



روزنامہ جنگ کراچی منگل 3 مارچ 2026ء

سندھ ایمپلائمنٹ سوشل سیکورٹی انسٹی ٹیوشن  
(ہیڈ آفس)

ایوان محنت کش ST-17، بلاک 6-گلشن اقبال کراچی، بلاک-75300

No.SS/ENGG/2026/715

Dated:27-02-2026



## ٹیڈرنوٹس

### SESSI لائڈھی ہاسپٹل میں انڈرگریڈ انونڈ اور اوور ہیڈ وائٹرنٹیک کی تعمیر

سندھ ایمپلائمنٹ سوشل سیکورٹی انسٹی ٹیوشن (SESSI) درج ذیل کام کیلئے رجسٹرڈ کنٹریکٹرز سے بذریعہ ای پروکیورمنٹ سسٹم (EPADS) آن لائن پیشکشیں مدد کرتا ہے۔

نمبر شمار	کام کی تفصیل	تعمین لاگت	بڈو ستاویز جمع کرنے کی تاریخ اور وقت	پیشکش کھولنے کی تاریخ اور وقت
1-	SESSI لائڈھی ہاسپٹل میں انڈرگریڈ اور اوور ہیڈ وائٹرنٹیک کی تعمیر	71.04 ملین	18-03-2026 بوقت سہ پہر 2:00 بجے	18-03-2026 بوقت سہ پہر 2:30 بجے

(a) خواہشمند شرکاء سے 3000 روپے کا پے آرڈر بنام سندھ ایمپلائمنٹ سوشل سیکورٹی انسٹی ٹیوشن (SESSI) بطور بڈو ایکونٹ نمٹ جمع کرانی درکار ہے جو کھلنے کی تاریخ سے بعد کی نہ ہو۔

(b) پیشکش دہندگان E-PADS پورٹل پر لائڈھی رجسٹرڈ ہوں۔ جملہ پیشکشیں الیکٹرونک طریقے پر ذریعہ <https://epad.sindh.gov.pk> جمع کرانی ہوں گی۔

(c) بڈنگ دستاویزات ویب سائٹ <https://sessi.gov.pk> سے بھی ڈاؤن لوڈ کی جاسکتی ہیں۔

(d) پیشکش منسلک ایچ۔ ٹیو اینیو بیلیٹ برطانیہ SPPRA رولز 2010 تا حال ترمیم شدہ پر مشتمل ہوگی، لٹافاً "ٹیکنیکل پروپوزل" اور "فنانشل پروپوزل" پر مشتمل ہوگا۔

(e) پیشکشیں لائڈھی مذکورہ بالا شیڈول کے مطابق بذریعہ SPPRA EPADS جمع کرانی ہوں گی۔ تاہم حکومت کی جانب سے تعطیل کا اعلان کیے جانے کی صورت میں پیشکش دہندگان یا شرکت کے خواہاں ان کے نمائندوں کی موجودگی میں آئندہ یوم کار راجی اوقات میں پیشکشوں کے کھلنے کیلئے شمار ہوگا۔

(f) پیشکش دہندہ کو بڈم کی 5% مساوی بڈ سیکورٹی منسلک ڈپازٹ اینٹ کال/پے آرڈر یا ایک بینک گارنٹی اجازت پاکستان کا کوئی شیڈولڈ بینک بنام سندھ ایمپلائمنٹ سوشل سیکورٹی انسٹی ٹیوشن (SESSI) جمع کرانا ہوگا۔ بڈ سیکورٹی پیشکش کے کارآمد رہنے کی مدت سے آگے 28 ریلویم کی مدت کیلئے کارآمد موثر ہوگی۔

(g) پروکیورنگ ایجنسی SPPRA رولز 2010 (ترمیم شدہ تا حال) کے مطابق وجہ بتائے بغیر تعداد میں اضافہ کی کرنے کا حق محفوظ رکھتی ہے۔

(h) پروکیورنگ ایجنسی کو کسی ایک یا تمام پیشکشوں کو قبول یا مسترد کرنے کا حق حاصل ہے۔

(i) مزید معلومات یا وضاحت کیلئے برائے مہربانی دوران دفتر کی اوقات زبردستی سے رابطہ کریں۔

دوستخط: (ایگزیکٹو انجینئر)

برائے کامیونٹی

سندھ ایمپلائمنٹ سوشل سیکورٹی انسٹی ٹیوشن

ایوان محنت کش، ST-17، بلاک 6-گلشن اقبال کراچی-75300

فون: 021-99243813-14 ای میل: [sessipd@gmail.com](mailto:sessipd@gmail.com)

INF-KRY 853/2026  
WORK FOR SINDH  
[www.workforindh.com](http://www.workforindh.com)  
JOB PORTAL BY  
INFORMATION DEPARTMENT

TUESDAY, MARCH 3, 2026



## Sindh Employee's Social Security Institution (Head Office)

AWAN-E-MEHNAT HASH ST-7, BLOCK-6, GULSHAN-E-IQBAL, KARACHI-75300

No. SS/ENGG/2026/717 Dated: 27-02-2026

# TENDER NOTICE

**Supply, Installation, Testing & Commissioning of Solar System at Various field offices of Sindh Employees' Social Security Institution.**

The Sindh Employees' Social Security Institution (SESSI) Invites online bids through the E-Procurement System (EPADS) from registered contractors for the following work:

S. No.	Description of work	Estimated Cost	Bid Document Submission Date & Time	Bid Opening Date & Time
1	Supply, Installation, Testing & Commissioning of Solar System at Various field offices of Sindh Employees' Social Security Institution.	150 Million	18-03-2026 11:00 AM	18-03-2026 11:30 AM

- a) The intending participants are required to submit an original pay order of Rs. 3,000 in favor of the Sindh Employees' Social Security Institution (SESSI) as a bid document fee, not later than the opening date.
- b) Bidders must be registered on the E-PADS portal. All bids shall be submitted electronically via <https://epad.sindh.gov.pk>.
- c) Bidding documents can also be downloaded from the website <https://sessi.gov.pk>.
- d) The bid shall comprise a Single Stage - Two Envelope procedure, as per SPPRA Rules, 2010 (amended up to date), and shall contain the "TECHNICAL PROPOSAL" & "FINANCIAL PROPOSAL."
- e) Bids must be submitted through SPPRA EPADS as per the schedule mentioned above. However, In case a holiday, is announced by the Government, the next working day shall be considered for the opening of bids at the same time, in the presence of bidders or their authorized representatives who wish to attend.
- f) The bidder shall submit Bid Security equal to 2% of the bid amount in the shape of Deposit at Call/ Payee's order or a Bank Guarantee, issued by any scheduled bank of Pakistan, in favor of the Sindh Employees' Social Security Institution (SESSI). The Bid Security shall remain valid for a period of 28 days beyond the validity period of the bid.
- g) The Procuring Agency reserves the right to enhance or reduce the quantity without assigning any reason, as per SPPRA Rules, 2010 (amended up to date).
- h) The Procuring Agency reserves the right to accept or reject any one or all bids.
- i) For further information or clarification, please contact the undersigned during office hours.

**Sd/.....(Executive Engineer), For Commissioner**  
**Sindh Employees' Social Security Institution**  
 Awan-e-Mehnat Kash, ST-17, Block-6,  
 Gulshan-e-Iqbal, Karachi-75300  
 Phone: 021-99243813-14, Email: [sessipd@gmail.com](mailto:sessipd@gmail.com)

INF/KRY/0854/2026

**WORK FOR SINDH**  
[www.workforsindh.com](http://www.workforsindh.com)  
 JOB PORTAL BY  
 INFORMATION DEPARTMENT

**Construction of Underground & Overhead water tank at S.S Landhi Hospital for the Financial year 2025-26.**

**Submitted:**

1- The Construction of Underground & overhead water tank at S.S Landhi Hospital was approved as development project in the budget for the financial year 2025-26 at a cost of Rs 57.0 million which will be initiated through E-PAD as per Sindh PPRA Rules 2010 (amended up to date). The procurement committee for the said work is proposed as under:

ENGR. Muhammad Waseem Superintendent Engineer, SESSI	Chairman
Mr. Abdul Wahid Shoro Member Governing Body SESSI	Member
Mr. Asad Kazmi Deputy Director Finance SESSI	Member
Mr. Mohisn Ayub Executive Engineer SESSI Head Office	Member/Secretary
Civil Engineer (other than processing agency)	Member

2- As per clause 8 of the SPPRA rules 2010, the procurement committee shall be responsible for;

- Preparation of bidding documents.
- Carrying out technical as well financial evaluation of bids.
- Preparing evaluation report as provided in rule 45.
- Making recommendations for the award of contract to the competent authority.

3- It is further stated that a complaint redressal committee may also be constituted under clause 31 of SPPRA rules 2010. The committee is proposed as under,

- |                               |          |
|-------------------------------|----------|
| • Commissioner SESSI          | Chairman |
| • A Representative of A.G     |          |
| • An independent professional | Member   |

4- As per budget provision, an amount of Rs 57.0 million was allocated for the said project but the engineer estimate is Rs.71.04 million. The exceeded amount of Rs. 14.04 million may be re appropriated in revised budget 2025-2026. It is therefore, requested that the amount for the execution of work amounting Rs.71.04 million may be approved for above said project. Further the permission may also be accorded to start the tender proceedings.

  
26-2-26  
**Mohisn Ayub**  
(Executive Engineer)

5- **SUPRINTENDENT ENGINEER:**

*As detail given vide para 1/N to 4/N regarding Floating of Tender for the Development (P.T.O)*

(From overleaf)

Project<sup>n</sup> Construction of Underground and overhead water Tank at S S Landhi Hospital Karachi for the year 2015-2016.

6- Permission may please be granted for floating of Tender as per S.P.A.R.A Rules 2010 (Amended up date) para 1/N to 4/N are endorsed for approval.

M. J. Khan  
26/2/2016

7- Nice Commissioner

In view of above, Para 06/N is submitted for approval, if agreed to.

8- Commissioner

26/2/26

As proposed

26/2/26.

9- ve  
26/2/26

10- SEP Ejgr

Pl. issue the Notifications of Committees and send letter to the Director FRW-Cum TR? for publication of Tender Notice.

M. J. Khan  
26/2/2016

11- X. EN. Mr. Mohsin



## Sindh Employee's Social Security Institution (Head Office)

### Annual Procurement Plan Financial Year 2025-26

S.No	Description of Procurement	Quantity (where applicable)	Estimated Unit cost (where applicable)	Estimated total cost	Funds Allocated	Source of Funds (Addp / Non ADP)	Proposed Procurement Method	Timing Procurement				Remarks
								1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	
1.	Supply And Installation Of Solar System at Different Offices of SESSI	01	-	150 M	150 M	Non ADP	Single Stage Two Envelop				Tender Open	06 Months Completion Period
2.	Construction of Underground and Oerhead Water Tanks at S.S Landhi Hospital Karachi	01	-	71.04 M	57.0 M	Non ADP	Single Stage Two Envelop				Tender Open	06 Months Completion Period

Chairman Procurement Committee



4. Office Copy.

***Sindh Employee's Social Security Institution  
(Head Office)***

**NOTIFICATION**

With the approval of Competent Authority the Complaint Rederssal Committee (CRC) is hereby constitution as defiance in Rule 31 of SPPRA of 2010 (amended update) comprising of the following members to redress the matters regarding tenders Engineering works for the years 2025-26 of the intuition.

- 1) Commissioner SESSI,
- 2) A Representative of A.G Sindh
- 3) An Independent professional

Chairman

Member

Member

**(Mr.. Mohsin Ayob)  
ExecuiveEngineer SESSI,  
For Commissioner**

No: SS/Engg/2026/713

Dated: 27-2--2026

Copy to:

1. All Members Procurement Committee.
2. Office Copy.



# *Sindh Employee's Social Security Institution* *(Head Office)*

## NOTIFICATION

In pursuance of rules 7&8 in Sindh public procurement Rules 2010 (Amended up to date) and with the approval of Competent Authority following procurement Committee is hereby constitutes for the Construction Of Underground and Overhead water Tanks for the year 2025-26.

- |   |                  |
|---|------------------|
| 1.(Engr. Muhammad Waseem)<br>Director Engineering   | Chairman         |
| 2. Mr Mohsin Ayob<br>Executive Engineer             | Secretary/Member |
| 3. Mr. Abdul Wahid Shoro<br>G.B Member              | Member           |
| 4.Mr. Asad Hyder Abidi<br>Director Finance/Accounts | Member           |

### Outside Member other than Procurement agency (SESSI)

- |  |        |
|--|--------|
| 5. Mr. Rehan Zahir<br>Assistant Engineer<br>Sindh Kattichi Abadi Authority | Member |
|--|--------|

No: SS/Engg/2026/712

Dated: 27-2--2026

*Mohs*

**( MOHSIN AYOB )**  
**Executive Engineer SESSI**  
**Secretary Member**  
**Procurement Committee**

Copy to:

5. All Members Procurement Committee.
6. P.S to Commissioner, SESSI Head Office.
7. P.S to Vice Commissioner in Head Office.
8. Office Copy.



**TENDER FORM**

**BIDDING DOCUMENTS**

**Volume – I**

**Construction of Underground & Overhead Water Tank**

*Sindh Employees' Social Security Institution (SESSI) Landhi Hospital.*

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**INSTRUCTIONS TO BIDDERS  
&  
BIDDING DATA**

## INSTRUCTIONS TO BIDDERS & BIDDING DATA

### Notes on the Instructions to Bidders

This section of the bidding documents provides information necessary for bidders to prepare responsive bids, in accordance with the requirements. It also gives information on bid submission, opening and evaluation, and on the award of contract.

Matters governing the performance of the Contract or payments under the Contract, or matters affecting the risk, rights, and obligations of the parties under the contract are not normally included in this section, but rather in the appropriate sections of the Conditions of Contract and /or Contract Data.

### INSTRUCTION TO BIDDERS

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

#### A. GENERAL

##### IB.1 Scope of Bid

1.1 The Procuring Agency as defined in the Bidding Data hereinafter called "the Procuring Agency" wishes to receive bids for the construction and completion of works as described in these Bidding Documents, and summarized in the Bidding Data hereinafter referred to as the "Works".

1.2 The successful bidder will be expected to complete the Works within the time specified in Appendix-A to Bid.

##### IB.2 Source of Funds

2.1 The Procuring Agency has arranged funds from its own.

##### IB.3 Eligible Bidders

3.1 This Bidding is open to all firm & person meeting the requirements as given in the bidding data.

##### IB.4 Cost of Bidding

4.1 The bidders shall bear all costs associated with the preparation and submission of their respective bids and the Procuring Agency will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process (SPP Rules 24 & 25).

#### B. BIDDING DOCUMENTS

##### IB.5 Contents of Bidding Documents

5.1 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 Clause

IB.9.

1. Instructions to Bidders & Bidding Data.
  2. Form of Bid, Qualification Information & Schedules to Bid Schedules to Bid
- Comprise the following:



- i. Schedule A: Method of Performing Works
  - ii. Schedule B: Integrity Pact
3. Condition of Contract & Contract Data.
  4. Form of Bid Security.
  5. Form of Performance Security.
  6. Form of Contract Agreement.
  7. Specifications.

#### **IB.6 Clarification of Bidding Documents**

- 6.1 Any prospective bidder requiring any clarification (s) in respect of the Bidding Documents may notify the Engineer/Procuring Agency at the Engineer's/Procuring Agency's address indicated in the Bidding Data.
- 6.2 An interested bidder, who has obtained bidding documents, may request for clarification of contents of bidding documents in writing and procuring agency shall respond to such queries in writing within three calendar days, provided they are received at least five calendar days prior to the date of opening of bid (SPP Rule 23-1).

#### **IB.7 Amendment of Bidding Documents**

- 7.1 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.
- 7.2 Any addendum thus issued shall be part of the Bidding Documents pursuant to Sub-Clause 7.1 hereof and shall be communicated in writing to all purchasers of the Bidding Documents. Prospective bidders shall acknowledge receipt of each addendum in writing to the Procuring Agency.
- 7.3 To afford prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Procuring Agency may extend the deadline for submission of bids in accordance with Clause IB.20

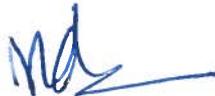
### **C. PREPARATION OF BIDS**

#### **IB.8 Language of Bid**

- 8.1 The bid and all correspondence and documents related to the bid exchanged by a bidder and the Procuring Agency shall be in the bid language stipulated in the Bidding Data and Particular Conditions of Contract. Supporting documents and printed literature furnished by the bidders may be in any other language provided the same are accompanied by an accurate translation of the relevant parts in the bid language, in which case, for purposes of evaluation of the bid, the translation in bid language shall prevail.

#### **IB.9 Documents Comprising the Bid**

- 9.1 The Bid submitted by the bidder shall comprise the following:



- i. Offer / Covering Letter.
- ii. Form of Bid duly filled, signed and sealed, in accordance with IB.14.3.
- iii. Schedules (A to F) to Bid duly filled and initialed, in accordance with the instructions contained therein & in accordance with IB.14.3.
- iv. Bid Security furnished in accordance with IB.13.
- v. Documentary evidence in accordance with IB.2(c) & IB.11
- vi. Documentary evidence in accordance with IB.12.

#### **IB.10 Sufficiency of Bid**

- 10.1 Each bidder shall satisfy himself before Bidding as to the correctness and sufficiency of his Bid rates and prices quoted/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.
- 10.2 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.

#### **IB.11 Bid Prices**

- 11.1 The bidder shall fill up the Schedule of Prices (Schedule A to Bid unit rates and prices of the Works to be performed under the Contract. Prices in the Schedule of Prices/Bill of Quantities shall be quoted entirely in Pak Rupees keeping in view the instructions contained in the Preamble to Schedule of Prices.
- 11.2 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.
- 11.3 The unit rates and prices in the Schedule of Prices and rates shall be quoted by the bidder in the currency as stipulated in Bidding Data.
- 11.4 Items for which no rate or price is entered by the Bidder will not be paid for by the Procuring Agency when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities.

#### **IB.12 Bid Validity**

- 12.1 Bids shall remain valid for the period stipulated in the Bidding Data after the Date of Bid Opening specified in Clause IB.23.
- 12.2 In exceptional circumstances, prior to expiry of the original bid validity period, the Procuring Agency may request that the bidders extend the period of validity for a specified additional period which shall in no case be more than the original bid validity period. The request and the responses thereto shall be made in writing. A bidder may refuse the request without forfeiting his Bid Security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his Bid Security for the period of the extension, and in compliance with Clause IB.15 in all respects.



### **IB.13 Bid Security**

13.1 Each bidder shall furnish, as part of his bid, at the option of the bidder, a Bid Security as percentage of bid price or in the amount stipulated in Bidding Data in Pak. Rupees in the form of Deposit at Call/ Payee's order or a Bank Guarantee issued by a Scheduled Bank in Pakistan Pakistan in favor of the Sindh Employees' Social Security Institution which should be valid for a period up to twenty eight (28) days beyond the bid validity date (Bid security should 5% of the bid price SPP Rule 37).

13.2 Any bid not accompanied by an acceptable Bid Security shall be rejected by the Procuring Agency 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 and signed the Contract Agreement (SPP Rule 37).

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, pursuant to Sub-Clause 16.4 (b) hereof; or
- c) in the case of a successful bidder, if he fails within the specified time limit to:
  - i. furnish the required Performance Security or
  - ii. sign the Contract Agreement.

### **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 In exceptional circumstances, Procuring Agency may request the bidders to extend the period of validity for an additional period but not exceeding the original period. The request and the bidders' responses shall be made in writing or by cable. A Bidder may refuse the request without forfeiting the Bid Security. A Bidder agreeing to the request will not be required or permitted to otherwise modify the Bid but will be required to extend the validity of Bid Security for the period of the extension, and in compliance with IB.13 in all respects (SPP Rule 38).

14.3 All Schedules to Bid are to be properly completed and signed.

14.4 No alteration is to be made in the Form of Bid except in filling up the blanks as directed. If any alteration be made or if these instructions be not fully complied with, the bid may be rejected.

14.5 Each bidder shall prepare original and number of copies specified in the Bidding Data of the documents comprising the bid as described in IB.8 and clearly mark them "ORIGINAL"



and "COPY" as appropriate. In the event of discrepancy between them, the original shall prevail.

14.6 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 initialled and official seal be affixed by the person or persons signing the bid.

14.7 The Bid shall be delivered in person or sent by registered mail at the address to Procuring Agency as given in Bidding Data.

#### **A. SUBMISSION OF BID**

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

15.1 Bids must be received by the Procuring Agency at the address/provided in Bidding Data not later than the time and date stipulated therein.

15.2 The inner and outer envelopes shall:

- a) be addressed to the Procuring Agency at the address provided in the Bidding Data;
- b) bear the name and identification number of the Contract as defined in the Bidding and Contract Data; and
- c) provide a warning not to open before the specified time and date for Bid opening as defined in the Bidding Data
- d) in addition to the identification required in 15.2, the inner envelopes shall indicate the name and address of the Bidder to enable the Bid to be returned unopened in case it is declared late.
- e) If the outer envelope is not sealed and marked as above, the Procuring Agency will assume no responsibility for the misplacement or premature opening of the Bid.

15.3 Bids submitted through telegraph, telex, fax or e-mail shall not be considered.

15.4 Any bid received by the Procuring Agency after the deadline for submission prescribed in Bidding Data will be returned unopened to such bidder.

15.5 Any bidder may modify or withdraw his bid after bid submission provided that the modification or written notice of withdrawal is received by the Procuring Agency prior to the deadline for submission of bids.

15.6 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 IB.13.5 (a).

#### **B. BID OPENING AND EVALUATION**

##### **IB.16 Bid Opening, Clarification and Evaluation (SPP Rules 41, 42 & 43)**

16.1 The Procuring Agency will open the bids, in the presence of bidder's representatives



who choose to attend, at the time, date and in the place specified in the Bidding Data.

- 16.2 The bidder 's name, Bid Prices, any discount, the presence or absence of Bid Security, and such other details as the Procuring Agency at its discretion may consider appropriate, will be announced by the Procuring Agency at the bid opening. The Procuring Agency will record the minutes of the bid opening. Representatives of the bidders who choose to attend shall sign the attendance sheet. Any Bid Price or discount which is not read out and recorded at bid opening will not be taken into account in the evaluation of bid.
- 16.3 To assist in the examination, evaluation and comparison of Bids the Engineer/Procuring Agency 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 (SPP Rule 43).
- 16.4 (a) Prior to the detailed evaluation, pursuant to IB.16.7 to 16.9, the Engineer/Procuring Agency will determine the substantial responsiveness of each bid to the Bidding Documents. For purpose of these instructions, a substantially responsive bid is one which conforms to all the terms and conditions of the Bidding Documents without material deviations. It will include determining the requirements listed in Bidding Data.
- (b) 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 there is a discrepancy between the Total Bid price entered in Form of Bid and the total shown in Schedule of Prices-Summary, the amount stated in the Form of Bid will be corrected by the Procuring Agency in accordance with the Corrected Schedule of Prices.
- If the bidder does not accept the corrected amount of Bid, his Bid will be rejected and his Bid Security forfeited.
- 16.5 A Bid determined as substantially non-responsive will be rejected and will not subsequently be made responsive by the bidder by correction of the non conformity.
- 16.6 Any minor informality or non-conformity or irregularity in a Bid which does not constitute a material deviation (**major deviation**) may be waived by Procuring Agency, provided such waiver does not prejudice or affect the relative ranking of any other bidders.



**(A). Major (material) Deviations include: -**

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

**(B) Minor Deviations**

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

- 16.7 The Engineer/Procuring Agency will evaluate and compare only the bids previously determined to be substantially responsive pursuant to IB.16.4 to 16.6 as per requirements given hereunder. Bids will be evaluated for complete scope of works. The prices will be compared on the basis of the Evaluated Bid Price pursuant to IB.16.8 herein below.

**Technical Evaluation:**

It will be examined in detail whether the works offered by the bidder complies with the Technical Provisions of the Bidding Documents. For this purpose, the bidder 's data submitted with the bid in Schedule B to Bid will be compared with technical features/criteria of the works detailed in the Technical Provisions. Other technical information submitted with the bid regarding the Scope of Work will also be reviewed.

**IB.16 Evaluated Bid Price**

In evaluating the bids, the Engineer/Procuring Agency 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.



## IB.17 Process to be Confidential

- 17.1 Subject to IB.16.3 heretofore, no bidder shall contact Engineer/Procuring Agency on any matter relating to its Bid from the time of the Bid opening to the time the bid evaluation result is announced by the Procuring Agency. The evaluation result shall be announced SPPRA Rule 45). The announcement to all bidders will include table(s) comprising read out prices, discounted prices, price adjustments made, final evaluated prices and recommendations against all the bids evaluated.
- 17.2 Any effort by a bidder to influence Engineer/Procuring Agency in the Bid evaluation, Bid comparison or Contract Award decisions may result in the rejection of his Bid. Whereas any bidder feeling aggrieved, may lodge a written complaint to Complaint Redressal Committee as per terms and conditions mentioned in SPP Rules 31 & 32. However, mere fact of lodging a complaint shall not warrant suspension of procurement process.
- 17.3 Bidders may be excluded if involved in **"Corrupt and Fraudulent Practices"** means either one or any combination of the practices given below SPP Rule 2(q);
- i. **"Coercive Practice"** means any impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence the actions of a party to achieve a wrongful gain or to cause a wrongful loss to another party;
  - ii. **"Collusive Practice"** means any arrangement between two or more parties to the procurement process or contract execution, designed to achieve with or without the knowledge of the procuring agency to establish prices at artificial, noncompetitive levels for any wrongful gain;
  - iii. **"Corrupt Practice"** means the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence the acts of another party for wrongful gain;
  - iv. **"Fraudulent Practice"** means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
  - v. **"Obstructive Practice"** means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or effect the execution of a contract or deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements before investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or acts intended to materially impede the exercise of inspection and audit rights provided for under the rules.



## C. AWARD OF CONTRACT

### IB.18. Post Qualification

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

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

18.1 The determination will take into account the bidder 's financial and technical capabilities. It will be based upon an examination of the documentary evidence of the bidders' qualifications submitted under B.11, as well as such other information required in the Bidding Documents.

### IB.19 Award Criteria & Procuring Agency's Right

19.1 Subject to IB.19.2, the Procuring Agency will award the Contract to the bidder whose bid has been determined to be substantially responsive to the Bidding Documents and who has offered the lowest evaluated Bid Price, provided that such bidder has been determined to be qualified to satisfactory perform the Contract in accordance with the provisions of the IB.18. After total scoring with respect to technical and financial criteria.

19.2 Notwithstanding IB.19.1, the Procuring Agency 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 Procuring Agency's action except that the grounds for its rejection of all bids shall upon request be 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 (SPP Rule 25).

### IB.20 Notification of Award & Signing of Contract Agreement

20.1 Prior to expiration of the period of bid validity prescribed by the Procuring Agency, the Procuring Agency will notify the successful bidder in writing ("Letter of Acceptance") that his bid has been accepted (SPP Rule 49).

20.2 Within seven (07) days from the date of furnishing of acceptable Performance Security under the Conditions of Contract, the Procuring Agency will send the successful bidder the Form of Contract Agreement provided in the Bidding Documents, incorporating all agreements between the parties.

20.3 The formal Agreement between the Procuring Agency and the successful bidder duly stamped at rate according to Stamp Act 1899 applicable in Sindh of bid price (updated from time to time) stated in Letter of Acceptance shall be executed within seven (07) days of the receipt of Form of Contract Agreement by the successful bidder from the Procuring Agency.

### IB.21 Performance Security

21.1 The successful bidder shall furnish to the Procuring Agency a Performance Security of 10% of the contract value in the form and the amount stipulated in the Conditions of Contract within a period of fourteen (14) days after the receipt of Letter of Acceptance (SPP 39).

21.1 Failure of the successful bidder to comply with the requirements of Sub-Clauses IB.20.2& 20.3 or 21.1 or Clause IB.22 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security.

21.2 Publication of Award of Contract: within seven days of the award of contract, the procuring agency shall publish on the website of the authority and on its own website, if such a website exists, the results of the bidding process, identifying the bid through procurement identifying Number if any and the following information:

1. Evaluation Report;
2. Form of Contract and letter of Award;
3. Bill of Quantities or Schedule of Requirements. (SPP Rule 50)

### **IB.22 Integrity Pact**

The Bidder shall sign and stamp the Form of Integrity Pact provided at Schedule-F to Bid in the Bidding Document for all Sindh Government procurement contracts exceeding Rupees ten (10) million. Failure to provide such an Integrity Pact shall make the bid nonresponsive (SPP Rule 89).

### **BIDDING DATA**

(The following specific data for the works to be tendered shall complement, amend, or supplement the provisions in the Instructions to Bidders. Wherever there is a conflict, the provisions herein shall prevail over those in the Instructions to Bidders.)

### **Instructions to Bidders**

#### **A. Method of Procurement:**

- i. The bidding shall be conducted under a single-stage, two-envelope procedure in accordance with the Public Procurement Rules, and it is open to all bidders registered on EPADS.
- ii. Initially, only the "TECHNICAL PROPOSAL" shall be opened;
- iii. Procuring agency shall evaluate the technical proposal in a manner prescribed in given "Bid Evaluation Criteria" in the bidding document, without reference to the price and reject any proposal which does not conform to the specified requirements;
- iv. No amendments in the technical proposal shall be permitted after submission of technical proposal;
- v. Contractor shall submit required bid security along with technical proposal with hide the amount.
- vi. Financial proposals of technically qualified bids shall be opened publicly at a time, date and venue announced and communicated to the bidders in advance;



**1.1 Name of Procuring Agency:**

SINDH EMPLOYEES' SOCIAL SECURITY INSTITUTION

**Brief Description of Works**

The scope of this work comprises:

- 1) *Under Ground Water Tank.*
- 2) *Over Head Water Tank.*

- All the material must be procured from renowned and reputable manufacturers and must comply with the specification/ standards/ certifications mentioned in the technical criteria/Specific Works Data.
- Bidders are directed to visit the site and system installed before submitting the bid.

1.2 Procuring Agency's Address: Aiwan-e-Mehnat Kash, ST-17, Block-6, Gulshan-e-Iqbal, Karachi-75300,

1.3 Bid shall be quoted entirely in Pak. Rupees. The payment shall be made in Pak. Rupees.

1.4 The bidder has the financial, technical, and constructional capability necessary to perform the Contract as follows:

**1.5 Amount of Bid Security**

Amount of Bid Security is 5% of total offered bid amount (refundable) in form and shape as given in "Instruction to bidder."

**1.6 Period of Bid Validity**

Validity period of this bid is 60 days

**1.7 Number of Copies of the Bid to be submitted:**

The electronic bidding documents containing detailed terms, conditions, and requirements shall be available to registered bidders on EPADS at <https://sindh.eprocure.gov.pk/#/auth/login>.



**1.8 Procuring Agency's Address for the Purpose of Bid Submission**

Aiwan-e-Mehnat Kash, ST-17, Block-6, Gulshan-e-Iqbal, Karachi-75300,

**1.9 Deadline for Submission of Bids**

Time: 02:00 PM on March 18, 2026.

**1.10 Venue, Time, and Date of Bid Opening**

Time: 02:30 PM on March 18, 2026.

Conference hall SESSI Head office, Aiwan-e-Mehnat Kash, ST-17, Block-6, Gulshan-e-Iqbal, Karachi-75300,

A handwritten signature in blue ink, consisting of stylized, cursive letters that appear to be 'MEL' followed by a horizontal line extending to the right.

**TENDER EVALUATION CRITERIA**

↑

## Overhead & Underground Water Tank Project - Evaluation Structure

### SECTION: TENDER EVALUATION CRITERIA

**Eligibility Criteria:** The bidder who meets the following eligibility criteria / mandatory requirements would be declared responsive for further evaluation as per the Evaluation Criteria specified in this bidding document. Verifiable documentary proof for all following requirements is a mandatory requirement noncompliance of any below requirement will lead to disqualification. This bids disqualified/nonresponsive to the Mandatory Eligibility Evaluation Criteria Provided shall not be eligible for further evaluation.

Bidder must provide:

1. Scanned Copy tender fee Rs. 3000/- Pay order should be attached with uploaded Profile on E-PAD
2. Scanned copy of the bid security in shape of call deposit/pay order/demand draft/bank guarantee
3. Valid PEC Certification, C4 or above, CE-10, BC-01 (Compulsory codes)
4. Valid NTN Certificate
5. Valid SRB
6. Affidavit (Not Blacklisted)
7. Signed & Stamped Form of Bid
8. Integrity Pact (if applicable)
9. Bank credit line minimum 50M.
10. Req. Last three years Audited financial statement.
11. Valid electric license
12. JV not allowed

Failure to submit any above document shall result in disqualification.



## TECHNICAL EVALUATION (TOTAL MARKS = 100)

Minimum qualifying marks: 70%

Sr.No.	Criteria	Marks
1	Relevant Experience	30
2	Financial Turnover (Last 3 Years)	30
3	Similar Nature Completed Projects	10
4	Key Technical Staff (Engineer, QS, Site Supervisor)	05
5	ISO Certification	15
6	Work Plan & Method Statement	10
<b>TOTAL</b>		<b>100</b>

### DETAILED MARKING BREAKDOWN

#### 1. Relevant Experience (30 Marks)

- 3 or more Civil works ( $\geq 100M$  each) = 30 marks
- 2 Project ( $\geq 100M$ ) = 20 marks
- 1 Project ( $>100 M$ ) = 10 marks

#### 2. Financial Turnover (30 Marks)

- Average turnover last three  $\geq 500M$  or above = 30 marks
- Average turnover last three  $\geq 400M$  to less than 500M = 25 marks
- Average turnover last three  $\geq 300M$  to less than 400M = 20 marks
- Average turnover last three  $\geq 200M$  to less than 300M = 10 marks

#### 3. Similar Nature Completed Projects (10 Marks)

- Project Similar Nature (Overhead & Underground)  $\geq 50M$  = 10 marks

#### 4. Key Technical Staff (5 Marks)

- B.E Civil (10+ Years Experience) = 03 marks
- QS / Site Engineer (5+ Years Experience) = 01 mark
- Supervisor (10+ Years Experience) = 01 mark

## 5. ISO Certification (15 Marks)

- ISO 9001-2015 = 05 marks
- ISO 14001-2015 = 05 marks
- ISO 45001-2018 = 05 marks

## FINANCIAL EVALUATION

Only technically qualified bidders shall proceed.

Financial evaluation shall be based on:

- Lowest evaluated responsive bid (L1 basis)
- % Above / Below CSR (if applicable)
- Arithmetic corrections shall be made in accordance with SPPRA Rules

If discrepancy:

- Unit rate shall prevail over total
- Amount in words shall prevail over figures

Award Criteria:

Contract shall be awarded to the lowest evaluated responsive bidder meeting:

- ✓ Technical qualification ( $\geq 70\%$ )
- ✓ Financial responsiveness
- ✓ Mandatory compliance



**FORM OF BIDS**

**FORM OF BID AND SCHEDULES TO BID**

**FORM OF BID (LETTER OF OFFER)**

Bid Reference No. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_(Name of Works) To:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Gentlemen,

1. Having examined the Bidding Documents including Instructions to Bidders, Bidding Data, Conditions of Contract, Contract Data, Specifications, if any, 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 and complete such works and remedy any defects therein in conformity with the said Documents including Addenda thereto for the Total Bid Price of Rs xxxxxxxx (Rupees xxxxxxxx) 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 in the amount of \_\_\_\_\_ drawn in your favor or made payable to you and valid for a period of twenty-eight days (28) beyond the period of validity of Bid.

4. We undertake, if our Bid is accepted, to commence the Works and to deliver and complete the Works comprised in the Contract within the time(s) stated in Contract Data.

5. We agree to abide by this Bid for the period of \_\_\_\_\_ days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

6. Unless and until a formal Agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.

7. We undertake, if our Bid is accepted, to execute 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 lowest 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 \_\_\_\_\_, 2025 in the capacity of \_\_\_\_\_ duly  
authorized to sign bid for and on behalf of

\_\_\_\_\_

*(Name of Bidder in Block Capitals)*

Signature \_\_\_\_\_

*(Seal)*

Address

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Witness:

(Signature): \_\_\_\_\_

Name: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_



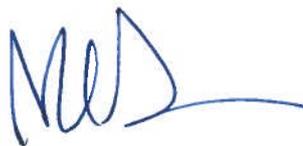
**SESSI HEAD OFFICE**

**PROFORMA "A"**

*(To be submitted with the tender)*

<b>Particulars</b>	<b>Details</b>
1. Experience as a Contractor.	
2. Work carried out in the past with detailed cost, particulars and the year in which they were under taken etc.	
3. Bankers reference regarding financial status.	
4. Whether registered with any other Department or Organization? If so, give details.	

(THE TENDER Page 3/4)





## SESSI HEAD OFFICE

## PROFORMA – “B”

S.NO	<u>PARTICULARS</u>	<u>DETAILS</u>
1.	<b><u>In case of “SOLE PROPRIETOR SHIP” concern.</u></b> a. Full Name of the Proprietor. b. Business address and Phone No. if any. c. Residential address and Phone No. if any. d. Certified copy of certificate of registration with Registrar of Firms to be attached.	
2.	<b><u>In case of “PARTNERSHIP” Concern:</u></b> a. Name of the Partners with their business/ residential address and Phone No. if any. b. Partnership Deed & Certificate of Registration (Certified copies to be attached)	
3.	<b><u>In case of “PRIVATE LIMITED COMPANY”.</u></b> a. Name of all Directors with their Business/Residential address and Phone No., if any. b. Memorandum & Articles of Association of the Company and Certificate of incorporation. (Certified copies to be attached.)	
4.	<b><u>In case of “PUBLIC LTD., COMPANY”.</u></b> Memorandum & Articles of Association and (Certified copies to be attached).	
5.	<b><u>In case firm is to be represented by “ATTORNEY”.</u></b> a. Legal Status and full particulars of the Attorney. b. Period of validity of Power of Attorney (Certified copies of Special or General Power of Attorney duly executed on Stamp Paper of proper value and authenticated/attested by a competent Authority to be attached.	
6.	<b>G.I.R. No: Income Tax and amount of Income paid during the last assessment year (state year of Assessment)</b>	
7.	A Certificate from the Bankers, sealed and addressed to the SESSI HEAD OFFICE showing the financial position of the Institution tendering, should be enclosed.	

SIGNATURE AND SEAL OF THE TENDERER

SIGNED BY MR. \_\_\_\_\_

FOR &amp; ON BEHALF OF \_\_\_\_\_



***CONDITIONS OF CONTRACTS***  
**&**  
**CONTRACTS DATA**

## **CONDITIONS OF CONTRACT & CONTRACT DATA**

### **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**

**Contract** means the Contract Agreement and the other documents listed in the 1.1.1 Contract Data.

**1.1.2 Specifications** means the document as listed in the Contract Data, including Procuring Agency'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 Procuring Agency's drawings of the Works as listed in the Contract Data, and any Variation to such drawings.

##### **Persons**

**1.1.4 Procuring Agency** 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 Contract Data and the legal successors in title to this person, but not (except with the consent of the Procuring Agency) any assignee.

**1.1.6 Party** means either the Procuring Agency or the Contractor.

##### **Dates, Times and Periods**

**1.1.7 Commencement Date** means the date fourteen (14) days after the date the Contract comes into effect or any other date named in the Contract Data.

**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 Procuring Agency'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 Procuring Agency 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/Procuring Agency under Subclause 10.1.
- 1.1.19 Works means any or all the works whether Supply, Installation, Testing, Commissioning 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 person notified by the Procuring Agency to act as Engineer for the purpose of the Contract and named as such in Contract Data.

## 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

### 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 language.

### 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 PROCURING AGENCY

### 2.1 **Provision of Site**

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

**Site Investigation Reports** are those that were included in the bidding documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.

### 2.2 **Permits etc.**

The Procuring Agency shall, if requested by the Contractor, assist him in applying for permits, licenses or approvals which are required for the Works.

### 2.3 **Engineer's/Procuring Agency's Instructions**

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

### 2.4 **Approvals**

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



### 3. ENGINEER'S/PROCURING AGENCY'S REPRESENTATIVES

#### 3.1 Authorized Person

The Procuring Agency shall appoint a duly authorized person to act for him and on his behalf for the purposes of this Contract. Such authorized person shall be duly identified in the Contract Data or otherwise notified in writing to the Contractor as soon as he is so appointed. In either case the Procuring Agency shall notify the Contractor, in writing, the precise scope of the authority of such authorized person at the time of his appointment.

#### 3.2 Engineer's/Procuring Agency's Representative

The name and address of Engineer's/Procuring Agency's Representative is given in Contract Data. However, the Contractor shall be notified by the Engineer/Procuring Agency, the delegated duties and authority before the Commencement of works.

### 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, labor, Materials, Plant and Contractor's Equipment which may be required

#### 4.2 Contractor's Representative

The Contractor shall appoint a 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 Procuring Agency for such appointment which consent shall not be withheld without plausible reason(s) by the Procuring Agency. 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 Procuring Agency 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 Procuring Agency.

#### 4.4 Performance Security

The Contractor shall furnish to the Procuring Agency within fourteen (14) days after receipt of Letter of Acceptance a Performance Security 5% of the contract value at the option of the bidder, in the form of Payee's order /Bank Draft or Bank Guarantee from scheduled bank for the amount and validity specified in Contract Data.



## 5. PROCURING AGENCY'S RISKS

### 5.1 The Procuring Agency's Risks

The Procuring Agency'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) ionizing 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 ;use or occupation by the Procuring Agency of any part of the Works, except as may be specified in the Contract;
- f) late handing over of sites, anomalies in drawings, late delivery of designs and drawings of any part of the Works by the Procuring Agency's personnel or by others for whom the Procuring Agency is responsible;
- g) a suspension under Sub-Clause 2.3 unless it is attributable to the Contractor's failure; and
- h) 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 Procuring Agency and accepted by the Procuring Agency.



## 6. TIME FOR COMPLETION

### 6.1 Execution of the Works

The Contractor shall commence the Works on the Commencement Date and shall proceed expeditiously and without delay and shall complete the Works, subject to Sub-Clause 7.3 below, within the Time for Completion.

### 6.2 Program

Within the time stated in the Contract Data, the Contractor shall submit to the Engineer/Procuring Agency a program for the Works in the form stated in the Contract Data.

### 6.3 Extension of Time

The Contractor shall, within such time as may be reasonable under the circumstances, notify the Procuring Agency/Engineer of any event(s) falling within the scope of Sub-Clause 6.1 or 10.3 of these Conditions of Contract and request the Procuring Agency/Engineer for a reasonable extension in the time for the completion of works. Subject to the aforesaid, the Procuring Agency/Engineer shall determine such reasonable extension in the time for the completion of works as may be justified in the light of the details/particulars supplied by the Contractor in connection with the such determination by the Procuring Agency/Engineer within such period as may be prescribed by the Procuring Agency/Engineer for the same; and the Procuring Agency may extend the time for completion as determined.

### 6.4 Late Completion

If the Contractor fails to complete the Works within the Time for Completion, the Contractor's only liability to the Procuring Agency for such failure shall be to pay the amount as **liquidity damages** stated in the Contract Data for each day for which he fails to complete the Works.

## 7. TAKING-OVER

### 7.1 Completion

The Contractor may notify the Engineer/Procuring Agency when he considers that the Works are complete.

### 7.2 Taking-Over Notice

Within fourteen (14) days of the receipt of the said notice of completion from the Contractor the Procuring Agency/Engineer shall either takeover the completed works and issue a Certificate of Completion to that effect or shall notify the Contractor his reasons for not taking-over the works. While issuing the Certificate of Completion as aforesaid, the Procuring Agency/Engineer may identify any outstanding items of work which the Contractor shall undertake during the Maintenances Period.



## 8. REMEDYING DEFECTS

### 8.1 Remedying Defects

The Contractor shall for a period stated in the Contract Data from the date of issue of the Certificate of Completion carry out, at no cost to the Procuring Agency, 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 Procuring Agency/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 Procuring Agency/Engineer shall issue a Maintenance Certificate whereupon all obligations of the Contractor under this Contract shall come to an end.

Failure to remedy any such defects or complete outstanding work within a reasonable time shall entitle the Procuring Agency to carry out all necessary works at the Contractor's cost. However, the cost of remedying defects not attributable to the Contractor shall be valued as a Variation.

### 8.2 Uncovering and Testing

The Engineer/Procuring Agency may give instruction as to the uncovering and/or testing of any work. Unless as a result of an uncovering and/or testing it is established that the Contractor's design, materials, plant or workmanship are not in accordance with the Contract, the Contractor shall be paid for such uncovering and/or testing as a Variation in accordance with Sub-Clause 10.2.

## 9. VARIATIONS AND CLAIMS

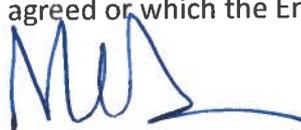
### 9.1 Right to Vary

The Procuring Agency / Engineer may issue Variation Order(s) in writing. Where for any reason it has not been possible for the Procuring Agency/Engineer to issue such Variations Order(s), the Contractor may confirm any verbal orders given by the Procuring Agency/Engineer in writing and if the same are not refuted/denied by the Procuring Agency/Engineer within ten (10) days of the receipt of such confirmation the same shall be deemed to be a Variation Orders for the purposes of this Sub-Clause.

### 9.2 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) in the absence of appropriate rates, the rates in the Contract shall be used as the basis for valuation, or failing which
- d) at appropriate new rates, as may be agreed or which the Engineer/Procuring Agency considers



appropriate, or

- e) if the Engineer/Procuring Agency so instructs, at day work rates set out in the Contract Data for which the Contractor shall keep records of hours of labour and Contractor's Equipment, and of Materials, used.

### 9.3 Changes in the Quantities.

- a) If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Initial Contract Price, the Procuring Agency/Engineer shall adjust the rate to allow for the change and will be valued as per sub clause 10.2.
- b) The Engineer shall not adjust rates from changes in quantities if thereby the Initial Contract Price is exceeded by more than 15 percent, except with the prior approval of the Procuring Agency.
- c) If requested by the Engineer, the contractor shall provide the Engineer with a detailed cost breakdown of any rate in the Bill of Quantities.

### 9.4 Early Warning

The Contractor shall notify the Engineer/Procuring Agency in writing as soon as he is aware of any circumstance which may delay or disrupt the Works, or which may give rise to a claim for additional payment.

To the extent of the Contractor's failure to notify, which results to the Engineer/Procuring Agency being unable to keep all relevant records or not taking steps to minimize any delay, disruption, or Cost, or the value of any Variation, the Contractor's entitlement to extension of the Time for Completion or additional payment shall be reduced/rejected.

### 9.5 Valuation of Claims

If the Contractor incurs Cost as a result of any of the Procuring Agency's Risks, the Contractor shall be entitled to the amount of such Cost. If as a result of any Procuring Agency's Risk, it is necessary to change the Works, this shall be dealt with as a Variation subject to Contractor's notification for intention of claim to the Engineer/Procuring Agency within fourteen (14) days of the occurrence of cause.

### 9.6 Variation and Claim Procedure

The Contractor shall submit to the Engineer/Procuring Agency an itemized detailed breakdown of the value of variations and claims within twenty-eight (28) days of the instruction or of the event giving rise to the claim. The Engineer/Procuring Agency shall check and if possible, agree the value. In the absence of agreement, the Procuring Agency shall determine the value.



## 10. CONTRACT PRICE AND PAYMENT

### 10.1 (a) Terms of Payments

The amount due to the Contractor under any Interim Payment Certificate issued by the Engineer pursuant to this Clause, or to any other terms of the Contract, shall, subject to Clause 11.3, be paid by the Procuring Agency to the Contractor within 30 days after such Interim Payment Certificate has been jointly verified by Procuring Agency and Contractor, or, in the case of the Final Certificate referred to in Sub Clause 11.5, within 60 days after such Final Payment Certificate has been jointly verified by Procuring Agency and Contractor;

Provided that the Interim Payment shall be caused in thirty (30) days and Final Payment in 60 days in case of foreign funded project. In the event of the failure of the Procuring Agency to make payment within 90 days then Procuring Agency shall pay to the Contractor compensation at the 30 days rate of KIBOR+2% per annum in local currency and LIBOR+1% for foreign currency, upon all sums unpaid from the date by which the same should have been paid.

### (b) Valuation of the Works

The Works shall be valued as provided for in the Contract Data, subject to Clause 10.

## 10.2 Monthly Statements

The Contractor shall be entitled to be paid at monthly intervals:

- a) the value of the Works executed less to the cumulative amount paid previously; and
- b) value of secured advance on the materials and valuation of variations (if any).

The Contractor shall submit each month to the Engineer/Procuring Agency a statement showing the amounts to which he considers himself entitled.

## 10.3 Interim Payments

Within a period not exceeding seven (07) 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 Procuring Agency shall pay to the Contractor the sum subject to adjustment for deduction of the advance payments and retention money.

## 10.4 Retention

Retention money shall be paid by the Procuring Agency to the Contractor within fourteen (14) days after either the expiry of the period stated in the Contract Data, or the remedying of notified defects, or the completion of outstanding work, all as referred to in Sub-Clause 9.1, whichever is the later.



### 10.5 Final Payment

Within twenty-one (21) days from the date of issuance of the Maintenance Certificate the Contractor shall submit a final account to the Engineer to verify and the Engineer shall verify the same within fourteen (14) days from the date of submission and forward the same to the Procuring Agency together with any documentation reasonably required to enable the Procuring Agency to ascertain the final contract value.

Within sixty (60) days from the date of receipt of the verified final account from the Engineer, the Procuring Agency shall pay to the Contractor any amount due to the Contractor. While making such payment the Procuring Agency may, for reasons to be given to the Contractor in writing, withhold any part or parts of the verified amount.

### 10.6 Currency

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

## 11. DEFAULT

### 11.1 Defaults by Contractor

If the Contractor abandons the Works, refuses or fails to comply with a valid instruction of the Engineer/Procuring Agency or fails to proceed expeditiously and without delay, or is, despite a written complaint, in breach of the Contract, the Procuring Agency may give notice referring to this Sub-Clause and stating the default.

If the Contractor has not taken all practicable steps to remedy the default within fourteen (14) days after receipt of the Procuring Agency's notice, the Procuring Agency may by a second notice given within a further twenty-one (21) days, terminate the Contract. The Contractor shall then demobilize from the Site leaving behind any Contractor's Equipment which the Procuring Agency instructs, in the second notice, to be used for the completion of the Works at the risk and cost of the Contractor.

### 11.2 Defaults by Procuring Agency

If the Procuring Agency fails to pay in accordance with the Contract, or is, despite a written complaint, in breach of the Contract, the Contractor may give notice referring to this Sub-Clause and stating the default. If the default is not remedied within fourteen (14) days after the Procuring Agency's receipt of this notice, the Contractor may suspend the execution of all or parts of the Works.

If the default is not remedied within twenty eight(30) days after the Procuring Agency's receipt of the Contractor's notice, the Contractor may by a second notice given within a further twenty-one (21) days, terminate the Contract. The Contractor shall then demobilize from the Site.



### 11.3 Insolvency

If a Party is declared insolvent under any applicable law, the other Party may by notice terminate the Contract immediately. The Contractor shall then de mobilize from the site leaving behind, in the case of the Contractor's insolvency, any Contractor's Equipment which the Procuring Agency instructs in the notice is to be used for the completion of the Works.

### 11.4 Payment upon Termination

After termination, the Contractor shall be entitled to payment of the unpaid balance of the value of the works executed and of the Materials and Plant reasonably delivered to the site, adjusted by the following:

- a) any sums to which the Contractor is entitled under Sub-Clause 10.4,
- b) any sums to which the Procuring Agency is entitled,
- c) if the Procuring Agency has terminated under Sub-Clause 12.1 or 12.3, the Procuring Agency shall be entitled to a sum equivalent to twenty percent (20%) of the value of parts of the Works not executed at the date of the termination, and
- d) if the Contractor has terminated under Sub-Clause 12.2 or 12.3, the Contractor shall be entitled to the cost of his de mobilization together with a sum equivalent to ten percent (10%) of the value of parts of the works not executed at the date of termination.

The net balance due shall be paid or repaid within twenty-eight (28) days of the notice of termination.

## 12. RISKS AND RESPONSIBILITIES

### 12.1 Contractor's Care of the Works

Subject to Sub-Clause 9.1, the Contractor shall take full responsibility for the care of the Works from the Commencement Date until the date of the Procuring Agency's/Engineer's issuance of Certificate of Completion under Sub-Clause 8.2. Responsibility shall then pass to the Procuring Agency. If any loss or damage happens to the Works during the above period, the Contractor shall rectify such loss or damage so that the Works conform with the Contract.

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

### 12.2 Force Majeure

If Force Majeure occurs, the Contractor shall notify the Engineer/Procuring Agency immediately. If necessary, the Contractor may suspend the execution of the Works and, to the extent agreed with the Procuring Agency demobilize the Contractor's Equipment.



If the event continues for a period of eighty four (84) days, either Party may then give notice of termination which shall take effect twenty eight (28) days after the giving of the notice.

After termination, the Contractor shall be entitled to payment of the unpaid balance of the value of the Works executed and of the Materials and Plant reasonably delivered to the Site, adjusted by the following:

- a) any sums to which the Contractor is entitled under Sub-Clause 10.4,
- b) the cost of his demobilization, and
- c) less any sums to which the Procuring Agency is entitled.

The net balance due shall be paid or repaid within thirty-five (35) days of the notice of termination.

## 13. INSURANCE

### 13.1 Arrangements

The Contractor shall, prior to commencing the Works, effect insurances of the types, in the amounts and naming as insured the persons stipulated in the Contract Data except for items (a) to (e) and (i) of the Procuring Agency's Risks under Sub-Clause 6.1. The policies shall be issued by insurers and in terms approved by the Procuring Agency. The Contractor shall provide the Engineer/Procuring Agency with evidence that any required policy is in force and that the premiums have been paid.

#### **Default**

If the Contractor fails to effect or keep in force any of the insurances referred to in the previous Subclause, or fails to provide satisfactory evidence, policies or receipts, the Procuring Agency 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.

## 14. RESOLUTION OF DISPUTES

### 14.1 Engineer's Decision

If a dispute of any kind whatsoever arises between the Procuring Agency and the Contractor in connection with the works, the matter in dispute shall, in the first place, be referred in writing to the Engineer, with a copy to the other party. Such reference shall state that it is made pursuant to this Clause. No later than the twenty eight (28) days after the day on which he received such reference, the Engineer shall give notice of his decision to the Procuring Agency (Superintending Engineer) and the Contractor.

Unless the Contract has already been repudiated or terminated, the Contractor shall, in every case, continue to proceed with the work with all due diligence, and the Contractor and the Procuring Agency (Superintending Engineer) shall give effect forthwith to every such decision of



the Engineer unless and until the same shall be revised, as hereinafter provided in an arbitral award.

#### 14.2 Notice of Dissatisfaction

If a Party is dissatisfied with the decision of the Engineer of consultant or if no decision is given within the time set out in Sub-Clause 15.1 here above, the Party may give notice of dissatisfaction referring to this Sub-Clause within fourteen (14) days of receipt of the decision or the expiry of the time for the decision. If no notice of dissatisfaction is given within the specified time, the decision shall be final and binding on the Parties. If notice of dissatisfaction is given within the specified time, the decision shall be binding on the Parties who shall give effect to it without delay unless and until the decision of the Engineer is revised by an arbitrator.

If a contractor is dissatisfied with the decision of the Engineer of the department or decision is not given in time then he can approach Superintending Engineer within 14 days, in case of dissatisfaction with decision of Superintending Engineer or not decided within 30 days, then arbitration process would be adopted as per clause 15.3.

#### 14.3 Arbitration

A dispute which has been the subject of a notice of dissatisfaction shall be finally settled as per provisions of Arbitration Act 1940 (Act No. X of 1940) and Rules made there under and any statutory modifications thereto. Any hearing shall be held at the place specified in the Contract Data and in the language referred to in Sub-Clause 1.5.

### 16 INTEGRITY PACT

16.1 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 Procuring Agency shall be entitled to:

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

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 Procuring Agency instructs, in the termination notice, to be used for the completion of the works at the risk and cost of the Contractor. Payment upon such termination shall be made under Sub-Clause 12.4, in accordance with Sub-Para (c) thereof, after having deducted the amounts due to the Procuring Agency under Sub-Para (a) and (c) of this Sub-Clause.



## **CONTRACT DATA**

### **Sub-Clauses of Conditions of Contract**

#### **1.1.4 The Procuring Agency means**

SINDH EMPLOYEES' SOCIAL SECURITY INSTITUTION

#### **1.1.5 The Contractor means**

BIDDER

**1.1.6 Commencement Date** means the date of issue of Engineer's Notice to Commence which shall be issued within fourteen (14) days of the signing of the Contract Agreement.

#### **1.1.7 Time for Completion:**

**One hundred eighty days (180)** of Supply, Installation, Testing, Commissioning & Handing over.

### **1.1 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 including Corrigendum and Addendum
- (g) The Drawings, if any (provided by the contractor)
- (h) The Specifications

### **2.1 Provision of Site: On the Commencement Date**

**3.1 Authorized person:** Engr. Muhammad Waseem, Superintendent Engineer, SINDH EMPLOYEES' SOCIAL SECURITY INSTITUTION

### **3.2 Name and address of Engineer's/Procuring Agency's representative**

Engr. Muhammad Waseem, Superintendent Engineer, SINDH EMPLOYEES' SOCIAL SECURITY INSTITUTION

### **3.3 Bid Security**

5% of the Bid Price

### **4.4 Performance Security:**

5% of Bid Price.



**7.2 Program:**

**Time for submission:** Within fourteen (14) days\* of the Commencement Date.

**Form of program:** Bar Chart/CPM/PERT

7.4 Amount payable due to failure to complete shall be 0.075% per day up to a maximum of (10%) of sum stated in the Letter of Acceptance (Usually the liquidated damages are set between 0.05 percent and 0.10 percent per day.)

**9.1 Period for remedying defects**

Three Months (3 months)

**11.1 Terms of Payments**

**a) Mobilization Advance**

No Mobilization advance shall be allowed.



**STANDARD FORMS**

*(Note: Standard Forms provided in this document for securities are to be issued by a bank. In case the bidder chooses to issue a bond for accompanying his bid or performance of contract or receipt of advance, the relevant format shall be tailored accordingly without changing the spirit of the Forms of securities).*

MUS

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

Guarantee No. \_\_\_\_\_

Executed on \_\_\_\_\_

( Letter by the Guarantor to the Procuring Agency)

Name of Guarantor (Scheduled Bank in Pakistan) with  
address: \_\_\_\_\_

Name of Principal (Bidder) with  
address: \_\_\_\_\_

Sum of Security (express in words and  
figures): \_\_\_\_\_

Bid Reference No. \_\_\_\_\_ Date of Bid \_\_\_\_\_

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

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted the accompanying Bid numbered and dated as above for \_\_\_\_\_ (Particulars of Bid) to the said Procuring Agency; and

WHEREAS, the Procuring Agency has required as a condition for considering the said Bid that the Principal furnishes a Bid Security in the above said sum to the Procuring Agency, conditioned as under:

- (1) that the Bid Security shall remain valid for a period of (30) days beyond the period of validity of the bid;
- (2) that in the event of;
  - (a) the Principal withdraws his Bid during the period of validity of Bid, or
  - (b) the Principal does not accept the correction of his Bid Price, pursuant to Sub-Clause 16.4 (b) of Instructions to Bidders, or
  - (c) failure of the successful bidder to
    - (i) furnish the required Performance Security, in accordance with Sub-Clause IB-21 . 1 of Instructions to Bidders, or
    - (ii) sign the proposed Contract Agreement, in accordance with Sub-Clauses IB-20.2 & 20.3 of Instructions to Bidders, the entire sum be paid immediately to the said Procuring



Agency for delayed completion and not as penalty for the successful bidder's failure to perform.

NOW THEREFORE, if the successful bidder shall, within the period specified therefore, on the prescribed form presented to him for signature enter into a formal Contract Agreement with the said Procuring Agency in accordance with his Bid as accepted and furnish within fourteen (14) days of receipt of Letter of Acceptance, a Performance Security with good and sufficient surety, as may be required, upon the form prescribed by the said Procuring Agency for the faithful performance and proper fulfillment of the said Contract or in the event of non - withdrawal of the said Bid within the time specified then this obligation shall be void and of no effect, but otherwise to remain in full force and effect.

PROVIDED THAT the Guarantor shall forthwith pay to the Procuring Agency the said sum stated above upon first written demand of the Procuring Agency without cavil or argument and without requiring the Procuring Agency to prove or to show grounds or reasons for such demand, notice of which shall be sent by the Procuring Agency by registered post duly addressed to the Guarantor at its address given above.

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

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

Guarantor (Bank)

Witness:

1. \_\_\_\_\_

1. Signature

2. Name \_\_\_\_\_

3. Title \_\_\_\_\_

Corporate Secretary (Seal)

2. \_\_\_\_\_

(Name, Title & Address)

Corporate Guarantor (Seal)



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

Guarantee No. \_\_\_\_\_

Executed on \_\_\_\_\_

Expiry Date \_\_\_\_\_

(Letter by the Guarantor to the Procuring Agency)

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 Procuring Agency) in the penal sum of the amount stated above, for the payment of which sum well and truly to be made to the said Procuring Agency, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

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

NOW THEREFORE, if the Principal (Contractor) shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the said Documents during the original terms of the said Documents and any extensions thereof that may be granted by the Procuring Agency, with or without notice to the Guarantor, which notice is, hereby, waived and shall also well and truly perform and fulfill all the undertakings, covenants terms and conditions of the Contract and of any and all modifications of 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 9, Remedying 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 Procuring Agency without delay upon the Procuring Agency's first written demand without cavil or arguments and without requiring the Procuring Agency to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the Procuring Agency's written declaration that the Principal has refused or failed to perform the obligations under the Contract, for which payment will be effected by the Guarantor to Procuring Agency's designated Bank & Account Number.

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

IN WITNESS WHEREOF, the above 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.

\_\_\_\_\_  
Guarantor (Bank)

Witness:

1. \_\_\_\_\_

1. Signature \_\_\_\_\_

\_\_\_\_\_  
Corporate Secretary  
(Seal)

2. Name \_\_\_\_\_

2. \_\_\_\_\_

3. Title \_\_\_\_\_

\_\_\_\_\_  
(Name, Title & Address)

\_\_\_\_\_  
Corporate Guarantor (Seal)



**FORM OF CONTRACT AGREEMENT**

THIS CONTRACT AGREEMENT (hereinafter called the Agreement ) made on the \_\_\_\_ day of June, 2014 between \_\_\_\_\_, Director, Directorate of Alternative Energy, Energy Department, Government of Sindh (hereinafter called the Procuring Agency ) of the one part and

\_\_\_\_\_ (add contractor's name, address and phone numbers \_\_\_\_\_) (hereinafter called the Contractor ) of the other part.

WHEREAS the Procuring Agency is desirous that certain Works, viz  
" \_\_\_\_\_ " should be executed by the Contractor and has accepted a Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

NOW this Agreement witnessed as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents after incorporating addenda, if any except those parts relating to Instructions to Bidders, shall be deemed to form and be read and construed as part of this Agreement, viz:
  - (a) The Letter of Acceptance;
  - (b) The completed Form of Bid along with Schedules to Bid;
  - (c) Conditions of Contract & Contract Data;
  - (d) The priced Schedule of Prices/Bill of quantities (BOQ);
  - (e) The Specifications; and
  - (f) The Drawings
3. In consideration of the payments to be made by the Procuring Agency to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Procuring Agency to execute and complete the Works and remedy defects therein in conformity and in all respects within the provisions of the Contract.
4. The Procuring Agency hereby covenants to pay the Contractor, in consideration of the execution and completion of the Works as per provisions of the Contract, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.



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

laws. \_\_\_\_\_ Signature of the Contactor  
Signature of the Procuring Agency

(Seal)

(Seal)

Signed, Sealed and Delivered in the presence of:

Witness:

Witness:

(Name, Title and Address)

(Name, Title and Address)



MOBILIZATION ADVANCE GUARANTEE

Guarantee No. \_\_\_\_\_

Executed on \_\_\_\_\_

(Letter by the Guarantor to the Procuring Agency)

WHEREAS the \_\_\_\_\_ (hereinafter called the Procuring Agency) has entered into a Contract for

\_\_\_\_\_

\_\_\_\_\_ (Particulars of Contract),

with

\_\_\_\_\_ (hereinafter called the Contractor).

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

AND WHEREAS the Procuring Agency has asked the Contractor to furnish Guarantee to secure the 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 Procuring Agency agreeing to make the above advance to the Contractor, has agreed to furnish the said Guarantee.

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

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

This Guarantee shall come into force as soon as the advance payment has been credited to the account of the Contractor.



This Guarantee shall expire not later than \_\_\_\_\_  
by which date we must have received any claims by registered letter, telegram,  
telex or telefax.

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

\_\_\_\_\_  
Guarantor (Scheduled Bank)

Witness:

1. \_\_\_\_\_

1. Signature \_\_\_\_\_

\_\_\_\_\_  
Corporate Secretary (Seal)

2. Name \_\_\_\_\_

2. \_\_\_\_\_

3. Title \_\_\_\_\_

\_\_\_\_\_  
(Name, Title & Address)

\_\_\_\_\_  
Corporate Guarantor (Seal)



**INDENTURE FOR SECURED ADVANCES**

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

This INDENTURE made the ..... day of .....

----- -197--" BETWEEN (hereinafter called "the Contractor" which expression shall where the context so admits or implied be deemed to include his heirs, executors, administrators and assigns) of the one part and THE GOVERNOR OF SINDH (hereinafter called "the Government" of the other part).

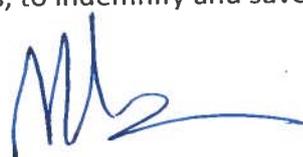
WHEREAS by an agreement, dated (hereinafter called the said agreement, the contractor has agreed to perform the under-mentioned works (hereinafter referred to as the said work):- (Here enter (the description of the works).

AND WHEREAS the contractor has applied to the .....

— ..... for an advance to him of Rupees ..... (Rs. .... ) on the security of materials absolutely belonging to him and brought by him to the site of the said works the subject of the said agreement for use in the construction of such of the said works as he has undertaken to execute at rates fixed for the finished work (inclusive of the cost of materials and labor and other charge) AND WHEREAS the Government has agreed to advance to the Contractor the sum of Rupees, (Rs..... ) on the security of materials the quantities and other particulars of which are detailed in Part II of Running Account Bill (E). the said works signed by the contractor Fin R.Form.17.Aon -----  
..... — and on such covenants and conditions as are hereinafter contained and the Government has reserved to itself the option of marking any further advance or advances on the security of other materials brought by the Contractor to the site of the said works.

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

- (1) That the said sum of Rupees ..... (Rs. -----  
- ) so advanced by the Government to the Contractor as aforesaid and all or any further sum or sums which may be advanced aforesaid shall be employed by the contractor in or towards expending the execution of the said works and for no other purpose whatsoever.
- (2) That the materials detailed in the said Running Account Bill (B) which have been (Fin R Form No. 17-A) Offered to and accepted by (he Government as security for the said amount are absolutely by the Contractors own property free from encumbrances of any kind and the Contractor will not make any application for or receive a further advance on the security of materials which are not absolutely his own property and free from encumbrances of any kind and the contractor hereby agrees, at all times, to indemnify and save harmless the Government



against all claims whatsoever to any materials in respect of which an advance has been made to him as aforesaid.

- (3) That the said materials detailed in the said Running Account Bill (B) and all other  
(Fin. R. Form No. 17 -A)

Materials on the security of which any further advance or advances may hereafter be made as aforesaid (hereinafter called the said materials) shall be used by the Contractor solely in the execution of the said works in accordance with the directions of the Divisional Officer -----  
----- (hereinafter called the Divisional Officer) and in the terms of the said agreement.

- (4) That the Contractor shall make at his own cost all necessary and adequate arrangement

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

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

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

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



recovery thereof or the enforcement of this security or otherwise by reason of (he default of the Contractor and any moneys so becoming due and

payable shall constitute a debt due from the Contractor to the Government and the Contractor hereby covenants and agrees with the Government to repay and the same respectively to it accordingly.

(8) That the Contractor hereby charges all the said materials with the repayment to the Government of the said sum of Rupees ..... -  
..... (Rs. .... ) and any further sum or sums which may be advanced as aforesaid and all costs charges damages and expenses payable under these present PROVIDED ALWAYS and it is hereby agreed and declared that notwithstanding anything in the said agreement and without prejudice to the powers contained therein if and whether the covenant for payment and repayment hereinbefore contained shall become enforceable and the money owing shall not be paid to accordingly. Once there with the Government may at any time thereafter adopt all or any of following courses as it may deem best ;-

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

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

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

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

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

In witnesses whereof the\* ----- on behalf of the Governor of Sindh and the said ----- --have hereunto set their respective hands and seals the day and first above written.



Signed, sealed and delivered by\* In the presence of

Seal  
1st witness 2<sup>nd</sup> witness

Signed, sealed and delivered by\* In  
the presence of Seal  
1st Witness witnessed

It is hereby certified that the terms and conditions have been read, agreed upon  
and signed.

M/s

---

Contact  
Person:

---

Address

---

Tel # \_\_\_\_\_ Fax #

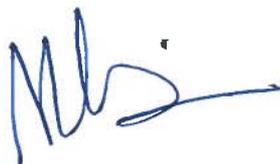
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Mobile # \_\_\_\_\_ CNIC #

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E-mail: \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE & STAMP





**TENDER FORM**  
**TECHNICAL SPECIFICATION**

**Volume - II**

- SPECIFICATION
- BOQ

**Construction of Underground & Overhead Water Tank**  
*Sindh Employees' Social Security Institution (SESSI) Landhi Hospital*

# SINDH EMPLOYEE'S SOCIAL SECURITY INSTITUTION

## TECHNICAL SPECIFICATIONS

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### UNDERGROUND & OVERHEAD WATER TANK WITH ALLIED WORKS

## SECTION GENERAL

### 1.1 Scope of Work

The work under this contract includes excavation, construction, waterproofing, testing, backfilling, piping, valve chambers, finishing and commissioning of Reinforced Cement Concrete Underground Water Tank including all allied civil and plumbing works complete in all respects as per approved drawings and instructions of Engineer In charge.

The Contractor shall provide all labor, materials, equipment, machinery, tools, scaffolding, dewatering arrangements, safety measures, testing facilities and supervision required for proper completion of the works.

### 1.2 Applicable Codes and Standards

All works shall comply with the latest editions of:

- Building Code of Pakistan (BCP)
- ACI 318 – Building Code Requirements for Structural Concrete
- ASTM International Standards
- Pakistan Standards (PS)
- Sindh Schedule of Rates (Current Year)
- W&S Department Specifications
- OSHA Safety Standards (where applicable)

Where conflict occurs, the more stringent specification shall govern.

### 1.3 Drawings & Approval

- Work shall be executed strictly as per approved drawings.
- Any discrepancy shall be reported before execution.
- Shop drawings shall be submitted for approval prior to construction.
- Bar Bending Schedule (BBS) shall be submitted and approved.

CIVIL WORKS



**SINDH EMPLOYEE'S SOCIAL SECURITY INSTITUTION**  
**TECHNICAL SPECIFICATIONS**

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**SECTION - 1**  
**EXCAVATION**

**1.1 SCOPE:**

The scope of the Specification of this Section covers earthwork and special fills for underground water tank site levelling; clearing and grubbing.

**1.2 NATURE OF SOIL AT SITE:**

The Contractor is presumed to have visited the Site before tendering and have satisfied himself as to the nature of the soil at site to be excavated, space available for storage of excavated material to be re-used, and other site and sub-soil conditions that may affect his work.

**1.3 ANTIQUITIES AND TREASURE TROVE ETC.**

Any ancient carvings, relics of antiquity, coins or other curios and treasure trove etc., which may be discovered or excavated during the progress of the work are to remain the property of the Owner or the Government as per Law and are to be handed over to them.

**1.4 CLEARING AND GRUBBING:**

Clearing and grubbing shall consist of removal of top soil & removal of trees, stumps, roots, grass, etc. Holes left by stumps and roots shall be back-filled with suitable material and compacted to the satisfaction of the Consultants. The cleared and grubbed area shall be dressed, watered and compacted to the satisfaction of the Consultants. The excavated material shall be stock-piled into suitable and unsuitable materials. The suitable material shall be used for backing and the unsuitable and surplus material shall be disposed of as per Clause 1.7.

**1.5 EXCAVATION:**

**1.5.1 General:**

Excavation shall be unclassified unless designated otherwise in B.O.Q. Excavation shall be carried out to exact dimensions, levels and grades. All excavated material shall remain the property of the Owner and no material shall be wasted by the Contractor or used for his own convenience. Excavation shall also include separation of unsuitable materials from the suitable materials that meet the specification and approval of the Consultants for use in the Works or site including all handling, rehandling, etc. and stock-piling.

**1.5.2 Excavation for Site Levelling:**

It shall consist of carrying out all cutting of material necessary to obtain indicated levels and grades.

**CIVIL WORKS**



**SINDH EMPLOYEE'S SOCIAL SECURITY INSTITUTION**  
**TECHNICAL SPECIFICATIONS**

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**1.5.3 Structural Excavation for Foundations of Structures, Appurtenances and Internal Utility Lines:**

- 1.5.3.1 Excavation for underground & overhead water tank raft / foundations and structures shall be carried out to the exact dimensions shown on the drawings and true to levels in both directions. The sides shall be left plumb or where the nature of soil so requires, these may be sloped as approved by the Consultants.
- 1.5.3.2 The Contractor shall secure and maintain excavation and keep them dry and free from water, snow or mud arising from whatever cause. He shall provide and maintain at site power driven pumps, etc. for this purpose at his own expense. The water shall be disposed of to the satisfaction of the local authorities and the Consultants. Excavated material shall be kept at a sufficient distance from the trench to prevent it from falling back and for allowing placing and removing shoring and form-work. Dewatering of sub-soil water shall be paid as a separate item.
- 1.5.3.3 The Contractor shall dress and compact, as given in Clause 1.6.1 the bottom of all excavations and the ground under concrete beds, paving, etc. to the satisfaction of the Consultants.

**1.6 FILLING:**

**1.6.1 Filling of Underground & Overhead Tanks:**

The selected excavated materials obtained under Clauses 1.5.2 and 1.5.3 shall first be placed and then the materials brought from outside the site shall be used.

Filling shall be commenced only after inspection and approval of permanent work in the excavation and removal of shoring etc., without disturbances or damage to the works and after clearing and excavation of trash. Filling shall be carried out with selected material, considered suitable by Consultants, by spreading the same in layers not exceeding 9" (230mm), watering or drying to optimum moisture content and mechanically compacting each layer to 95% of Modified Proctor Density.

Filling shall be brought up evenly on either side of structure. The excess earth left after filling shall be removed and disposed of as directed by the Consultants.

**1.6.2 Selected Granular Fill:**

The Contractor shall provide selected granular fill, spread in layers not exceeding 7" (200-mm) thickness to required lines, levels and grades including watering and compacting by mechanical means to densities as mentioned in 1.6.1 above.

**Materials:** shall be sound, hard, durable stone metal, gravel, sand or other acceptable granular material of particles of such a size as will wholly pass a 2" square sieve, and not more than 10% by weight shall pass the No. 200 mesh sieve.

**CIVIL WORKS**



**SINDH EMPLOYEE'S SOCIAL SECURITY INSTITUTION**  
**TECHNICAL SPECIFICATIONS**

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**1.6.3 Filling for Levelling of Site:**

The selected material obtained in Clause 1.4, 1.5.2 and 1.5.3 shall be filled as specified in Clause 1.6.1 above.

**1.7 DISPOSAL OF EXCAVATED MATERIAL:**

The suitable excavated material having been placed in the proper section of the work as specified, the surplus materials shall be used in other portions of the permanent site work required for the project under Contract. Suitable material that cannot be placed readily in the permanent work and excess suitable material shall be separately stock-piled at approved locations. Waste material shall be removed from the site by the Contractor and be disposed of outside the boundary or as approved by the Consultants. In case the excess suitable material is declared surplus by the Consultants, the same shall be disposed of like waste material.

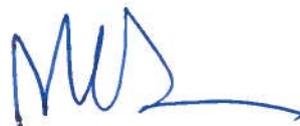
**1.8 DEWATERING OF SUB-SOIL**

Dewatering of sub-soil water from excavation of underground water tank & overhead water tank raft excavation shall be arranged by adequate process of well-pointing, bailing and/or pumping.

Well pointing shall consist of bore holes, provided with necessary strainers, blind pipes and pumping machinery, and these shall be of suitable size and depth and shall be located on both sides of the pipe trench and along the periphery of foundations to a sufficient depth to keep the excavations clear of sub-soil water during the process of construction.

Dewatering of sub-soil water by well-pointing, bailing and/or pumping shall be a continuous process round the clock during the progress of the work and until the finished work is safe from injury to the complete satisfaction of the Consultants. Any interruption in continuous pumping causing injury to the works done or under construction shall require the Contractor to repair or rebuild the works to the entire satisfaction of the Consultants at no extra cost.

All water pumped and drained from the work shall be disposed of in a manner satisfactory to the Consultants. The Contractor shall build all drains and do ditching required in this connection and shall also take necessary precautions against flooding, at no extra cost to the Owner. The Contractor shall be responsible for litigations and damages if the water pumped and drained from the work is let in a private land or property without the consent of the proprietor, and further shall pay the necessary compensation to the claimants without any obligation to the Owner.



# SINDH EMPLOYEE'S SOCIAL SECURITY INSTITUTION

## TECHNICAL SPECIFICATIONS

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### 1.9 SHORING AND SHEETING LEFT IN PLACE:

The Consultants may order, in writing, any or all shoring and sheet piling to be left in place for purpose of preventing injury to the structures, other property or persons, whether such sheeting was shown on drawings or placed at direction, or otherwise. If left in place, such sheeting shall be cut off at the elevation ordered, in any case at least 18" below the final ground surface. The sheeting remaining in place as ordered by the Consultants shall be driven tight and shall be paid for as separate item.

### 1.10 TERMITE PROOFING:

#### 1.10.2 Area to be Termite Proofed:

Sides and bottoms of all excavated area or raft and foundations sides and bottoms of the structures & three feet outside the structures; sides of all structures and appurtenances to be buried in earth or fills; bottoms of all raft. In case no plinth protection is required to be provided, a strip three feet wide shall be treated and buried in earth.

#### 1.10.3 Application:

The termite proofing chemical shall be used as per printed instructions of the manufacturer. If "Dursbon/Termidor" is used, one part of this shall be mixed with 40 parts of water (by volume) and then applied to the surfaces by spray. The surface shall be wetted thoroughly, leaving no part un-treated.

#### 1.10.4 Precautions:

The termite proofers are poisonous. The parts of the bodies of the persons and eatables should not come in contact with the chemical whether it is in pure or diluted form, and it should not be inhaled. The empty containers must be moved from the site and disposed of safely.

### 1.11.1 MEASUREMENTS:

1.11.2 All quantities shall be net, no allowance being made for the work done beyond the dimensions shown, unless ordered otherwise by the Consultants.

1.11.3 Clearing and Grubbing shall be measured by the superficial area.

1.11.4 Structural Excavation shall be measured by volume. Filling of the selected excavated material shall not be measured for separate payment.

1.11.5 Earth Work for Levelling shall be measured by volume.

1.11.6 Fill (with materials other than excavated material) shall be measured by volume.

1.11.7 De-watering of sub-soil water shall be a job item for the entire work.

1.11.8 Shoring and Sheeting Left in Place shall be measured by the actual board measure of one-inch-thick board.

CIVIL WORKS



# SINDH EMPLOYEE'S SOCIAL SECURITY INSTITUTION

## TECHNICAL SPECIFICATIONS

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### SECTION - 2 CONCRETING

#### 2.1 SCOPE:

The specification in this section covers mass Concrete, in-situ Reinforced Cement Concrete specified by nominal proportions, quality-controlled cement concrete of specified strength, cement concrete under floors and foundations specified by nominal proportions of mix as well as Pre-cast concrete work of specified mix or strength.

#### 2.2 APPLICABLE STANDARDS:

The following British/American publications of the issues indicated or current at the date of Contract form part of the specification of this Section.

BS-4449 for Hot rolled plain bar and high yield deformed bar. BS-

4482 for Hard drawn mild steel wire.

BS-4461 for Cold worked steel bar.

BS-4483 for Steel mesh fabric.

BS-4466 for Bending Dimensions and Scheduling of Bars for Reinforcement of Concrete. BS-

2640 for gas welding.

BS-5135 for metal arc welding.

BS-12 for Ordinary Portland cement.

BS-12 for Rapid hardening Portland cement. BS-146 for Portland blast furnace cement.

BS-4027 for Sulphate resisting Portland cement. BS-12 for White or Colored Portland cement. BS-

1370 for Low heat Portland cement.

BS-4246 for Low heat Portland blast furnace cement. BS-4248 for Super sulphated cement.

BS-1088 for Plywood for formwork (for fair face concrete work). BS-882 for concrete aggregates.

BS-1200 for fine aggregate for mortars. BS-1881 for testing of concrete.

BS-812 for testing of aggregate for chlorides. BS-1377 for testing of aggregate for sulphates.

ASTM C-289 for testing non-reactivity of the coarse aggregate. BS-

3148 for water.

ASTM C-260 for air entraining agents. BS-5075 for workability agents.

BS-3892 for pulverized fuel ash.

BS-4246 for blending blast furnace slag with cement.



**SINDH EMPLOYEE'S SOCIAL SECURITY INSTITUTION**  
**TECHNICAL SPECIFICATIONS**

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**2.3 EMBEDDED ITEMS:**

Full cooperation shall be given to other specialist contractors to install embedded items. Embedded items shall have been inspected and approved before concrete is placed. (Also see Clause 2.20).

**2.4 MATERIALS:**

2.4.1 Cement for concrete and mortar shall be the best Portland cement of quality conforming to the current British Standard Specifications for the type of cement specified to be used, and shall be obtained from a firm approved by the Consultants. Cement shall be stored in damp-proof shed and shall be used in the order of its delivery. Any cement which has deteriorated or has become contaminated shall not be used and shall be removed immediately from the site by the Contractor at his own expense. The cement used for all fair-faced concrete or floors shall be that necessary to obtain a light shade concrete as approved by the Consultants. Unless designated otherwise the cement to be used under this contract shall be Ordinary (grey) Portland cement conforming to BS-12.

2.4.2 Water: Only clean fresh water free from impurities and deleterious matter and without excessive salt content shall be used. Where the water is not obtained from the public supply the Contractor shall submit at his own expense any analysis, from an approved analyst, of the water he intends to use in construction, for approval of the Consultants.

2.4.3 Sand (Fine Aggregate): The sand shall be clean and gritty from Chenab and composed of hard siliceous grains and other materials as approved by the Consultants. It shall be free from clay, dust, salt, silt or any organic, alkali or bituminous matter. The materials shall be well graded and shall all pass-through BS Test Sieve measuring 3/16" square, and for reinforced concrete the maximum quantities of clay, silt and fine dust shall not be more than 3% by weight when using the test in BS-812 (1967), Clause-13. Sands with more than 5% fines or clay shall be washed.

2.4.4 Coarse Aggregates: Coarse aggregates shall be obtained from approved quarries and shall consist of clean, hard, strong, durable, non-absorbent, crushed stone free from clay, dust, salt, silt or any organic alkali or bituminous matter. Coarse aggregate shall comply with the requirements of BS-882.

The coarse aggregate shall be well graded from the maximum size specified and shall all be retained on sieve with mesh measuring 3/16" square. For use in reinforced concrete the maximum size of coarse aggregate shall be as per Table given in Clause 2.8.

Soon after award of work, the Contractor shall submit a sample enough for carrying out required tests, to Consultants, for approval. For every consignment of aggregate from the approved source, sieve analysis shall not show a variation  $\pm 5\%$  from the approved sample of aggregate for each sieve. Graded aggregate shall be stored separately on site on a concrete slab 3" thick properly subdivided so as to

**CIVIL WORKS**



# SINDH EMPLOYEE'S SOCIAL SECURITY INSTITUTION

## TECHNICAL SPECIFICATIONS

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prevent mixing and contamination of fine and coarse aggregates. Aggregates which in the opinion of the Consultants are not clean or have become mixed due to defective storage shall be removed from the site immediately.

2.4.5 Admixtures: The use of admixtures to promote workability or improvement in strength shall be only on the written instructions and approval of the Consultants. "Pudlo" or equivalent water- proofing admixture shall be used in concrete for Water Tanks and Reservoirs according to printed instructions of the manufacturers and as approved by Consultant. Unless indicated in BOQ, the rate of concrete work shall not include the cost of providing and mixing water- proofing chemicals, surface hardeners and other additives.

2.4.6 Reinforcement: Steel reinforcement shall comply with the requirement of the current British Standards for the class of reinforcement concerned. The use of re-rolled steel shall not be permitted. Certified copies of the Mill Test Reports shall accompany each consignment.

Unless designated otherwise, the minimum yield stresses shall be as under:

-For Mild Steel plain round bars	=	36000 psi.
-For Deformed Mild Steel round bars (intermediate grade).	=	40000 psi.
-For Ribbed Cold worked high grade bars	=	60000 psi.

2.4.7 Form-work: shall be of rough timbers, steel, plywood proprietary building boards and such special materials as may be shown on the drawings or approved by the Consultants. Wooden form-work shall be free from loose knot and shall be well seasoned and no unsound timber shall be used as form-work. Lining to form-work for producing smooth finish shall be of grain less wood, plywood, sheet metal or other material approved by the Consultants. Ties for form-work shall be factory fabricated removable, or fixed metal ties of approved design. They shall be of fixed or adjustable size and shall not leave a hole more than 1" away from surface.

## 2.5 SAMPLE, TESTS AND ACCEPTANCE OF MATERIALS (EXCEPT LOAD TEST OF STRUCTURE):

The Consultants shall have the right to require the Contractor at any time to draw samples of all materials used in reinforced concrete, including steel, from stockpiles at site or any other location and require the Contractor to test them himself or get them tested at Contractor's cost from an approved laboratory. The Consultants shall have the right to reject any unsuitable materials which shall be removed from the site immediately. All testing and sampling shall be done as per BS., or alternatively the following shall be followed, as may be applicable.

Sampling aggregates	AASHTO T-2.
Sieve analysis	AASHTO T-27.
Amount of material	

CIVIL WORKS



# SINDH EMPLOYEE'S SOCIAL SECURITY INSTITUTION

## TECHNICAL SPECIFICATIONS

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Passing the No. 200 sieve	AASHTO T-11.
Organic impurities	AASHTO T-21.
Mortar strength	AASHTO T-71.
Sodium Sulphate soundness	AASHTO T-104.
Friable particles	AASHTO T-112.
Abrasion loss	AASHTO T-96.

No aggregate for testing during the production of concrete shall be sampled at the discharge gates of the bins feeding the weight hopper. The Contractor, at his expense, shall provide safe and suitable facilities for obtaining the samples. No concreting work on the project will be permitted to be done until the Consultants certify in writing that they give their approval, following the performance of the necessary tests, to the use of all the materials involved in making the concrete.

The liquid-tightness test of the liquid retaining structures shall be carried out by filling and emptying (after test) the structure with the same liquid which the structure is meant to retain, except that the liquid (other than water, in case of water retaining structures) shall be provided free of cost to the Contractor. The accepted BOQ rates include costs for all samples/specimens (concrete cubes/cylinders included), checks, tests, facilities for workmanship, materials and products, required to be performed at works, field or approved labs; and replacement/rectification of defective materials/works as required by the Consultants.

### 2.6 CONCRETE UNDER FOUNDATIONS AND SUB-FLOORS:

Concrete for sub-floors and concrete pads under foundations and footings specified by proportions by volume e.g., 1:4:8 shall mean a concrete mix composed of 1-part cement, 4-parts of fine aggregate and 8-parts of coarse aggregate by volume. Aggregate shall be measured by approved gauge boxes made to dimensions suitable for measuring quantities by whole numbers of cement measures for a batch based on one bag cement. The minimum quantity of water for workability shall be used in the mix as decided by the Consultants, the mixing & batching shall be plant mix.

Coarse aggregates shall be brick ballast or stone aggregate as specified. Brick ballast shall be broken to the gauge from well burnt bricks or their bats, or from dense overburnt bricks. No under burnt bricks or bats and Jhamma that has become spongy or porous in the process of burning shall be broken up for ballast. The ballast shall be free from surkhi, leaves, straw, earth, sand or other foreign matter, and it shall be stacked in the manner and place designated by the Consultants. 1.5" gauge ballast shall be such as to all pass through a ring of 1.5" internal diameter and not more than 20% shall be more than 2" in greatest length. When screened through 3/4" x 3/4" square mesh not more than 15% shall pass through the screen.

The stone aggregate shall consist of good, hard, tough broken stone, gravel or shingle of gauge specified and from an approved source. It shall be free from dirt, clay, leaves or any organic matter, soft or decayed stone. 1.5" size aggregate shall be screened to pass wholly through a screen of 1.5" x 1.5" and be all retained on 3/16" x 3/16" square mesh and shall be well graded in between so that not more than 60% and not less than 30% shall be retained on a screen of 3/4" x 3/4" square mesh.

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Concrete shall be laid when the mix is quite fresh, gently and uniformly in layers not exceeding 6" (150-mm) in thickness. Each layer shall be thoroughly rammed and the concrete of the succeeding layer shall be immediately deposited over it.

All the layers forming the required depth of concrete shall be deposited and consolidated within half an hour of the mixing of concrete and not disturbed after the initial set has taken place. The concrete shall be consolidated with iron rammers until a little of the mortar just enough to cover the surface comes up to the surface.

The concrete shall be cured by keeping it wet for at least 10 days. Masonry work or reinforcement work may be started over it at least two days after laying, but ensuring that curing of new masonry shall be thorough enough to provide curing to the concrete as well. The back filling of the foundation shall be done after masonry work has started and the earth filled back shall be kept damp to provide curing for the concrete.

### 2.7 QUALITY CONTROLLED CONCRETE:

#### 2.7.1 RCC Works:

Concrete in RCC work when specified by strength in the BOQ shall be quality controlled concrete, the production and testing of which shall be under charge of a fully qualified and competent Quality Control Consultant. The mix of concrete to be used in the work shall be determined on the basis of quality control tests for the designated strengths.

Test shall be made of the water content and bulking of the aggregates and appropriate allowance made at the gauging/weighing machines.

The quantity of water introduced into the mixes shall be regulated and arranged to the approval of the Consultant so as to ensure a constant Water-Cement ratio. This shall be the minimum required to produce concrete in conformity with the specification requirements, but not more than 6 gallons of water shall be used with each 50-Kg of cement.

All materials shall be measured by weight separately. The weight of cement per unit weight of aggregate shall be the minimum necessary to achieve the specified strength with workability.

#### 2.7.2 Testing by Cubes:

Test Cubes: The Contractor shall, at his own expense, supply test cubes and 6" iron molds, as required for the Preliminary Test Procedure and Works Tests.

The test cubes shall be made in accordance with BS-1881. The cubes shall be removed from the molds 24 hours after casting, marked and dated, and immediately stored in water at the controlled temperature of 56-58 deg. F, or as directed, until required for testing.

The cubes shall be provided and tested on prescribed days under the direction of Consultants in a laboratory approved by the Consultants entirely at Contractor's cost. Three cubes of each mix shall be tested at 7 days and three at the age of 28 days. For cubes at the age of 28 days, the equivalent crushing strength shall be assessed at 50% above the 7 days value.

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Preliminary Test Procedure: The Contractor shall carry out, at least 5 weeks prior to commencing concreting, preliminary test on 6" cubes at his own expense for various mixes to establish the most suited mix from laboratory test results as approved by the Consultants. Six cubes shall be taken from each proposed mix, three to be tested at 7 days and three at 28 days.

The minimum crushing strength of 28 days cubes shall be not less than 33% above the specified strength requirement for Works cubes and the 7 days strength shall be not less than 2/3rd of 28 days strength. The preliminary cube tests and the Works cube Tests shall be carried out in accordance with BS-1881 and as described in BS Code of Practice-114.

Neither the mix proportions nor the source of supply of materials shall be altered without the prior approval of the Consultants. Such approval is subject to the Contractors execution of a Preliminary Test Procedure to establish adjustments required in the proportions of the mix to the satisfaction of the Consultants.

Works Tests: The minimum crushing strength of the works test cubes shall be not less than the required minimum crushing strength of the concrete in production at 28 days age or the equivalent value in the case of cubes crushed at 7 days age. Number of cubes to be taken will be same as specified in case of cylinders.

In case the results of the Works Tests as specified are unsatisfactory the concrete work shall be stopped and not proceeded with until instructed. The executed work involved shall be liable to rejection and, if so desired, shall be cut out and re-executed or otherwise rectified, at Contractor's expense. A record of all tests on the aggregates, cement and test cubes shall be kept at the site identifying the tests with the parts of the work to which they relate and a copy of such test reports shall be supplied to the Consultants within two days of performing the test.

Control Equipment: The Contractor shall provide necessary test equipment and a suitable separate room to house the equipment, particularly the following:

- i) Two sets of 6 cast iron 6" cube molds with two 4-lbs. 15" long tamping rods with ramming face one inch square.
- ii) Suitable graduated tubes for measuring the moisture content of fine aggregates.
- iii) A set of British Standard Sieves.
- iv) Suitable weighing scales.
- v) A water tank with thermostatically controlled heating suitable for curing test cubes.
- vi) Maximum and minimum thermometers.
- vii) Standard cone for slump test.



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2.7.3 Testing by Cylinders:

If cylinder strengths are specified, following procedure shall be adopted:

Concrete compressive strength requirements consist of a minimum strength at the age of 28 days and the minimum strength which must be attained before various loads or stresses are applied to the concrete.

The compressive strength of concrete will be determined from test cylinders which have been fabricated from concrete sampled and tested in accordance with AASHTO T-23 and AASHTO T-22.

A set of samples consisting of 6 cylinders shall be taken from each 75 cu.m. of each class of concrete or fraction thereof placed each day. 3 of the 6 cylinders to be tested after 7 days and 3 after 28 days.

Strength requirements as given below shall comply with:

- a) The minimum average 28 days test result of all samples tested at any time shall be the specified 28 days strength.
- b) No individual sample tested after 28 days shall show a test result lower than 85% of the required 28 days strength.

Concrete represented by one individual test that fails to comply with the requirement (b) above will be rejected unless the Contractor at his expense provides evidence that the strength and quality of the concrete placed in the work are acceptable. If such evidence consists of tests made on cores taken from the work, the cores shall be obtained and tested in accordance with the specifications of AASHTO T-24.

Should the test results fail to comply with the requirements (a) above and should any individual test show less than 85% of the specified 28 days strength, the Contractor shall make corrective changes to the Consultant's approval in the material mix proportions before placing additional concrete. In addition, such corrective changes shall be made when the compressive strength of concrete tested after 7 days indicates that the concrete will not attain the required compressive strength at 28 days.

2.7.4 The placing of concrete shall not begin until trial batches of the mix design to be used have been produced by the Contractor and tested. The trial mix proportions shall be such that the average strength of consecutive test cylinders shall be 20% higher than the specified 28 days strength and no individual test cylinder shall be below the specified strength.

2.7.5 When concrete compressive strength is specified as a pre-requisite to applying loads or stresses to a concrete structure or member, test cylinders will be cured under conditions similar to those at the casting site. The compressive strength of concrete determined for such purposes will be evaluated on the basis of individual tests.



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### 2.8 CEMENT CONCRETE SPECIFIED BY PROPORTION 1:2:4 ETC.

2.8.1 Cement concrete where specified by proportions shall be mixed in the proportions by volume using such materials which conform to specification.

4 concrete shall mean a concrete mix composed of 1-part cement, 2-parts fine aggregate and 4-parts coarse aggregate by volume. Batching shall be carried out using gauge boxes.

2.8.2 Coarse aggregate shall be crushed stone or natural gravel from approved sources ranging in size from ¾" down to 3/8" gauge (unless given otherwise in BOQ) and well graded. The aggregate shall be free from injurious amounts of soft, friable, elongated or laminated pieces and shall be free from clay, loams, etc.

The aggregate shall conform to following gradation:

% by weight passing

B.S.	Nominal size	of graded	Aggregate Sieve
	<del>1.5" to 3/16"</del>	<del>3/4" to 3/16"</del>	<del>1/2" to 3/16"</del>
1.5 inch	95 - 100	100	-
3/4 inch	30 - 70	95 - 100	100
1/2 inch	-	-	90 - 100
3/8 inch	10 - 35	25 - 55	40 - 85
3/16 inch	0 - 5	0 - 10	0 - 10

2.8.3 Mixing shall be carried out in batching plant specified in "**Mixing and Placing**", using the minimum amount of water required for workability.

2.8.4 Slump Test: The consistence of the concrete shall be measured by slump cone test in accordance with the current British Code of Practice of Concrete in Buildings and the test of the Slump shall be repeated whenever the materials are changed and whenever required by the Consultants. Ordinary concrete shall be of the consistence necessary to give complete consolidation in the shutters and around the reinforcement, shall have no excess water on the surface after compaction by approved vibratory methods and shall have smooth surface with no trace of voids, segregation or honey combing when the shutters are removed. A slump of not more than 2" for quality-controlled concrete and 2"-4" for other concrete shall be allowed.

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### 2.9 MASS CONCRETE:

Mass concrete shall be specified by proportions of Quality Controlled concrete as indicated, and shall be deposited as specified in "Mixing and Placing". Unless otherwise specified mass concrete shall be deposited gently and uniformly in layers not exceeding 9" (225-mm) thick which shall follow one another as quickly as possible to prevent any distinct joint between successive layers. The concrete in each layer shall be thoroughly compacted by working it with shovels, rodding and vibrating by approved means. Care shall be taken that the concrete is compacted closely against the face of any excavation in order that there shall be no subsequent settlement. All the layers of concrete shall be deposited and consumed within half an hour of the mixing of the batch of concrete. The Construction Joints shall be treated as specified under "Mixing and Placing".

### 2.10 PRECAST CONCRETE:

All precast concrete shall be quality controlled cement concrete of specified strength or concrete specified by mix proportions as chalked out in the BOQ and shall conform to respective specifications. Precast concrete shall conform to BS-1217 "Cast Stone" as applicable to work, and unless otherwise specified shall have a fair-faced smooth finish free from cavities, cracks, lines, or other defects and shall be even in color as approved by the Consultants which shall be carried out to their satisfaction.

Proportioning of mixes shall be determined by weigh-batching and the amount of water added to the mix shall be the minimum necessary to obtain sufficient workability to produce a dense concrete without segregation. Coarse aggregate shall be of approved crushed stone graded between 3/4" to 3/16" unless otherwise specified. Casting shall be done in molds designed to withstand vibration.

All units of precast concrete shall be made to sizes, shapes, qualities and reinforced as shown on the drawings and shall have additional reinforcement if required for handling or erection. However, the Contractor shall prepare and submit shop drawings giving all details of jointing, inserts, anchors, lifting devices, openings and the method of casting, handling and fixing, for approval of the Consultants. The cast units shall be left in the moulds until thoroughly set and cured sufficiently to achieve desired strength and shall not be built-in before four weeks of casting. Contractor must get prior approval of the system and method proposed for steam-curing or any other scheme from Consultants. All exposed eye-bolts, anchors, supporting angles, dowels, etc., shall be of heavily dipped galvanized steel and shall be cast integrally with the units at exact locations. No separate payments shall be made for such inserts, anchors, shop drawings, dowels lifting devices, surface finishes, hoisting of unit or fixing them in their final positions. The lifting devices shall be safe for at least 100% additional Impact load and made of materials sufficiently ductile to ensure visible deformation before fracture.

Units shall be well-wetted before setting them in position in cement mortar or filling between units or for anchorage by in-situ concrete. All mortar dabs and droppings shall be removed as the work is erected and on completion all exposed surfaces shall be rubbed clean.



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### 2.11 FORM-WORK:

Unless otherwise specified, formwork shall be such as will yield "Fair-faced" concrete with smooth surface except for areas to be plastered or built against any structures. Formwork shall be of wrought timber but if permitted by Consultant's steel or other building boards with steel or plywood lining or special materials may be used.

There shall be no honey-combing permitted in concrete on removal of formwork, but any pin- holes or small patching shall be made good immediately with cement mortar on striking formwork and any irregularities rubbed down smooth to the satisfaction of the Consultants.

Formwork shall be erected true to line and to the shapes required in the work. The maximum tolerance in columns and walls shall be 1/8" in 10' height in concrete checked after stripping the forms. It shall carry without deformation, the loads due to wet concrete and any constructional incidental load, and when the concrete is vibrated the shuttering shall withstand the effects of vibration without deflection, bulging, distortion or loosening of its parts. The Contractor shall be responsible for the sufficiency of all shuttering, cantering and moulds.

The formwork shall overlap the previous concreting to minimize lipping which shall not exceed 1/8" at any point and shall be completely eliminated in case of fair-faced concrete. Formwork shall be provided on both faces of concrete when the slope to horizontal of either face exceeds 30 degrees. The soffits of suspended spans of beams and cantilevers shall be suitably pre- cambered upward to eliminate sagging, on removal of shuttering, below the required level as approved by the Consultants.

Wire or similar ties shall not be left in concrete having a face exposed to the weather, any metal part to be left buried shall be 1" away from the surface. Through bolts shall be permitted provided that they are greased to allow for easy withdrawal and the holes subsequently made good.

The shuttering shall be designed so that the soffits of slabs and sides of beams, columns and walls may be removed first without vibration or shock, leaving the shuttering to the soffits of beams and their supports in position. Wedges or other suitable means shall be provided to allow accurate adjustment of the shuttering and to allow it to be removed without jarring the concrete.

Where formwork is supported from existing parts of the structure, it shall be so arranged as to produce no overstress in the structure and shall, where necessary, be built up from a solid bed.

Provision shall be made in the formwork for any openings, perforations, sinking's and of the inclusion of built-in parts as required.

All shuttering shall be thoroughly cleaned of old concrete and immediately before concreting it shall be thoroughly washed out with water, holes being provided in the shuttering to permit the escape with the water of sawdust, shavings or other rubbish.

All joints shall be sufficiently tight to prevent the leakage of grout, and if necessary, the board shall be

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planned and thickened in order that the surface against the concrete shall not be broken at bonds between the joints.

All formwork shall be removed without undue vibration or shock and without damage to concrete. The Contractor shall be responsible for the safe removal of the shuttering but, in general, formwork shall not be removed earlier than 2 days for walls, columns and sides of beams; 10 days for slabs, and 21 days for beam soffits, or as extended by the Consultants. Any work showing signs of damage through premature removal of shuttering shall be entirely reconstructed at no additional cost to the Owner. Should it be felt necessary for structural safety, temporary shoring and propping shall be maintained to the satisfaction of the Consultants.

**2.12 REINFORCEMENT:**

2.12.1 Reinforcement shall be accurately cut and bent to shapes and dimensions and shall be placed where indicated on Drawings and Specifications. Straight parts of bars shall be truly straight and bends shall be true to shape and dimensions shown on the drawings and in accordance with BS-4466. Steel shall not be bent or straightened in a manner injurious to the bars. The internal radii of bends shall be not less than twice the diameter of the bar, except that stirrups and column binders shall be bent to the size shown within a tolerance of  $\pm 1/8"$ . Bars shall be bent cold. In slabs and beams reinforcing steel shall be of adequate length to transmit stresses. Splices and laps in adjacent bars shall be staggered.

Splices in columns shall be lapped sufficiently to transfer the full stress by bond. Splices and laps not shown on the drawings shall not be measured for payment and their location shall be as approved by the Consultants.

Reinforcing steel shall be thoroughly cleaned of dirt, oil, paint, loose rust, mill scale or any coating that would reduce or destroy the bond before any concreting is done. Steel bars reduced in section shall not be used. Reinforcing steel shall not be bent or straightened in a manner injurious to the steel. The Contractor shall provide sufficient spacers, saddles, chairs and other supports of approved type to the satisfaction of the Consultants for maintaining the top reinforcement firmly in position during concreting. The bottom reinforcement of beams and slabs and columns reinforcement shall be supported by sufficient precast concrete blocks with embedded binding wire and thickness to allow the appropriate concrete cover to the reinforcement. All reinforcement shall be securely fastened together and fixed in place by binding wire in such a manner that it will not be dislodged during concreting. The binding wire shall be 16-gauge G.I. tying wire, or black annealed wire. The schedules shall be prepared in accordance with BS-4466 – Binding Dimensions and Scheduling of Bars for Reinforcement of Concrete.



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2.12.2 The thickness of concrete cover over reinforcing bars shall conform to BS CP-144, unless otherwise shown on drawings, and shall be not less than the diameter of the round bar (or 1.5 times the size of square bar), nor less than the following: -

- In footings or other members,  
poured in contact with soil, on faces 3 inch.
- For surfaces exposed to weather  
or soil after removal of formwork 2 inch.
- For beams and columns 1.5 inch.
- For slabs and walls 3/4 inch.
- For columns with spiral  
reinforcement 1.5 inch or  
1.5 times max.  
size of aggregate.

2.12.3 Spiral Reinforcement shall consist of evenly spaced continuous spirals held firmly in place and true to line by suitable number of vertical spacers. The spirals shall be of such size and so assembled as to permit handling and placing without being distorted from the designed dimensions. Anchorage of spiral reinforcement and splices shall be provided by 1.5 extra turns of spiral rod at each end of the spiral unit. The spiral shall extend from the start of column to the level of the lowest horizontal reinforcement in the overhead slab, drop panel or beam. In a column with a capital the spiral shall extend to a place of which the diameter or width of the capital is twice that of the column, otherwise shown on drawings.

2.12.4 Wire Mesh Reinforcement between expansion joints in slabs shall be continuous and shall have joints lapped at least one full mesh. Lapping of sheets shall be staggered to avoid continuous lap in either direction. Reinforcement shall be supported by standard accessories for slabs above grade and by properly sized precast concrete blocks for slabs on earth.

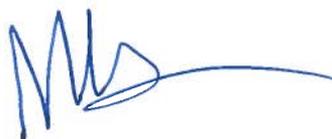
2.12.5 The Contractor shall prepare and furnish shop drawings and details for manufacture and installation of equipment, material/fitments or structural components wherever asked for by the Consultants to know and approve Contractor's proposed way of executing the work.

**2.13 MIXING AND PLACING CONCRETE:**

2.13.1 Mixing: All concrete shall be plant mix concrete.

The equipment at the mixing plant shall be so constructed that all the materials including water entering the drum can be accurately proportioned and controlled. The entire batch shall be discharged before recharging. The volume of the mixed material per batch shall not exceed the manufacturer's rated capacity of the plant. Each batch shall remain in the plant for a mixing

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period of not less than 2 minutes which shall be measured from the time when all the solid material is in the mixing drum. All the mixing water shall be introduced before 1/4<sup>th</sup> of the mixing period elapses.

The remixing of concrete which has partially hardened, with or without additional cement, aggregate or water will not be permitted.

### 2.13.2 Concreting in Extreme Weather:

Concreting in Hot Weather: Concreting shall be avoided in extremely hot weather and shall be done only in better part of the day. It should be particularly avoided in dry, hot and windy weather for members with large surface areas exposed to the weather. Aggregate shall be carefully stored under shelter and shall be sprinkled with cold water from time to time to check high temperature. Water, to be used for concreting, shall be carefully stored and, if necessary, crushed ice shall be added to bring the temperature as low as 75 deg. F in order that resulting temperature of concrete is not above 100 deg.F. Excess water shall not be added and the approved water-cement ratio shall be maintained. Use of retarders or other admixtures and additives to improve consistency shall be subject to approval of the Consultants. Curing shall be carefully watched and no part of concrete shall be exposed to direct atmosphere. Curing shall also be kept at low temperature.

Concreting in Cold Weather: When depositing concrete is unavoidable at a temperature below 36 deg. F on a falling thermometer, precautions shall be taken, to the satisfaction of the Consultants, to ensure that the concrete shall have a temperature of at least 40 deg. F at the time it is placed and that the temperature of the concrete shall be maintained at not less than 40 deg. F until it is thoroughly hardened. Suitable means shall be provided to warm the aggregate and/or mixing water, or otherwise to ensure the specified temperature. Salt or other materials shall not be used in the prevention of freezing and no frozen materials or materials containing ice or snow shall be used. The Contractor shall cut out and replace at his own expense any concrete damaged by frost.

Contractor shall so programme the work as to avoid concreting in extreme (hot and cold) weather. If concreting is necessary to be continued for the safety of the structure, as determined by the Consultants, all additional expenses to meet the above said requirements shall be borne by the Contractor.

The Contractor shall submit pour slip on approved format at least 24 hours earlier of concreting for getting the permission of the Consultants.

- 2.13.3 Placing Concrete: Shuttering and reinforcement shall be approved by the Consultants before concrete is placed. The concrete may be conveyed from the mixing place by any suitable method provided there is no segregation or separation or loss of ingredients, and it is placed in its final position before initial setting of the cement has taken place and within 20 minutes of the addition of water in the mix. When placed from a height of more than 3', chutes etc. shall be employed as approved by the Consultants to ensure that no segregation takes place.

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The concrete shall be efficiently tamped, and compacted during the operation of placing. It shall be thoroughly worked around reinforcement steel, work and embedded fixtures and into the corners of the forms so that no voids or honey combing occur and no reinforcement or embedded fixtures are displaced. Excessive tamping and vibration shall be avoided to prevent segregation.

Forms for columns or walls and thin sections of considerable height shall be provided with openings and other devices that will prevent segregation and accumulation of hardened concrete on the forms or reinforcement above the level of concrete.

A record shall be kept by the Contractor of the date of placing concrete in each part and section of the Works.

Any concrete which is honeycombed or otherwise unsatisfactory shall be cut and re- executed or otherwise rectified to the satisfaction of the Consultants at Contractor's cost.

The workmen carrying concrete to the site and all other workmen moving about before the concrete is laid shall move only on boards placed for the purpose and no person shall be allowed to walk on the steel reinforcement itself.

Prior to the laying of concrete on walls, bearing plates and at other points as may be directed by the Consultants, the surface will be brought to a true, hard, smooth level using a cement sand mortar in the ratio of 1-part of cement to 3-parts of sand. Two layers of building paper weighing 8-lbs./100 Sft. per layer will then be laid flat to separate the concrete from the surface on which is to be laid. This work of plaster and building paper shall be paid for separately.

Rock surfaces upon which concrete is to be placed shall be approximately level, clean, free from oil and other objectionable coating, water, mud, debris, damaged rock and loose semidetached or unsound fragment, and shall be sufficiently rough to ensure satisfactory bond with the concrete. Faults or seams shall be cleaned to firm rock on the sides and to a depth approved by the Consultants. Before concrete is placed rock surfaces shall be prepared and cleaned as above.

- 2.13.4 Compacting: All concrete shall be compacted by means of internal vibrators, but surface and external vibrator may be used either in conjunction with them or alone, as approved by the Consultants.

The Contractor shall employ an adequate number of vibrators of suitable characteristics, so spaced that their effective ranges overlap, and properly trained personnel shall operate them to the satisfaction of the Consultants.



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Vibration shall be continued until the concrete is fully compacted and when air bubbles cease to break the surface. Internal vibrators shall not touch the shutters and shall not be used to push the concrete along the forms.

- 2.13.5 Construction Joints: The concrete shall be placed so that the number of Construction Joints shall be as few as possible; construction joints shall be made on horizontal and vertical planes only unless otherwise shown on the drawings, and only at places approved by the Consultants. Concrete shall be carried continuously up to construction joints, and such sequence of pouring shall be carried out as has been approved by the Consultants.

Where concreting is stopped on a vertical plane, approved stop board shall be provided and provision made to allow the reinforcement to pass through the joints without being temporarily bent or otherwise displaced. In the case of slabs or walls, unless otherwise shown of a different size on Drawings, 2"x1" fillet slightly splayed to permit easy removal shall be nailed on the stop board to form a joggle running throughout the length of the joint. Any concrete flowing past the joint shall be removed as soon as initial set occurs. When concreting against a hardened vertical surface is resumed the surface shall be well roughened and wetted. When concreting is stopped on a horizontal plane the surface shall be well roughened and thoroughly cleaned of all scum as soon as the concrete has set. At horizontal joints in walls at all external surfaces, unless otherwise shown, 2" by 1" slightly splayed fillet shall be nailed to the shuttering 1" above and below the joint, the fillet being removed before placing the next lift concrete. When work is resumed, the joint shall be well washed.

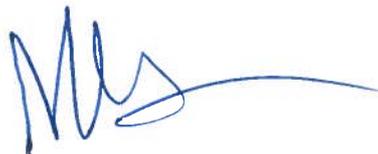
On the soil face of all joints and were shown on drawings 1" x 1", or as shown on drawings, joint sealer shall be applied hot, which shall be paid for separately.

In case of continuous retaining walls more than 30' long, concreting shall be carried out such that vertical gaps of about 2' width with vertical joggled ends at both sides are left out at about 30' distances to be filled in after 14 days of concreting adjacent sections.

- 2.13.6 Expansion Joints: Expansion and contraction joints shall be formed accurately in the positions and to the dimensions and details shown on the drawings and as directed. But the preformed/molded filler and treatment with sealer, Seal-a-Strip and metallic covering shall be paid for separately.

### 2.13.4 PROTECTION AND CURING:

- 2.14.1 Concrete after it is placed and during the early stages of hardening shall be protected from the harmful effects of sunshine, rain, wind, cold, running water and shock. It shall be suitably covered for protection from frost, flowing water or rain and to avoid loss of moisture. Concrete shall be prevented from drying out for at least ten days or as directed by the Consultants.



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Curing shall be started as soon as free water has disappeared from the surface of the concrete after placing and finishing generally after 24 hours. Curing of formed under-surfaces of beams, slabs, etc. shall be accomplished by moist curing with forms in place for the full curing period, or if forms are removed prior to the end of the curing period, by other approved means.

- 2.14.2 Moist Curing: Concrete surfaces shall be covered with burlap, or other approved fabric mats, kept continually wet.
- 2.14.3 Water-proof Paper Curing: Surfaces shall be covered with water proof paper lapped 4" at edges and ends, and sealed with mastic or pressure sensitive tape not less than 1.5" wide. Paper shall be weighted to prevent displacement and tears or repaired by patching.
- 2.14.4 Polythene Sheeting: Concrete surface shall be completely covered by polythene sheets. Where single sheet does not cover entire surface the ends and edges shall be lapped not less than 4" and sealed with adhesive tape.

### CONCRETE POURS AND LIFTS:

Unless otherwise shown on drawings, specified or indicated in the BOQ, concrete shall be poured to predetermined construction joints, pour joints and for vertical members in lifts and heights as directed by the Consultants.

Concrete shall be poured in one continuous operation in horizontal layers of uniform thickness not exceeding 12" (300-mm) in depth and in walls at such rate of rise that adequate vibration can be ensured to avoid honeycombing and deformations of the formwork beyond 1/16" in 10 ft. at any face.

### 2.15 ALTERNATE BAY CONSTRUCTION:

Large areas of non-suspended flooring shall be of alternate bay construction. Unless otherwise specified or shown on drawings, the area of each bay shall not exceed 300 sq.ft. for reinforced floors, or as approved by the Consultants. Edges of slabs shall be perpendicular and shall be thickly coated with bitumen before adjoining slabs are laid. Reinforcement shall stop 1.5" from the edges of the slabs.

### 2.16 CONFORMITY TO SIZES, LEVELS, SLOPES, THICKNESS AND SINKING:

All concrete shall be cast to conform to sizes, levels, and slopes and shall be thickened for supporting walls and sunk for trenches, pipes and ducts, etc. including leaving out holes, pockets, recesses, chases, drip courses and the like as shown on the drawings and as directed.



# SINDH EMPLOYEE'S SOCIAL SECURITY INSTITUTION

## TECHNICAL SPECIFICATIONS

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### 2.17 LOAD TESTING OF STRUCTURES:

Following loading test shall be carried out by the Contractor if the Consultants are dissatisfied with a part or whole of the structures, to determine its acceptability.

The testing shall be carried out in accordance with BS: CP-114 and as directed by the Consultants. The test need not be performed until the expiry of 56 days of effective hardening of the concrete. In such test, the structure would be subjected to a superimposed load used for design, and this load should be maintained for a period of 24 hours before removal. If within 24 hours of the removal of the load, the structure does not show a recovery of at least 75% of the maximum deflection shown during the 24 hours under load, the test loading would be repeated. The structure would be considered to have failed to pass the test if the recover after the second test is not at least 75% of the maximum deflection shown during the second test. If during the test or upon removal of the load the structure shows signs of weakness, undue deflection or faulty construction, it would be reconstructed or strengthened as necessary at Contractor's cost.

If test result shows that, in the opinion of the Consultants, the work meets the specification, the actual cost of the test as certified by the Consultants shall be borne by the Owner.

### 2.18 CONCRETE FINISHES:

Concrete shall be suitably cast, formwork lined with marine quality plywood as approved, and vibrated to achieve smooth, uniform, plane surface "fair-faced" finish, conforming to "D" type finish, per BS: CP-110, free from voids and defects unless otherwise given in BOQ or where plaster is shown on drawings or required by the Consultants. All finishes to concrete or precast portions shall conform to approved samples of finish prepared before commencing work.

### 2.19 EMBEDDED ITEMS (Also see Clause 2.3):

The Contractor shall start placing and pouring of concrete only after all the attachments, fastenings, sleeves, hooks, hold-fasts, dove-tail slots, dowels, inserts and bolts, etc. are in place. Providing and installing all the embedded items shall be paid for separately unless given otherwise in BOQ. In case nature of work requires embedded items as shown in BOQ or drawings, the Contractor shall include in his rate the cost of provision of holes/recesses, etc.



# SINDH EMPLOYEE'S SOCIAL SECURITY INSTITUTION

## TECHNICAL SPECIFICATIONS

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### 2.20 MEASUREMENTS:

Concrete shall be measured by volume, superficial area, length or numbers as given in BOQ. Unless given otherwise in BOQ, columns shall be measured through the beams and slabs. Beams shall be measured as ribs excluding the slab thickness. Columns attached to walls shall be measured as walls. All openings exceeding one square foot of superficial area shall be deducted. Weights of steel reinforcing bars shall be the product of the standard BS or ASTM (whichever is applicable) theoretical weight per unit length of each bar of any diameter and the length of that bar including length for bends, cranks, hooks and only those overlaps/splices which are shown on drawings. In case steel reinforcing bars are issued/supplied by Owner and cost of the same is to be recovered from Contractors' bills, actual weights of bars per unit length shall be taken to calculate weight for payment at BOQ rate. Quantities of work executed in excess of the dimension shown on drawings shall not be measured and paid for.

### RATES AND PAYMENTS:

The rates shall be comprehensive and full compensation for everything furnished and done to complete the items in all respects as per Specifications of this section and as described below:

- The concrete mix proportions (nominal by volume) and/or the concrete strengths (which shall be the 28 days 6" cubes crushing strengths unless cylinder strengths are called for in BOQ) shall be as specified in BOQ.



# SINDH EMPLOYEE'S SOCIAL SECURITY INSTITUTION

## TECHNICAL SPECIFICATIONS

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### **SECTION - 3** **WATERPROOFING**

#### **3.1 Integral Waterproofing**

Approved waterproofing admixture shall be added in concrete as per manufacturer's recommendation.

#### **3.2 External Waterproofing (Underground Tank)**

- Surface cleaning and priming.
- Two coats polymer modified cement slurry.
- Minimum thickness 2mm.
- Protection screed if required before backfilling.

#### **3.3 Internal Waterproofing**

- Food grade waterproof cementitious coating.
- Two coats minimum.
- Suitable for potable water.

### **SECTION - 4** **PIPEWORK & VALVES**

#### **4.1 GI Pipes**

- Medium Class GI Pipes conforming to Pakistan Standards.
- Hydrostatic testing at 200 ft head.
- Proper supports and clamps.
- All fittings leak proof.

#### **4.2 Sluice Valves**

- ISI / PS marked.
- Flanged ends.
- Proper alignment during installation.
- Rubber gasket packing.



# SINDH EMPLOYEE'S SOCIAL SECURITY INSTITUTION

## TECHNICAL SPECIFICATIONS

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### **SECTION - 5** **TESTING & COMMISSIONING**

#### **5.1 Water Tightness Test**

- Tank shall be filled gradually.
- Full capacity for 72 hours.
- Allowable drop: Not more than 2mm per 24 hours (evaporation excluded).
- Any leakage shall be repaired and retested.

#### **5.2 Concrete Testing**

- 
- Minimum 3 cubes per 50 m<sup>3</sup> of concrete.
- Slump test for every batch.
- Steel test certificates mandatory.

### **SECTION - 6** **FINISHING WORKS**

Includes:

- Cement plaster (1:3)
- Concrete topping
- Valve chambers
- Precast slabs

All finishing works shall be properly aligned, cured and protected.

### **SECTION - 7** **SAFETY REQUIREMENTS**

- Safety helmets, gloves, shoes compulsory.
- Barricading around excavation.
- Night warning lights.
- Safe access ladders.
- Confined space ventilation before tank entry.



# SINDH EMPLOYEE'S SOCIAL SECURITY INSTITUTION

## TECHNICAL SPECIFICATIONS

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### **SECTION - 8** **GENERAL CONDITIONS**

#### **8.1 Contractor's Responsibility**

- Contractor shall be fully responsible for structural stability during construction.
- Any damage to adjacent structures shall be repaired at contractor's cost.
- Contractor shall verify site levels before commencement.
- Contractor shall arrange water and electricity at site.

#### **8.2 Material Approval**

- All materials shall be approved before use.
- Rejected material shall be removed within 24 hours.
- Test certificates required for cement and steel.

#### **8.3 Workmanship**

- Work shall be executed by skilled labor.
- Poor workmanship shall be dismantled and redone at contractor's expense.

#### **8.4 Measurement & Payment**

- Measurement shall be as per SSR Sindh (Current Year).
- No extra payment for:
  - Dewatering
  - Scaffolding
  - Minor tools
  - Curing water
  - Testing
  - Surface preparation

#### **8.5 Defects Liability**

- Contractor shall remain responsible for defects for 12 months after completion.
- Any leakage or structural defect shall be rectified without additional cost.

#### **8.6 Completion & Handover**

- Tank shall be cleaned before handover.
- All debris removed.
- As-built drawings shall be submitted.
- Completion certificate shall be issued after successful testing.



## Underground Water Tank Works at Landhi Hospital

*Sindh Employees Social Security Institution*

S.No	Description	Amount
1	SCHEDULE ITEMS (CIVIL ITEMS)	
2	NON-SCHEDULE ITEMS (CIVIL ITEMS)	
	<b>TOTAL AMOUNT SCHEDULE &amp; NON SCHEDULE ITEMS</b>	

*M/S*

## Bill of Quantities for Underground Water Tank Works at Landhi Hospital

*Sindh Employees Social Security Institution*

SECTION A		SCHEDULE ITEMS (CIVIL ITEMS)				
S.No	Schedule NO	Description	Unit	Qty	Rate	Amount
		<b>Excavation</b>				
1	157/S	Excavation for tanks and reservoir in all kind of soils murum hard average or soft i/c trimming and dressing sides to true alignment/design sections/profiles and shape levelling of beds of trenches to correct level and grade i/c laying of earth in 6" layer for construction of banks and dressing and disposal of surplus earth. Excavated earth within a one chains as directed by Engineer In charge i/c providing fence guards, required lift up to 5 ft. (1.52m) and lead up to one chain (30.5m)	%Cft	48,000		
		<b>Lean</b>				
2	25/5	Cement concrete plain including placing compacting, finishing and curing, complete (including screening and washing of stone aggregate without shuttering.				
a	F	Ratio 1:4:8	Pcft	2,200		
		<b>Concrete</b>				
3	25/6ai	R.C.C work in roof slab, beams, column, rafts, lintels and other structural members laid in situ or precast laid in position complete in all respects. (II) Ratio 1 : 1-1/2 : 3 90 Lbs of cement, 1-	Pcft	13,000		
		<b>Reinforcement</b>				
4		Fabrication of deformed steel reinforcement for cement concrete including cutting, bending, laying in position, making joints and fastenings including cost of binding wire (also includes removal of rust from bars.)				
a	26/8b	Grade-60	PCWT	1,660		

*Mb*

5	209/2	Manufacturing and supplying of R.C.C ring slab of 21" inch inside and 36" dia outside 7.5" inch width and 6" inch thick i/c 3/8" dia tor steel bar two concentric rings with 3/8" inch dia 08 Nos cross linked bars welded and two sunk type hooks casted in a 1:1-1/2:3 concrete with embedded 15kg C.I frame in perfect position including transportation charges for an average lead of 20Km per trip from casting yard to town office. (A minimum of 25 slabs per trip will be transported)	Each	2		
		<b>Plaster</b>				
6	25/7i	P/Applying Hi Bond (Sealer) water proofing polymer Modified cements slurries (WPMCS) to be used as water proofing, anticorrosion, weather resistance or curing membrane for fresh concrete having thickness up to 2mm in two coats up to 20' height trowel finish grey or colored i/c preparing the surface for application as directed by Engineer In charge.	Psft	3,636		
7	140/8	Constructing small wheel valve chamber clear inside size 12" x 12" x 12" with walls of 9" thick of B.B in cement mortar 1:3 over 4" thick cement concrete 1:3:6 cement plastered 1/2" thick 1:3 inside i/c supplying & fixing C.I light weight manhole cover with frame and locking arrangement of 12" x 6" clear opening etc complete.	Each	2		
8	182/11	Fixing of sluice valves with 2-cast iron tapieces, one end flanged and other with socket including the cost of nuts, bolts and rubber packing, labor etc complete				
a	3	6 Inch	Each	2		
9	27/22	Providing and laying 1:3:6 Cement concrete solid Block masonry wall set in 1:6 cement mortar in ground floor superstructure including raking out joint and curing etc, complete.	PCft	600		
10	52/10	Cement plaster 1:3 up to 16' height 3/4 thick	Psft	2,800		
				<b>TOTAL AMOUNT</b>		



SECTION B		NON_SCHEDULE ITEMS (CIVIL ITEMS)				
S.No	Schedule NO	Description	Unit	Qty	Rate	Amount
1		Providing & fixing of G.I. pipes dia 100 mm specials and clamps etc. including fixing complete in all respect as per engineer instructions.	Rft	3,000		
2		Wall Mesh	Sq.ft	6,480		
3		Back Filling	Cft	8,000		
4		Providing and laying of Stone Soling	Psft	1,800		
5		Watter Stoper	Rft	450		
6		Anti termite spray	Psft	3,098		
7		SS Monkey Ladder (24" width)	Rft	36		
			<b>TOTAL AMOUNT</b>			

*MU*

## Overhead Water Tank Works at Landhi Hospital

*Sindh Employees Social Security Institution*

S.No	Description	Amount
1	SCHEDULE ITEMS (CIVIL ITEMS)	
2	NON-SCHEDULE ITEMS (CIVIL ITEMS)	
3	SCHEDULE ITEMS (ELECTRICAL ITEMS)	
4	NON-SCHEDULE ITEMS (ELECTRICAL ITEMS)	
5	NON-SCHEDULE ITEMS (PLUMBING ITEMS)	
	<b>TOTAL AMOUNT SCHEDULE &amp; NON SCHEDULE ITEMS</b>	

*M/S*

**Bill of Quantities for Overhead Water Tank Works at Landhi Hospital**  
*Sindh Employees Social Security Institution*

SECTION A		SCHEDULE ITEMS (CIVIL ITEMS)				
S.No	Schedule NO	Description	Unit	Qty	Rate	Amount
		<b>Excavation</b>				
1	157/S	Excavation for tanks and reservoir in all kind of soils murum hard average or soft i/c trimming and dressing sides to true alignment/design sections/profiles and shape levelling of beds of trenches to correct level and grade i/c laying of earth in 6" layer for construction of banks and dressing and disposal of surplus earth. Excavated earth within a one chains as directed by Engineer In charge i/c providing fence guards, required lift up to 5 ft. (1.52m) and lead up to one chain (30.5m)	%Cft	20,336		
		<b>Concrete</b>				
2	25/6ai	Reinforced cement concrete work				
		R.C.C work in roof slab, beams, column, rafts, lintels and other structural members laid in situ or precast laid in position complete in all respects. (II) Ratio 1 : 1-1/2 : 3 90 Lbs of cement, 1-	Pcft	8,200		
		<b>Reinforcement</b>				
3		Fabrication of deformed steel reinforcement for cement concrete including cutting, bending, laying in position, making joints and fastenings including cost of binding wire (also includes removal of rust from bars.)				
a	26/8b	Grade-60	PCWT	450		

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		<b>Lean</b>				
4	25/5	Cement concrete plain including placing compacting, finishing and curing, complete (including screening and washing of stone aggregate without shuttering.				
a	F	Ratio 1:4:8	Pcft	1,250		
		<b>Plaster with water Proofing</b>				
5	25/7i	P/Applying Hi Bond (Sealer) water proofing polymer Modified cements slurries (WPMCS) to be used as water proofing, anticorrosion, weather resistance or curing membrane for fresh concrete having thickness up to 2mm in two coats up to 20' height trowel finish grey or colored i/c preparing the surface for application as directed by Engineer In charge. Unit: Psft   Qty: 1040   Rate: 56.71   Amount: 58978.4	Psft	1,600		
6	140/8	Constructing small wheel valve chamber clear inside size 12" x 12" x 12" with walls of 9" thick of B.B in cement mortar 1:3 over 4" thick cement concrete 1:3:6 cement plastered 1/2" thick 1:3 inside i/c supplying & fixing C.I light weight manhole cover with frame and locking arrangement of 12" x 6" clear opening etc complete.	Each	2		
7	182/11	Fixing of sluice valves with 2-cast iron tapieces, one end flanged and other with socket including the cost of nuts, bolts and rubber packing, labor etc complete				
		6 Inch	Each	2		

*MS*

8	193/1 ix	Providing G.I. pipes specials and clamps etc. including fixing cutting and fittings complete with and including the cost of breaking through walls and roof making good etc. painting 2 coats after cleaning the pipe etc. with white zinc paint with pigment to match the color of the building and testing with water to a pressure bead of 200 feet and handling.				
a	f	Dia 4" inch	Rft	3,000		
			<b>TOTAL AMOUNT</b>			

SECTION B		NON_SCHEDULE ITEMS (CIVIL ITEMS)				
S.No	Schedule NO	Description	Unit	Qty	Ratr	Amount
1		Providing and laying of Stone Soling	Psft	729		
2		Water Stoper	Rft	150		
3		Anti termite spray	Psft	1,156		
4		SS Monkey Ladder (24" width)	Rft	55		
5		Anti-Corrosion Protection for Underground Pipes Providing and applying anti-corrosion treatment to underground M.S./G.I. pipes including surface preparation, primer, two coats bitumen coating and Denso tape wrapping complete in all respects.	Rft	3,000		
6		Wall Mesh	Sq.ft	4,500		
7		MS Pipe Sleeves 8" dia including Road cutting, complete in all aspects.	Rft	30		
			<b>TOTAL AMOUNT</b>			

*M/S*

SECTION C		SCHEDULE ITEMS (Electrical)				
S.No	Schedule NO	Description	Unit	Qty	Ratr	Amount
1	231/34	Providing & laying (Main or Sub Main) PVC insulated with size 4-7/.050 (10mm <sup>2</sup> ) copper conductor in 1½" dia PVC conduit on surface	MTR	550		
2	236/103	Wiring for plug point with 3/.029 PVC insulated wire in 20mm (¾") channel Patti on surface as required	p/point	24		
3		S/I of following Size PVC Conduit / Channel Patti on surface and concealed in wall column ceiling etc I/C all conduit channel accessories etc such as Bends, Elbows, Socket I/Box, R/Block etc as required for main to sub main wiring main wiring similar purpose.				
A	249/249	¾"	Prft	1,200		
			<b>TOTAL AMOUNT</b>			



SECTION D		NON_SCHEDULE ITEMS (Electrical)				
S.No	Schedule NO	Description	Unit	Qty	Ratr	Amount
1		<b>Distribution Board:</b> Supply, installation, testing and commissioning of floor-mounted / wall-mounted Pump Control Distribution Board suitable for 7.5–10 HP, 3-Phase, 380V motor, complete with: Main MCCB (adjustable thermal-magnetic protection) Contactor + Thermal Overload Relay Auto/Manual Selector Switch Float Switch / Level Controller for automatic start/stop Phase Failure & Phase Sequence Relay Under/Over Voltage Protection Dry run protection (optional but recommended) Indication lamps (R-Y-B, Pump ON, Trip) Earthing terminal & internal wiring Powder-coated MS enclosure (IP54 minimum)	Nos	1		
2		Bulkhead light Fixtures 24W, IP 66	Nos	24		
3		Flood Light 150 Watts, IP-66	Nos	12		
			<b>TOTAL AMOUNT</b>			

*M/S*

SECTION E		NON_SCHEDULE ITEMS (Plumbing)				
S.No	Schedule NO	Description	Unit	Qty	Ratr	Amount
1		Vent pipe M/S 6inch dia	Nos	4		
2		Iron M/S Tank Cover	Nos	2		
3		300 GPM Centrifugal Pumping System Supply, installation, testing and commissioning of 300 GPM horizontal centrifugal pump complete with, 3-Phase 380V motor, base frame, coupling, check valve, gate valve, control panel, foundation grouting, power cabling and all necessary accessories required for complete and operational overhead tank filling system.	Set	2		
			<b>TOTAL AMOUNT</b>			

*M/S*

**UNDERGROUND & OVERHEAD  
WATER TANK**

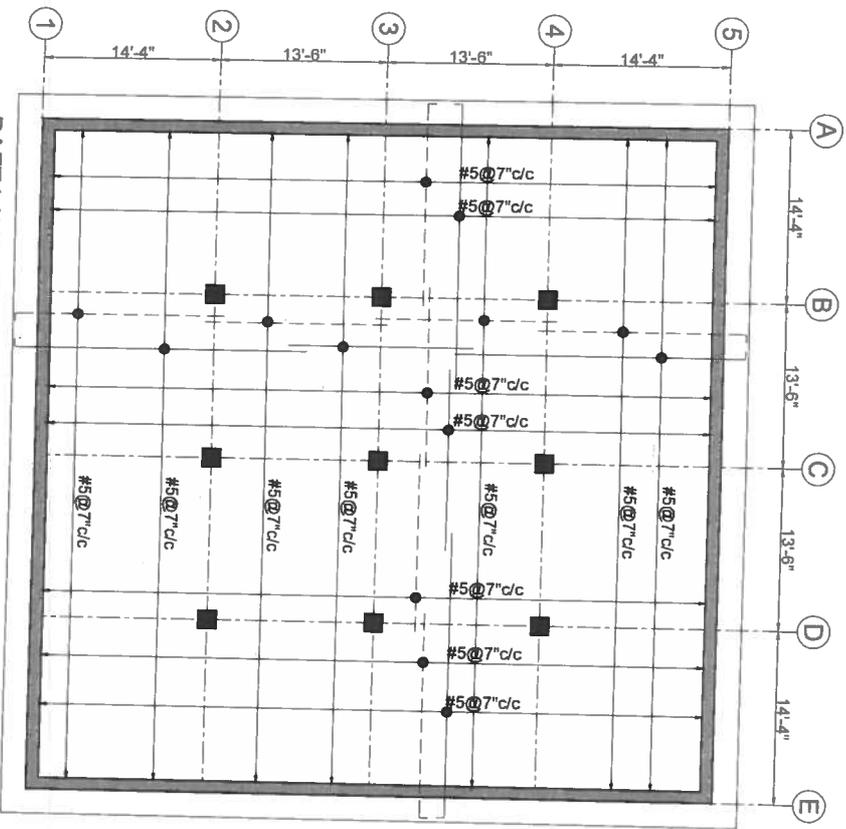
**TENDER DRAWINGS**

# **UNDERGROUND WATER TANK**

## **STRUCTURE**

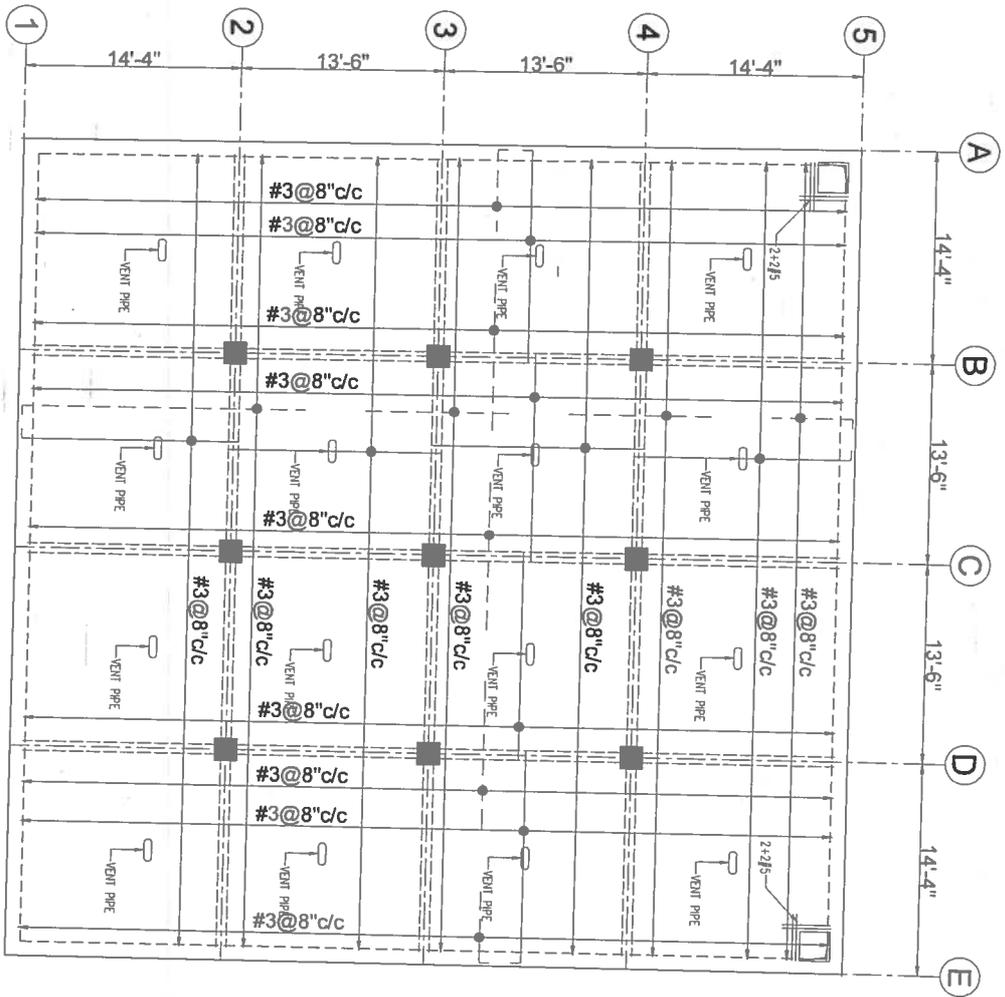
NOTE:-  
 AS PER THE GEOTECHNICAL INVESTIGATION REPORT, THE GROUNDWATER TABLE IS LOCATED APPROXIMATELY 1.2 TO 1.5 METERS BELOW THE NATURAL GROUND LEVEL (NGL). DEWATERING OPERATIONS MUST BE MAINTAINED CONTINUOUSLY AND MUST NOT BE DISCONTINUED UNTIL ALL BACKFILLING ACTIVITIES ARE FULLY COMPLETED.

**RAFT LAYOUT PLAN**



CLIENT:		PROJECT:		DRAWING STATUS:		DRAWN BY:		DATE:		DWG NO:	
SINDH EMPLOYEES SOCIAL SECURITY INSTITUTION (SESSI)		SESSI HOSPITAL LANDHII UNDERGROUND WATER TANK		STRUCTURE		AAMIR		07-02-26		ST-01	
		DRAWING TITLE:		DRAWING STATUS:		DESIGN BY:		SCALE:		JOB ID:	
		FOOTING LAYOUT PLAN		TENDER DRAWINGS		FARHAN		N.T.S			
						CHECKED BY:					



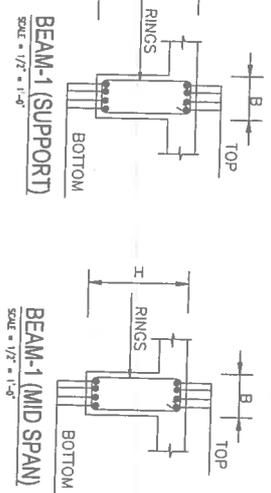
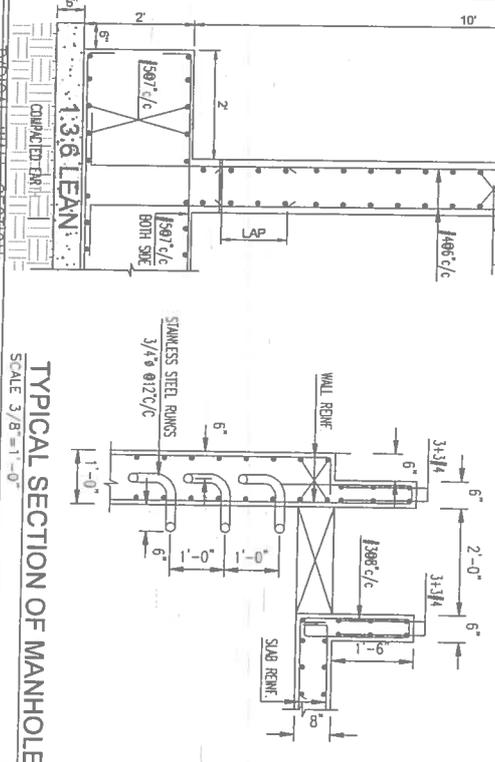
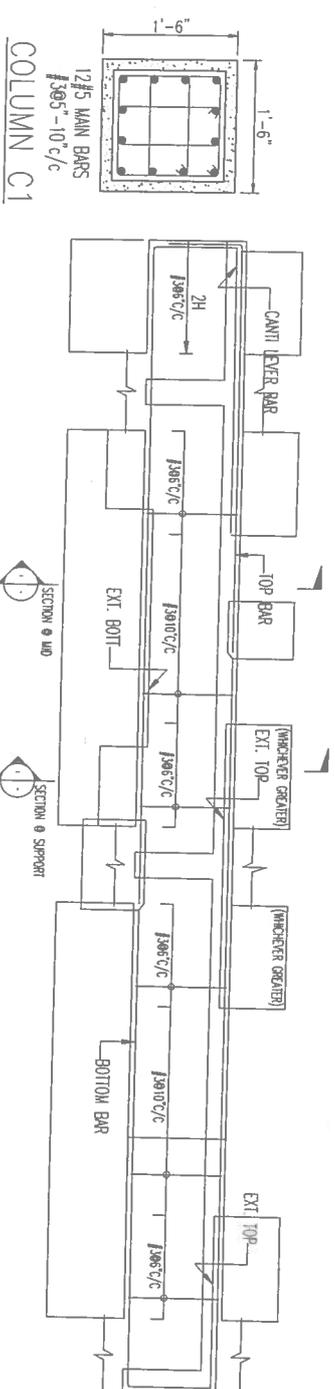


**TOP SLAB PLAN**

CLIENT		PROJECT:		DRAWING STATUS		DRAWN BY:		DATE:		DMS NO:	
SINDH EMPLOYEES SOCIAL SECURITY INSTITUTION (SESSI)		SESSI HOSPITAL LANDHII UNDERGROUND WATER TANK		TENDER DRAWINGS		AAAMR		07-02-26		ST-03	
DRAWING:		TITLE:		DRAWING STATUS:		DESIGN BY:		CHECKED BY:		SCALE:	
STRUCTURE		TOP SLAB PLAN		TENDER DRAWINGS		FARHAN		N.T.S		JOB ID.	

### SCHEDULE OF BEAMS

BEAM MARK	SIZE		BOTTOM BARS		TOP BARS		MID DEPTH	CANTILEVER	RINGS	
	B	H	CONTINUOUS	EXT. BOT.	CONTINUOUS	EXT. TOP CORNER			EXT. TOP MIDDLE	RING X
B-1	12"	30"	3#6		3#6				#3@4"C/C	#3@8"C/C



CLIENT: SINDH EMPLOYEES SOCIAL SECURITY INSTITUTION (SESSI)

PROJECT: SESSI HOSPITAL LANDHI UNDERGROUND WATER TANK

DRAWING STATUS: TENDER DRAWINGS

DRAWING TITLE: TYPICAL SECTIONS

DRAWN BY: AAMIR  
DESIGN BY: FARHAN  
CHECKED BY:

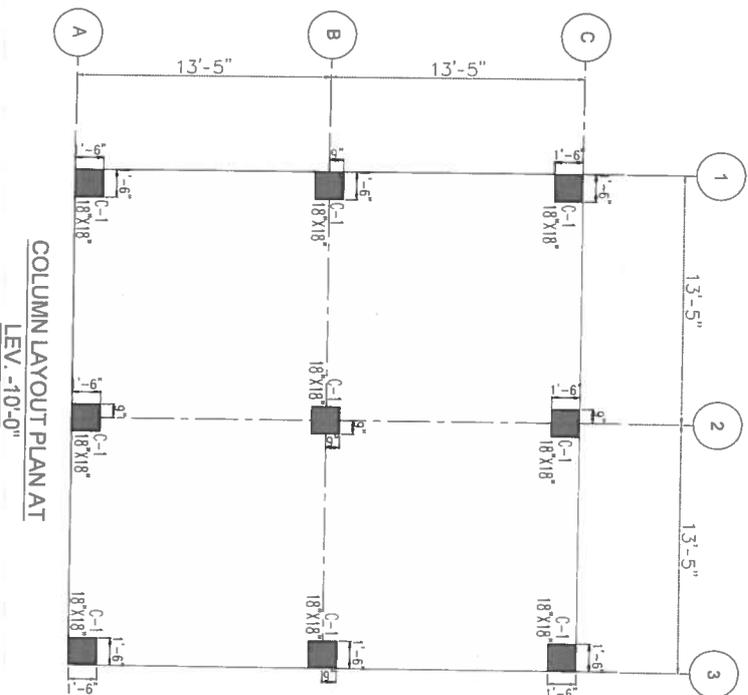
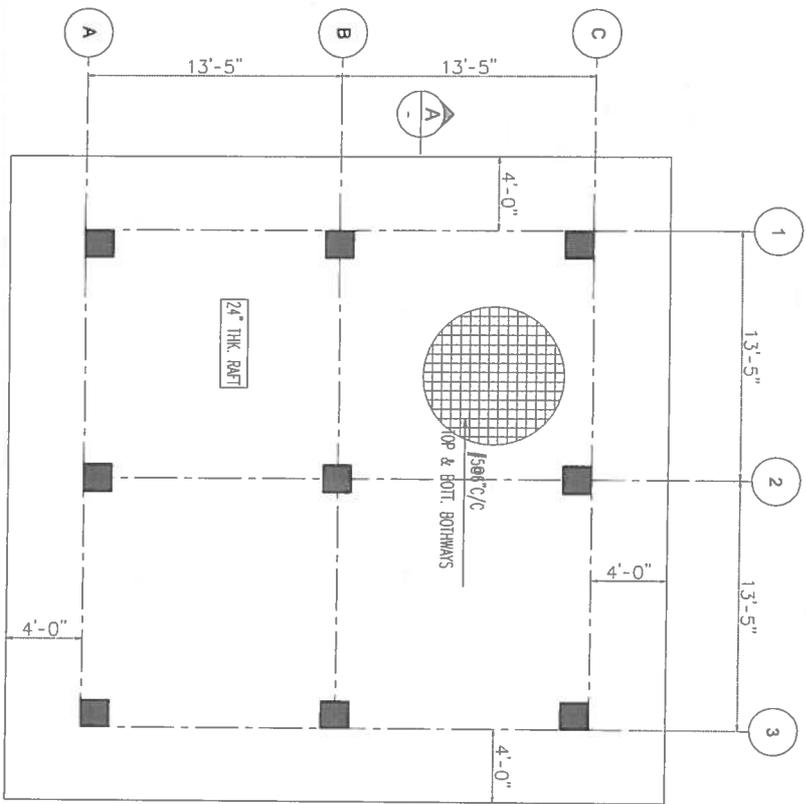
DATE: 07-02-26  
SCALE: N T S

DWG NO: ST-04  
JOB ID:



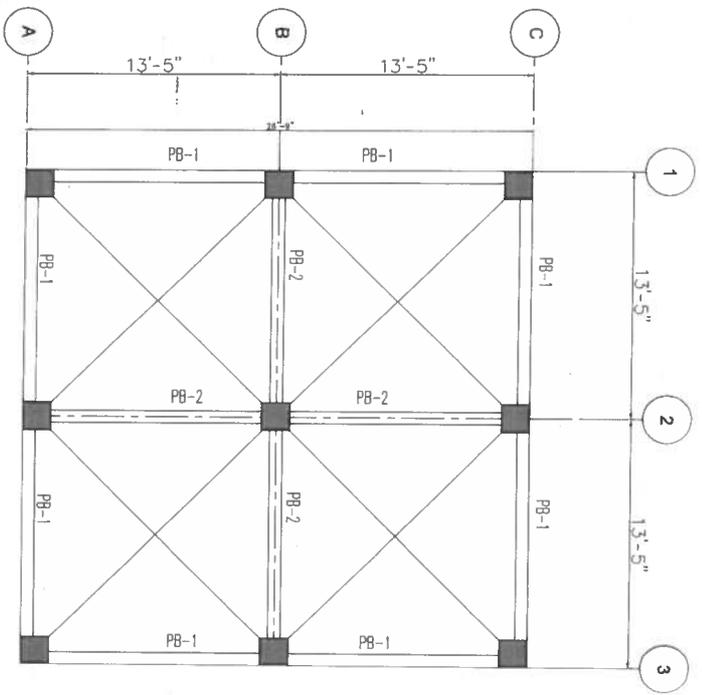
**OVERHEAD WATER TANK**

**STRUCTURE**

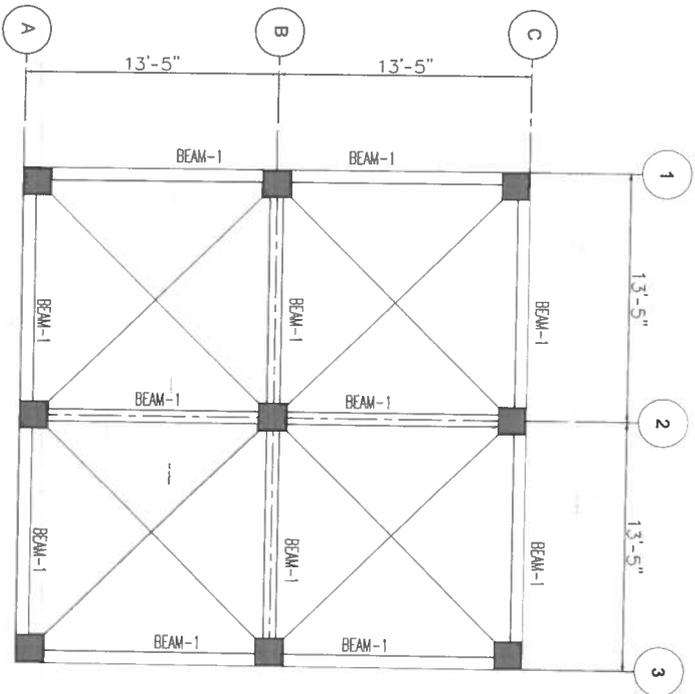


NOTE:-  
AS PER THE GEOTECHNICAL INVESTIGATION REPORT, THE GROUNDWATER TABLE IS LOCATED APPROXIMATELY 1.2 TO 1.5 METERS BELOW THE NATURAL GROUND LEVEL (NGL). DEWATERING OPERATIONS MUST BE MAINTAINED CONTINUOUSLY AND MUST NOT BE DISCONTINUED UNTIL ALL BACKFILLING ACTIVITIES ARE FULLY COMPLETED.

CLIENT: SINDH EMPLOYEES SOCIAL SECURITY INSTITUTION (SESSI)		PROJECT: SESSI HOSPITAL LANDHI OVERHEAD WATER TANK		DRAWING STATUS: TENDER DRAWINGS		DRAWING BY: AAMIR		DATE: 07-02-26		DWG NO: ST-06	
DRAWING: STRUCTURE RAFT & COLUMN LAYOUT PLAN				CHECKED BY: FARHAN				SCALE: N.T.S		JOB ID.	

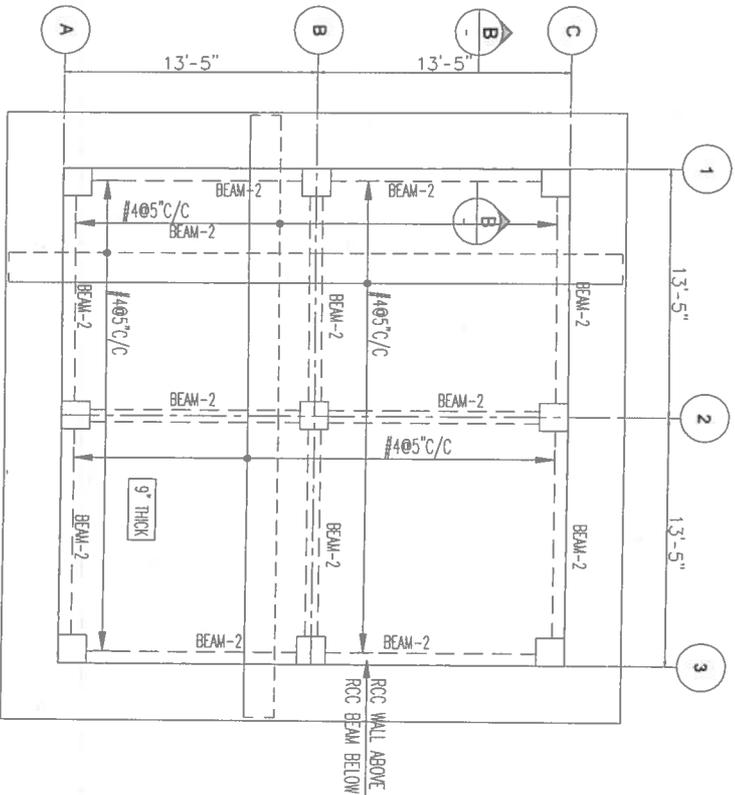


**PLINTH FRAMING PLAN AT  
LEV. +0'-0"**

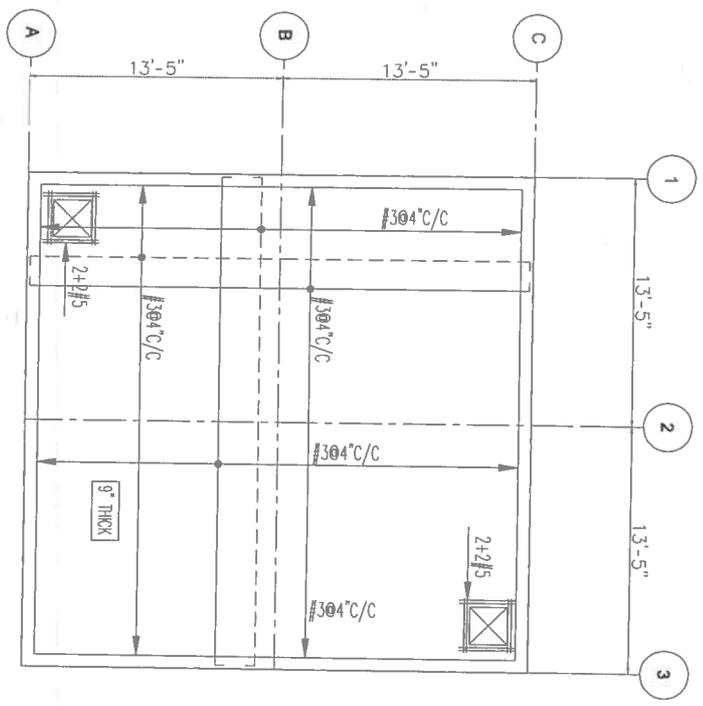


**TYPICAL FRAMING PLAN AT  
LEV. +8'-0" & 16'-0"**

CLIENT: <b>SINDH EMPLOYEES SOCIAL SECURITY INSTITUTION (SESSI)</b>		PROJECT: <b>SESSI HOSPITAL LANDHI OVERHEAD WATER TANK</b>		DRAWING STATUS: <b>TENDER DRAWINGS</b>		DRAWING BY: <b>A.AMIR</b>		DATE: <b>07-02-26</b>		DWG NO.: <b>ST-07</b>	
DRAWING: <b>STRUCTURE</b>		TITLE: <b>PLINTH &amp; TYPICAL FRAMING PLAN</b>		DESIGN BY: <b>FARHAN</b>		CHECKED BY:		SCALE: <b>NTS</b>		JOB ID.	

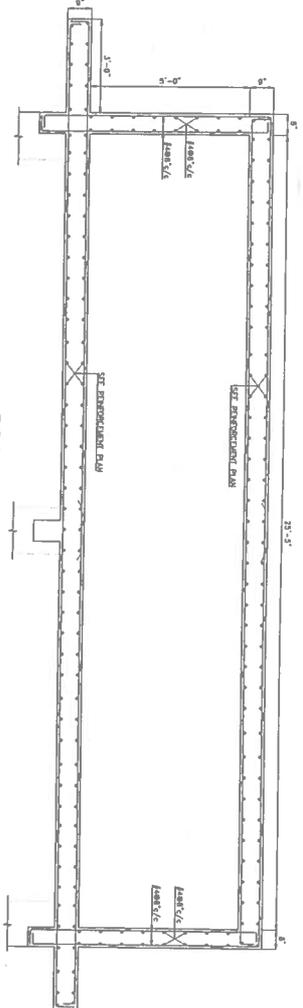
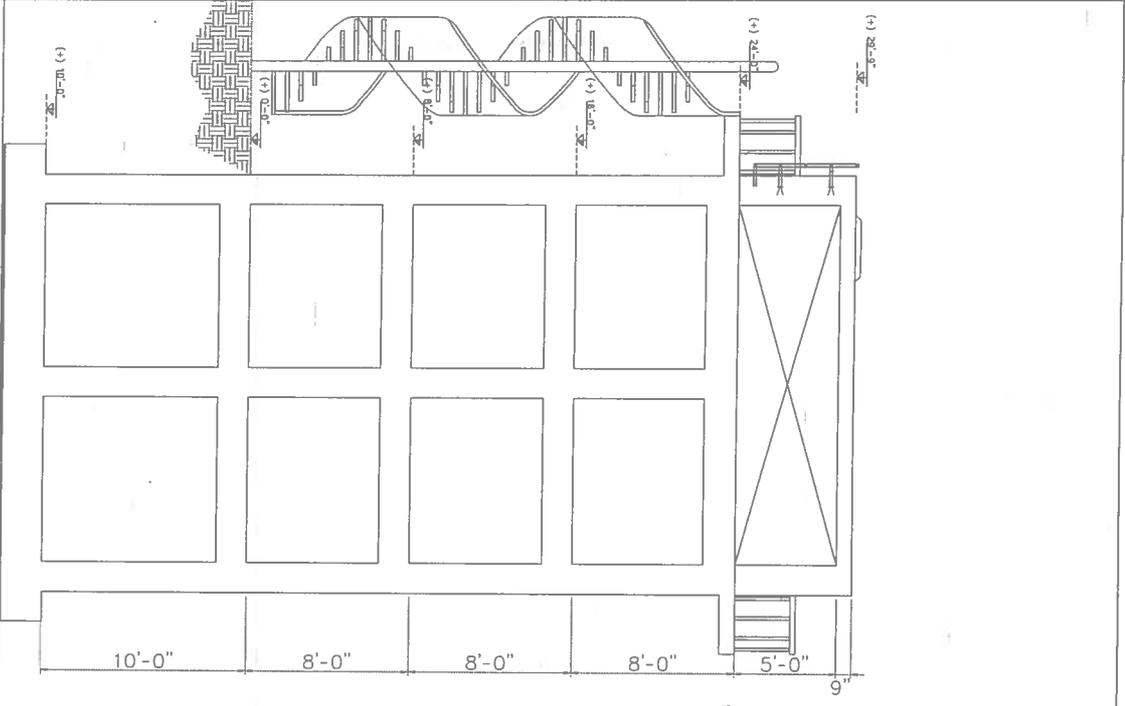


**BOTTOM SLAB PLAN AT  
LEV. +24'-0"**

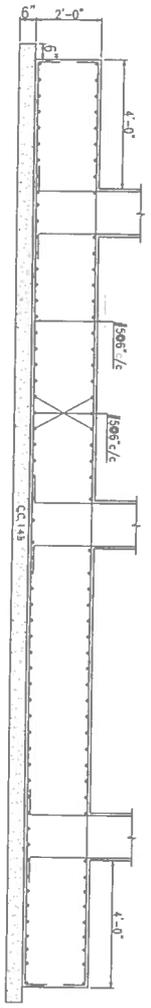


**TOP SLAB PLAN AT  
LEV. +29'-9"**

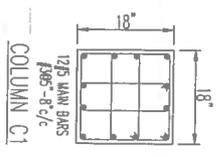
CLIENT: <b>SINDH EMPLOYEES SOCIAL SECURITY INSTITUTION (SRESSI)</b>		PROJECT: <b>SESSI HOSPITAL LANDHI OVERHEAD WATER TANK</b>		DRAWING STATUS: <b>TENDER DRAWINGS</b>		DRAWING BY: <b>AAMIR</b>		DATE: <b>07-02-26</b>		DWG NO.: <b>ST-08</b>	
DRAWING: <b>STRUCTURE</b>				TITLE: <b>BOTTOM &amp; TOP SLAB PLAN</b>				DESIGN BY: <b>FARHAN</b>		SCALE: <b>NTS</b>	
CHECKED BY:						JOB ID.:					



TYPICAL SECTION OF O.H.W.T.



SECTION A-A

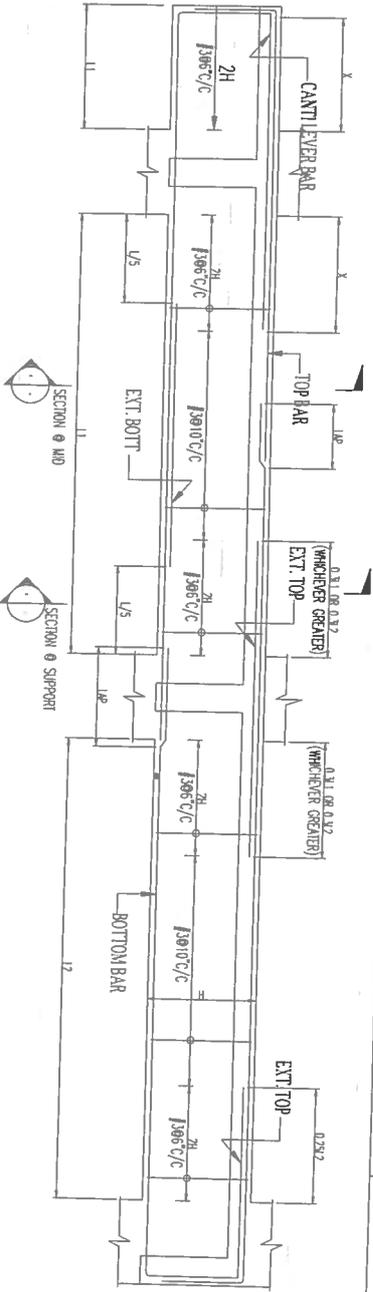


COLUMN C1

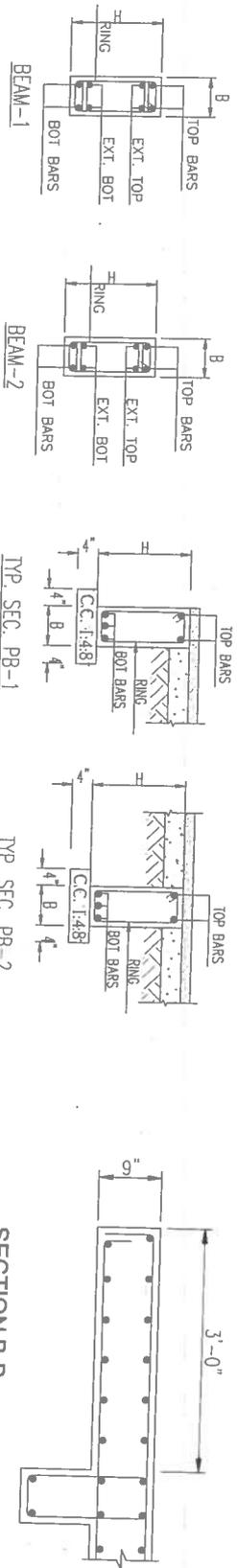
CLIENT		PROJECT		DRAWING STATUS		DRAWN BY		DATE		DWG NO.	
SINDH EMPLOYEES SOCIAL SECURITY INSTITUTION (SESSI)		SESSI HOSPITAL LANDH OVERHEAD WATER TANK		TENDER DRAWINGS		A.AMIR		07-02-26		ST-09	
				DRAWING		DESIGN BY		SCALE		JOB ID.	
				STRUCTURE		FARHAN		N.T.S			
				TYPICAL ELEVATION & SECTIONS		CHECKED BY					

# SCHEDULE OF BEAMS

BEAM MARK	SIZE		BOTTOM BARS			TOP BARS			MID DEPTH	CANTILEVER	RING		
	B	H	CONTINUOUS	EXT. BOT.	CONTINUOUS	EXT. TOP CORNER	EXT. TOP MIDDLE					RING X	RING Y
PB-1	15"	24"	CONTINUOUS		4#5							RING X #3@4"C/C	RING Y #3@6"C/C
PB-2	15"	24"			4#5							#3@4"C/C	#3@6"C/C
BEAM-1	15"	24"			3+2#5							#3@4"C/C	#3@6"C/C
BEAM-2	15"	24"			3+3#5							#3@4"C/C	#3@6"C/C



TYPICAL BEAM REINFORCEMENT ARRANGMENT

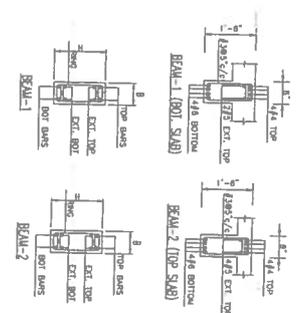
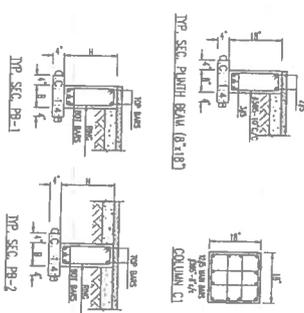
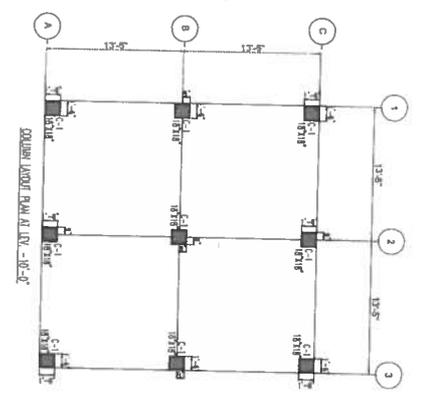
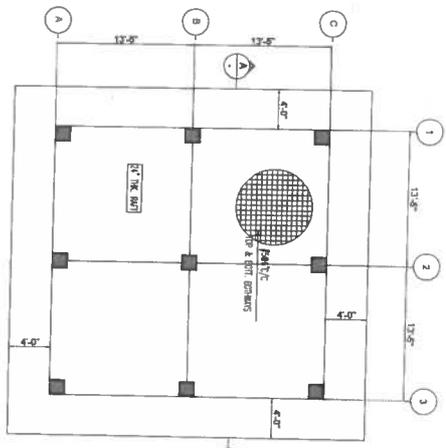
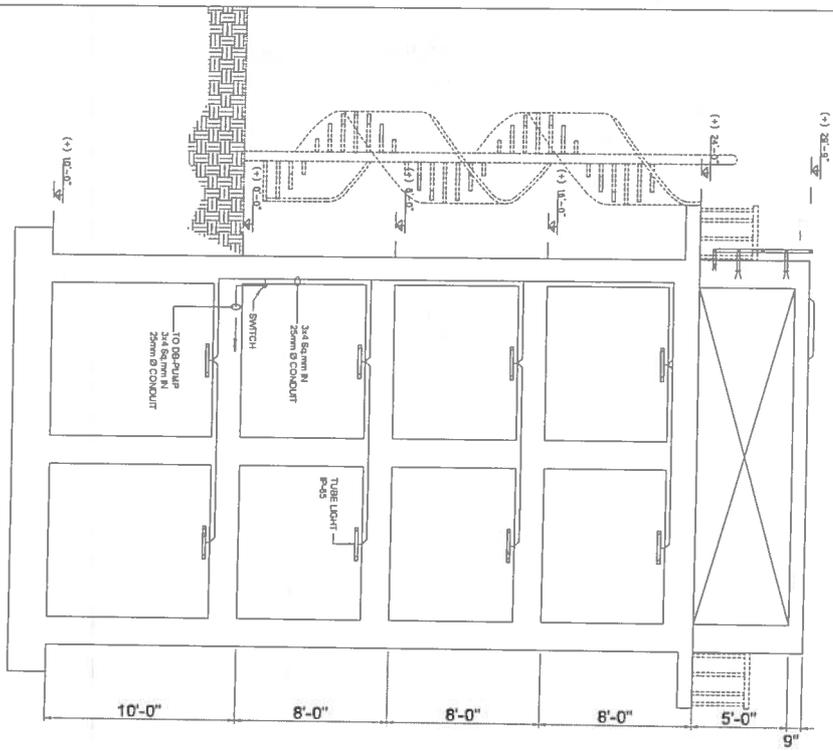


SECTION B-B  
SCALE 1/4"=1'-0"

CLIENT: SINDH EMPLOYEES SOCIAL SECURITY INSTITUTION (SESSI)	PROJECT: SESSI HOSPITAL LANDHI OVERHEAD WATER TANK	DRAWING: STRUCTURE TYPICAL BEAM & SECTIONS	DRAWING STATUS: TENDER DRAWINGS
DRAWN BY: AAAMR	DESIGN BY: FARHAN	CHECKED BY: N.T.S.	DATE: 07-02-26
JOB ID: ST-10	SCALE: N.T.S.	SCALE: 1/4"=1'-0"	JOB ID: ST-10

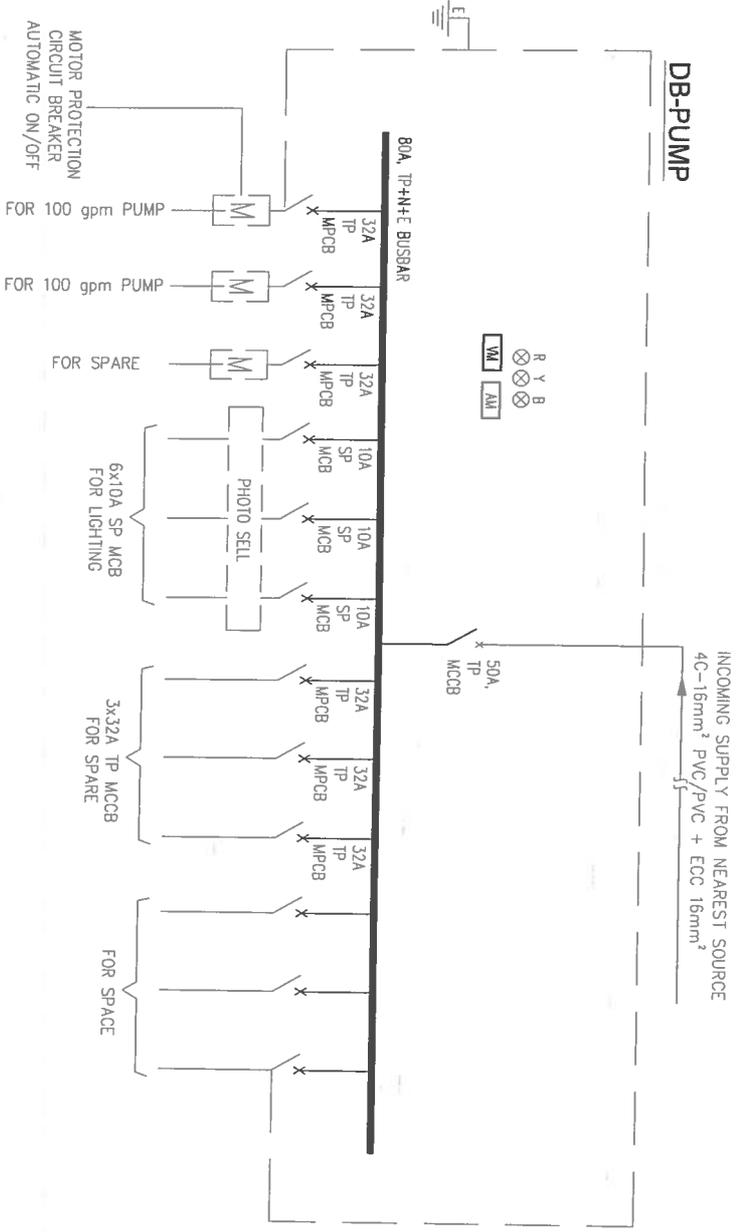
**OVERHEAD WATER TANK**

**ELECTRICAL**



CLIENT:		PROJECT:		DRAWING:		DRAWING STATUS:		DRAWN BY:		DATE:		DWG NO:	
SINDH EMPLOYEES SOCIAL SECURITY INSTITUTION (SESSI)		SESSI HOSPITAL LANDH OVER HEAD WATER TANK		ELECTRICAL OVER HEAD WATER TANK LAYOUT		TENDER DRAWINGS		AAAMR		07-02-26		EL-01	
CHECKED BY:		DESIGN BY:		SCALE:		JOB ID:		FAHMAN		N.T.S.			

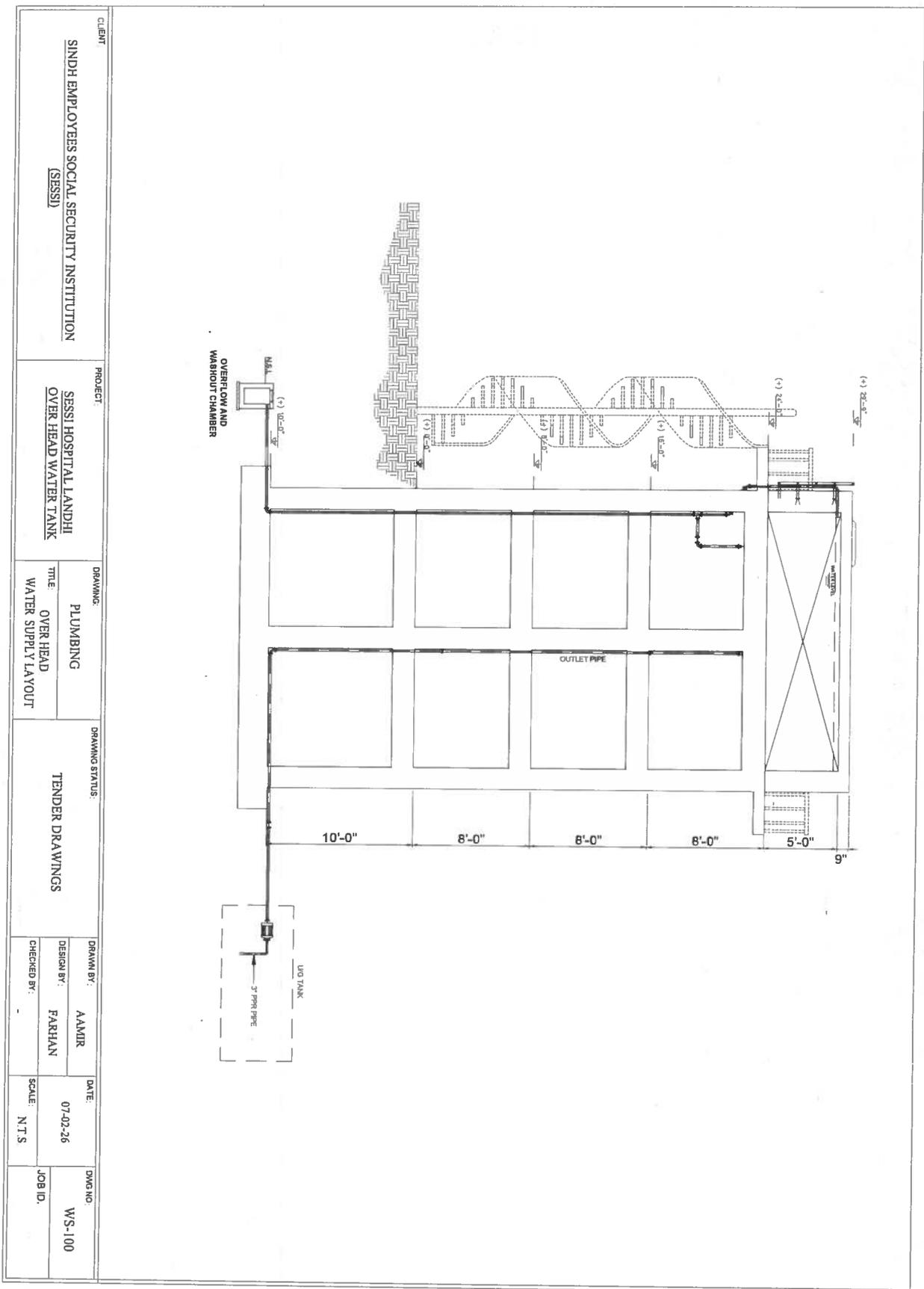




CLIENT:		PROJECT:		DRAWING STATUS:		DRAWN BY:		DATE:		DWG NO.:	
SINDH EMPLOYEES SOCIAL SECURITY INSTITUTION (SESSI)		SESSI HOSPITAL LANDHI OVER HEAD WATER TANK		ELECTRICAL		AAMIR		07-02-26		EL-03	
		TITLE		TENDER DRAWINGS		DESIGN BY:		SCALE		JOB ID.	
		SINGLE LINE DIAGRAM				FARHAN		N.T.S			
						CHECKED BY:					

**OVERHEAD WATER TANK**

**PLUMBING**



CLIENT		PROJECT		DRAWING		DRAWING STATUS		DRAWN BY:		DATE:		DWG NO.	
SINDH EMPLOYEES SOCIAL SECURITY INSTITUTION (SESSI)		SESSI HOSPITAL LANDHII OVER HEAD WATER TANK		PLUMBING OVER HEAD WATER SUPPLY LAYOUT		TENDER DRAWINGS		A.AMIR		07-02-26		WS-100	
								DESIGN BY: FARHANI		SCALE: N.T.S		JOB ID.	
								CHECKED BY:					