect insurance for the cover relevant to such as a default and pay the premiums due and recover the same plus a sum in percentage given in Contractor Data from any other amounts due to the Contractor.

16. RESOLUTION OF DISPUTES

- 16.1 If any dispute arises between the parties (Contractor & the Employer), the matter shall be referred to the Director Engineering who will examine the matter in detail and give the decision which will be final & binding upon the parties.
- 16.2 In case the Contractor believes that the decision of the Director Engineering was not in line with the Contract or it is prejudiced, and he does not accept the same, he may give a notice of dissatisfaction under this sub-clause within 15 days of the decision of the Director Engineering. If no notice is given within this time, the decision of Director Engineering shall be final and binding upon the Parties.
- 16.3 In case a dissatisfaction notice is given by the Contractor, the matter may be referred to a neutral Adjudicator appointed after mutual agreement within 15 days after the notice of dissatisfaction. Failing to agree upon Adjudicator name within the specified time will result in finality of the Director Engineering's decision which will become binding upon the parties.

For Contractor



- 16.4 If required under any circumstances, the matter may be referred to arbitration under the Arbitration Act 1940 (Act No. X of 1940) and rules made there under and any statutory modifications thereto. Arbitration Proceedings shall be held at the place mentioned in the Contract Data.

17 INTEGRITY PACT

If the Contractor or any of his Sub-Contractors, agents or servants is found to have violated or involved in violation of the Integrity Pact signed by the Contractor as Schedule-F 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 Sub-Contractors, 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 Sub-Contractors, agents or servants.

On termination of the Contract under Sub-Para (b) of this Sub-Clause, the Contractor shall demobilize from the Site leaving behind Contractor's Equipment which the Employer instructs, in the termination notice, to be used for the completion of the Works at the risk and cost of the Contractor.

18. CODE OF CONDUCT

- 18.1 It is the Employer's policy to Contractors observes the highest standards of ethics during the procurement and execution of such contracts. In pursuit of this policy, the Employer follows, inter alia, the instructions contained in PPR-2004 which defines:
"corrupt and fraudulent practices" includes the offering, giving, receiving, or soliciting of anything of value to influence the action of a public official or the supplier or Firm/Company in the procurement process or in contract execution to the detriment of the procuring agencies; or misrepresentation of facts in order to influence a procurement process or the execution of a contract, collusive practices among Consultant/ Service Providers (prior to or after Proposal submission) designed to establish bid Prices at artificial, non-competitive levels and to deprive the procuring agencies of the benefits of free and open competition and any request for, or solicitation of anything of value by any public official in the course of the exercise of his duty;"
- 18.2 Under Rule-19 of PPR-2004, "The Employer can inter alia blacklist bidders found to be indulging in corrupt or fraudulent practices. Such barring action will be duly publicized and communicated to the PPRA. Such matters would be referred to the Blacklisting Committee that is empowered to take action accordingly:

NATURE OF OFFENSE / FAULT	MEANS OF VERIFICATION
Corruption	Actual instance verifiable as per law of land and applicable rules and regulations of SBP
Deviation from commitment	If the bidder deviates from its prior commitment or declaration made regarding the bid or proposal submitted by the bidder.
Fraud	Cross verification of documentary undertakings submitted by Contractor/ Bidder/Consultant/Supplier
Collusion	Results of Bid/Proposal analysis resulting in substantive evidence of collusion
Performance Deficiencies	Documented evidence in form of performance deficiencies not suitably responded or defended by Contractor/ Bidder/ Supplier/ Consultant

However, such barring action shall be undertaken only after Contractor who is to be barred and blacklisted shall be accorded adequate opportunity of being heard. Decision of Blacklisting Committee of SBP BSC will be final and conclusive.



- 18.3 The receipt for any money paid by the bidders will not be considered as any acknowledgement of payment to the Contractor unless such receipt is signed by a duly authorized officer of the Employer and Contractor shall be solely responsible for seeing that a proper receipt is provided.
- 18.4 Attention of bidders is drawn to Rule-32 of PPR-2004 whereby they are required to identify any discriminatory and difficult conditions, introduced by Employer which discriminates between bidders or that is considered to be met with difficulty. In ascertaining the discriminatory or difficult nature of any condition reference shall be made to the ordinary practices of that trade, manufacturing, construction business or service to which that particular procurement is related. However, in certain conditions Employer may describe exceptions or preferences consistent with Rule-4 of PPR-2004.
- 18.5 Employer's policy requires that selected Contractor shall provide professional, objective, and impartial advice and services and at all times hold the Employer's interests paramount, strictly avoid conflicts with other assignments or their own corporate interests and act without any consideration for future work. Bidders have an obligation to disclose any situation of actual or potential conflict that impacts their capacity to serve the best interest of the Bank, or that may reasonably be perceived as having this effect. Failure to disclose said situations may lead to the disqualification of the bidder and termination of contract arising out of this procurement
- 18.6 Without limitation on the generality of the foregoing, Contractors and any of their affiliates, shall be considered to have a conflict of interest and shall not be recruited, under any of the circumstances set forth below:
- a) A Contractor that has been engaged by the Employer to provide goods, works or services other than consulting services for a project, and any of its affiliates, shall be disqualified from providing consulting services related to those goods, works or services. Conversely, Contractor hired to provide consulting services for the preparation or implementation of a project, and any of its affiliates, shall be disqualified from subsequently providing goods or works or services other than consulting services resulting from or directly related to the firm's consulting services for such preparation or implementation.
 - b) A Contractor (including its Personnel and Sub-Contractor(s) or any of its affiliates shall not be hired for any assignment that, by its nature, may be in conflict with another assignment of the Contractor to be executed for the same or for another client.
 - c) A Contractor (including its Personnel and Sub-Contractor(s) that has a business or family relationship with a member of the Bank's staff who is directly or indirectly involved in any part of (i) the preparation of the specifications of the goods, (ii) the selection process for such assignment, or (iii) supervision of the Contract, may not be awarded a Contract, unless the conflict stemming from this relationship has been resolved in a manner acceptable to the appropriate authority of the Employer.
 - d) Bidders shall not recruit or hire any agency or current employees of the Bank. Recruiting former employees of the Employer or other civil servants to work for the bidders is acceptable provided no conflict of interest exists. When the Contractor nominates any government employee as Personnel in their bid, such Personnel must have written certification from their government or employer confirming that they are on leave without pay from their official position and allowed to work full-time outside of their previous official position. Such certification shall be provided to the Employer by the Contractor as part of bid.

19. OVERRIDING EFFECT OF PPR-2004

Whenever in conflict with these documents the stipulations of PPR-2004 (Public Procurement Rules-2004) shall prevail.

20. SPECIFICATION EPILOGUES

- a. The Work(s) contemplated under the Contract, shall be constructed, completed and guaranteed, strictly conforming to and in accordance with the stipulated specifications for execution of such works, providing of materials/services and etc. as provided in the Contract Documents and or as directed by the Employer.

For Contractor



- b. In the event of missing / non-availability of particular specification (s) applicable to or to govern the execution of such item(s) of works/ contract hereof, having no effect or bearing upon the rate/price or valuation of the contract, all material, fabrication, execution and testing thereof shall conform to the applicable standards, codes/specifications contained in the following list to equivalent applicable standard and specifications established and/or as approved in the country of manufacture or supply:

ASTM	American Society of Testing Materials
AASHTO	American Association of State Highway and Transportation Officials
AWWA	American Water Works Association
ASME	American Society of Mechanical Engineers
AISC	American Institute of Steel Construction
ASA	American Standards Association
AWS	American Welding Society
BSS	British Standard Specifications & Materials)
PSI	Pakistan Standards Institute

- c. All quality control and related tests (if required) shall be carried out in accordance with applicable standards and codes. The cost in this regard shall be borne by the Contractor.

21. SILENCE OF SPECIFICATIONS

The apparent silence of the specifications, plans, or other contract documents as to any detail or the apparent omission from them of a detailed description concerning any point, shall be regarded as meaning that only the best generally accepted practice is to be used. All interpretations of the specifications will be made by the Engineer on this basis.

22. REMOVAL OF UNACCEPTABLE AND UNAUTHORIZED WORK

All work which, as determined by the Engineer or Engineer In-charge, does not conform to the requirements of the Contract and results in an inferior or unsatisfactory product, will be considered unacceptable. Unacceptable Work, whether the result of poor workmanship, use of defective materials, damage through carelessness or any other cause, found to exist prior to the final acceptance of the Work, shall be removed or replaced at the Contractor's expense.

No work shall be done without lines and grades having been approved by the Engineer. Work done contrary to the instructions of the Engineer, Work done beyond the lines shown on the plans, or as given, except as herein specified, or any extra work done without authority, will be considered as unauthorized and will not be paid for under the provisions of the Contract. Work so done may be ordered removed or replaced at the Contractor's expense.

Upon failure on the part of the Contractor to comply forthwith with any order of the Engineer, made under the provisions of this article, the Engineer will have authority to cause unacceptable Work to be remedied or removed and replaced and unauthorized Work to be removed and to deduct the costs from any moneys due or to become due the Contractor

23. The Contractor shall be liable & indemnify the Employer

Contractor shall be exclusively liable for and shall indemnify and hold harmless the Employer, its agents and employees from:

- a. Making good all losses arising out of the Contractor's negligence or breach of the Contract. The Employer shall determine the amounts of such losses/ damages and the Contractor hereby expressly waives his all or any right to change or challenge the same. The Contractor shall have to make good all such losses/ damages within time frame specified in the Notice, to the entire satisfaction of the Employer after receiving written notice from the Employer.
- b. All losses arising from the automatic transfer of employment of Contractor's and its sub-contractor's employees to premises or any third party on the expiry or termination of the Contract including, in relation to the employees:



- i. All liabilities in respect of their employment before or after the expiry or termination of the Contract and
- ii. The costs of terminating their employment and any claims arising there from.
- c. Any tax, government duties, insurance contributions (employee and employer) and or social security contributions in respect of Contractor (in the case of an individual) or any employee or sub-contractor of Contractor together in each case with any interest, fines or penalties thereon.
- d. Save for the willful or deliberate breach of its obligations under the Contract or, as set out above, neither party shall be liable for any consequential or indirect loss or damage.
- e. All payments to his staff and other hired persons, sub-contractors or assigns during the currency of this Contract or after its expiry/ termination. The Employer shall have no relation, in whatsoever way, with such employees or persons recruited, hired or contracted by the Contractor and all these persons shall always be treated as the employees of the Contractor.
- f. Any claims of his own, of his employees or ex-employees, or associates, or their heirs whether against the Contractor, other contractors working within the same premises or any other person, regarding deals made at personal level by the staff or personal matters or deals carried out as a company, in whatsoever form, manner or capacity.
- g. Any Government Permits, Licenses, etc. that may be required for performing the Works contemplated under the Contract.
- h. All claims of compensation by an employee, his family or legal heirs or any other agency, autonomous body, any NGO or government department, arising from injury, disability, ill health or death of any of his employees during the currency or expiry of this Contract while performing any services under this Contract or any claim regarding the medical care or treatment expenses submitted by the employee or ex-employee of the Contractor or their legal heirs.
- i. In case any claim of compensation, expense in whatsoever form is to be paid by the Employer under any law of the land, the same amount shall be deducted from the Contractor's payable amounts/retention money.
- j. Full cost and responsibility for his employees/ staff, under no circumstances, whatsoever, shall the Contractor or its employees shall be regarded as the Employer's employees, and there would be no employer / employee relationship between them and the Employer.

24. Confidentiality

Except with the consent in writing of the Employer, Contractor shall keep strictly confidential and not make use of any confidential information supplied by the Employer other than to perform this Contract, and shall impose the same obligations on its employees and other third parties (including sub-contractors).

25. Independent Contractor

The Contractor including all his employees, sub-contractors, associates, assigns or his legal heirs shall at all times function and be regarded as independent contractor and not as an agent of the Employer and neither the Contractor nor its employees, sub-contractors, associates, assigns or his legal heirs shall have the right to represent or bind the Employer to any third person including any department or agency of Government or any other authority in any manner, whatsoever.

26. Materials Obtained/Discovered during excavation

Materials obtained from excavation will be the property of the Employer. Serviceable materials & treasures etc. found shall have to be stacked/stored at the location designated by the Employer. All rubbish/unwanted materials/debris shall have to be disposed of by the contractor in line with the directions of the Employer & municipal regulations.

27. Site Clearance at completion

On completion of the project/works or at some earlier stage as desired by the Employer, the contractor shall remove all temporary structures, dumpsites, debris, surplus materials, etc. and fill up all trenches etc. made during the execution of the works. The contractor will have to secure a site clearance certificate from the Employer and attaché the same with his final bill. In case the contractor fails or refuses to do so, the Employer reserves the right to get it done through the other sources/contractors and deduct/recover the expenditure so occurred from the bills or retention money **along with the Performance Security submitted at the time of bid opening** of the contractor. In this regard, the decision of the Director

For Contractor



Engineering will be final & conclusive.

28. Health, Safety, Environment and Security (HSE&S)

- a. The Contractor shall comply with all statutory and regulatory requirements related to Health, Safety, Environment & Security (HSE&S) as well as Employer's applicable rules, procedures or policies related thereto at no additional cost to the Employer. The costs of supplying and/or doing all such things required for the purpose shall be deemed to be included in the amounts payable under this Agreement to the Contractor.
- b. The Employer shall periodically audit the Contractor's compliance with its HSE&S policies and conduct safety inspections as and when it deems fit. The Contractor shall ensure that Employer's recommendations in this regard are implemented without any delay.
- c. The Contractor shall provide the Employer information about its working practices, materials and equipment and shall operate in a manner which does not compromise Employer's security or environment standards and the safety and health of its employees and other people. Contractor shall also provide the Employer with any information which it may have related to a potential or actual security threat to the Employer.
- d. The Contractor shall certify in writing that its personnel are fully trained to execute the Works safely and shall ensure that they understand all risks and hazards associated with the Works. The Contractor shall keep records of such trainings.
- e. The Employer reserves the right to terminate this Contract without notice to the Contractor in the event of violation of this Clause by the Contractor and related HSE&S requirements of the Employer communicated to the Contractor from time to time.
- f. The Contractor shall pay special attention to the following environmental protection measures;
 1. Use of clean fuels to minimize air polluting emissions.
 2. Control of other air pollutants.
 3. Recovery and recycling of usable materials.
 4. Control of vehicle noise.
 5. Control of noise from power facilities.
 6. Limitation of Vibrations.
 7. Preservation of natural land to the extent possible.
 8. Preservation of archaeological Sites.
 9. Careful handling, storage and utilization of hazardous radioactive materials, toxic chemicals etc.

29. Electric Power Supply, Water supply, Telephone etc.

Water for construction purposes will be provided by the Employer. Electricity will be provided by the Employer for all minor equipment & tools. Expense regarding the required cables/wires and sub-meters, switches etc. shall have to be borne by the Contractor. The Contractor shall make his own arrangement at his own expenses for the telephone & fax etc. at the Site of Works. If these facilities are to be provided by the Employer at the request of the Contractor, the Contractor shall have to pay the bills/ expenses as per mutually agreed terms & conditions at that time. Hutting/ tenting etc. for the workers or storage of the materials of the contractor shall be the responsibility of the contractor.

30. Attendance of Meetings

The Contractor shall attend all meetings along with his authorized representative(s) when called by the Employer to discuss the quality and progress of Works, site matters and other matters related to the Contract, without any compensation from the Employer. The Contractor may ask the Employer to call a joint meeting to review the pending issues and decisions or to discuss any other matters, factors or aspects in context of the Contract. The minutes of meetings may be recorded and circulated amongst the participants for compliance.

31. First Aid Facilities

The contractor shall provide his staff with free first-aid facilities and treatment at the premises and shall, for this purpose, keep a properly equipped first aid kit at the premises.

32. Utility Lines

The Contractor shall conduct his operations, make necessary arrangements, take suitable precautions and perform all required work incident to the protection of and avoidance of interference with power transmission, telegraph, telephone and natural gas lines, oil lines, water and sewerage mains and other utilities within the areas of his operations in connection with this Contract and the cost thereof shall be borne by the Contractor and the Contractor shall save harmless and indemnify the Employer in respect of all claims, demands, proceedings, costs, charges and expenses whatsoever arising out of or in relation to any such interference.

33. Other

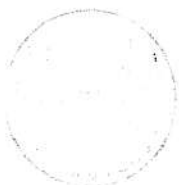
- a. The terms and conditions and the Schedules thereto of this Contract represent the entire agreement and understanding between the Employer and the Contractor, in relation to the subject matter hereof and supersede all previous agreements and/or understandings between the parties in relation thereto.
- b. If any provision of the Contract is found by any court or competent authority to be invalid, unlawful or unenforceable, that provision shall be deemed not to be a part of the Contract and it shall not affect the enforceability of the rest of the Contract.
- c. Unless expressly provided, no term of this Contract is enforceable by any third party.
- d. This Contract is personal to Contractor and Contractor shall not assign or subcontract any of its rights or obligations under it without Employer's prior written consent. Any subcontracting shall be on terms consistent with these Conditions for the benefit of an enforceable by the Employer and Contractor shall remain liable for the subcontractor's acts and omissions and the Contract's complete performance.
- e. The Contract shall be governed by the laws of Pakistan and Contractor and the Employer agree to submit to the exclusive jurisdiction of the courts in Pakistan.

34 Beneficial Ownership information

For works worth Rs.50M or above, the bidder shall provide Beneficial Ownership information on the prescribed Form. Failure to provide the required information of the beneficial ownership by the company or submission of false or partial information, the procuring agency shall:

- i. Blacklist the said company in accordance with rule 19(1)(a) of Public Procurement Rules, 2004,
- ii. Reject the bid of the said company.

For Contractor



Bidding Documents, Section-2, Part-2)

The following Contract Data shall be deemed to form and be read and constructed as part of the Contract, including Conditions of Contract.

CONTRACT DATA

SCC 1.	Employer	GCC Clause 1
	Means SBP BSC (Bank) Peshawar	
SCC 2.	Priority of Documents	GCC Clause 3
	Documents forming the Contract listed in the order of priority: (a) The Contract Agreement (b) Letter of Acceptance (c) The completed Form of Bid (d) Contract Data (e) Conditions of Contract (f) The completed Schedules to Bid including Schedule of Prices (g) The Drawings, if any (h) The Specifications, if any	
SCC 3.	Amount of Performance Security	GCC Clause 4.4
	10% of the Contract Price stated in Letter of Acceptance / Award in any one of the below specified forms i. Pay Order, Demand Draft, Deposit at Call or Bank Guarantee from any Schedule Bank registered in Pakistan. ii. Insurance Guarantee from any insurance company with AA rating by PACRA / JCR. The Performance Security would remain valid till successful completion of Defect Liability Period and would be released after successful completion of defect liability period.	
SCC 4.	Completion Time	GCC Clause 7.1
	240 Calendar days	
SCC 5.	Liquidated Damages	GCC Clause 7.4
	@ 0.1% of total work done/ day to a maximum of 10% of the total work done.	
SCC 6.	Defect Liability Period	GCC Clause 9
	365 Calendar days	
SCC 7.	Retention Money	GCC Clause 11.4
	10% of the net payable amount for each bill of the Contractor	
SCC 8.	Insurance	GCC Clause 11.6
	The Works Amount of Cover : The sum stated in Letter of Acceptance plus fifteen percent 15%. Contractor 's equipment Amount of Cover : Full replacement Cost Injury to Person and Damaged to Property including Third party Insurance Amount of Cover : I) As per workmen compensation act II) Contractor's all Risk including Third party III) damages to the Structure, stores if supplied by the Bank	
SCC 9.	Place of Arbitration	GCC Clause 16.4
	Karachi .	



(Bidding Documents, Section-3, Part-1)

Standard Forms

For Contractor



Form No. 01: FORM OF CONTRACT AGREEMENT

(Stamp duty shall be borne by the contractor as per the prevailing rates)

THIS CONTRACT AGREEMENT (hereinafter called the "Agreement") made on the _____ day of _____ 20____ between _____, acting through its _____ who is duly authorized in this behalf (hereinafter called the "Employer") and _____, acting through its _____ who is duly authorized in this behalf (hereinafter called the "Contractor").

WHEREAS:

- (A) The Contractor has offered to execute the works for [please insert relevant details] {"Works"} on the terms and conditions as set forth in this Contract; and
- (B) The Employer has agreed to engage the Contractor to carry out the Works on the terms and conditions contained in this Contract.

NOW this Agreement witnesses 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, and in case of any conflict the decision of Director Engineering shall be final and binding.
 - (a) The Letter of Acceptance;
 - (b) The completed Form of Bid along with Schedules to Bid;
 - (c) Contract Data
 - (d) Conditions of Contract;
 - (e) The priced Schedule of Prices;
 - (f) The Specifications; and
 - (g) The Drawings, if any
 - (h) Addendum/Corrigendum, if any.
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 within the provisions of the Contract.
4. 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 Contract Agreement to be executed on the day, month and year first before written in accordance with their respective laws.

Name, Signature of the Contractor

Name, Signature of the Employer

(Seal)

(Seal)

Signed, Sealed and Delivered in the presence of:

Witness No.1
(Name, Title and Address)

Witness No.1
(Name, Title and Address)

Witness No.2
(Name, Title and Address)

Witness No.2
(Name, Title and Address)

For Contractor



Form No. 02: FORM OF PERFORMANCE SECURITY

(Bank Guarantee/ Insurance Guarantee)

Guarantee No. _____

Executed on _____

(Letter by the Guarantor to the Employer)

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

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 the 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 -09, Identification & Remedying of Defects, of Conditions of Contract are fulfilled.

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

We, _____ (the Guarantor), waiving all objections and defenses under the Contract, do hereby irrevocably and independently guarantee to pay to the 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, for 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 bounded 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.

For Contractor



Form No. 03: FORM OF BANK GUARANTEE FOR ADVANCE PAYMENT

Guarantee No. _____

Executed on _____

(Letter by the Guarantor to the Employer)

WHEREAS the _____ (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 Rs. _____ Rupees _____) 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 advance payment for the performance of his obligations under the said Contract.

AND WHEREAS _____ (Scheduled Bank) (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 fulfillment 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, as aforesaid, 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 come into force as soon as the advance payment has been credited to the account of the Contractor.

This Guarantee shall expire on _____. The guarantee shall remain valid up to the final adjustment of the advance made in case of expiry without adjustment of the advance the Guarantor shall automatically renew the guarantee till such time/times as the employer may deem fit. In case the guarantee is renewed on the request of the employer the Guarantor shall be bound to renew the guarantee without reference to the contractor or any other part, the payment of the charges may be made by the employer from the payments due to the contractor or its securities.

The claim of the employer will remain valid even if the guarantee has expired until the clearance is received in writing by the employer along with the original bank Guarantee.

It is understood that Employer will return this Guarantee to Guarantor on expiry or after settlement of the total amount to be claimed hereunder.



**Form No. 04: INDEMNITY BOND FOR SECURE ADVANCE AGAINST
MATERIALS BROUGHT AT SITE**

(ON Rs. 500 non-judicial stamp paper)

This Deed of Indemnity is issued by M/s. _____ (name of the contractor) in favour of M/s. _____ (name of the employer).

Whereas _____ (herein called the Employer) has paid the Secure Advance against the cost of material through any Bank or like agency by any other method by virtue of terms of the contract existing between the parties. The details of the material and their price for which secured advance is sought for the period _____ till consumption of the material is as under:-

1. _____ at Rs. _____ per _____ = Rs.
2. _____ at Rs. _____ per _____ = Rs.
3. _____ at Rs. _____ per _____ = Rs.

THEREFORE THIS DEED OF INDEMNITY WITNESSETH AS FOLLOWS:

I/We _____ of M/s. _____ do hereby indemnify M/s. _____ for all losses due to thefts, arson, pilferage, loss due to flood and inundation, shortage, deterioration and depreciation etc. through any act of Man or God or slump in the Market of any or all the materials financed or paid by the Employer on our request for financing payment against material.

I/We _____ shall indemnify _____ against any or all claims, action damages arising out of or resulting to the said material.

I/We _____ further declare that we will faithfully abide by the above declaration and solemnly affirm that we will not remove, sell, pilferage any of the materials against which M/s. _____ has paid us such a secured advance and will not pledge the same with any Bank, Finance Corporation, Firm, Company, Individual or the like agency or create any charge whereon in any form what so ever.

I/We _____ do hereby also declare that in the event of my/our infringement of the declaration made above _____ will be entitled to forfeit all such material and also proceed against me/us according to the relevant clause pertaining to breach of contract and further invoke the power or seek any remedies secured of _____ under the contract Agreement signed with us or otherwise available under law.

Place _____ Dated _____

Contractor _____

Witness:

Signature _____

Name _____

Witness:

Signature _____

Name _____

For Contractor



Form of No-5 Declaration of Ultimate Beneficial Owners Information

Declaration of Ultimate Beneficial Owners Information for Public Procurement Contracts

1. Name
2. Father's Name/Spouse's Name
3. CNIC/NICOP/Passport no.
4. Nationality
5. Residential address
6. Email address
7. Date on which shareholding, control or interest acquired in the business.
8. In case of indirect shareholding, control or interest being exercised through intermediary companies, entities or other legal persons or legal arrangements in the chain of ownership or control, following additional particulars to be provided:

1	2	3	4	5	6	7	8	9	10
Name	Legal form (Company/Limited Liability Partnership/Associatio n of Persons/Single Member Company/ Partnership Firm/ Trust/Any other individual, body corporate (to be specified))	Date of incorporation/ registration	Name of registering authority	Business Address	Country	Email address	Percentage of shareholding, control or interest of BO in the legal person or legal arrangement	Percentage of shareholding, control or interest of legal person or legal arrangement in the Company	Identity of Natural Person who ultimately owns or controls the legal person or arrangement

For Contractor



9. Information about the Board of Directors (details shall be provided regarding number of shares in the capital of the company as set opposite respective names).

1	2	3	4	5	6	7	8
Name and surname (In Block Letters)	CNIC No. (in case offoreigner, Passport No)	Father's/ Husband's Name in full	Current Nationality	Any other Nationality (ies)	Occupation	Residential address in full or the registered/ principal office address for a subscriber other than natural person	Number of shares taken by each subscriber (in figures and words)
			Total number of shares taken (in figures and words)				

10. Any other information incidental to or relevant to Beneficial Owner(s).

Name & signature

(Person authorized to issue notice on behalf of the company)

For Contractor



(Bidding Documents, Section-3, Part-2)

SPECIFICATIONS

For Contractor



CHAPTER -1**GENERAL REQUIREMENTS****GEN.1 GENERAL**

- 1.1 The General Conditions of Contract shall supersede these General Requirements.
- 1.2 The Contractor shall notify all Sub-Contractors (if any) of the provisions of the General Conditions of contract and the General Requirements of this Specifications.
- 1.3 The arrangement and divisions of these specifications are not to be construed as establishing the limits of responsibility of Sub-Trades. The Contractor is responsible for delineating the scope of Sub-Trade and for coordinating all the Works.

GEN.2 CODES AND STANDARDS

In general, British and American Standards have been used. In the absence of other standards being regulated by the Contract Documents, all work shall meet the requirements of the Uniform Building Code of the United States, and/or applicable American Society for testing materials (ASTM) specifications, except in cases where the Pakistani Building Code requires a higher standard. In such cases the Pakistani Code shall govern. The Contractor may propose other international codes and standards which they normally employ on similar international work, but will be required to demonstrate the equivalence and suitability of substitute codes and standards.

GEN.3 UNITS OF MEASUREMENT

The International System of Unit (SI) shall be used through out the project.

GEN.4 PLANT, EQUIPMENT AND TOOLS

The Contractor shall provide at his cost modern plant equipment and tools adequate and fitting to the magnitude and size of this contract in strict compliance with the requirements of General Conditions of Contract.

GEN.5 STORAGE & HANDLING FACILITIES

It shall be the Contractor's responsibility to arrange at his own cost temporary facilities for storage of plants, equipment and all materials including temporary office. The Contractor shall pay all rentals or other costs connected therewith. On account shall the temporary installation conflict with any of the permanent installation?

The handling and storage of all plant equipment and material at Site shall be at the risk of the Contractor and without responsibility of the Owner.

The Contractor shall protect all material against corrosion, mechanical damage or deterioration during storage and erection on Site. The protection methods shall be to the approval of the Owner / Engineer.

The Tenderer shall provide with his Tender details of his proposals in respect of stores, lay down areas, and other such facilities and shall include all cost connected with these provisions in his Tender.

GEN.6 TEST LABORATORY & TESTING

- 6.1 The Contractor shall supply and maintain complete testing equipment, apparatus, tools, gauges, instruments, etc. sufficient for all tests to be carried out as specified in these specifications.
- 6.2 Testing, except as otherwise specified here in shall be performed by an approved testing agency as proposed by the Contractor and at no extra cost to the Owner. The Engineer may require all testing to be carried out under his supervision only.

GEN.7 CONSTRUCTION & CHECKING AT SITE

The Bidders shall provide with their Tender a list of the main constructional equipment they would propose to use on Site.

For Contractor



The Contractor shall submit to the Engineer in due time for approval of his proposals and plans as to the method and procedure to be adopted for the temporary and permanent works involved.

The submittal of these suggestions and arrangements, and the approval thereof by the Owner / Engineers, shall not relieve the Contractor of his responsibilities and duties under the contract.

The Contractor's representative on the Site is to be given full responsibility to enter into negotiations regarding points arising from the execution of the work.

The carrying out of all work included in the contract is to be supervised by a sufficient number of qualified representatives of Contractor and full facilities and assistance are to be afforded by the Contractor for the Owner to check the execution of the work.

The Owner reserves the right to inspect all part of the works but may at its discretion waive inspection on certain items, but this shall in no way absolve the Contractor from his responsibilities.

In the event of night working, the Contractor shall provide sufficient lighting and other safety measures to the satisfaction of the Engineer and shall supply the necessary labour, materials, supervisors etc. for efficient continuation of the work.

GEN.9 **SHOP DRAWINGS**

- 9.1 The Contractor shall submit with sufficient promptness, as to cause no delay in the works, copies of all shop or setting drawings and schedules required for the works or which have been specifically requested by the Engineer. The Engineer will check and approve with reasonable promptness such schedules and drawings for conformity with the provisions with the design concept of the works and compliance with the provisions of the Contract Documents. The Contractor shall make any corrections in the schedules and drawings as required by the Engineer and resubmit further sepias and prints thereof until approved by the Engineer. The Engineer will arrange to issue such copies of the approved shop drawings and schedules. The Contractor will be responsible for making all copies necessary for his own use and the use of his sub-Contractors.
- 9.2 The shop drawings shall be properly identified with the name of the project, the name of the Contractor, Supplier, etc., the date of preparation and the dates of all revisions.
- 9.3 Where any adjoining work requires shop drawings the Contractor shall prepare and submit composite shop drawings which shall show and define the existing and proposed work under all affected trades. If the contractor installs work before coordinating with other trades so as to cause interference with work of these trades, he shall make changes necessary to correct the conditions without extra charges to the Owner.
- 9.4 No change shall be made by the Contractor to resubmitted shop drawings in excess of those corrections noted by the Engineer in a separate note on the shop drawings.
- 9.5 No work in the shop shall be started and no material or equipment ordered until the Engineer had approved the shop drawings. It shall be the responsibility of the Contractor to submit the shop drawings on a schedule that allows reasonable time for checking and approval and subsequent fabrication. Failure to submit shop drawings in ample but reasonable time, required by Engineer, for checking, correcting and rechecking will not justify a delay in time for completion of work.
- 9.6 The Contractor shall also check and verify all Site measurements wherever requested by other specialist Contractors or by Nominated or other Sub-Contractors to enable them to prepare their own shop drawings and pass on the information with sufficient promptness as will not in any way delay the works. A copy of all such information shall be given to the Engineer.



GEN.10 AS-BUILT DRAWINGS

The Contractor shall, at all times, keep on the Site one copy of all drawings and relevant standards applicable to the works.

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 as the work progress all significant changes between the work shown on the drawings and that which is actually constructed.

At the completion of the works, the Contractor shall at his expense, supply the Engineer with reproducible copies of these drawings. The Contractor and the Sub-Contractor shall revise these reproducible copies neatly and legibly, so as to show clearly the way in which the work as built. The Contractor shall provide in the same format as the original drawings, any additional sheets required to record the work, as executed on the site.

GEN.11 SAMPLES

11.1 The Contractor shall furnish for approval, 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 only for conformance with the design concept of the works and for compliance with the information given in the Contract Documents. All work shall be carried out in accordance with the samples.

11.2 Duplicate final approved samples, in addition to any required for the Contractor's use, and shall be furnished to the Engineer one for office use and one for the Site.

11.3 Samples, for approval shall be furnished as such not to delay procurement, fabrication, allowing the Engineer reasonable time for consideration of the sample submitted.

11.4 Each sample shall be properly labeled with the name and quality of the material, manufacturer's name, name of project, the Contractor's name and the date of submission, and the Specifications Article number of which the sample refers.

11.5 The manufacturer's installation directions shall be provided with each sample.

The Contractor shall pay all procurement and transportation costs and deliver samples to the Engineer's Office, Site or testing laboratory as directed by the Engineer.

Samples will not be returned unless return is requested at the time of submission; all packing and transportation costs for the return of samples shall be paid by the Contractor.

11.6 Samples shall be of adequate size to permit proper evaluation of the material by the Engineer. Where variations in colour, texture, dimensions or other characteristics are to be expected, the Contractor shall submit samples showing the maximum range of variation. Materials exceeding the range of variation of the approved samples shall not be used on the work.

11.7 In order to permit coordinated selection of colours and finishes, the Contractor shall deliver samples of all items of interior and exterior finish to the Engineer at one time. Samples of such materials will not be approved until all related samples have been submitted.

11.8 If both Shop Drawings and samples are required for the same item, the Engineer may require both to be submitted before approving either.

11.9 No other person shall have authority to approve Shop Drawings or samples unless the Engineer has notified the Contractor in Writing that such authority has been delegated by him to such engineer

11.10 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, and /or in the time frame.

For Contractor



GEN.12 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, barriers and guard rails and clear away 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.

GEN.13 RESTORATION AND CLEARING

Upon completion of the works the Contractor shall restore all items covered by the contract to the satisfaction of the Engineer and the inspection committee.

The Contractor shall allow for regular cleaning and clearing away all rubbish and excess materials that may accumulate from time to time and on completion and before handing over. Upon completion of the works he shall obliterate all signs of temporary construction facilities such as work areas, foundations of temporary structures, stockpiles or waste materials, or any other vestiges of subtraction, as directed by the Engineer. The area shall be cleared, and the works and Site shall be left in a clean and satisfactory state for immediate use and occupation.

GEN.16 TEMPORARY SERVICES

16.1 Temporary Water Supply

The Contractor shall supply in sufficient quantity all necessary potable and other water for construction purposes at a point within a reasonable distance from the Site. He shall make arrangements and pay charges for water service installation, maintenance and removal thereof. At completion of the work the temporary water services equipment and piping shall be removed by the Contractor at his own expense.

16.2 Temporary Electricity

The Contractor shall make all the necessary arrangements for a temporary electricity services, pay all expense in connection with the installation, operation and removal thereof. Temporary equipment and wiring for power and lighting shall be in accordance with the applicable provisions of governing codes. Temporary wiring shall be maintained in a safe manner and utilized so as not to constitute a hazard to persons or property.

At completion of the work, temporary electricity services shall be removed by the Contractor at his own expense.

16.3 Waste Disposal

The Contractor shall make such temporary provisions as may be required in order to dispose of any chemicals, fuels, oils, grease, 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 (Municipality) and subject to the approval of the Engineer. If any waste material is dumped in unauthorized areas the Contractor shall remove material and restore the area to the condition of the adjacent undisturbed area. If necessary, contaminated ground shall be excavated, disposed of as directed by the Engineer and replaced with suitable fill material compacted and finished with topsoil all at the expense of the Contractor.

16.4 Fire Protection



The Contractor shall provide and maintain adequate fire protection in the form of barrels of water with bucket tanks, fire extinguishers, or other effective means of fire control. The Contractor shall follow the instructions and specifications of the Civil Defence Department.

16.5 **Telephone**

The Contractor shall immediately after receiving the letter of acceptance take necessary steps to obtain a NON-STD telephone on Site and it shall be installed within one month from the date of letter of acceptance. He shall be responsible for all installation charges and periodic telephone accounts. The telephone shall be made available to the Engineer for the due performance of his duties at all times and free of charge. Should no telephone lines be available to the Engineer for the due performance of his duties at all times, the Contractor shall obtain a mobile telephone connection for use at site and in office free of charge.

GEN.17 **NIGHT WORK**

When work is done at night 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 observations of work and the efficient prosecution hereof.

GEN.18 **WEATHER**

No work is to be undertaken when, in the opinion of the Engineer, the weather is so unsuitable that proper protection of the work cannot be ensured. However, no claim in extension of time shall be made or entertained on these grounds.

GEN.19 **ACCIDENT PREVENTION, PROTECTIVE EQUIPMENT**

The Contractor shall comply and enforce compliance by all his Sub-Contractor with the highest standards of safety and accident prevention in accordance with international standards and in compliance with all applicable laws, ordinances, and regulations.

All requisite barriers, fence, 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 by the Contractor at his own cost.

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

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

GEN.20 **SURVEY INSTRUMENT**

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

- a) One theodolite, 10 sec. reading, complete with tripod and other accessories.
- b) One automatic level, 10mm reading, complete with tripod and other accessories.
- c) Three leveling staves, 10 ft. long, centre hinged.
- d) Two survey Umbrellas.
- e) Ten ranging poles, 6.562 feet long.
- f) Two measuring steel tapes calibrated, 100 feet. long with thermometer and other accessories.
- g) Two measuring steel tapes same as above but 50 ft. long.

For Contractor



- h) Five insulated water carriers 5 liter capacity minimum.

GEN.21 SETTING OUT

- 21.1 Setting out shall be in accordance with General Conditions of Contract.
- 21.2 The Engineer will establish bench marks and/or reference lines as shown on the drawings. All other work shall be laid out from these marks and or lines.
- 21.3 Temporary pegs and other marks used in setting out shall be removed after completion of the required work.

GEN.22 ENVIRONMENTAL CONSIDERATIONS.

The Contractor shall be concerned with the impact of his work upon the environment. This applies to the effect upon the residential community, adjacent industrial facilities and upon the area outside the Site boundary. Areas of concern will include but are not limited to:

- a) Use of clean fuels to minimize air polluting emissions.
- b) Control of other air pollutants.
- c) Recovery and recycling of usable materials.
- d) Control of vehicle noise.
- e) Control of noise from power facilities.
- f) Limitation of Vibrations.
- g) Preservation of natural land to the extent possible.
- h) Preservation of archaeological Sites.

GEN.23 FACILITIES FOR THE ENGINEER.

Site Office for Engineer

The Contractor shall provide and maintain Engineer's Site office as per the standard specifications and the relevant Drawings.

The Engineer's Site office shall be connected to electrical system, potable water supply and sewerage disposal system.

GEN.24 PAYMENT OF WORK

No payment shall be made for the works involved within the scope of this section of specification unless otherwise specifically stated in the bill of quantities.

The cost thereof shall be deemed to have been included in other items of the bill of quantities.

**CHAPTER -2
STAKE-OUT SURVEY**

SOS.1 SCOPE

Under this item the Contractor shall make the stake-out survey for construction purposes with competently qualified men, consistent with the current practices. The work shall proceed immediately upon the award of the contract and shall be expeditiously progressed to completion in a manner and at a rate satisfactory to the Engineer. The Contractor shall keep the Engineer fully informed as to the progress of the Stake-out survey. The scope of this section of specifications is covered by detailed specifications as laid down herein.

SOS.2 MATERIAL



All instruments, equipment, stakes and other material necessary to perform all work shall be provided by the Contractor. These instruments and equipment shall be available to Engineer at all times for the purpose of checking the work of the contract.

SOS.3 EXECUTION

The Contractor shall trim trees, bushes and other interfering objects, not consistent with the plans, from survey lines in advance of all survey work to permit accurate and unimpeded work by his stake-out survey crews and the Engineer's survey crews. The exact position of all work shall be established from control points which are shown on the plans or modified by the Engineer. Any error, apparent discrepancy or absence in or of data shown or required for accurately accomplishing the stake-out survey shall be referred to the Engineer for interpretation of furnishing when such is observed or required.

The Contractor shall be responsible for the accuracy of his work and shall maintain all reference points, stakes, etc. throughout the life of the contract. Damaged, destroyed or inaccessible reference points, bench marks or stakes shall be replaced by the Contractor. Existing or new control points that will be or are destroyed during construction shall be re-established and all reference ties recorded therefore shall be furnished to the Engineer. All stake-out survey work shall be referenced to the centre lines shown on the plans. All computations necessary to establish the exact position of the work from control points shall be made and preserved by the Contractor. All computations, survey notes and other records necessary to accomplish the work shall be kept neatly and made available to the Engineer upon request and furnished to the Owner upon contract completion.

The Engineer may check all or any portion of the stake-out survey work or notes made by the Contractor and any necessary correction to the work shall be immediately made. Such checking by the Engineer shall not relieve the Contractor of any responsibilities for the accuracy or completeness of his work.

Reference points, base lines, stake and bench marks for borrow pits shall be established by the Contractor.

All required right-of-way and easement limits shall be established, staked and referenced by the Contractor concurrent with the construction stake-out survey.

The Contractor shall place at least two offset stakes or reference at each centre line station and at such intermediate stations as the Engineer may direct. From computations and measurements made by the Contractor, these stakes shall be clearly marked with the correct center line, station number, offset and cut or fill so as to permit the establishment of the true centre line location during construction. He shall locate and place all cut, fill, slope, line grade or other stakes and points as the Engineer may direct to be necessary for the proper, progress of the work.

SOS.4 PAYMENT

No payment shall be made for the works involved within the scope of this section of specifications unless otherwise specifically stated in the bill of quantities or herein.

The cost thereof shall be deemed to have been included in the other items of the bill of quantities.

For Contractor



CHAPTER -3

PLAIN AND REINFORCED CONCRETE

1. **SCOPE**

The work covered by this section of Specifications consists of furnishing all plant, labour, equipment, appliances and materials, and in performing all operation in connection with the supply and installation of plain and reinforced concrete work, complete in strict accordance with this section of the Specifications and the applicable drawings, subject to the conditions of the CONTRACT.

2. **GENERAL**

- 2.1 Full co-operation shall be given to other trades to install embedded items.
- 2.2 Suitable templates or instructions, or both will be provided for setting items not placed in the forms. Embedded items and their locations shall have been inspected, and mix for concrete and test required for quality of other materials or for mechanical operations shall have been completed and approved, before concrete is placed.
- 2.3 For special concrete finishes and for special methods of construction e.g. slip forms, form work shop drawings shall be designed and prepared by the CONTRACTOR at his own cost. Approval of shop drawings as well as that of actual samples of finished concrete shall be obtained before WORK is commenced.
- 2.4 CONTRACTOR shall also prepare BAR BENDING SCHEDULE, and get the same approved by the Engineer, prior to commencement of work.
- 2.5 Approximate equivalent conversion of F.P.S. and S.I. units are indicated in the text. Engineer's decision on any specific conversion shall be final and binding on all parties.

3. **RELATED SPECIFICATIONS.**

Latest editions of the following British, ASTM and ACI Standards are relevant to these Specifications where indicated:- (Equivalent Pakistan Standards are also applicable.)

3.1 **British Standards:**

- | | |
|---------------|---|
| B.S. 12-78 | Portland cement, Ordinary and Rapid Hardening (in lieu of C-150). |
| B.S. 410 | Test Sieves. |
| B.S. 693 | General Requirements for Oxyacetylene Welding of Mild Steel. |
| B.S. 822-1201 | Concrete aggregates from Natural Sources. |
| B.S. 1141 | Cold Worked Steel Bars for the reinforcement of Concrete. General Requirements for the Metal - Arc Welding of Mild Steel. |
| B.S. 1881 | Methods of Testing Concrete. |
| B.S. 3148 | Tests for Water for Making Concrete. |
| B.S. 4027 | Sulfate-Resisting Portland cement. |
| B.S. 4449 | Hot Rolled Steel Bars for the Reinforcement of Concrete. |
| B.S. 4461 | Cold Worked Steel Bars for the Reinforcement of Concrete. |
| B.S. 4466 | Bending Dimensions and Scheduling of Bars for the Reinforcement of Concrete. |



3.2 **ASTM Standards:**

A 615	Deformed Billet-Steel Bars for Concrete Reinforcement.
C 33-78	Standard Specification for Concrete Aggregates.
C 39-72	Compressive Strength of Cylindrical concrete Specimens.
C 42-77	Standard Methods of Obtaining and Testing Drilled Cores and Sawed Beams of Concrete.
C 94-78	Standard Specification for Ready Mixed Concrete.
C 138-71 T	Tentative Method of Test, for Weight per Cubic Foot, Yield, and Air Content (Gravimetric) of Concrete.
C143-78	Standard Method of Test for Slump of Portland Cement Concrete.
C 150-72	Standard Specification for Portland Cement.
C 171-69	Standard Specification for Sheet Materials for Curing Concrete.
C 172-71	Standard Method of Sampling fresh Concrete.
C 173-71	Standard Method of Test for Air Content of freshly Mixed Concrete by the Volumetric Method.
C 208-72	Standard Specification for Insulating Board (Cellulosic Fiber) Structural and Decorative.
C 231-72T	Tentative Method of Test for Air Content of Freshly Mixed Concrete by the Pressure Method.
C 260-77	Standard Specifications for Air Entraining Admixtures
C309	Standard Specification for Liquid Membrane-Forming Compounds for curing Concrete.
C 494-71	Standard Specification for Chemical Admixtures for Concrete.
E 329-70	Recommended practice for Inspection & Testing Agencies for Concrete & Steel as Used in Construction.

- 3.3 In addition, the latest editions of other Pakistan and British Standards, American Concrete Institute Standards, American Society for Testing and Materials Standards and other Standards as may be specified by the Engineer for special Materials and Construction are also relevant.

4. **MATERIALS**

4.1 **Aggregates** (Except for light-weight concrete):

- a. The sources of supply of all fine and coarse aggregates shall be subject to the approval of Engineer.
- b. All fine and coarse aggregates shall be clean and free from clay, loam, silt, and other deleterious matter. If required, Engineer reserves the right to have them washed by the CONTRACTOR at no additional expenses. Coarse and fine aggregates shall be delivered and stored separately at SITE. Aggregates shall not be stored on muddy ground or where they are likely to become dirty or contaminated.

For Contractor



- c. Fine aggregates shall be hard coarse sand, crushed stone or gravel screenings and shall conform to requirements of ASTM C-33.
- d. Coarse aggregates shall be gravel or broken stone or hard, durable material free from laminated stone and conforming to ASTM C-33 graded as follows for use in mass concrete such as in foundations:

TOTAL PASSING		PERCENT BY WEIGHT
2" B.S	Sieve (50.00 mm)	100
1-1/2"	Sieve (38.10 mm)	95 - 100
3/4"	Sieve (19.00 mm)	35 - 70
3/8"	Sieve (9.50 mm)	10 - 30
No. 4	Sieve (4.75 mm)	0 - 5

Coarse aggregates for all cast-in-place concrete other than mass concrete and thick fair faced cast-in-place concrete shall be graded with the following limits:-

TOTAL PASSING		PERCENT BY WEIGHT
1"	Sieve (25.00 mm)	100
3/4"	Sieve (19.00 mm)	90-100
3/8"	Sieve (9.50 mm)	20- 55
No. 4	Sieve (4.75 mm)	0- 10

Coarse aggregates for thin fair faced cast-in-place concrete shall be graded as follows:-

TOTAL PASSING		PERCENT BY WEIGHT
1/2"	Sieve (12.50 mm)	100
3/8"	Sieve (9.50 mm)	85-100
No. 4	Sieve (4.75 mm)	10- 30

- e. The nominal maximum size of aggregate for precast fair faced concrete shall be smallest of the following:
- One-fifth of the narrowest dimensions between sides of forms.
 - One-third of the depth of slabs.
 - Three-fourth of the minimum clear distance between reinforcing bars or between bars and form.
 - 1/2" (12.0 mm).
- f. The nominal maximum size of the aggregate for normal weight precast concrete shall be smallest of the following:-
- One-fifth of narrowest dimension between forms.
 - One-third of depth of slab.
 - Three-fourth of clear distance between bars.
 - 1"

Note: The above suggestions for sieve analysis are subject to the sieve analysis of the approved design mix which the contractor will produce at that time.

- g. The aggregate shall be stockpiled for a period before use so as to drain nearly to constant moisture content (as long as SITE and other conditions permit, preferably for at least a day). The grading of the coarse and fine aggregates shall be tested at least once for every

50 tons (or 750 C. ft) supplied to ensure that the grading is uniform and the same as that of the samples used in the preliminary tests.

4.2 **Cement:**

- a. Cement shall conform to ASTM C - 150.
- b. Only one brand of each type of cement shall be used for concrete in any individual member of the structure.
- c. Cement shall be used in the sequence of receipt of shipment, unless otherwise directed. There shall be sufficient cement at SITE to ensure that each section of WORK is completed without interruption. If the cement is supplied by THE OWNER, the CONTRACTOR shall inform Engineer of his requirement much before its use in construction.
- d. Cement reclaimed from cleaning of bags or from leaky containers shall not be used.
- e. CONTRACTOR shall provide and erect, at his own cost, in a suitable place, dry, well ventilated, and water proof shed of sufficient capacity to store the cement.
- f. The cement shall be used as soon as possible after delivery, and cement which Engineer considers has become stale or unsuitable through absorption of moisture from the atmosphere or otherwise shall be rejected and removed immediately from the SITE at CONTRACTOR'S expense. Any cement in containers, damaged so as to allow the contents to spill or access of the atmosphere to the cement prior to opening at the time of concrete mixing shall be rejected and removed immediately from the SITE at CONTRACTOR'S expense.
- g. The mixing together of different types of cement shall not be permitted.
- h. Any cement bag having lumps shall be considered as contaminated shall not be allowed to be used in any work.

i. **Stacking of Cement Bags.**

Stacks of not more than 10 bags in height shall be used.

Ventilation, allowing free flow of air through the stacks specially at the bottom of the stacks would be necessary.

4.3 **Water:**

Clean and clear potable water which does not have sweet, saline or brackish taste shall be used for mixing and curing of concrete. Where doubt exists, the strength of mortar sample made with questionable water is compared with mortar sample produced with acceptable water (like distilled water). The questionable water may be accepted if the sample concrete has strength of at least 90% of the other made sample with acceptable water.

Water contaminants under no circumstance shall be greater than following limits:

Oil	-----	0.00 ppm.
Chlorides	-----	1000 ppm.
Sulfates	-----	1000 ppm.
Turbidity	-----	2000 ppm.
Acids	-----	10,000 ppm.

Potassium and NaOH 0.5 to 1.0% by weight of cement.

Sea water shall not be used for any reinforced concrete works or where concrete is later required to be plastered, painted or otherwise decorated.

4.4 **Reinforcement:**

For Contractor



- a. Reinforcement for RCC concrete shall conform to the respective British, ASTM or other standards as specified in the Drawings and CONTRACT Documents or as may be specified by Engineer.
- b. Unless otherwise specified, all plain reinforcing bars shall comply with the requirements of B.S. 4449 for plain mild steel bars and shall have a minimum yield stress of 36 ksi, (248 N/mm sq).
- c. Unless otherwise specified, all deformed reinforcing bars shall comply with the requirements of B.S. 4461 for deformed cold worked steel bars and shall have minimum characteristic stress of 66 ksi, (460 N/mm sq). with minimum elongation of 12%.
- d. Reinforcement shall be obtained only from the manufacturer approved by the Engineer. If and when required CONTRACTOR shall provide all necessary facilities to Engineer for the selection of test pieces and shall cause these to be prepared and submitted where directed for tests at CONTRACTOR'S cost.
- e. If the reinforcement is to be supplied by the OWNER, the CONTRACTOR shall inform Engineer of his requirements much before its use in construction.
- f. CONTRACTOR shall report immediately on receipt of any consignment, having any deviation in the standard weights of the reinforcing bars beyond those allowed in respective standards mentioned in clause (4.4.b) and (4.4.c) herein before.

4.5 **Reinforcement Fixing:**

- a. All metal for reinforcement shall be free from loose mill scale, loose rust, mud, oil, grease, or other harmful matter immediately before the concrete is placed.
- b. Reinforcement is to be accurately placed as shown in the Drawings, and secured against displacement by using 18-20 gauge black annealed wire ties or suitable slips at intersections and supported from the form work by using concrete, metal or plastic chairs and spacers or hangers of an approved pattern. Where concrete blocks are used for ensuring the cover they shall be made of mortar not leaner than 1 part of cement to 2 parts of sand. Where the concrete surface will be exposed to the weather in the finished structure the portions of all accessories in contact with the form work shall be galvanized or shall be made of plastic.
- c. Bars used for concrete reinforcement shall be fabricated in accordance with the dimensions shown in the Bending Schedule.
- d. The cutting tolerance for all bars shall be $\pm 1"$ (± 25 mm).
- e. Where an overall or an internal dimension of a bent bar is specified in the schedule, the bending tolerance, unless otherwise stated, shall be as in Table 1.

TABLE 1 - BENDING TOLERANCES

<i>DIMENSIONS OF BENT BARS</i>				<i>TOLERANCE</i>			
Over	Upto and Including		Plus	Minus			
Inches (mm)	Inches (mm)		Inches (mm)	Inches (mm)			
-- --	36	915	1/8 3	1/4	6.0		
36 915	72	1830	1/4 6.3	1/2	12.5		



72	1830	--	--	1/2	12.5	1	5.0
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f. Bars shall be placed to the following tolerances:

i. Concrete cover to formed surface: $\pm 1/4"$ (6.0 mm)

ii. Minimum spacing between bars: $\pm 1/4"$ (6.0 mm)

iii. Top bars in slabs and beams:

* Members 8" (200 mm) deep or less: $\pm 1/4"$ (6.0 mm)

* Members more than 8" (200 mm) over 24" (600 mm) deep: $\pm 1/2"$ (12.0 mm)

* Members more than 24" (600 mm) deep: $\pm 1"$ (25 mm)

iv. Crosswise of member: spaced evenly within 1" (25 mm)

v. Lengthwise of members: $\pm 2"$ (50 mm)

g. Bars may be moved as necessary to avoid interference with other reinforcing steel, conduits, or embedded items. If bars are moved more than one bar diameter, or enough to exceed the above tolerances, resulting arrangement of bars shall be subject to approval of the Engineer.

h. Vertical bars in column shall be offset at least one bar diameter at lapped splices. To ensure proper placement, templates shall be furnished for all columns dowels.

i. Reinforcement shall not be bent or straightened in a manner that will injure the material.

No bars shall be bent twice in the same place, nor shall they be straightened after bending.

Unless permitted by the Engineer, reinforcement shall not be bent after being partially embedded in hardened concrete. Bars which depend for their strength on cold working shall not be heated for any reason (except for welding). Reinforcement larger than 1-1/2" (38.0 mm) in dia may be bent by the use of heat at (not exceeding 1550 F). Bars bent shall not be cooled by quenching.

j. No splice of reinforcement shall be made except as shown on the working Drawings.

k. Welding shall be permitted for bars only under suitable conditions and with suitable safeguards in accordance with B.S 693. 1856, or AWS D 12.1, provided the type of reinforcement bars have the required welding properties. Tack welding may be used to fix in position bars that cross each other, only with prior approval of the Engineer.

l. Exposed reinforcement intended for bonding with future extensions is to be effectively protected from corrosion. Protection is also to be provided to reinforcement partly built into concrete exposed part to be built into later concrete.

m. No concreting is to be carried out until the reinforcement has been checked and approved by the Engineer.

5. **CONCRETE**

5.1 **General:**

For Contractor



- a. The proportions of ingredients of structure concrete shall be decided by trial mixes / mix design for the concrete of required compressive strength and shall be such as to produce a mixture which will work readily into the corners and angles of the forms and around reinforcement by the methods of placing and consolidation allowed to employed on the WORK, but without permitting the materials to segregate or excessive free water to collect on the surface. Specific approval of the Engineer is required to waive limitations on mixture proportions.
- b. The proportions of ingredients shall be selected in accordance with Section 5.6 to produce the proper placeability, durability, strength and other required properties.

5.2 **Strength:**

The corresponding minimum work cylinder strength for columns, water tanks shall be 3000 psi and for all other RCC structure shall be 3000 psi at 28 days. Strength requirements shall be based on the sampling and testing methods of ASTM C 39-72 (and BS 1881 for cube).

5.3 **Water Content of Concrete:**

Maximum permissible water-cement ratios for concrete in severe exposures to be as follows, unless lower water-cement ratio is required to meet specified strength limits:

Type of Structure	Structure continuously wet or frequently freezing and thawing	Structure exposed to sea or sulfates
i. Thin sections & sections cover over steel.	with less than 1" 0.45	0.40 ²
ii. All other Structures	0.50	0.45 ²

NOTE:

1. Concrete should also be air-entrained.
2. If S.R. Cement is used permissible water-cement ratio may be increased by 0.05

5.4 **Slump:**

Unless otherwise permitted or specified, the concrete shall be allowed to have a slump of 1-1/2" (37.50 mm) or less provided the requisite cube strength is obtained. A tolerance of upto 1/2" (12.50 mm) above the indicated maximum shall be allowed for individual batches provided the average for all batches or the most recent 10 batches tested, whichever is fewer, does not exceed the maximum limit. Concrete of lower than usual slump may be used provided it is properly placed and consolidated. The slump shall be determined by the "Test for Slump for Portland Cement Concrete" (ASTM C-143).

5.5 **Admixtures:**

If required or permitted, admixtures used shall be in accordance with the manufacturer's instructions except as otherwise specified herein.

5.6 **Methods of Obtaining Mix Design:**



For concrete of normal weight, mix proportions to provide the desired characteristics shall be developed using the methods/procedure covered by the latest edition of Recommended Practice for Selecting Proportions for Normal Weight Concrete ACI 211.1.

Trial mixtures having proportions and consistencies suitable for the WORK shall be made based on ACI 211.1, using at least three different water-cement ratios which will produce a range of strengths encompassing those required for the WORK. Trial mixes shall be designed to produce the specified slump. The temperature of concrete used in trial batches shall be reported.

For each water-cement ratio, compression test of cylinder/cube shall be made, cured, and tested in accordance with "ASTM C - 39 or BS 1881". From the results of these tests a curve shall be plotted showing the relationship between the water-cement ratio and compressive strength. From this curve, the water-cement ratio to be used in the concrete shall be selected to produce the required/specified design strength. The cement content and mix proportions to be used shall be such that this water-cement ratio is not exceeded when slump is the maximum permitted. Control in the field shall be based upon maintenance of proper cement content and slump.

5.7 Batching:

- a. All cement, including cement supplied in bulk, shall be batched by weight. A bag of cement, unless marked otherwise, may be taken as 112 lbs (50 kg) or as directed by the Engineer
- b. Aggregate shall be batched by weight, due allowance being made for water content. Aggregate may be batched by volume only with the prior permission of Engineer. The apparatus for weight batching may be an integral part of the mixer or a separate unit of a type approved by Engineer. It shall be accurate within 2% and shall be checked for accuracy at least once a week.
- c. Where the batching plant is of the type in which cement and aggregate are weighed in the same compartment, the cement shall be introduced into the compartment between two sizes of aggregate.
- d. Where volumetric batching of aggregate is permitted gauge boxes shall be provided for measuring the coarse and the fine aggregate. These shall be **deep and narrow rather than shallow and wide**. Tests for the bulking of sand shall be made at intervals and the necessary quantity of sand added.
- e. Each batch shall be so charged into the mixer that some water will enter in advance of the cement and aggregates. Water shall continue to flow for a period which may extend to the end of the first 25 percent of the specified mixing time.

5.8 Mixing:

- a. The concrete shall be mixed in an approved batch mixer conforming to the requirement of B.S 1305. It shall be fitted with the manufacturer's plate stating the rated capacity and the recommended number of revolutions per minute and shall be operated in accordance therewith. It shall be equipped with a suitable charging mechanism and an accurate water measuring device.
- b. Mixing shall continue for the period recommended by the mixer manufacturer or until apparently the mix is uniform in color, whichever period is longer. If it is desired to use a mixing period less than 1-1/2 minute Engineer's approval shall be obtained in writing.
- c. Controls shall be provided to ensure that the batch cannot be discharged until the required mixing time has elapsed. At least three quarters of the required mixing time shall take place after the last of the mixing water has been added.

For Contractor



- d. The interior of the mixer shall be free of accumulations that will interfere with mixing action. Mixing blades shall be replaced when they have lost 10% of their original height.
- e. Concrete shall be mixed only in quantities for immediate use. Concrete which has set shall not be re-tempered, but shall be discarded.

5.9 **Transportation:**

- a. The concrete shall be transported from the place of mixing to the place of final deposit as rapidly as practicable by means which will prevent segregation or loss or addition to ingredients. It shall be deposit as nearly as practicable in its final position so as to avoid re-handling or flowing. All skips vehicles, or containers used for transporting the concrete shall be thoroughly cleaned.
- b. During hot or cold weather, concrete shall be transported in deep containers to minimize the loss of water/heat.

5.10 **Placing:**

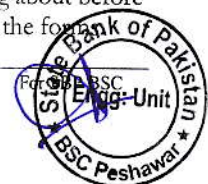
- a. Before placing of concrete, form work shall have been completed, water shall have been removed, reinforcement shall have been secured in place, expansion joint material, anchors, and other embedded items shall have been kept in position, and the entire preparation shall have been approved.

No concrete is to be placed into the foundation trenches until the ground to receive the same has been examined and approved by Engineer for this purpose.

- c. The actual sequence of construction proposed by CONTRACTOR shall be subject to Engineers approval before construction starts on any part of the structure, and this sequence shall not be varied without Engineers prior approval.
- d. The concrete shall be placed after it has been mixed as soon as is practicable. Once the concrete has left the mixer no more water shall be added, although the concrete may be mixed or agitated to help maintain workability. The concrete shall not be used if, through any cause, the workability of the mix at the time of placing is too low for it to be compacted fully and to an acceptable finish by whatever means are available.

The time between mixing and placing should be reduced if the mix is richer or the initial workability of the mix is lower than normal, if a rapid hardening cement or an accelerator is used, or if the work is carried out at a high temperature or exposed to a drying atmosphere. CONTRACTOR shall ensure that the delay between mixing and placing does not exceed 30 minutes under any circumstances. Any concrete which does not satisfy this requirement shall not be used.

- e. The concrete shall be deposit as nearly as possible in its final position to avoid re-handling. In no circumstances may concrete be made to flow along the forms by the use of vibrators. Concreting shall be carried out on as a continuous operation using methods which shall prevent separation or loss of ingredients.
- f. The free fall of concrete shall not be allowed to exceed eight feet and where it is necessary for the concrete to be lowered more than this amount, it is not to be dropped into its final position, but it is to be placed through pipe, the lower end of which shall be kept in, or close to the freshly deposit concrete. The dia. of the pipe shall be not less than 4 times the maximum size of aggregate.
- g. For mass concrete, concrete shall be placed in layers approximately 18" (450 mm) thick. Vibrator heads shall extend into the previously placed layer.
- h. The workmen carrying concrete to the SITE, and all other workmen moving about before the concrete is placed shall move only along runways or planks placed over the formwork.



- i. Prior to the laying of concrete on load bearing masonry walls, bearing plates and at other points, as may be directed by Engineer, the surface will be brought to a true, hard smooth, level using a cement sand mortar in the ratio of 1 volume of cement to 3 volumes of sand. Two layers of building paper weighing 1.3 oz/sq. ft (400 g/m) will then be laid flat to separate the concrete from the surface on which it is to be laid.

5.11 Construction Joints:

- a. Concreting shall be carried out continuously up to construction joints, the position and arrangement of which shall be pre-determined with the approval of the Engineer.
- b. Joints not shown on the Drawings shall be so made and located as to least impair the strength of the structure and shall need prior approval of Engineer. In general, they shall be located near the middle of the spans of slabs and beams unless a secondary beam intersects a main beam at this point, in which case the joint in the main beam shall be offset to a distance equal to twice the width of the secondary beam. Joints in walls and columns shall be at the underside of floors slab or beams, and at the top of footings. Beams, brackets, columns, capitals, haunches, and drop panels shall be placed at the same time as slabs. Joints shall be perpendicular to the main reinforcement.
- c. All reinforcing steel shall be continued across joints. Key and inclined dowels shall be provided as directed by Engineer. Longitudinal keys at least 1- 1/2 (40 mm.) deep shall be provided in all joints in walls and between walls and slab or footings.
- d. When the work is to be resumed on a surface which has hardened, such surface shall be roughened in an approved manner which will expose the aggregate uniformly and will not leave laitance, loosened particles of aggregate or damaged concrete at the surface.
- e. The hardened concrete of construction joints and of joints between footings and walls or columns, between walls or columns and beams or floors they support, joints in un-exposed walls and all others not mentioned below shall be dampened (but not saturated) immediately prior to placing of fresh concrete.
- f. The hardened concrete of joints in exposed work, joints in the middle of beams, and slabs and joints in work designed to contain liquids shall be dampened (but not saturated) and then thoroughly covered with a coat of cement grout of similar proportions to the mortar in the concrete. The grout shall be as thick as possible on vertical surface and at least 1/2" (12.0 mm) thick on horizontal surface. The fresh concrete shall be placed before the grout has attained its initial set.
- g. Where the concrete has not fully hardened, all laitance shall be removed by scrubbing the wet surface with wire or bristle brush. Care being taken to avoid dislodging of particles of aggregate. The surface shall then be coated with neat cement grout. The first layer of concrete to be placed on this surface shall not exceed 6" (150 mm) in thickness, and shall be well rammed against old work, particular attention being paid to corners and close spots.
- h. Stop ends for movement joints or construction joints shall be made by splitting them along the lines of reinforcement or the concrete. Stop ends made of expanded metal or similar material may only be left permanently in the concrete with prior written approval of Engineer. Where such stop ends are used, no metal may be left permanently in the concrete closer to the surface of the concrete than the specified cover to the reinforcement. Wood strips inserted for architectural treatment shall be kerbed to permit swelling without pressure on the concrete.

5.12 Embedded Items:

- a. The material, design and location of water stops in joints shall be as indicated in the Drawings. Each piece of pre-molded water stop shall be of maximum practicable length in order that the number of end joints will be held to a minimum.

For Contractor



Joints at intersections and at end of pieces shall be made in the manner most appropriate to the material being used. Joints shall develop effective water tightness fully equal to that of the continuous water-stop material, and shall permanently develop not less than 50% of the mechanical strength of the parent section, and shall permanently retain their flexibility.

- b. Electric conduits and other pipes which are planned to be embedded shall not, with their fittings, displace more than four percent of the area of the cross section of a column on which stress is calculated or which is required for fire protection. Sleeves, conduits, or other pipes passing through floors, walls, or beams shall be of such size or in such location so as not to impair unduly the strength of the construction. Such sleeves, conduits in compression in the displaced concrete, provided that they are not exposed to rusting or other deterioration, are of uncoated or galvanized iron or steel not thinner than standard steel pipe, have a nominal inside diameter not over 2" (50 mm) and are spaced at centers not less than thrice their diameter. Except when plans of conduits and pipes are approved by Engineer embedded pipes or conduits other than those merely passing through, shall not be larger in outside diameter than one-third the thickness of the slab, walls, or beam in which they are embedded nor shall be spaced closer than three diameters on center, nor so located as to impair unduly the strength of the construction. Sleeve pipes, or conduits with-in the limitations of this section may be embedded in concrete with the approval of Engineer, provided they are not considered to replace the displaced concrete.
- c. All sleeves, inserts, anchors, and embedded items required for adjoining work or for its support shall be placed prior to concreting.

All Contractors whose work is related to the concrete or must be supported by it shall be given ample notice and opportunity to introduce and/or furnish embedded items before the concrete is placed.

- d. Expansion joint material, water stops and other embedded items shall be positioned accurately and supported against displacement. Voids in sleeves, inserts, and anchor slots shall be filled temporarily with readily removable material to prevent the entry of concrete into the voids.

5.13 **Consolidation:**

- a. All concrete shall be consolidated by vibration, so that the concrete is thoroughly worked around the reinforcement, around embedded items, and into corners of form, eliminating all air or stone pockets which may cause honeycombing, pitting, or planes of weakness. Internal vibrators shall have a minimum frequency of 800 vibrations per minute and sufficient amplitude to consolidate the concrete effectively.

Vibrators shall be inserted and withdrawn at points approximately 18" apart (450 mm). At each insertion, the duration shall be sufficient to cause consolidation, generally from 5 to 15 sec. A spare vibrator shall be kept on the SITE during all concreting operations. Where the concrete is to have an as-cast finish, a full surface of mortar shall be brought against the form by the vibration process supplemented if necessary by spading to work the coarse aggregate back from the formed surface.

- b. If there is any tendency for the mix to segregate during consolidation, particularly if this produces excessive laitance, the mix proportions shall be modified to affect an improvement in the quality of the concrete to the satisfaction of Engineer and in conformity with the provisions of Clause 5.
- c. Vibrators shall not be allowed to contact the form work for exposed concrete surface.
- d. Mechanical vibrators shall be of a type suited in the opinion of Engineer to the particular conditions.
- e. Over-vibration or vibration of very wet mix is harmful and should be avoided.

5.14 **Curing and Protection:**

- a. Beginning immediately after placement, concrete shall be protected from premature drying, excessively hot or cold temperatures, and mechanical injury, and shall be maintained with minimal moisture loss at a relative constant temperature for the period necessary for hydration of the cement and hardening of the concrete. The materials and methods of curing shall be subject to approval of Engineer.
- b. For concrete surfaces not in contact with forms, one of the following procedures shall be applied immediately after completion and finishing:
 - Ponding or continuous sprinkling.
 - Application of absorptive mats or fabric kept continuously wet.
 - Application of water proof sheet materials approved by Engineer.
 - Application of other moisture retaining covering as approved.
 - Application of curing compound conforming to ASTM C 309. The compound shall be applied in accordance with the recommendations of the manufacturer immediately after any sheen which develops after finishing has disappeared from the concrete surface. It shall not be used on any surface against which additional concrete or other materials to be bonded unless it is proved that the curing compound will not prevent bond, or unless positive measures are taken to remove it completely from area to receive bonded applications.
- c. Moisture loss from surface placed against wooden forms or metal forms exposed to heating by the sun shall be minimized by keeping forms wet until they can be safely removed. After form removal, the concrete shall be cured until the end of the limit prescribed in Clause 6.10.d by one of the methods of Clause 6.10.b.
- d. Curing in accordance with clause 6.10.a & 6.10.b shall be continued for at least 14 days in the case of all concrete except concrete with Rapid hardening Portland cement for which the period shall be at least 7 days.

Alternatively, if tests are made of cylinders/cubes kept adjacent to the structure and cured by the same methods, moisture retention measures, unless stated otherwise on drawings, may be terminated when the average compressive strength has reached 70 percent of the minimum specified works strength. If one of the first four curing procedures of clause 6.10.b is used initially, it may be replaced by one of the other procedures of that Clause any time provided the concrete is not permitted to become surface dry during the transition.

- e. When the mean daily outdoor temperature is less than 41 degree F (5 C) then temperature of the concrete shall be maintained between 50-68F (10C-20C) for the required curing period of Clause 6.10.d. When necessary arrangements for heating, covering, insulation or housing the concrete work shall be made in advance of placement and shall be adequate to maintain the required temperature without injury to concentration of heat. Combustion heaters shall not be used during the first 24 hours unless approved precautions are taken to prevent exposure of the concrete to exhaust gases which contain carbon dioxide.
- f. When necessary, provision for windbreak, shading for spraying, sprinkling, ponding or wet covering with a light colored material shall be made in advance of placement, and such protective measures shall be taken as quickly as concrete hardening and finishing operations will allow.
- g. Changes in temperature of the air immediately adjacent to the concrete during and immediately following the curing period shall be kept as uniform as possible and shall not exceed 5F (3C) in any one hour or 50F (28C) in any 24 hour period.

For Contractor



- h. During the curing period, the concrete shall be protected from damaging mechanical disturbances, such as load stresses, heavy shock and excessive vibration. All finished concrete surfaces shall be protected from damage by construction equipment, materials or methods by application of curing procedures, and by rain or running water, self-supporting structures shall not be loaded in such a way as to over stress the concrete.

5.15 Works in Extreme Weather:

- a. Unless adequate protection is provided and approval is obtained concrete shall not be placed during rain. Rain water shall not be allowed to increase the mixing water nor to damage the surface finish.
- b. When the temperature of the surrounding air is expected to be below 40 degrees F (4.4 C) during placing or within 24 hours thereafter, the temperature of the plastic concrete, as placed shall be no lower than 55 degrees F (13 - C) for sections less than 12" (300 mm) in any dimension nor 50F (10C) for any other sections.

When necessary, concrete materials should be heated before mixing and carefully protected after placing; in general, heating of mixing water alone to about 140F (60C) may be sufficient for this purpose. Dependence should not be placed on salt or other chemicals for the prevention of freezing. No frozen material or materials, containing ice shall be used. All concrete damaged by frost shall be removed. It is recommended that concrete exposed to the action of freezing weather should have entrained air and the water content of the mix should not exceed 5.5 gallons (25 liters) per bag of cement. If water or aggregate is heated above 100F (38C) the water shall be combined with the aggregate in the mixer before cement is added. Cement shall not be mixed with water or with mixtures of water and aggregate having a temperature greater than 100F (38C).

- c. During hot weather, the temperature of the concrete as placed shall not be so high as to cause difficulty from loss of slump, flash set, or cold joints and should not exceed 90F (32.C). For massive concrete this temperature should not exceed 70F (21.C). When the temperature of the concrete exceeds 90F (32C),precautionary measures approved by Engineer shall be put into effect. When the temperature of the steel is greater than 122F (50C) steel forms and reinforcement shall be sprayed with water just prior to placing the concrete. The ingredients shall be cooled before mixing, or flake ice or well-crushed ice of a size that will melt completely during mixing may be substituted for all or part of the mixing water if, due to high temperature, low slump, flash set or cold joints are encountered.

Other precautions recommended by ACI standard 305R-91 shall also be adopted.

6. TEST FOR CONCRETE QUALITY

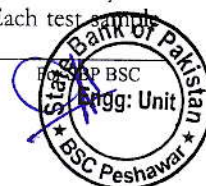
6.1 General:

CONTRACTOR shall make standard cylinder / cube (sample) by standard method of concrete for testing at Engineer's direction. Proper facilities shall be provided for making and curing the test specimens in accordance with the specifications. A competent person shall be employed by CONTRACTOR whose first duty shall be to supervise all stages in the preparation and placing of the concrete. All test specimens shall be made and SITE tests carried out under his direct supervision and at CONTRACTOR'S cost.

Permanent record of concrete poured, samples made, and compressive strength results obtained shall be carefully maintained at the site.

6.2 Samples:

Conduct compressive strength tests on at least one test cylinder / cube sample per 50 cubic yards of concrete (38 cu meters) with a minimum of one sample per concrete pour. Each test sample



shall consist of no less than three concrete test cylinders/cubes made from a single sample of concrete from a randomly selected batch of concrete, taken at point of discharge from mixer or truck, cured under standard conditions. One cylinder/cube from each sample shall be tested at age 3 days and two at age 28 days unless otherwise directed by the Engineer.

6.3 Adequacy of Mix:

In case of Concrete mix, the appropriate strength requirement shall be considered to be satisfied if none of the strengths of the specimen is below the specified strength or if the average strength of the three specimens is not less than the specified strength and the difference between the greatest and least strengths is not more than 20% of that average.

When the results of tests show that the strength of any concrete is below the minimum specified, Engineer may give instructions for the whole or part of the work concerned to be removed and be replaced at the expense of CONTRACTOR. CONTRACTOR shall bear the cost of any other part of his, or any other CONTRACTOR'S work, which has to be removed and replaced as a result of the defective concrete. If any concrete is held to have failed, Engineer may order the proportions of that class of concrete to be changed in order to provide the specified strength.

7. FINISHING OF FORMED CONCRETE.

7.1 General:

- a. After removal of forms the surfaces of concrete shall be given one or more of the finishes specified below in locations designated by the Drawing or as specified in Clause 8.5.
- b. When finishing is required to match a small sample furnished to CONTRACTOR, the sample finish shall be reproduced on an area at least 100 square feet in an inconspicuous location designated by Engineer before proceeding with the finish in the specified location.

7.2 As-Cast Finishes:

a. Rough Form Finish:

No selected form facing materials shall be specified for rough form finish surfaces. Tie holes and defects shall be patched, unless if required to be retained if so directed by Engineer. Fins exceeding 1/4" (6 mm) in height shall be chipped off or rubbed off. Otherwise, surfaces shall be left with the texture imparted by the forms.

b. Smooth Form Finish:

The form facing material shall produce a smooth hard uniform texture on the concrete.

It may be plywood, tempered concrete-form grade hardboard, metal, plastic paper, or other approved material capable of producing the desired finish. The arrangement of the facing material shall be orderly and symmetrical, with the number of seams kept to the practical minimum. It shall be supported by studs or other backing capable of preventing excessive deflection. Material with raised grain, torn surfaces, worn edge, patches, dents, or other defects which will impair the texture of the concrete surface shall not be used. Tie holes and defects shall be patched. All fins shall be completely removed.

7.3 Architectural Finishes:

a. Textured Finishes:

Textured form liners may be of formed plastic sheet, wood, sheet metal, or other material designated in Drawings. Liner panels shall be secured in forms by cementing or stapling, but not by methods which will permit impressions of nail heads, screw heads washers, or the like to be imparted to the surface of the concrete, unless shown otherwise on the

For Contractor



Drawings. Edges of textured panels shall be sealed to each other or to dividing strips, if specified or shown, to prevent bleeding of grout. The sealant used shall be non-staining to the surface.

b. **Applied Finishes:**

When finishes of plaster or similar trowelled materials are to be applied, the surface of the concrete shall be prepared to ensure permanent adhesion of the finish. If the concrete is less than 24 hours old, it can be roughened with a heavy wire brush or scouring tool. If the concrete is older the surface may be roughened mechanically or by etching with dilute hydrochloric acid. After roughening, the surface shall be washed free of all dust, acid, chemical retarder, and other foreign material before the final finish is applied.

7.4 **Rubbed Finishes:**

The following finishes shall be produced on concrete with a smooth form finish. Where smooth rubbed finish is to be applied, the forms shall have been removed and necessary patching completed as soon after the placement of the concrete as possible without compromising any structural requirements.

a. **Smooth Rubbed Finish:**

Smooth rubbed finish shall be produced on newly hardened concrete not later than a day following form removal.

Surfaces shall be wetted and rubbed with carborundum brick or other abrasive until uniform color and texture are produced. No cement grout shall be used other than the cement paste drawn from the concrete itself by the rubbing process.

b. **Grout Cleaned Finish:**

No cleaning operations shall be undertaken until all contiguous surfaces to be cleaned are completed and accessible. Cleaning as the work progresses shall not be permitted.

Mix 1 part Portland Cement and 1-1/2 part fine sand with sufficient water to produce a grout having the consistency of thick paint. White Portland Cement shall be substituted for a part of the grey Portland Cement in order to produce a color matching the color of the surrounding concrete, as determined by a trial patch. Wet the surface of the concrete sufficiently to prevent absorption of water from the grout and apply the grout uniformly with a brush or a spray gun. Immediately after applying the grout, scrub surface vigorously with a cork float or stone and fill all air bubbles and holes. While the grout is still plastic, remove all excess grout by working the surface with a rubber float, sack or other means. After the surface whitens from drying (about thirty minutes at normal temperature) rub vigorously with clean burlap. The finish shall be kept damp for at least 36 hours after final rubbing.

c. **Cork Floated Finish:**

- i) Remove forms at an early stage, within 2 to 3 days of placement where possible.
- ii) Remove ties, and all burrs and fins.
- iii) Mix 1 part Portland cement and 1 part fine sand with sufficient water to produce a stiff mortar.
- iv) Dampen surface.
- v) Apply mortar with firm rubber float or with trowel, filling all surface voids.



- vi) Apply a small amount of water with a fog spray to prevent too rapid drying of compressed mortar.
- vii) Apply a small amount of water with a fog sprayer.
- viii) Produce the final texture with a cork float using a swirling motion.

7.5 **Unspecified Finishes:**

If the finish is not designated in the Drawings, the following finishes shall be used as applicable:

a. **Rough Form Finish:**

For all concrete surface not exposed to public view and / or are specified to have subsequent finishing.

b. **Smooth Form Finish:**

For all concrete surfaces exposed to public view and or are not required to have subsequent finishing.

7.6 **Related Unformed Surfaces:**

Tops of walls or buttresses, horizontal offsets, and similar unformed surfaces occurring adjacent to formed surfaces shall be struck smooth after concrete is placed and shall be floated to a texture reasonably consistent with that of the formed surfaces. Final treatment on form surfaces shall continue uniformly across the unformed surfaces.

8. **REPAIR OF SURFACE DEFECTS:**

8.1 **General:**

- a. Any concrete failing to meet the specified strength or not formed as shown on Drawings, concrete with surface beyond tolerances or with defective surfaces which cannot be properly repaired or patched in the opinion of Engineer shall be removed and replaced at CONTRACTORS'S expenses. Engineer may reject any defective concrete and order it to be cut out in part or in whole and replaced at the CONTRACTOR'S expense. Only in case of minor surface defects, Engineer may approve a surface treatment in accordance with the Clause. 9.2
- b. All ties and bolt holes and all repairable defective areas shall be patched immediately after the removal of forms.

8.2 **Repair of Defective Areas:**

- a. All honeycombed and other defective concrete shall be removed down to sound concrete. The area to be patched and area at least 6" (150 mm) wide surrounding it shall be dampened to prevent absorption of water from the patching mortar. A bonding grout shall be prepared using a mix of approximately 1 part cement to 1 part fine sand or an approved bonding agent shall then be well brushed/ applied into the surface.
- b. The patching mixture shall be made of the same material and of approximately the same proportions as used for the concrete, except that the coarse aggregate shall be omitted and the mortar shall consist of not more than 1 part cement to 2-1/2 parts sand by damp loose volume. White Portland cement shall be substituted for a part of the grey Portland cement on exposed concrete in order to produce a color matching the color of the surrounding concrete, as determined by a trial patch.
- c. The quantity of mixing water shall be not more than necessary for handling and placing. The patching mortar shall be mixed in advance and allowed to stand with frequent

For Contractor



manipulation with a trowel, without addition of water, until it has reached the stiffest consistency that will permit placing.

- d. After surface water has evaporated from the area to be patched, the bond coat shall be well brushed into the surface. When the bond coat begins to lose the water sheen, the premixed patching mortar shall be applied. The mortar shall be thoroughly consolidated into place and struck off so as to leave the patch slightly higher than the surrounding surface to permit initial shrinkage; it shall be left undisturbed for at least one hour before being finally finished. The patched area shall be covered by approved curing compound, except as specified in Clause 9.2 g. Metal tools shall not be used in finishing a patch in a formed wall which will be exposed.
- e. Where as-cast finishes are specified, the quantity of patched area shall be strictly limited. The combined total of patched areas in as-cast concrete surfaces shall not exceed 2 square ft. in each 1000 square feet of as-cast surface. This is in addition to form tie patches, if the project design permits to fall within as-cast areas.
- f. Any patches in as-cast architectural concrete shall be indistinguishable from surrounding surfaces. The mix formula for patching mortar shall be determined by trial to obtain a good color match with the concrete when both patch and concrete are cured and dry. After initial set, surface of patches shall be dressed manually to obtain the same texture as surrounding surfaces.
- g. Patches in architectural concrete surfaces shall be cured for 7 days. Patches shall be protected from premature drying to the same extent as the body of the concrete.

8.3 Tie and Bolt Holes:

After being cleaned and thoroughly dampened, the tie and bolt holes shall be filled solid with patching mortar.

8.4 Proprietary Materials:

If permitted or required by Engineer proprietary compounds for adhesion or as patching ingredients may be used in lieu of or in addition to the foregoing patching procedures. Such compounds shall be used in accordance with the manufacturer's recommendation with prior approval of Engineer.

9. CONCRETE CONSTRUCTION TOLERANCE

Where tolerances are not stated in the Specifications or Drawing for any individual structure or feature, maximum permissible deviations from established lines, grades and dimensions shall conform to the following. The CONTRACTOR is expected to set and maintain concrete forms so as to ensure completed work within the tolerance limits. These allowable tolerances shall not relieve CONTRACTOR of his responsibility for correct fitting of indicated materials. These tolerances are not cumulative.

9.1 Variation from the plumb (or as specified for sloped walls).

- a. In the lines and surfaces of columns, piers and walls.
 - * Maximum for the entire length or height: 3/16" (4.5 mm)
- b. For exposed corner columns, control joint grooves and other conspicuous lines.
 - * Maximum for the entire length or height: 3/16" (4.5 mm)

9.2 Variation from the levels or the grades indicated on Drawings:

For Contractor



- a. In floors, ceilings, beam soffits and in arrises.
 - * Maximum for the entire length: $1/4"$ (6 mm)
- b. For exposed lintels, sills, parapets, horizontal grooves of 50 feet or more in length, and other conspicuous lines:
 - * Maximum for the entire length: $1/4"$ (6 mm)
- 9.3 **Maximum allowable constant Variation of the entire building lines from established position of property lines and related position of columns, walls and partitions.**
 - * Maximum for the entire length: $1"$ (25 mm)
- 9.4 **Variation of the size and locations of sleeves, floors openings and wall openings:** $1/4"$ (6 mm)
- 9.5 **Variation in cross-sectional dimensions of columns and beams .**
 - Minus: $1/4"$ (6 mm)
 - Plus: $1/2"$ (12.0 mm)
- 9.5a In thickness of Slabs & Walls. $1/4"$ (6mm)
- 9.6 **Footings:**
 - a. Variations in dimensions in plan.
 - * Minus : $1/2"$ (12.0 mm)
 - * Plus (plus variation applied to concrete only, to bars dowels): $2"$ (50 mm)
 - b. Misplacement or eccentricity of concrete.
 - * 2 percent of the footing width in the direction of misplacement but not more than $2"$ (50 mm)
 - c. Reduction in thickness
 - * Minus 5 percent of specified thickness.
- 9.7 **Variation in Steps**
 - a. Rise: $1/8"$ (3 mm)
Tread: $1/4"$ (6 mm)
 - b. In consecutive steps
 - Rise: $1/16"$ (1.0 mm)
 - Tread: $1/8"$ (3 mm)
- 9.8 **Tolerance for Precast Concrete:**

Forms must be true to size and dimensions of concrete members shown on the plans and be so constructed that the dimensions of the finished product will be within the following limits at the time of placement of these units in the structure, unless otherwise noted on Engineer's Drawings.

For Contractor



- a. Overall dimensions of members per 10 ft (3 mm): $\pm 1/16"$ (1.0 mm)
- b. Cross-sectional dimensions Section less than 3" (75 mm): $\pm 1/16"$ (1.0 mm)
 Section over 3" (75 mm) less than 18" (450 mm): $\pm 1/8"$ (3 mm)
 Section over 18" (450 mm): $\pm 1/4"$ (6 mm)
- c. Deviations from straight lines in long sections. Not more than $1/8$ inch per 10 ft (3m / 3 m).
- d. Deviation from specified camber $\pm 1/16"$ (1.5 mm) per 10 ft (3m) of span. Maximum differential between adjacent units in erected position. $1/4$ inch (6 mm).

9.9 Tolerance for Pavements:

- a. Ramps
 - Departure from established alignment $\pm 1/4"$ inch (6 mm).
 - Departure from established longitudinal $\pm 1/4"$ (6 mm) grade on any line.
 - Departure from transverse template contour except at transverse joints $\pm 1/8$ inch (± 3 mm).
 - Departure from transverse template control at transverse joints $\pm 1/4"$ (± 6 mm) in width of one traffic lane.

9.10 Pavements for Parking Areas:

Twice values listed for ramp pavements.

10. PLANT AND EQUIPMENT.

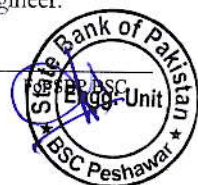
10.1 Formwork:

- a. Forms shall be used, wherever necessary, to confine the concrete and shape it to the required dimensions. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete and shall have sufficient rigidity to maintain specified tolerances.

Structurally adequate, form work shall also conform to the requirements of the special architectural finishes of the in-situ Plain and Reinforced Concrete specified/or shown on the Drawings. Shop drawings of such form shall be subject to the approval of the Engineer prior to its use. Engineer shall refuse concreting of any part which in his opinion may not yield specified finishes.

- b. Earth cuts shall not be used as forms for vertical surface or reinforced concrete work unless required or permitted.
- c. Mud centering shall not be permitted without the prior approval of the Engineer.

For Contractor



- d. Form work shall be made of either timber, steel, plywood, proprietary building boards and such special material, as may be shown on the drawings or approved by the Engineer which gives the required finish to the surface of concrete. Wooden frame work shall be free from loose knots and shall be well seasoned. For the external concrete finishes 1/16" (1.5 mm) thick mild steel sheet forms shall be used. CONTRACTOR shall furnish shop drawings of such form work prepared on the basis of architectural concept for the approval of the Engineer.
- e. Form work shall conform to the shape, lines and dimensions as shown on the plans, and be so constructed as to remain sufficiently rigid during the placing and compacting of concrete, and shall be sufficiently tight to prevent loss of cement slurry. The design and engineering of the form work, as well as its construction, shall be the responsibility of CONTRACTOR. Where necessary to maintain the specified tolerances, the form work shall be **cambered** to compensate for anticipated deflections in the form work due to the weight and pressure of the fresh concrete and due to construction loads.

CONTRACTOR shall establish and maintain in an undisturbed conditions, and until final completion and acceptance of the WORK, sufficient control points and bench marks to be used for reference purpose to check tolerances.
- f. Requirements for facing materials are given in clause 8 "Finishing of formed Concrete". The maximum deflection of facing materials reflected in concrete surfaces exposed to view shall be 1/240 of the span between structural members.
- g. Where natural plywood form finish, grout cleaned finish, smooth rubbed finish, scrubbed finish, or sand floated finish is required, forms shall be smooth (faced with plywood, liner sheets, or prefabricated panels) and true to line, in order that the surfaces produced with required little dressing to arrive at true surfaces. Where any as-cast finish is required, no dressing shall be permitted in the finishing operation.
- h. Where as-cast surfaces, including natural plywood form finish, are specified, the panels of materials against which concrete is cast shall be arranged orderly with joints between panels planned in approved relations to opening, building corners, and other architectural features.
- i. Where panels for as-cast surfaces are separated by recessed or otherwise emphasized joints, the structural design of the forms shall provide for locating form ties within the joints so that patches of tie holes will not fall within the panel areas.
- j. Forms shall not be re-used if there is any evidence of surface wear and tear or defect which would impair the quality of the surface. Forms shall be thoroughly cleaned and properly coated before re-use.
- k. The form work may be designed so that soffits of slabs and sides of beams, columns, and wall may be removed first leaving the forms to the soffits of beams and their supports in position.
- l. Positive means, wedges or jacks of accurate adjustment and proper removal of shores and struts shall be provided and all settlement shall be taken up during placing of concrete. Forms shall also be securely braced against lateral deflections.
- m. Where concreting of narrow members is required to be carried out within form work of considerable depth, temporary openings in the sides of the form work shall be provided where necessary to facilitate the placing and consolidation of the concrete. Small temporary openings shall be provided at the bottom of the form work to columns, walls and deep beams to permit the cleaning out of debris and observations immediately before concrete is deposit.

For Contractor



- n. Form ties shall be constructed so that the ends or end fasteners can be removed without causing appreciable spalling at the faces of the concrete. After the ends or end fasteners of form ties have been removed, the embedded portion of the ties shall terminate not less than twice the diameter or twice the minimum dimension of the tie from the formed faces of concrete to be permanently exposed to view except that in no case shall this distance be less than 3/4" (19 mm) when the formed face of the concrete is not to be permanently exposed to view, form tie may be cut off flush with the formed surfaces. Through bolts shall be permitted provided that they are greased to allow for easy withdrawal and the holes subsequently made good. Through bolts are not to be used on water-retaining structures.
- o. At construction joints, contact surface of the form sheathing for flush surfaces exposed to view shall overlap the hardened concrete in the previous placement by not more than 1" (25 mm). The forms shall be held against the hardened concrete to prevent offsets or loss of mortar at the construction joint and to maintain a true surface.
- p. Runways or planks for moving labor and equipment shall be provided with struts or legs and shall be supported directly on the form work or structural member without resting on the reinforcing steel.
- q. All surfaces of the embedded items shall be cleaned and any accumulated mortar or grout from previous concreting and of all other foreign material is removed before concrete is placed in them.
- r. Board forms having joints opened by shrinkage of the wood shall be swelled until closed by wetting before concrete is placed. Plywood and other wood surface not subject to shrinkage shall be sealed against absorption of moisture from the concrete either by (1) a field applied, approved form oil or sealer, or (2) a factory applied non- absorptive liner. When forms are coated to prevent bond with concrete, it shall be done prior to placing of the reinforcing steel. Care shall be taken that such approved coating is kept out of contact with the reinforcement. Where as-cast finishes are required, materials, which will impart a stain to the concrete shall not be applied to the form surfaces. Where the finished surface is required to be painted, the material applied to form surface shall be compatible with the type of paint to be used.
- s. In normal circumstances generally where temperatures are above 68F (20C) where ordinary cement is used, forms may be struck after expiry of the following periods.

- Walls, columns and vertical sides of beams.	48 hours
- Slabs	14 days
- Beams soffits.	14 days
- Removal of shores or props to slabs:	
1. Spanning over 14 ft. (4 meters).	21 days
- Removal of shores or props of beams:	
1. Spanning upto 20 ft. (6 meters)	18 days
2. Spanning over 20 ft. (6 meters)	25 days

For rapid hardening cement 1/2 of the above period will be sufficient in all cases except vertical sides of slabs, beams and columns which should be retained for a minimum of 24 hours.

- t. Proper allowance shall be made for the decrease in rate of hardening of concrete in cold weather and the minimum periods must be increased when the mean daily temperature is below 68F, (20C).
- u. When repair of surface defects or finishing is required at an early age, forms shall be removed as soon as the concrete has hardened sufficiently to resist damage from removal operations.

- v. Top forms on sloping surfaces of concrete shall be removed as soon as the concrete has attained sufficient stiffness to prevent sagging. Any needed repairs or the treatment required on such sloping surfaces shall be performed at once and followed by the specified curing.
- w. All form work shall be removed without such shock or vibration as would damage the reinforced concrete.
- x. When re-shoring or re-propping is permitted or required, the operations shall be planned in advance and shall be subject to approval. While re-shoring is underway no live load shall be permitted on the new construction. In no case during re-shoring shall concrete in beams, slab, columns or any other structural member be subject to combined dead and construction loads in excess of the load permitted by Engineer for the developed concrete strength at the time of re-shoring. Re-shores shall be placed simultaneously with stripping operations are but in no case later than the end of working day on which stripping occurs.

Re-shores shall be tightened to carry their required loads without over stressing the concrete. Re-shores shall remain in place at least until representative tests of the concrete being supported have reached the strength/time specified in 6.1.s.
- y. Floors supporting props or shores under newly placed concrete shall have their original supporting props or shores left in place or shall be re-shored. The re-shoring system shall have a capacity sufficient to resist the anticipated loads and in all cases have a capacity equal to at least one half of capacity of the shoring system above. The re-shores shall be located directly under a shore position above unless other locations are permitted.

The re-shoring or re-propping shall extend over a sufficient number of storeys to distribute the weight of newly placed concrete, forms, and construction live loads in such a manner that the design superimposed load of the floors supporting shores or props are not exceeded.

No loads, other than those permitted by the Engineer in connection with the actual work in hand, shall be allowed on suspended floors until 28 days after concreting where ordinary Portland cement is used and 14 days when rapid hardening Portland cement is used.
- z. It is required to give forms for reinforced concrete an upward camber to ensure that the beams or slabs including cantilever slabs do not have sag when they have taken up their deflection. Camber, unless indicated otherwise on drawings, should be about 1/240 for supported beams and slabs and 1/180 for cantilevers.

11. ACCEPTANCE OF STRUCTURE

11.1 General:

- a. Completed concrete work which meets all applicable requirements will be accepted subject to the other terms of the CONTRACT Documents.
- b. Completed concrete work which fails to meet one or more requirements and which has been repaired to bring it into compliance will be accepted subject to the other terms of the CONTRACT Documents.
- c. Completed concrete work which fails to meet one or more requirements and which cannot be brought into compliance may be accepted or rejected as provided in these Specifications or in the CONTRACT Documents. In this event, modifications complies with the requirements.

For Contractor



11.2 **Dimensional Tolerances:**

- a. Formed surfaces resulting in concrete outlines smaller than permitted by the tolerances of Section 10 considered potentially deficient in strength and subject to the provisions of Section 11.4.
- b. Formed surfaces resulting in concrete outlines larger than permitted by the tolerances of Section 10 may be rejected and the excess material shall be subject to removal. If removal of the excess material is permitted, it shall be accomplished in such a manner as to maintain the strength of the section and to meet all other applicable requirements of function and appearance. Permission is required if excess material is to be removed in accordance with this Section.

11.3 **Appearance:**

- a. Architectural concrete with surface defects exceeding the specified limitations shall be removed in accordance with this Section.
- b. Concrete members cast in the wrong location may be rejected if the strength, appearance or function of the structure is adversely affected or misplaced items interfere with other construction.
- c. Inaccurately formed concrete surfaces exceeding the limits of Section 6 & of Section 10 and which are exposed to view, may be rejected and shall be repaired or removed and replaced if required.
- d. Other concrete exposed to view with defects which adversely affect the appearance of the specified finish may be repaired only by approved methods.
- e. Concrete not exposed to view, but of defective appearance, may be accepted at the discretion of the Engineer.

11.4 **Strength of Structure:**

- a. The strength of structure in place will be considered potentially deficient if it fails to comply with any requirements which control the strength of the structure, including but not necessarily limited to the following conditions:
 - Concrete strength requirements not considered to be satisfied in accordance with Section 7.
 - Reinforcing steel size, quantity, strength, position or arrangement at variance with the requirements of Section 4.4 & 6.2 of the CONTRACT Documents.
 - Concrete which differs from the required dimensions or location in such a manner as to reduce the strength.
 - Curing less than that specified.
 - Inadequate protection of concrete from extreme temperature during the early stages of hardening and strength development.
 - Mechanical injury, construction fires, accidents or premature removal of form work likely to result in deficient strength.
 - Poor workmanship likely to result insufficient strength.
- b. Structural analysis and/or additional testing may be required when the strength of the structure is considered potentially deficient.

- c. Core tests may be required when the strength of the structure is considered potentially deficient.
- d. If core tests are inconclusive or impractical to obtain or if structural analysis does not confirm the safety of the structure, load tests may be required and their results evaluated in accordance with ACI Standard 318.
- e. Concrete work judged inadequate by structural analysis or by results of a load test shall be reinforced with additional construction, if so directed by Engineer or shall be replaced, at the CONTRACTOR'S expense.
- f. The CONTRACTOR shall pay all costs incurred in providing the additional testing and/or analysis required by this Section.
- g. THE OWNER will pay all costs of additional testing and/or analysis which is made at his request and which is not required by specifications, or the CONTRACT Documents.

12. **METHODS OF MEASUREMENT OF CONCRETE WORKS.**

12.1 **General:**

- a. Unless otherwise specifically stated in the Bill of Quantities, or herein, all items shall be deemed to be inclusive of, but not limited to, the following:
 - i. Labor/plant and all costs in connection therewith.
 - ii. Materials, goods and all costs in connection therewith, e.g. conveyance, delivery, unloading, storing, returning, packing, handling, hoisting, lowering.
 - iii. All fixtures and all costs in connection therewith for precast works.
 - iv. Fitting and fixing materials and goods in position.
 - v. Waste of materials, and Square cutting.
 - vi. Mixing, transporting, hoisting, placing in from at any level, compacting through vibration & curing etc. complete including the cost of form work & its removal (but excluding cost of reinforcement).
 - vii. *Establishment charges, overhead charges and profit.
 - viii. All other expenses, charges and taxes specified in Conditions of CONTRACT.
- b. Works shall be measured net as fixed in position as per drawings and instructions of Engineer. Each measurement shall be taken to the nearest 1/2" (12.0 mm). This rule shall not apply to any dimensions stated in the descriptions.

12.2 **Concrete Measurement:**

- a. Concrete shall be measured as executed but no deduction shall be made for the following:
 - Volume of any steel embedded in the concrete.
 - Volume occupied by water pipes, conduits etc., not exceeding 4 square inch (2500 sq. mm) each in cross-sectional area.
 - Voids not exceeding 1 square foot in work given in square feet in work given in Sft. If any void exceeds above limit total void shall be deducted.

For Contractor



- Voids not exceeding 1 cubic foot in work given in cubic feet, 0.03 cubic meters in work given in cubic meter. If any void exceeds above limits, unit total void shall be deducted.
- b. Voids, which are not to be deducted as per Section 12.2.a above, refer only to openings or vent which are wholly within the boundaries of measured areas. Openings or vents which are at the boundaries of measured areas shall always be subject to deduction irrespective of size.
- c. Junctions between straight and curved works shall in all cases be deemed to be included with the work in which they occur.
- d. Concrete work shall be classified and measured separately as follows unless otherwise described elsewhere:-
 - Buildings, foundation beams, foundation slabs, footings, bases of columns, machine foundations, mass concrete etc., in cubic feet
 - Floor slabs on ground with floor beams in cubic feet.
 - Walls in foundations, plinth and superstructure in cubic feet (Cubic Meter) stating thickness.
 - Columns, piers, pilasters, pillars etc., in cubic feet (Cubic meter).
 - Lintels, beams and brackets in cubic feet (Cubic Meter).
 - Suspended floors, roofs and stair landings in square feet (sq. Meter) stating thickness.
 - Stairs (including landing) in cubic feet (Cubic Meter).
 - Railings in cubic feet (Cubic Meter), square feet (Sq. Meter), or linear feet (Meter) stating description.
 - Parapets, purdees and the like in cubic feet (Cubic Meter) stating thickness.
 - Jali, blocks in square feet (Sq. Meter) stating thickness & description.
 - Precast concrete items shall each be enumerated except if otherwise shown in the Bill of Quantities, separately stating the description.
- e. Measurement of walls shall be taken between attached columns, piers or pilasters. The thickness of attached columns, piers or pilasters shall be taken as the combined thickness of the wall and the columns, piers or pilasters. Attached or isolated columns, piers, pilasters and the like (except where caused by openings) having a length on plan not exceeding four times the thickness shall be classified as columns. Those having a length over four times the thickness and caused by openings in walls shall be classified as walls.

Columns shall be measured from the top of footings/beams or floor surfaces to the under side of beams or slabs as the case may be. Where the width of the beams is less than the width of columns, the extra width at the junction shall be included in the beam.

The depth of the beams shall be measured from bottom of the slab to the bottom of the beams, except in case of inverted beams where it shall be measured from top of slab to the top of beam. The cross section below or above the slab.

12.3

Form work Measurement:

- a. Form work (if separate and extra payment is specifically stated in the Bill of Quantities) shall be measured in square feet (Sq. M) as the actual surface of the finished structure which

For Contractor



required to be supported during the deposition of the concrete, including the upper surfaces to the work sloping more than 15 degree from the horizontal. No allowance shall be made for overlaps and passing at angles and no deduction shall be made for the following:-

- Voids not exceeding ten square feet (1 Sq. m).
 - Intersections of main beams with walls or columns.
 - Intersections of secondary beams with main beams.
- b. Form work shall be deemed to be inclusive of, but not limited to items detailed in section 12.1 and the following:-
- Batten, struts, reversed cut strings, bolting, oiling, wedging, casing, striking, removing and making good exposed faces of concrete after removal of form work. Also yokes, wales sheathing, jack rods, jacks, working platforms and finishers, scaffolds, etc.
- c. Forming chamfers not exceeding 2" (50mm) wide and forming splayed internal angles not exceeding 1/2" (12.0 mm) wide shall not be paid for extra.
- d. Temporary stop ends for constructed joints shall not be measured and paid for.
- e. Classification of form work (if separate and extra payment is specifically stated in the Bill of Quantities) shall be as follows:-
- To horizontal or sloping soffits of suspended slabs, floors, roofs, staircases, landings and the like.
 - To sloping upper surfaces of suspended slabs, floors, roofs and the like where more than 15 degree from horizontal.
 - To vertical or battering sides of foundations, foundation beams and slabs, ground beams, machine foundations and the like.
 - To vertical or battering sides of walls, solid balustrades and the like.
 - To vertical or battering sides.
 - To vertical or battering sides of stanchion casings, columns, piers, plasters and the like.
 - To sides and soffits of openings in walls, recesses in walls, projecting panels on walls and the like.
 - To sides and soffits of horizontal or sloping beam casings, beams, brackets, lintels, staircase, strings and the like.
 - To sloping upper surfaces of beam casings, beams, brackets, lintels, staircase-strings and the like where more than 15 degrees from horizontal.
 - To edges of beds, roads, footpaths, paving and the like.
 - To edges of suspended slabs, floors, roofs, landing and the like.
 - To risers of steps and staircases.
 - To sides of kerbs, up-stands and the like.

For Contractor



- f. Form work to throats, grooves, chases, rebates, chamfers over 2" wide (50 mm) splayed internal angles over 1/2" wide (12.5 mm) moldings and the like shall each be measured separately in linear feet stating the size.

12.4 **Reinforcement Measurement:**

- a. The rate tendered for any type of reinforcement by the CONTRACTOR shall also be inclusive of the cost of binding wire wastages, and the cost of concrete, metal or plastic chairs and spacers or hangers, etc.
- b. All reinforcement shall be provided in length shown in Drawings and as per Specifications.

Should the CONTRACTOR provide lengths of reinforcement which are greater than shown on the Drawings no payment of extra length shall be made. Overlaps, unless clearly shown in working Drawings, shall not be allowed and measured.

- c. The CONTRACTOR shall be paid for reinforcement by weight computed from Table-2 and from linear measurements of reinforcements actually used at SITE as per the Drawings, Specifications and instructions of Engineer. No payment shall be made for steel chairs or wastage. CONTRACTOR shall not claim for the difference in the actual weights of bars and their standard weights given in Table -2.

TABLE - 2

Nominal Bar Diameter		Weight
(Inches) ³	Bar Number	lbs/ft
1/4"	-	0.167
3/8"	# 3	0.376
1/2"	# 4	0.668
5/8"	# 5	1.043
3/4"	# 6	1.502
7/8"	# 7	2.044
1"	# 8	2.670
1-1/8"	# 9	3.400
1-1/4"	#10	4.303
1-3/8"	#11	5.313
1-3/4"	#14	7.650
2-1/4"	#18	13.600

(mm)	(kg/m)
8	0.395
10	0.616
12	0.887
16	1.576
20	2.463
22	2.980
25	3.849
28	4.828
32	6.306
36	7.981

³ To the nearest 1/8

CHAPTER -4

PLASTER AND POINTING

PLS.1 SCOPE OF WORK

The work covered by this section of the Specifications consists of furnishing all plant, labour, equipment, appliances, materials and performing all operations in connection with providing and installation of cement plaster complete in strict accordance with this section of the Specifications, applicable drawings and subject to the terms and conditions of the Contract. The scope of this section of specification is covered with detailed Specifications as laid down herein.

PLS.2 APPLICABLE STANDARDS.

Latest editions of following Pakistani, British & ASTM standards are relevant to these specifications wherever applicable.

2.1 Pakistan Standard.

P.S. 23 Ordinary Portland cement.

2.2 ISO (International Organization for Standardization).

R. 597 Definitions and terminology of cement.

R. 579 Method of testing strength of cements compressive and flexural strengths of plastic mortar (Rilem-Cembureau method).

R. 680 Chemical analysis of cement-Main constituents of Portland mortar cement.

R. 682 Chemical analysis of cements-Determination of sulphur as sulphide.

2.3 ASTM (American Society for Testing and Materials).

C. 144 Aggregate for Masonry Mortar.

C. 631 Bonding Compounds for interior plastering.

2.4 BST (British Standards Institution)

812 Methods for Sampling and Testing of Mineral Aggregates, Sands and Filters.

1199 Sands for External Renderings. Internal plastering with Lime and Portland cement and floor screeds.

1369 Metal Lathing (Steel) for Plastering.

5262 External Rendered Finishes.

5492 Internal Plastering.

PLS.3 GENERAL

- 3.1 Except as may be otherwise shown surfaces specified, all plaster work, both internal and external, shall be ordinary portland cement plaster of the required thickness shown on the Drawings.
- 3.2 Plastering shall not commence until electric conduits, drainage, sanitary pipes, inlets to tanks, brackets, clamps, doors and window frames and all sorts of inserts and embedded items are fixed in position. It shall be the responsibility of the Contractor to make sure that all such work is carried out before starting of plaster work. Chiseling and repairing of cement plaster shall not be permitted without the approval of the Engineer.

For Contractor



PLS.4 **MATERIALS.**

4.1 **CEMENT.**

Cement for plaster shall be Portland Cement either ordinary , rapid hardening or sulphate resisting cement as specified complying with P.S.232 or BS-12 and shall conform to requirement specified in the sections plain and reinforced Concrete.

4.2 **SAND.**

Sand for plaster shall comply with the requirement of BS 812, BS-1199 and ASTM C-144.

It shall comprise natural sand, crushed stone sand or crushed gravel sand. It shall be hard durable, clean and free from adherent coatings such as clay and from any appreciable amount of clay in pellet form. It shall not contain harmful materials to adversely affect the hardening, the strength, the durability or the appearance of the plaster or any materials in contact with it. The quantity of clay, silt and dust shall not exceed 5% by weight for sand or crushed gravel or 10% by weight for crushed stone sand.

The grading of sand for internal plaster work and external rendering shall be within the following limits.

Percentage by weight passing sieve sizes:

Sieve Size	Internal Cement Plaster work and external rendering.
mm	W
0.2"/5.00	100
0.094"/2.34	90-100
0.047"/1.18	70-100
0.024"/0.6	40-80
0.012"/0.3	5-40
0.006"/0.15	0-10

The grading specified above shall be suitable for smooth finishing coats, scraped finishes and for pebble-dash or dry-dash for textured surfaces, produced by the treatment of the freshly applied final coat with a tool, the coarser particles shall be removed by screening through a 1/12" (2mm) sieve.

4.3 **WATER.**

Water for plaster shall conform to requirements specified in the section for plain and reinforced concrete.

4.4 **ADDITIVE.**

Additives for controlling the setting and working characteristics of plaster or for imparting anticorrosion, fungicidal or water proofing properties, shall be added to the plaster strictly in accordance with the particular manufacturer's written instructions. Good quality hair or manila fiber in reasonably well distributed proportion may be added to the plaster to assist application and reduce droppings. No additives shall be used except as specified in the Contract Documents.

4.5 All materials and work-manship for plaster, not explained in these specifications, shall comply with the requirements of relevant BS-CP 211 and CP 221 as directed by the Engineer.

For Contractor



PLS.5 PROPORTIONING AND MIXING.

- 5.1 Measurement of materials by volume shall be by containers of known capacity to maintain consistent proportions. No lumpy or caked material shall be used. Mixing equipment boxes and tools shall be clean. Materials shall be proportioned as specified on the drawings, in the Bill of Quantities or as directed by the Engineer. Mixing shall be continuous until complete and all ingredients are evenly distributed.
- 5.2 Only limited water shall be added for proper workability and such quantity of the mortar shall be prepared as that which will be consumed in thirty minutes after preparation. Preparation of mortar in bulk quantity for use during the entire day or for any other time more than that stipulated above is expressly prohibited. Re-tempering shall not be permitted and all mortar which has begun to stiffen shall be discarded.
- 5.3 Plaster ingredients shall be thoroughly mixed either by hand on a clean cement concrete platform or by a mechanical mixer, as directed by the Engineer.

PLS.6 PREPARATION OF SURFACE TO BE PLASTERED.

- 6.1 Surface to be plastered shall be cleaned to remove all grease, form oil and other surface impurities which will otherwise adversely affect the adhesion of plaster to the surface concerned. The surface of all concrete ceilings, beams and columns shall be lightly hacked by approved means to give the required key for plastering.
- 6.2 All masonry surfaces to be plastered shall be cleaned to remove all matter which will otherwise adversely affect the adhesion of plaster to the surface concerned. The surface shall be washed with clean water and kept damp for 24 hours before further treatment. The surface thus prepared shall be treated uniformly with cement and sand slurry. The slurry to be used shall be one part cement to one part sand by volume with water added to make a stiff creamy mix. The slurry shall be applied with a stiff brush on surface which has previously been well wetted. The surface so treated shall be left to cure for three days.

PSL.7 APPLICATION OF PLASTER.

- 7.1 The plaster of a thickness less than the specified thickness shall be rejected. If the plaster is to be more than 1/2" (13mm) thick, it shall be done in two coats. The surface of first coat shall be made rough before the second coat is applied. The plaster shall not have wavy surface and shall be perfectly in plumb. The edges and corners shall represent a straight line. The plaster shall be kept wet continuously for at least ten (10) days. No extra payment shall be allowed for jambs, junctions, corners, edges, round surfaces or for more than one layer of plaster required due to any unevenness in the work done by the Contractor. The plaster work is to cover all conduits, pipes etc. fixed in the walls and ceiling. Wherever specified metal lath shall be nailed firmly before plastering is commenced. The plastered surface shall be tested frequently with 9.843' ft. (3 meter) straight edge and plumb bob.
- 7.2 Plaster containing cracks, blisters, pits, discoloration or any defects shall not be acceptable. Any such plaster or loose plaster shall be removed and replaced with plaster in conformity with these specifications. The Contractor shall cut and patch all defective work at his own cost. All damaged plaster shall be patched as directed by the Engineer. Patching plaster shall match with and shall be finished leveled with adjoining plaster.

PLS.8 METAL LATH OVER REINFORCED CONCRETE AND MASONRY JOINT.

Metal lathing shall be fabricated from sheet steel, and shall be of uniform quality and free from flaws broken strands, cracks and corrosive pitting, shall be rectangular and true to shape and shall comply with BS-1369.

All lathing shall be galvanized. Where plastering material depends entirely on the lathing for its key, these shall be not less than two complete mesh openings per 1.12" (28mm) in one direction and the width of the aperture shall not be less than 0.2" (5mm)

For Contractor



Sheet shall be not less than 1.60 Kg. /m² when fabricated, using 0.7mm thick steel sheet. Where used on smooth surfaces to form a key it shall be not less than 1.20 Kg /m² when fabricated, using 0.02" (0.5mm) thick steel sheet. Typing wire shall be 0.048" (1.2mm) diameter galvanized annealed iron wire.

Before plastering, wherever block masonry meets with reinforced concrete members 6" (150mm) wide continuous strip of expanded metal lath shall be nailed to the masonry and the reinforced concrete member covering the joint completely to prevent cracking of the joint.

PLS.9 BEADS & PROFILES.

Angle beads, corner beads, stop beads, architrave beads, depth gauge beads, edging profiles, plaster dividing profiles, interior angle profiles, plaster borders and the like shall all be manufactured from sheet steel and galvanized after fabrication, all beads & profiles shall be perforated at edges to ensure good adhesion of the plaster work. Thickness and dimensions shall suit particular locations and plaster work thickness.

Nails for fixing lathing shall be galvanized and have either clout heads or small flat heads to suit particular locations.

All angle beads, stop beads, architrave beads, depth gauge beads, and the like are to be fixed in accordance with the manufacturer's instructions.

PLS.10 CLEANING AND PROTECTION.

10.1 Rubbish and debris shall be removed as necessary to make way for work of other trades and as directed by the Engineer. As each room or space is completed all rubbish, debris, scaffolding and tools should be removed to leave the room clean.

10.2 Prior to plastering all aluminum windows and finished metals should be covered by sheet of plastic or tarpaulin to protect damage.

10.3 Protect finished plaster from injury by any source. Contractor shall also protect walls, floors and work of other trades from plaster materials.

PLS.11 TOLERANCES.

Surfaces of plaster work shall be finished with a true plane to correct line and level with all angle and corners to a right angle unless otherwise specified.

Maximum permitted tolerances shall not exceed 1/8"/3mm in 6.562 ft/2m variation from plumb or level in any exposed line or surface and 0.06"/1.5mm variation between planes of abutting edges or ends.

PLS.12 POINTING WORK

Joints of masonry work to be pointed shall be properly raked to 1/2" depth, cleaned and wetted.

For struck pointing the mortar shall be filled in the joints flush with masonry with a pointing trowel and then pressed with proper pointing tools to form weathered and struck horizontal joints and triangular or V-notched vertical joints.

For flush pointing after pressing mortar in the joints these shall be filled up with mortar and finished level with edges.

After pointing the face of the work shall be cleared of all surplus mortar. No washing shall be done till the pointing has set. All defects shall be treated at Contractor's expense. All work shall be kept wet for 10 days and protected from extreme temperatures and weather.

PLS.13 MEASUREMENT AND PAYMENT.

13.1 GENERAL.

For Contractor



Except otherwise specified herein or else where in the Contract Documents, no measurement and payment will be made for the under mentioned specified works related to the relevant items of the Bill of Quantities. The cost thereof shall be deemed to have been included in the quoted unit rate of the respective items of the Bill of Quantities.

- a) Metal lath over reinforced concrete and masonry joint.
- b) Joints, junctions, corners, drip course, edges and roundings.
- c) More than one layer due to any unevenness in the finished works.
- d) Cutting & patching of all defective works.
- e) Surface preparation, cleaning and protection as specified.
- f) Water proofing agent for water proof plaster.
- g) Angles beads, corner beads, stop beads, architrave beads, depth gauge, edging profiles, plaster dividing profiles, interior angle profiles and plaster borders used in plaster works as shown on drawings.

13.2 **MEASUREMENT.**

Deductions shall not be made for ends of joints, beam posts, etc., and openings not exceeding 1.64 Sft. (0.5 Square meter) each and no addition shall be made for reveals, jambs, soffits, sills, etc. of these openings not for finishing the plaster around ends of joints, beams posts, etc.

In case of opening of area exceeding 1.64 Sft. (0.5 square meter) each, deduction shall be made for the openings and also addition shall be made for reveal jambs, soffits, sills, etc. of openings.

Measurement for acceptably completed works of plaster/ pointing will be made on the basis of number of Sft. / Square meter of the surface area plastered/ pointed as shown on the drawings or as directed by the Engineer.

13.3 **PAYMENT.**

Payment will be made for acceptable measured quantity of plaster / pointing basis of unit rate per sq.ft/m² quoted in the Bill of Quantities and shall constitute full compensation for all the works related to the item.

For Contractor



CHAPTER -5 **CERAMIC TILES**

CT.1 GENERAL

1.1 SCOPE

The works covered by this section consists of furnishing all plants, labour, equipment appliances and materials and performing all operations in connection with installation of Ceramic tile walls, floor, base of KITCHEN, include cement mortar screeded beds and backings.

1.2 REFERENCE STANDARDS.

Tile Council of America:

TCA 137.1 * Recommended Standard Specifications for Ceramic Tile.

British Standards Institution:

BS 1281 * Glazed Ceramic Tiles for Internal Walls.

BS 1286 * Clay Tiles for floors.

BS 5385 * Code of Practice for wall tiling.

BS 202 * Tile Flooring and slab flooring.

1.3 SUBMITTALS

Samples:

Submit two finished samples of ceramic wall and floor tile, each approximately 2 Sft. indicating the pattern and colour selected by the Engineer, with grouted joints.

CT.2 PRODUCTS.

2.1 TILES AND ACCESSORIES:

Manufacturers acceptable or equivalent contingent upon product compliance with the specifications.

Floor Tiles:

Ceramic Floor Tile unglazed; natural clay; 0 Percent to 0.5 Percent water absorption; as shown on drawing cushioned edges; non-slip surface where detailed or scheduled; colours to be selected by the Engineer.

Wall Tiles:

Ceramic wall Tile; glazed; natural clay; 0 Percent to 0.5 Percent water absorption; as shown on drawing cushioned edges; colours to be selected by the Engineer supply with matching cove base.

Swimming Pool Tiles:

Proprietary manufactured glazed ceramics tiles specifically designed for use in Toilets, Kitchen, size as on drawings colour to be selected by the Engineer, including contrasting colour tiles for lane marking and turning target patterns, pool edge profiles and depth making tiles as detailed or required:

2.2 BEDS AND BACKINGS:



Standard cement mortar: screeded beds and backings for tile work; mixed and proportioned by volume, as follows:

Portland Cement.	1 Part.
Sand.	2 parts.

Water; Clean, fresh and free of deleterious substances.

2.3 ADHESIVE AND GROUT

Proprietary tile adhesives and joint grouts; suitable types as required and recommended by the manufacturer for specific tile work locations.

CT.3 MEASUREMENTS AND PAYMENTS

Work under this section shall be measured in square feet of wall and floor area, partition shall be measured on both faces.

The rate for all items of work under this section shall cover the cost of furnishing all materials, labour, scaffolding, laying, curing, finishing, and appliances at Site and performing all operations at any height in accordance with drawings, Bill of Quantities and as specified. The rate shall include the cost of furnishing and installing metal fixings, providing all assistance to other trades for built in items to the satisfaction of the Engineer.

For Contractor



CHAPTER -6
MEMBRANE WATER PROOFING

1. GENERAL

1.01 SCOPE OF WORK.

The work under this section of the Specifications consists of furnishing all plant, labour, equipment, appliances & materials and performing all operations in connection with water-proofing treatment complete in strict accordance with this section of the specifications, the applicable drawings and subject to the terms and conditions of the Contract.

1.02 RELATED DOCUMENTS.

Drawings and general provisions of Contract, including General and Supplementary Condition and Specification apply to work of this section.

1.03 QUALITY ASSURANCE.

- a. **Manufacture:** Obtain primary waterproofing material of each type required from a single manufacturer, to greatest extent possible. Provide secondary materials only as recommended by manufacturer of primary materials.
- b. **Supplier and Installer Qualification:** Arrange for supplying and installation of waterproofing by a firm which can demonstrate successful experience in supplying and installation of waterproofing similar to requirement for this project and which is acceptable to the Engineer.

1.04 SUBMITTALS.

Produce Data: Submit product data and general recommendations from waterproofing materials manufacturer, for type of waterproofing required. Include data substantiating that materials comply with requirements.

1.05 JOB CONDITIONS.

- a. **Substrate:** Proceed with work after substrate construction, openings, and penetrating work have been completed.
- b. **Weather:** Proceed with waterproofing and associated work only when existing and forecasted weather accordance with manufacturer's recommendations and warranty requirements.

1.06 SPECIAL PROJECT WARRANTY.

Provide written warranty jointly with installer / supplier dampness / leakage due to defective materials and workmanship. Warranty include responsibility for removal and replacement of all defective materials and workmanship of sheet waterproofing and other works materials which conceal sheet waterproofing of no extra cost to Owner. Format for warranty to be provided by the Engineer.

Warranty period is 5 years after date of substantial completion.

2. PRODUCTS.

2.01 MATERIALS.

General: Provide sheet waterproofing materials complying with required performance. Other similar materials certified in writing to be equal-to-or-better than specified may be used if acceptable to Engineer.

For Contractor



2.02 BITUMINOUS SHEET WATERPROOFING.

- a. Torch-on-modified bituminous membranes (ECOGUM from DWI Demabit Waterproofing Industries Company Limited or equal from other specified sources) shall consist of high quality distilled bitumen modified with thermoplastic resins, formed into uniform flexible sheets of thickness not less than 4mm thick, complying with the following:

Specific Weight of Coating Mixture: gms/m ³	1.02 (± 0.02)
Softening Point of Coating Mixture:	150 °C
Penetration (DOW) of Coating Mixture:	15-25mm
Flexibility at Low Temperature - 10° C:	No - Cracking
Impermeability of the Membrane to water under pressure (Tested with a Column of Water Meter High:	Absolutely Impermeable.
Ultimate Tensile Resistance to Break:	Longitudinal 950 N/5 c Transversal 630 N/5 c
Ultimate Elongation to Break: Transversal 47%	Longitudinal 43%
Resistance to Thermal Aging: after test.	No sign of deterioration
Resistance to Aging due to UV Radiation: after test.	No sign of deterioration
Resistance to Thermal-Hydro Shock: after test.	No sign of deterioration
Resistance to Base of the Membrane:	200 gms/m ² Plyster.

- b. **Products:** Subject to compliance with requirements provide products form one of the following:

DWI Demabit Waterproofing Industries Company Limited Jubail, Saudi Arabia. (Dermatit 4200)

SAPPI SPA ITALY

Permanite Ltd. England.

2.03 MISCELLANEOUS MATERIALS.

- a. **Adhesives:** Provide types of adhesive compound and tapes recommended by waterproofing sheet manufacturer, for bonding to substrate (if required) for waterproof sealing of seams in membrane, and for waterproof sealing joints between membrane and flashings, adjoining surfaces and protections through membrane.
- b. **Primers:** Provide type of concrete primer recommended by manufacturer of sheet waterproofing material for applications required.
- c. **Coatings:** Provide type of coating recommended by waterproofing sheet manufacturer for improvement of weathering resistance on exposed areas of membrane, including areas extended as flashing (if any). Provide black coating except as otherwise indicated.
- d. **Edge Sealing Materials:** Except as otherwise indicated, provide types of flexible sheet materials for edge sealing as recommended by waterproofing sheet manufacturer.

For Contractor



3. **FIXATION**

3.01 **PREPARATION.**

- a. **Prior to installation of waterproofing:** and associated work meet at project Site with installer of each component of associated work. Inspection and testing agency representative (if any) and installers of work requiring co-ordination with waterproofing work. Review material selections and procedures to be followed in performing work.

Before placement of waterproofing sheet, grind surface lightly with terrazzo grinder of similar device, to ensure removal of projections which might penetrate sheet, all surfaces should be leveled. Clean all loose material. Provide can in concrete at all right angled corners if required by sheet waterproofing installer to ease bending of sheeting.

- b. **Apply Primer:** to concrete and masonry surfaces at rate recommended by manufacturer of primary waterproofing materials. Prime only area which will be covered by WP membrane in same working day; re-prime areas not covered by WP membrane within 24 hours.

3.02 **INSTALLATION.**

- a. **Comply with Manufacturer's Instructions:** for handling and installation of steel waterproofing materials.
- b. **Coordinate Installation:** of waterproofing materials and associated work to provide complete system complying with combined recommendations of manufacturers and installers involved in work. Schedule installation to minimize period of exposure of sheet waterproofing materials.
- c. **Extend Waterproofing Sheet and edge Sealing Material:** to provide complete membrane over area indicated to be waterproofed. Seal to projections through membrane and seal seams. Bond to vertical surfaces and also, where shown or recommended by manufacturer, bond to horizontal surfaces.
- d. **Seal Exposed Areas:** of sheet with edge sealing materials. Comply with sheet manufacturer's recommendations for application and cure of coating.

3.03 **PERFORMANCE REQUIREMENTS.**

- a. It is required that waterproof membrane is watertight and not deteriorates in excess of limitations published by manufacturer.
- b. **In-place testing:** Before completed membranes on surfaces are covered by protection course or other work, test for leaks for 72 hours. Repair on/leaks revealed by examination of substructure and repeat test until no leakage is observed.

3.04 **PROTECTION.**

Institute all required procedure for protection of completed Membrane during installation of work over membrane and throughout remainder of construction. Do not allow traffic of any type on unprotected membrane.

4. **MEASUREMENT AND PAYMENT.**

Measurement and payment shall be made for acceptable measured quantity on the basis of unit rate per square foot quoted in the Bill of Quantities and shall constitute full compensation for all the works related to the item to complete the job as per specifications and BOQ.

For Contractor

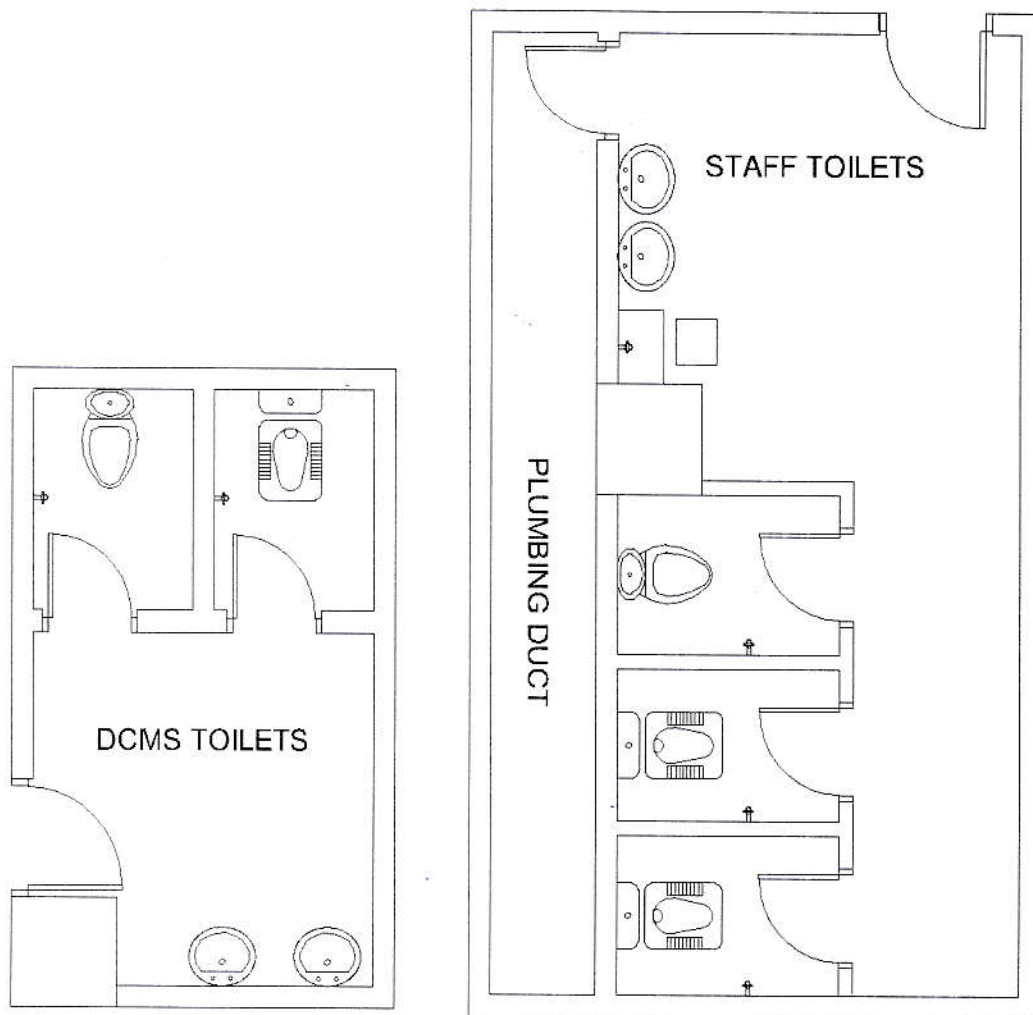


(Bidding Documents, Section-3, Part-3)

DRAWINGS

For Contractor





PROPOSED LAYOUT PLAN OF TOILET BLOCKS

For Contractor



Appendix to the Bid

Co-efficients for Price Adjustment

Estimated Quantities of Materials

Material	Qty	Unit
Cement =	259	Bags
Sand =	1165	Cft
Crush/ Bajri =	749	Cft
Concrete Blocks =	1404	Nos.

FIXED	Labour (Lo)	High Speed Diesel (Do)	Cement (Co)	TOTAL
A	b	c	d	
0.67	0.23	0.03	0.06	1.00

for contractor



Renovation of Washrooms at Ground Floor and Mezzanine Floor of Tower Block Building at SBP BSC Peshawar

S.No.	Description of Item	Unit	Estimated Quantity	Estimated Labour Cost with taxes etc.
Dismantling Works				
1	Complete dismantling of internal floor up to original RCC slab as shown in the drawings, including the removal of all wall tiles including underneath tile mortar and plaster on walls, floor tiles, WCs, electric wiring/fixtures, water supply pipes, waste water pipes, temporary plugging of the lines where required, including stacking of serviceable materials at the designated location within the premises and disposal of all debris away from the premises complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Sft	800	60968
2	Dismantling of existing block masonry walls of any thickness and height carefully including removal of water supply pipes within wall and on wall, what-so-ever etc. including disposal of debris away from the Bank premises outside municipal limits, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Sft	1070	32618
Water Proofing & Sub-Flooring Works				
3	Leveling/repairing of slab surface with about ¾" average thick layer of cement-sand slurry (in 1:2 ratio) using latex based concrete bonding agent (SBR) from Sika, Fospak or other approved manufacturer @ 3 liters per bag of cement or as per the directions of the manufacturer/ supplier, with smooth trowel finished top surface, curing with damp jute cloth, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Sft	1000	14756
4	Making of PCC edge fillet (triangular/parabolic shape gola) of approximately 4" x 4" size along the outer walls with cement-sand mortar in 1: 4 ratio using latex based concrete bonding agent (SBR) from Sika, Fospak or other approved manufacturer @ 3 liters per bag of cement or as per the directions of the manufacturer/ supplier, and approved water repellent admixture, with smooth trowel finished top surface, curing with damp jute cloth, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Rft	210	3106
5	Providing and torch applying 4mm thick layer of modified bitumen & non-woven polyester fibers reinforcement based water proofing membrane of DermaBit (ECOGUM SP) or other approved equivalent KSA make in accordance with the directions of the manufacturer/supplier including the cost of approved primer (DERMAPRIMER or other approved equivalent) applied @ about 4m2/liter, all required overlaps of minimum 2" width, providing & laying 200 micron thick polythene sheet over the membrane, etc. complete in all respects as per site requirements and as directed by the Engineer In-Charge. Measurement for payment shall be made on the basis of top surface only irrespective of any overlaps or wastage etc. (The contractor shall have to submit samples along with technical data sheets of materials for approval by the Engineer In-Charge before application at site.)	Sft	1000	21895
6	Providing, mixing, laying, vibrating & curing cement concrete 1:3:6 in floors, trenches etc. according to proper levels & slopes complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Cft	400	36581
7	Providing, mixing, laying, vibrating & curing cement concrete 1:4:8 in floors, trenches etc. according to proper levels & slopes complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Cft	400	36581
Tile Works				
8	Providing & fixing in position A-Grade fully body porcelian tiles of approved quality & make (Master/Shabbir or other local made), of 30cm x 60/ 80cm or other approved size, of approved colour & shade (as per the sample approved by the Bank) on floors, including preparation of surface, cement-sand mortar for base, cost of cement paste buttering at back of tiles, cutting where required, cost of required tile bond of approved quality, grouting with approved quality tile grout of matching color, cost of spacers, complete in all respect as per site conditions and as directed by the Engineer In-Charge.	Sft	630	62390
9	Providing & fixing in position A-Grade glazed ceramic tiles of approved quality & make (Master/Shabbir or other local made), of 30cm x 60/ 80cm or other approved size, of approved colour & shade (as per the sample approved by the Bank) on walls, including preparation of surface, cost of rough base plaster, cutting where required, cost of cement paste buttering at back of tiles, cost of required tile bond of approved quality, grouting with approved quality tile grout of matching color, cost of spacers, soaking of tiles, complete in all respect as per site conditions and as directed by the Engineer In-Charge.	Sft	2600	257505

for Contractor



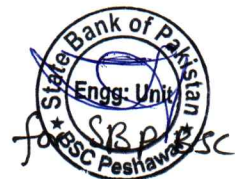
Masonry Works				
10	Providing & laying block masonry 5" thick walls using machine made pre-cast cement concrete solid blocks of 5"x 7"x12" size of approved quality, laid in proper plumb and level in superstructure using cement mortar of ratio (1:4) straight or curved with wall/column ties @ 1.5' c/c by drilling and fixing steel bars of dia 3/8" as per site requirements, scaffolding at any height, cutting of grooves for new wall and old wall joints before block masonry, curing of the same etc. complete in all respect, as per site requirements and/or as directed by the Engineer In-Charge.	Sft	1115	32103
11	Providing and laying average 1/2" thick 1:4 cement-sand plaster over walls & jambs including cost of material, curing, etc. complete in all respects as per site requirements and as directed by the Engineer In-Charge (other than tiled area)	Sft	3690	253040
Sanitary Fittings & Fixtures				
12	Providing & fixing squatting pan (W.C) of about 16" x 21" size, HD-13 of Porta or other approved equivalent make, including the cost of uPVC P-trap, concealed flushing pipe (1.5" dia, uPVC Sche.40), providing and applying sealant Max Track of Sika, CHEMAFLEX of ICPL or other approved equivalent make around flush pipe at joint with WC, and around WC neck before placing the WC in position, etc. complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	6	6000
13	Providing & fixing of wall hung type flush tank of Porta (HDPT700) or other approved equivalent make, including the cost approved quality CP T-stop cock of Master/Sonex/Faisal or approved equivalent, CP connection pipe, including connection with the WC/ commode, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos.	6	3000
14	Providing & fixing in position one piece commode of "Casa Moda, 5547" or approved equivalent make, with S-trap & heavy duty plastic type hydraulic seat cover, approved quality CP T-stop cock of Master/Sonex/Faisal or approved equivalent, CP connection pipe of approved quality & make, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	2	2000
15	Providing & fixing in position Half Pedestal type wall hung Wash Basin of Porta (HDLP203AH) or approved equivalent make, including the cost of stainless steel screws, adhesives, approved quality bottle trap (D08 of Porta or other approved equivalent make), plastic type connection pipes, waste pipe, strainer set & coupling etc. complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	8	4000
16	Providing and fixing of single lever type CP Basin Mixer (chrome plated) of Master, Sonex, Faisal or other approved equivalent make of approved shape/design including the cost of connection pipes, two CP- T-stop cocks, connection pipes, etc. complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	8	2000
17	Providing & fixing in position, CP Double Bib cock of Master, Sonex, Faisal or other approved equivalent make of approved shape/design, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	8	2000
18	Providing & fixing in position approved quality plastic body Muslim Shower of Master, Sonex, Faisal or other approved equivalent make of approved shape/design including the cost of flexible chain connection pipe of approved quality, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	8	800
19	Providing & fixing in position, 5mm thick of approved quality looking mirror, including the cost of stainless steel studs of approved quality required for fixing of the mirror, providing and applying water resistant coating/film on back side, etc. required for fixing of the mirror, complete in all respects as per site requirements and as directed by the Engineer In-Charge. Approximate Size: 2'-0" x 3'-0" (Each)	Nos	8	2000
20	Providing & fixing in position, heavy duty Stainless Steel Soap Dish of approved quality of Master, Sonex, Faisal or other approved equivalent make, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	8	800
21	Providing & fixing in position, heavy duty Stainless Steel hooks (double) for clothes hanging of approved quality at back side of toilet doors, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	8	800
22	Providing & fixing in position, stainless steel tissue paper holder of Master, Sonex, Faisal or other approved equivalent, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	2	800
23	Providing & fixing of CP wall type double knob Mixer for ablution area, of Faisal, Sonex or other approved equivalent make, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	2	800

for contractor



24	Providing & fixing in position uPVC floor traps of 6"x6" size with heavy duty Stainless Steel floor trap jali/ strainer of approved quality, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	11	4000
25	Providing and fixing PPR-C pipe of Turkplast of PN-20 or approved equivalent make including the cost of required sockets, elbows, plug elbows, Tees, bushes, reducers, sockets, threaded fittings, cutting, jointing etc. complete in all respect as per site requirements and as directed by the Engineer In-Charge.			
	a) ½" dia.	Rft	300	15000
	b) ¾" dia.	Rft	180	9000
26	Providing & laying Sch.40 uPVC pipe of AGM (Jeddah) or approved make & quality for waste water in floors/ducts, including the cost of required sockets, elbows, plug elbows, Tees, Y-Tees, Four way Tees, bushes, reducers, sockets & jointing solutions etc including termination of pipes to nearest Manhole outside tower block building, making of holes in block masonry walls, including connections with existing vent pipes/manholes/sewer pipes etc. and repairing the same after fixing of the pipes, etc. complete in all respects as per site requirements and as directed by the Engineer In-Charge.			
	a) 2" dia concealed	Rft	50	2500
	b) 3" dia.	Rft	250	12500
	c) 4" dia.	Rft	250	12500
27	Providing and fixing handle valve of Kitz make or other approved equivalent including the cost of required specials, etc. complete in all respects as per site requirements and as directed by the Engineer In-Charge.			
	a) ¾" dia.	Nos	3	750
Electric Fittings & Fixtures etc.				
28	Providing, fixing, testing & commissioning of instant electric water heaters (geysers) of Super Asia, Boss, Golden Fuji or other approved equivalent make, of minimum 6 liters capacity including the cost of required handle valves, electric switches & sockets, electric wiring from nearest point in washroom, T-cocks, Connection pipes as per existing styl & pattern, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos.	2	6000
29	Supply and installation of automatic high speed electric Hand Dryer of approved design of Siemens/World Dryer/ Berkley/ Dyson or approved equivalent make with photo sensor, "hands below the dryer type" i.e throwing showers of hot air when hands are brought under the dryer, with external body metallic powder coated/ stainless steel brush finish/stainless steel gloss finish, including fixing material at proper level on wall from floor level, cost of required switch-socket & wiring using approved quality materials, complete in all respects as per site requirements and as directed by Engineer In-Charge.	Nos	3	6000
30	Supply and installation of steel body 12-inch size exhaust fan of Pak fan, Millat or any other approved equivalent including the cost of required hardware and other materials for proper fixing of the exhaust fan in position, dully energized with required switch-sockets and wiring using materials of approved quality, complete in all respect as per site requirement and as directed by Engineer Incharge.	Nos	2	4000
31	Supply and installation of plastic body 12-inch size exhaust fan of Pak fan, Millat or any other approved equivalent including the cost of required hardware and other materials for proper fixing of the exhaust fan in position, dully energized with required switch-sockets and wiring using materials of approved quality, complete in all respect as per site requirement and as directed by Engineer Incharge.	Nos	1	2000
Coefficeint of Labour Component:				0.23

for contractor





STATE BANK OF PAKISTAN

SBP BANKING SERVICES CORPORATION (BANK)

Peshawar

Financial Bid

Bidding Documents

For

Renovation of Toilet Blocks at Ground Floor and Mezzanine Floor of Tower Block Building at SBP
BSC Peshawar

(Volume-II)



July 2022

SCHEDULE-A TO BID

Financial Bid/ Schedule of Prices

Renovation of Toilet Blocks at Ground Floor and Mezzanine Floor of Tower Block Building at SBP BSC Peshawar

1. PREAMBLE

- i. The items mentioned in Bill of Quantities consist of furnishing all plants, labour, equipment, machinery appliances, materials, fittings, fixtures and fabrication, erection, installation, lifting of materials required for completing the items/works and the work shall be done in accordance with Bill of Quantities, specifications and drawings complete in all respects.
- ii. The quantities contained in the Bill of Quantities are approximate estimated quantities and liable to be changed (increased/decreased) or omitted when the work will be actually executed. The Employer is authorized to delete any item of work or vary quantities of any item(s) of Bill of Quantities. No claim for any adjustment in the unit rate set forth in the Bill of Quantities will be made because of any increase or any decrease in the quantities indicated herein.
- iii. The prices and rates to be quoted in the Bill of Quantities are to be the full inclusive value of the works described under specified items including all cost of expenses which may be required in and for the construction of the works described and implied in all the documents referred to on which the tender is based.
- iv. Rates quoted should be inclusive of all applicable taxes, duties, levies etc.
- v. Unit rate is to be entered against each item in the Bill of Quantities whether quantities are entered or not. Items against which no price or rate is quoted in the Bill of Quantities shall be deemed to have been covered by rates or prices quoted in the other BOQ item.
- vi. Sub-total/Total amounts shall also be referred in words.
- vii. 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, and the line total will be corrected accordingly.
- viii. Each cutting should be signed by the authorized person.

For Contractor
Sign and Seal



2. **BILL OF QUANTITIES:**

Item No.	Description of Items	Unit	Quantity	Rate	Amount
<u>Dismantling Works</u>					
1	Complete dismantling of internal floor up to original RCC slab as shown in the drawings, including the removal of all wall tiles including underneath tile mortar and plaster on walls, floor tiles, WCs, electric wiring/fixtures, water supply pipes, waste water pipes, temporary plugging of the lines where required, including stacking of serviceable materials at the designated location within the premises and disposal of all debris away from the premises complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Sft	800		
2	Dismantling of existing block masonry walls of any thickness and height carefully including removal of water supply pipes within wall and on wall, what-so-ever etc. including disposal of debris away from the Bank premises outside municipal limits, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Sft	1070		
<u>Water Proofing & Sub-Flooring Works</u>					
3	Leveling/repairing of slab surface with about ¾" average thick layer of cement-sand slurry (in 1:2 ratio) using latex based concrete bonding agent (SBR) from Sika, Fospak or other approved manufacturer @ 3 liters per bag of cement or as per the directions of the manufacturer/ supplier, with smooth trowel finished top surface, curing with damp jute cloth, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Sft	1000		
4	Making of PCC edge fillet (triangular/parabolic shape gola) of approximately 4" x 4" size along the outer walls with cement-sand mortar in 1: 4 ratio using latex based concrete bonding agent (SBR) from Sika, Fospak or other approved manufacturer @ 3 liters per bag of cement or as per the	Rft	210		

For Contractor
Sign and Seal



	directions of the manufacturer/supplier, and approved water repellent admixture, with smooth trowel finished top surface, curing with damp jute cloth, complete in all respects as per site requirements and as directed by the Engineer In-Charge.				
5	Providing and torch applying 4mm thick layer of modified bitumen & non-woven polyester fibers reinforcement based water proofing membrane of DermaBit (ECOGUM SP) or other approved equivalent KSA make in accordance with the directions of the manufacturer/supplier including the cost of approved primer (DERMAPRIMER or other approved equivalent) applied @ about 4m ² /liter, all required overlaps of minimum 2" width, providing & laying 200 micron thick polythene sheet over the membrane, etc. complete in all respects as per site requirements and as directed by the Engineer In-Charge. Measurement for payment shall be made on the basis of top surface only irrespective of any overlaps or wastage etc. (The contractor shall have to submit samples along with technical data sheets of materials for approval by the Engineer In-Charge before application at site.)	Sft	1000		
6	Providing, mixing, laying, vibrating & curing cement concrete 1:3:6 in floors, trenches etc. according to proper levels & slopes complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Cft	400		
7	Providing, mixing, laying, vibrating & curing cement concrete 1:4:8 in floors, trenches etc. according to proper levels & slopes complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Cft	400		
Tile Works					
8	Providing & fixing in position A-Grade fully body porcelain tiles of approved quality & make (Master/Shabbir or other local made), of 30cm x 60/ 80cm or other approved size, of approved	Sft	630		

For Contractor
Sign and Seal



	colour & shade (as per the sample approved by the Bank) on floors, including preparation of surface, cement-sand mortar for base, cost of cement paste buttering at back of tiles, cutting where required, cost of required tile bond of approved quality, grouting with approved quality tile grout of matching color, cost of spacers, complete in all respect as per site conditions and as directed by the Engineer In-Charge.				
9	Providing & fixing in position A-Grade glazed ceramic tiles of approved quality & make (Master/Shabbir or other local made), of 30cm x 60/ 80cm or other approved size, of approved colour & shade (as per the sample approved by the Bank) on walls, including preparation of surface, cost of rough base plaster, cutting where required, cost of cement paste buttering at back of tiles, cost of required tile bond of approved quality, grouting with approved quality tile grout of matching color, cost of spacers, soaking of tiles, complete in all respect as per site conditions and as directed by the Engineer In-Charge.	Sft	2600		
<u>Masonry Works</u>					
10	Providing & laying block masonry 5" thick walls using machine made pre-cast cement concrete solid blocks of 5"x 7"x12" size of approved quality, laid in proper plumb and level in superstructure using cement mortar of ratio (1:4) straight or curved with wall/column ties @ 1.5' c/c by drilling and fixing steel bars of dia 3/8" as per site requirements, scaffolding at any height, cutting of grooves for new wall and old wall joints before block masonry, curing of the same etc. complete in all respect, as per site requirements and/or as directed by the Engineer In-Charge.	Sft	1115		
11	Providing and laying average 1/2" thick 1:4 cement-sand plaster over walls & jambs including cost of material, curing etc. complete in all respects as per site	Sft	3690		

For Contractor
Sign and Seal



	requirements and as directed by the Engineer In-Charge (other than tiled area)				
<u>Sanitary Fittings & Fixtures</u>					
12	Providing & fixing squatting pan (W.C) of about 16" x 21" size, HD-13 of Porta or other approved equivalent make, including the cost of uPVC P-trap, concealed flushing pipe (1.5" dia. uPVC Schc.40), providing and applying sealant Max Track of Sika, CHEMAFLEX of ICPL or other approved equivalent make around flush pipe at joint with WC, and around WC neck before placing the WC in position, etc. complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	5		
13	Providing & fixing of wall hung type flush tank of Porta (HDPT700) or other approved equivalent make, including the cost approved quality CP T-stop cock of Master/Sonex/Faisal or approved equivalent, CP connection pipe, including connection with the WC/ commode, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos.	5		
14	Providing & fixing in position one piece commode of "Casa Moda, 5547" or approved equivalent make, with S-trap & heavy duty plastic type hydraulic seat cover, approved quality CP T-stop cock of Master/Sonex/Faisal or approved equivalent, CP connection pipe of approved quality & make, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	3		
15	Providing & fixing in position Half Pedestal type wall hung Wash Basin of Porta (HDLP203AH) or approved equivalent make, including the cost of stainless steel screws, adhesives, approved quality bottle trap (D08 of Porta or other approved equivalent make), plastic type connection pipes, waste pipe, strainer set & coupling etc. complete in all respects as per site	Nos	8		

For Contractor
Sign and Seal



	requirements and as directed by the Engineer In-Charge.				
16	Providing and fixing of single lever type CP Basin Mixer (chrome plated) of Master, Sonex, Faisal or other approved equivalent make of approved shape/design including the cost of connection pipes, two CP- T-stop cocks, connection pipes, etc. complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	8		
17	Providing & fixing in position, CP Double Bib cock of Master, Sonex, Faisal or other approved equivalent make of approved shape/design, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	8		
18	Providing & fixing in position approved quality plastic body Muslim Shower of Master, Sonex, Faisal or other approved equivalent make of approved shape/design including the cost of flexible chain connection pipe of approved quality, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	8		
19	Providing & fixing in position, heavy duty Stainless Steel Soap Dish of approved quality of Master, Sonex, Faisal or other approved equivalent make, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	8		
20	Providing & fixing in position, heavy duty Stainless Steel hooks (double) for clothes hanging of approved quality at back side of toilet doors, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	8		
21	Providing & fixing in position, stainless steel tissue paper holder of Master, Sonex, Faisal or other approved equivalent, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	3		
22	Providing & fixing of CP wall type double knob Mixer for ablution area, of Faisal, Sonex or other approved	Nos	2		

For Contractor
Sign and Seal



	equivalent make, complete in all respects as per site requirements and as directed by the Engineer In-Charge.				
23	Providing & fixing in position uPVC floor traps of 6"x6" size with heavy duty Stainless Steel floor trap jali/ strainer of approved quality, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	11		
24	Providing and fixing PPR-C pipe of Turkplast of PN-20 or approved equivalent make including the cost of required sockets, elbows, plug elbows, Tees, bushes, reducers, sockets, threaded fittings, cutting, jointing etc. complete in all respect as per site requirements and as directed by the Engineer In-Charge.				
	a) 1/2" dia.	Rft	300		
	b) 3/4" dia.	Rft	180		
25	Providing & laying Sch.40 uPVC pipe of AGM (Jeddah) or approved make & quality for waste water in floors/ducts, including the cost of required sockets, elbows, plug elbows, Tees, Y-Tees, Four way Tees, bushes, reducers, sockets & jointing solutions etc including termination of pipes to nearest Manhole outside tower block building, making of holes in block masonry walls, including connections with existing vent pipes/manholes/sewer pipes etc. and repairing the same after fixing of the pipes, etc. complete in all respects as per site requirements and as directed by the Engineer In-Charge.				
	a) 2" dia concealed	Rft	50		
	b) 3" dia.	Rft	250		
	c) 4" dia.	Rft	250		
26	Providing and fixing handle valve of Kitz make or other approved equivalent including the cost of required specials, etc. complete in all respects as per site requirements and as directed by the Engineer In-Charge.				
	a) 3/4" dia.	Nos	3		

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<u>Electric Fittings & Fixtures etc.</u>					
27	Providing, fixing, testing & commissioning of instant electric water heaters (geysers) of Super Asia, Boss, Golden Fuji or other approved equivalent make, of minimum 6 liters capacity including the cost of required handle valves, electric switches & sockets, electric wiring from nearest point in washroom, T-cocks, Connection pipes as per existing style & pattern, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos.	2		
28	Supply and installation of automatic high speed electric Hand Dryer of approved design of Siemens/World Dryer/ Berkley/ Dyson or approved equivalent make with photo sensor, "hands below the dryer type" i.e throwing showers of hot air when hands are brought under the dryer, with external body metallic powder coated/ stainless steel brush finish/stainless steel gloss finish, including fixing material at proper level on wall from floor level, cost of required switch-socket & wiring using approved quality materials, complete in all respects as per site requirements and as directed by Engineer In-Charge.	Nos	3		
29	Supply and installation of steel body 12-inch size exhaust fan of Pak fan, Millat or any other approved equivalent including the cost of required hardware and other materials for proper fixing of the exhaust fan in position, dully energized with required switch-sockets and wiring using materials of approved quality, complete in all respect as per site requirement and as directed by Engineer In charge .	Nos	2		
30	Supply and installation of plastic body 12-inch size exhaust fan of Pak fan, Millat or any other approved equivalent including the cost of required hardware and other materials for proper fixing of the exhaust fan in position, dully energized with required switch-sockets and wiring using materials of approved	Nos	1		

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	quality, complete in all respect as per site requirement and as directed by Engineer In charge .				
TOTAL AMOUNT (RS)=					

Total Amount (in words).....

Undertaking by the Bidder:

I _____ had visited the site and have fully understood the scope of work & specifications. The above rates are inclusive of all labour charges, Tool & Plants, applicable taxes/ duties, overheads, safety equipment/PPEs/measures etc. I/ we have sufficient resources to carry out above works. All the above Terms & Conditions are acceptable to us. We are not blacklisted by the Bank or any other organization.

Date:

Contractors Signature & Seal

For Official Use only			
Nos. of cuttings/overwriting.....		Nos. of alterations.....	
.....			
ACM (PB-Vault)	ACM (SMU)	ACM (IMU)	DCM (GSU)
.....			
JD (ENGG)		CHIEF MANAGER	

For Contractor
Sign and Seal

