

FACULTY OF  
INFORMATION  
UNIVERSITY TECHNOLOGY



## Sindh Madressatul Islam University

**Tender for Supplying, Installation, Testing & Commissioning of Brand New Imported Passenger Elevator (Lifts) 02 Nos. for I.T Block Sindh Madressatul Islam University (SMIU) City Campus Karachi**



### TENDER DOCUMENTS

- Conditions of Contract
- Technical Specifications
- Bill of Quantities
- Drawings



**EA Consulting Pvt Ltd**

ARCHITECTURE | ENGINEERING | PROJECT MANAGEMENT  
PAKISTAN | UAE | CANADA

Head Office AL-9, 15<sup>th</sup> Lane, Khayban-e-Hilal, Phase-VII, DHA, Karachi-75500, Pakistan  
UAN +92 21 111 111 584 | Fax: +92 21 3584 1825 | info@eaworld.com | www.eaworld.com

July, 2019

**VOLUME-I**  
**CONDITION OF CONTRACT**

# **SINDH PUBLIC PROCUREMENT REGULATORY AUTHORITY**

## **STANDARD FORM OF BIDDING DOCUMENT FOR PROCUREMENT OF GOODS & SERVICES**

---

**Tender For Supplying, Installation, Testing &  
Commissioning Of New Imported Passenger Elevator  
(Lifts) 02 Nos. For I.T Block Sindh Madressatul Islam  
University (SMIU) City Campus, Karachi.**

---

### **PART ONE (FIXED)**

- Instructions to Bidders (ITB)
- General Conditions of Contract (GCC)

**Table of Contents - Part One**

***PART ONE - SECTION I. INSTRUCTIONS TO BIDDERS .....***

***TABLE OF CLAUSES.....***

***PART ONE - SECTION II. GENERAL CONDITIONS OF CONTRACT.....***

***TABLE OF CLAUSES.....***

**Part One - Section I.**  
**Instructions to Bidders**

## Table of Clauses

<b>A. INTRODUCTION .....</b>	
1. SOURCE OF FUNDS .....	
2. ELIGIBLE BIDDERS .....	
3. ELIGIBLE GOODS AND SERVICES .....	
4. COST OF BIDDING .....	
<b>B. THE BIDDING DOCUMENTS.....</b>	
5. CONTENT OF BIDDING DOCUMENTS .....	
6. CLARIFICATION OF BIDDING DOCUMENTS .....	
7. AMENDMENT OF BIDDING DOCUMENTS.....	
<b>C. PREPARATION OF BIDS .....</b>	
8. LANGUAGE OF BID .....	
9. DOCUMENTS COMPRISING THE BID .....	
10. BID FORM .....	
11. BID PRICES .....	
12. BID CURRENCIES .....	
13. DOCUMENTS ESTABLISHING BIDDER'S ELIGIBILITY AND QUALIFICATION .....	
14. DOCUMENTS ESTABLISHING GOODS' ELIGIBILITY AND CONFORMITY TO BIDDING DOCUMENTS.....	
15. BID SECURITY .....	
16. PERIOD OF VALIDITY OF BIDS .....	
17. FORMAT AND SIGNING OF BID.....	
<b>D. SUBMISSION OF BIDS .....</b>	
18. SEALING AND MARKING OF BIDS .....	
19. DEADLINE FOR SUBMISSION OF BIDS.....	
20. LATE BIDS .....	
21. MODIFICATION AND WITHDRAWAL OF BIDS .....	
<b>E. OPENING AND EVALUATION OF BIDS.....</b>	
22. OPENING OF BIDS BY THE PROCURING AGENCY .....	
23. CLARIFICATION OF BIDS .....	
24. PRELIMINARY EXAMINATION .....	
25. EVALUATION AND COMPARISON OF BIDS.....	
26. CONTACTING THE PROCURING AGENCY .....	
<b>F. AWARD OF CONTRACT .....</b>	
27. POST-QUALIFICATION .....	
28. AWARD CRITERIA .....	
29. PROCURING AGENCY'S RIGHT TO VARY QUANTITIES AT TIME OF AWARD.....	
30. PROCURING AGENCY'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS .....	
31. NOTIFICATION OF AWARD .....	
32. SIGNING OF CONTRACT .....	
33 PERFORMANCE SECURITY .....	
34. CORRUPT OR FRAUDULENT PRACTICES .....	

## **Instructions to Bidders**

### **A. Introduction**

#### **1. Source of Funds**

- 1.1 The Procuring agency has received grant from provincial government as indicated in the bidding data in various currencies towards the cost of the project /schemes specified in the bidding data and it is intended that part of the proceeds of this grant will be applied to eligible payments under the contract for which these bidding documents are issued.
- 1.2 The Project Agreement prohibits a withdrawal from the allocated fund account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Federal Government/ Sindh Government, is prohibited by a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Procuring agency shall derive any rights from the Project Agreement or have any claim to the allocated fund proceeds.

#### **2. Eligible Bidders**

- 2.1 This Invitation for Bids is open to all suppliers from eligible source as defined in the SPP Rules, 2010 (Amended 2019) and its Bidding Documents except as provided hereinafter.
- 2.2 Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Procuring agency to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this Invitation for Bids.
- 2.3 Government-owned enterprises in the Province of Sindh may participate only if they are legally and financially autonomous, if they operate under commercial law, and if they are not a dependent agency of the Government of Sindh.
- 2.4 Bidders shall not be eligible to bid if they are under a declaration of ineligibility for corrupt and fraudulent practices issued by the

Any government organization in accordance with sub clause 34.1

- 3. Eligible Goods and Services**
- 3.1 All goods and related services to be supplied under the contract shall have their origin in eligible source countries, defined in the SPP Rules, 2010 (amended 2019) and it's Bidding Documents, and all expenditures made under the contract will be limited to such goods and services.
- 3.2 For purposes of this clause, "origin" means the place where the goods are mined, grown, or produced, or the place from which the related services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially-recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.
- 3.3 The origin of goods and services is distinct from the nationality of the Bidder.
- 4. Cost of Bidding**
- 4.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Procuring agency named in the Bid Data Sheet, hereinafter referred to as "the Procuring agency," will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

#### **B. The Bidding Documents**

- 5. Content of Bidding Documents**
- 5.1 the bidding documents include:
- (a) Instructions to Bidders (ITB)
  - (b) Bid Data Sheet
  - (c) General Conditions of Contract (GCC)
  - (d) Special Conditions of Contract (SCC)
  - (e) Schedule of Requirements
  - (f) Technical Specifications
  - (g) Bid Form and Price Schedules
  - (h) Bid Security Form
  - (i) Contract Form
  - (j) Performance Security Form
  - (k) Manufacturer's Authorization Form
- 5.2 The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or to submit a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in the



rejection of its bid.

- 6. Clarification of Bidding Documents** 6.1 A interested Bidder requiring any clarification of the bidding documents may notify the Procuring agency in writing. The Procuring agency will respond in writing to any request for clarification of the bidding documents which it receives no later than three working days prior to the deadline for the submission of bids prescribed in the Bid Data Sheet. Written copies of the Procuring agency's response (including an explanation of the query but without identifying the source of inquiry) will be sent to all interested bidders that have received the bidding documents.
- 7. Amendment of Bidding Documents** 7.1 At any time prior to the deadline for submission of bids, the Procuring agency, for any reason, whether at its own initiative or in response to a clarification requested by a interested Bidder, may modify the bidding documents by amendment.
- 7.2 All interested bidders that have received the bidding documents will be notified of the amendment in writing, and will be binding on them.
- 7.3 In order to allow interested bidders reasonable time in which to take the amendment into account in preparing their bids, the Procuring agency, at its discretion, may extend the deadline for the submission of bids.

### **C. Preparation of Bids**

- 8. Language of Bid** 8.1 The bid prepared by the Bidder, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Procuring agency shall be written in the language specified in the Bid Data Sheet. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the Bid Data Sheet, in which case, for purposes of interpretation of the Bid, the translation shall govern.
- 9. Documents Comprising the Bid** 9.1 The bid prepared by the Bidder shall comprise the following components:
- (a) a Bid Form and a Price Schedule completed in accordance with ITB Clauses 10, 11, and 12;
  - (b) documentary evidence established in accordance with ITB

Clause 13 that the Bidder is eligible to bid and is qualified to perform the contract if its bid is accepted;

- (c) documentary evidence established in accordance with ITB Clause 14 that the goods and ancillary services to be supplied by the Bidder are eligible goods and services and conform to the bidding documents; and
- (d) bid security furnished in accordance with ITB Clause 15.

**10. Bid Form**

10.1 The Bidder shall complete the Bid Form and the appropriate Price Schedule furnished in the bidding documents, indicating the goods to be supplied, a brief description of the goods, their country of origin, quantity, and prices.

**11. Bid Prices**

11.1 The Bidder shall indicate on the appropriate Price Schedule the unit prices (where applicable) and total bid price of the goods it proposes to supply under the contract.

11.2 Prices indicated on the Price Schedule shall be delivered duty paid (DDP) prices. The price of other (incidental) services, if any, listed in the Bid Data Sheet will be entered separately.

11.3 The Bidder's separation of price components in accordance with ITB Clause 11.2 above will be solely for the purpose of facilitating the comparison of bids by the Procuring agency and will not in any way limit the Procuring agency's right to contract on any of the terms offered.

11.5 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account, unless otherwise specified in the Bid Data Sheet. A bid submitted with an adjustable price quotation will be treated as nonresponsive and will be rejected, pursuant to ITB Clause 24. If, however, in accordance with the Bid Data Sheet, prices quoted by the Bidder shall be subject to adjustment during the performance of the contract, a bid submitted with a fixed price quotation will not be rejected, but the price adjustment would be treated as zero.

**12. Bid Currencies** 12.1 Prices shall be quoted in Pak Rupees unless otherwise specified in the Bid Data Sheet.

**13. Documents  
Establishing  
Bidder's**

13.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the Bidder's eligibility to bid and its qualifications to perform the contract if its bid is accepted.

**Eligibility and  
Qualification**

13.2 The documentary evidence of the Bidder's eligibility to bid shall establish to the Procuring agency's satisfaction that the Bidder, at the time of submission of its bid, is from an eligible country as defined under ITB Clause 2.

133 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Procuring agency's satisfaction:

- (a) that, in the case of a Bidder offering to supply goods under the contract which the Bidder did not manufacture or otherwise produce, the Bidder has been duly authorized by the goods' Manufacturer or producer to supply the goods in the Procuring agency's country;
- (b) that the Bidder has the financial, technical, and production capability necessary to perform the contract;
- (c) that, in the case of a Bidder not doing business within the Procuring agency's country, the Bidder is or will be (if awarded the contract) represented by an Agent in that country equipped, and able to carry out the Supplier's maintenance, repair, and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and
- (d) that the Bidder meets the qualification criteria listed in the Bid Data Sheet.

**14. Documents  
Establishing  
Goods'  
Eligibility and  
Conformity to  
Bidding  
Documents**

14.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, documents establishing the eligibility and conformity to the bidding documents of all goods and services which the Bidder proposes to supply under the contract.

14.2 The documentary evidence of the eligibility of the goods and services shall consist of a statement in the Price Schedule of the country of origin of the goods and services offered which shall be confirmed by a certificate of origin issued at the time of shipment.

14.3 The documentary evidence of conformity of the goods and services to the bidding documents may be in the form of literature, drawings, and data, and shall consist of:

- (a) a detailed description of the essential technical and

performance characteristics of the goods;

- (b) a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the goods for a period to be specified in the Bid Data Sheet, following commencement of the use of the goods by the Procuring agency; and
- (c) an item-by-item commentary on the Procuring agency's Technical Specifications demonstrating substantial responsiveness of the goods and services to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications.

14.4 For purposes of the commentary to be furnished pursuant to ITB Clause 14.3(c) above, the Bidder shall note that standards for workmanship, material, and equipment, as well as references to brand names or catalogue numbers designated by the Procuring agency in its Technical Specifications, are intended to be descriptive only and not restrictive. The Bidder may substitute alternative standards, brand names, and/or catalogue numbers in its bid, provided that it demonstrates to the Procuring agency's satisfaction that the substitutions ensure substantial equivalence to those designated in the Technical Specifications.

## **15. Bid Security**

15.1 Pursuant to ITB Clause 9, the Bidder shall furnish, as part of its bid, a bid security in the amount specified in the Bid Data Sheet.

15.2 The bid security is required to protect the Procuring agency against the risk of Bidder's conduct which would warrant the security's forfeiture, pursuant to ITB Clause 15.7.

15.3 The bid security shall be in Pak. Rupees and shall be in one of the following forms:

- (a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the Procuring agency's country, in the form provided in the bidding documents or another form acceptable to the Procuring agency and valid for thirty (30) days beyond the validity of the bid; or
- (b) Irrevocable cashable on-demand Bank call-deposit.

15.4 Any bid not secured in accordance with ITB Clauses 15.1 and 15.3 will be rejected by the Procuring agency as nonresponsive, pursuant to ITB Clause 24.

- 15.5 Unsuccessful bidders' bid security will be discharged or returned as promptly as possible but not later than thirty (30) days after the expiration of the period of bid validity prescribed by the Procuring agency pursuant to ITB Clause 16.
- 15.6 The successful Bidder's bid security will be discharged upon the Bidder signing the contract, pursuant to ITB Clause 32, and furnishing the performance security, pursuant to ITB Clause 33.
- 15.7 The bid security may be forfeited:
- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Bid Form; or
  - (b) in the case of a successful Bidder, if the Bidder fails:
    - (i) to sign the contract in accordance with ITB Clause 32;
    - or**
    - (ii) to furnish performance security in accordance with ITB Clause 33.

**16. Period of  
Validity of  
Bids**

- 16.1 Bids shall remain valid for the period specified in the Bid Data Sheet after the date of bid opening prescribed by the Procuring agency, pursuant to ITB Clause 19. A bid valid for a shorter period shall be rejected by the Procuring agency as nonresponsive.
- 16.2 In exceptional circumstances, the Procuring agency may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. The bid security provided under ITB Clause 15 shall also be suitably extended. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request will not be required nor permitted to modify its bid, except as provided in the bidding document.

**17. Format and  
Signing of Bid**

- 17.1 The Bidder shall prepare an original and the number of copies of the bid indicated in the Bid Data Sheet, clearly marking each "ORIGINAL BID" and "COPY OF BID," as appropriate. In the event of any discrepancy between them, the original shall govern.
- 17.2 The original and the copy or copies of the bid shall be typed or written in indelible ink and shall be signed by the Bidder or a

person or persons duly authorized to bind the Bidder to the contract. All pages of the bid, except for un-amended printed literature, shall be initialed by the person or persons signing the bid.

17.3 Any interlineations, erasures, or overwriting shall be valid only if they are initialed by the person or persons signing the bid.

17.4 The Bidder shall furnish information as described in the Form of Bid on commissions or gratuities, if any, paid or to be paid to agents relating to this Bid, and to contract execution if the Bidder is awarded the contract.

#### **D. Submission of Bids**

#### **18. Sealing and Marking of Bids**

18.1 The Bidder shall seal the original and each copy of the bid in separate envelopes, duly marking the envelopes as “ORIGINAL” and “COPY.” The envelopes shall then be sealed in an outer envelope.

18.2 The inner and outer envelopes shall:

(a) be addressed to the Procuring agency at the address given in the Bid Data Sheet; and

(b) bear the Project name indicated in the Bid Data Sheet, the Invitation for Bids (IFB) title and number indicated in the Bid Data Sheet, and a statement: “DO NOT OPEN BEFORE,” to be completed with the time and the date specified in the Bid Data Sheet, pursuant to ITB Clause 2.2.

18.3 The inner envelopes shall also indicate the name and address of the Bidder to enable the bid to be returned unopened in case it is declared “late”.

18.4 If the outer envelope is not sealed and marked as required by ITB Clause 18.2, the Procuring agency will assume no responsibility for the bid’s misplacement or premature opening.

#### **19. Deadline for Submission of Bids**

19.1 Bids must be received by the Procuring agency at the address specified under ITB Clause 18.2 no later than the time and date specified in the Bid Data Sheet.

19.2 The Procuring agency may, at its discretion, extend this deadline for the submission of bids by amending the bidding documents in accordance with ITB Clause 7, in which case all rights and

obligations of the Procuring agency and bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

**20. Late Bids**

20.1 Any bid received by the Procuring agency after the deadline for submission of bids prescribed by the Procuring agency pursuant to ITB Clause 19 will be rejected and returned unopened to the Bidder.

**21. Modification  
and  
Withdrawal of  
Bids**

21.1 The Bidder may modify or withdraw its bid after the bid's submission, provided that written notice of the modification, including substitution or withdrawal of the bids, is received by the Procuring agency prior to the deadline prescribed for submission of bids.

21.2 The Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and dispatched in accordance with the provisions of ITB Clause 18. by a signed confirmation copy, postmarked not later than the deadline for submission of bids.

21.3 No bid may be modified after the deadline for submission of bids.

21.4 No bid may be withdrawn in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Bid Form. Withdrawal of a bid during this interval may result in the Bidder's forfeiture of its bid security, pursuant to the ITB Clause 15.7.

**E. Opening and Evaluation of Bids**

**22. Opening of  
Bids by the  
Procuring  
agency**

22.1 The Procuring agency will open all bids in the presence of bidders' representatives who choose to attend, at the time, on the date, and at the place specified in the Bid Data Sheet. The bidders' representatives who are present shall sign a register evidencing their attendance.

22.2 The bidders' names, bid modifications or withdrawals, bid prices, discounts, and the presence or absence of requisite bid security and such other details as the Procuring agency, at its discretion, may consider appropriate, will be announced at the opening. No bid shall be rejected at bid opening, except for late bids, which shall be returned unopened to the Bidder pursuant to ITB Clause 20.

- 223 Bids (and modifications sent pursuant to ITB Clause 21.2) that are not opened and read out at bid opening shall not be considered further for evaluation, irrespective of the circumstances. Withdrawn bids will be returned unopened to the bidders.
- 224 The Procuring agency will prepare minutes of the bid opening.
- 23. Clarification of Bids**
- 23.1 During evaluation of the bids, the 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 prices or substance of the bid shall be sought, offered, or permitted.
- 24. Preliminary Examination**
- 24.1 The Procuring agency will examine the bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the bids are generally in order.
- 24.2 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the 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 the Supplier does not accept the correction of the errors, its bid will be rejected, and its bid security may be forfeited. If there is a discrepancy between words and figures, the amount in words will prevail.
- 24.3 The Procuring agency may waive any minor informality, nonconformity, or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder.
- 24.4 Prior to the detailed evaluation, pursuant to ITB Clause 25 the Procuring agency will determine the substantial responsiveness of each bid to the bidding documents. For purposes of these Clauses, a substantially responsive bid is one which conforms to all the terms and conditions of the bidding documents without material deviations. Deviations from, or objections or reservations to critical provisions, **such as** those concerning Bid Security (ITB Clause 15), Applicable Law (GCC Clause 30), and Taxes and Duties (GCC Clause 32), will be deemed to be a material deviation. The Procuring agency's determination of a bid's responsiveness is to be based on the contents of the bid itself without recourse to extrinsic evidence.



24.5 If a bid is not substantially responsive, it will be rejected by the Procuring agency and may not subsequently be made responsive by the Bidder by correction of the nonconformity.

**25. Evaluation and Comparison of Bids**

25.1 The Procuring agency will evaluate and compare the bids which have been determined to be substantially responsive, pursuant to ITB Clause 24.

25.2 The Procuring agency's evaluation of a bid will be on delivered duty paid (DDP) price inclusive of prevailing duties and will exclude any allowance for price adjustment during the period of execution of the contract, if provided in the bid.

25.3 The Procuring agency's evaluation of a bid will take into account, in addition to the bid price quoted in accordance with ITB Clause 11.2, one or more of the following factors as specified in the Bid Data Sheet, and quantified in ITB Clause 25.4:

- (a) incidental costs
- (b) delivery schedule offered in the bid;
- (c) deviations in payment schedule from that specified in the Special Conditions of Contract;
- (d) the cost of components, mandatory spare parts, and service;
- (e) the availability Procuring agency of spare parts and after-sales services for the equipment offered in the bid;
- (f) the projected operating and maintenance costs during the life of the equipment;
- (g) the performance and productivity of the equipment offered; and/or
- (h) other specific criteria indicated in the Bid Data Sheet and/or in the Technical Specifications.

25.4 For factors retained in the Bid Data Sheet pursuant to ITB 25.3, one or more of the following quantification methods will be applied, as detailed in the Bid Data Sheet:

- (a) Incidental costs provided by the bidder will be added by Procuring agency to the delivered duty paid (DDP) price at

the final destination.

(b) *Delivery schedule.*

(i) The Procuring agency requires that the goods under the Invitation for Bids shall be delivered at the time specified in the Schedule of Requirements which will be treated as the base, a delivery “adjustment” will be calculated for bids by applying a percentage, specified in the Bid Data Sheet, of the DDP price for each week of delay beyond the base, and this will be added to the bid price for evaluation. No credit shall be given to early delivery.

**or**

(ii) The goods covered under this invitation are required to be delivered (shipped) within an acceptable range of weeks specified in the Schedule of Requirement. No credit will be given to earlier deliveries, and bids offering delivery beyond this range will be treated as nonresponsive. Within this acceptable range, an adjustment per week, as specified in the Bid Data Sheet, will be added for evaluation to the bid price of bids offering deliveries later than the earliest delivery period specified in the Schedule of Requirements.

**or**

(iii) The goods covered under this invitation are required to be delivered in partial shipments, as specified in the Schedule of Requirements. Bids offering deliveries earlier or later than the specified deliveries will be adjusted in the evaluation by adding to the bid price a factor equal to a percentage, specified in the Bid Data Sheet, of DDP price per week of variation from the specified delivery schedule.

(c) *Deviation in payment schedule.*

(i) Bidders shall state their bid price for the payment schedule outlined in the SCC. Bids will be evaluated on the basis of this base price. Bidders are, however, permitted to state an alternative payment schedule and indicate the reduction in bid price they wish to offer for such alternative payment schedule. The Procuring agency may consider the alternative payment schedule offered by the selected Bidder.

**or**

(ii) The SCC stipulates the payment schedule offered by

the Procuring agency. If a bid deviates from the schedule and if such deviation is considered acceptable to the Procuring agency, the bid will be evaluated by calculating interest earned for any earlier payments involved in the terms outlined in the bid as compared with those stipulated in this invitation, at the rate per annum specified in the Bid Data Sheet.

(d) *Cost of spare parts.*

(i) The list of items and quantities of major assemblies, components, and selected spare parts, likely to be required during the initial period of operation specified in the Bid Data Sheet, is annexed to the Technical Specifications. The total cost of these items, at the unit prices quoted in each bid, will be added to the bid price.

**or**

(ii) The Procuring agency will draw up a list of high-usage and high-value items of components and spare parts, along with estimated quantities of usage in the initial period of operation specified in the Bid Data Sheet. The total cost of these items and quantities will be computed from spare parts unit prices submitted by the Bidder and added to the bid price.

**or**

(iii) The Procuring agency will estimate the cost of spare parts usage in the initial period of operation specified in the Bid Data Sheet, based on information furnished by each Bidder, as well as on past experience of the Procuring agency or other procuring agencies in similar situations. Such costs shall be added to the bid price for evaluation.

(e) *Spare parts and after sales service facilities in the Procuring agency's country.*

The cost to the Procuring agency of establishing the minimum service facilities and parts inventories, as outlined in the Bid Data Sheet or elsewhere in the bidding documents, if quoted separately, shall be added to the bid price.

(f) *Operating and maintenance costs.*

Since the operating and maintenance costs of the goods under procurement form a major part of the life cycle cost of the equipment, these costs will be evaluated in accordance with the criteria specified in the Bid Data Sheet or in the Technical Specifications.

(g) *Performance and productivity of the equipment.*

(i) Bidders shall state the guaranteed performance or efficiency in response to the Technical Specification. For each drop in the performance or efficiency below the norm of 100, an adjustment for an amount specified in the Bid Data Sheet will be added to the bid price, representing the capitalized cost of additional operating costs over the life of the plant, using the methodology specified in the Bid Data Sheet or in the Technical Specifications.

**or**

(ii) Goods offered shall have a minimum productivity specified under the relevant provision in the Technical Specifications to be considered responsive. Evaluation shall be based on the cost per unit of the actual productivity of goods offered in the bid, and adjustment will be added to the bid price using the methodology specified in the Bid Data Sheet or in the Technical Specifications.

(h) *Specific additional criteria indicated in the Bid Data Sheet and/or in the Technical Specifications.*

The relevant evaluation method shall be detailed in the Bid Data Sheet and/or in the Technical Specifications.

**Alternative**

25.4 Merit Point System:

The following merit point system for weighing evaluation factors can be applied if none of the evaluation methods listed in 25.4 above has been retained in the Bid Data Sheet. The number of points allocated to each factor shall be specified in the Bid Data Sheet.

*[In the Bid Data Sheet, choose from the range of]*

Evaluated price of the goods	60 to 90
Cost of common list spare parts	0 to 20
Technical features, and maintenance and operating costs	0 to 20
Availability of service and spare parts	0 to 20
Standardization	0 to 20
Total	100

The bid scoring the highest number of points will be deemed to be the lowest evaluated bid.

- 26. Contacting the Procuring agency**
- 26.1 Subject to ITB Clause 23, no Bidder shall contact the Procuring agency on any matter relating to its bid, from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Procuring agency, it should do so in writing.
- 26.2 Any effort by a Bidder to influence the Procuring agency in its decisions on bid evaluation, bid comparison, or contract award may result in the rejection of the Bidder's bid.

#### **F. Award of Contract**

- 27. Post-qualification**
- 27.1 In the absence of prequalification, the Procuring agency will determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated responsive bid is qualified to perform the contract satisfactorily, in accordance with the criteria listed in ITB Clause 13.3.
- 27.2 The determination will take into account the Bidder's financial, technical, and production capabilities. It will be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB Clause 13.3, as well as such other information as the Procuring agency deems necessary and appropriate.
- 27.3 An affirmative determination will be a prerequisite for award of the contract to the Bidder. A negative determination will result in rejection of the Bidder's bid, in which event the Procuring agency will proceed to the next lowest evaluated bid to make a similar determination of that Bidder's capabilities to perform satisfactorily.
- 28. Award Criteria**
- 28.1 Subject to ITB Clause 30, the Procuring agency will award the contract to the successful Bidder whose bid has been determined to be substantially responsive and has been determined to be the lowest evaluated bid, provided further that the Bidder is

determined to be qualified to perform the contract satisfactorily.

- 29. Procuring agency's Right to Vary Quantities at Time of Award**
- 29.1 The Procuring agency reserves the right at the time of contract award to increase or decrease, by the percentage indicated in the Bid Data Sheet, the quantity of goods and services originally specified in the Schedule of Requirements without any change in unit price or other terms and conditions.
- 30. Procuring agency's Right to Accept any Bid and to Reject any or All Bids**
- 30.1 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 contract award, without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Procuring agency's action.
- 31. Notification of Award**
- 31.1 Prior to the expiration of the period of bid validity, the Procuring agency will notify the successful Bidder in writing by registered letter or by cable, to be confirmed in writing by registered letter, that its bid has been accepted.
- 31.2 The notification of award will constitute the formation of the Contract.
- 31.3 Upon the successful Bidder's furnishing of the performance security pursuant to ITB Clause 33, the Procuring agency will promptly notify each unsuccessful Bidder and will discharge its bid security, pursuant to ITB Clause 15.
- 32. Signing of Contract**
- 32.1 At the same time as the Procuring agency notifies the successful Bidder that its bid has been accepted, the Procuring agency will send the Bidder the Contract Form provided in the bidding documents, incorporating all agreements between the parties.
- 32.2 Within thirty (30) days of receipt of the Contract Form, the successful Bidder shall sign and date the contract and return it to the Procuring agency.
- 33 Performance Security**
- 33.1 Within twenty (20) days of the receipt of notification of award from the Procuring agency, the successful Bidder shall furnish the performance security in accordance with the Conditions of Contract, in the Performance Security Form provided in the bidding documents, or in another form acceptable to the Procuring agency.
- 33.2 Failure of the successful Bidder to comply with the requirement of ITB Clause 32 or ITB Clause 33.1 shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid

security, in which event the Procuring agency may make the award to the next lowest evaluated Bidder or call for new bids.

**34. Corrupt or Fraudulent Practices**

34.1 The Government of Sindh requires that Procuring agency's (including beneficiaries of donor agencies' loans), as well as Bidders/Suppliers/Contractors under Government-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the SPPRA, in accordance with the SPP Act, 2009 and Rules made thereunder:

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) "corrupt practice" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution; and

(ii) "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Procuring agency, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Procuring agency of the benefits of free and open competition;

(b) will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

(c) will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a Government-financed contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a Government-financed contract.

34.2 Furthermore, Bidders shall be aware of the provision stated in sub-clause 5.4 and sub-clause 24.1 of the General Conditions of Contract.

**Part One - Section II.**  
**General Conditions of Contract**



## Table of Clauses

1. DEFINITIONS .....	
2. APPLICATION .....	
3. COUNTRY OF ORIGIN .....	
4. STANDARDS .....	
5. USE OF CONTRACT DOCUMENTS AND INFORMATION; INSPECTION AND AUDIT BY THE BANK .....	
6. PATENT RIGHTS .....	
7. PERFORMANCE SECURITY .....	
8. INSPECTIONS AND TESTS .....	
9. PACKING .....	
10. DELIVERY AND DOCUMENTS .....	
11. INSURANCE .....	
12. TRANSPORTATION .....	
13. INCIDENTAL SERVICES .....	
14. SPARE PARTS .....	
15. WARRANTY .....	
16. PAYMENT .....	
17. PRICES .....	
18. CHANGE ORDERS .....	
19. CONTRACT AMENDMENTS .....	
20. ASSIGNMENT .....	
21. SUBCONTRACTS .....	
22. DELAYS IN THE SUPPLIER'S PERFORMANCE .....	
23. LIQUIDATED DAMAGES .....	
24. TERMINATION FOR DEFAULT .....	
25. FORCE MAJEURE .....	
26. TERMINATION FOR INSOLVENCY .....	
27. TERMINATION FOR CONVENIENCE .....	
28. RESOLUTION OF DISPUTES .....	
29. GOVERNING LANGUAGE .....	
30. APPLICABLE LAW .....	
31. NOTICES .....	
32. TAXES AND DUTIES .....	

## General Conditions of Contract

### 1. Definitions

1.1 In this Contract, the following terms shall be interpreted as indicated:

- (a) “The Contract” means the agreement entered into between the Procuring agency and the Supplier, as recorded in the Contract Form signed by the parties, including all attachments and appendices thereto and all documents incorporated by reference therein.
- (b) “The Contract Price” means the price payable to the Supplier under the Contract for the full and proper performance of its contractual obligations.
- (c) “The Goods” means all of the equipment, machinery, and/or other materials which the Supplier is required to supply to the Procuring agency under the Contract.
- (d) “The Services” means those services ancillary to the supply of the Goods, such as transportation and insurance, and any other incidental services, such as installation, commissioning, provision of technical assistance, training, and other such obligations of the Supplier covered under the Contract.
- (e) “GCC” means the General Conditions of Contract contained in this section.
- (f) “SCC” means the Special Conditions of Contract.
- (g) “The Procuring agency” means the organization purchasing the Goods, as named in SCC.
- (h) “The Procuring agency’s country” is the country named in SCC.
- (i) “The Supplier” means the individual or firm supplying the Goods and Services under this Contract.
- (j) “The Project Site,” where applicable, means the place or places named in SCC.
- (k) “Day” means calendar day.

### 2. Application

2.1 These General Conditions shall apply to the extent that they are

not superseded by provisions of other parts of the Contract.

**3. Country of Origin**

- 31 All Goods and Services supplied under the Contract shall have their origin in the countries and territories eligible under the rules and further elaborated in the SCC.
- 32 For purposes of this Clause, “origin” means the place where the Goods were mined, grown, or produced, or from which the Services are supplied. Goods are produced when, through manufacturing, processing, or substantial and major assembly of components, a commercially recognized new product results that is substantially different in basic characteristics or in purpose or utility from its components.
- 33 The origin of Goods and Services is distinct from the nationality of the Supplier.

**T**

- 4.1 The Goods supplied under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standards appropriate to the Goods’ country of origin. Such standards shall be the latest issued by the concerned institution.

**5. Use of Contract Documents and Information; Inspection and Audit by the Government**

- 51 The Supplier shall not, without the Procuring agency’s prior written consent, disclose the Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Procuring agency in connection therewith, to any person other than a person employed by the Supplier in the performance of the Contract. Disclosure to any such employed person shall be made in confidence and shall extend only so far as may be necessary for purposes of such performance.
- 52 The Supplier shall not, without the Procuring agency’s prior written consent, make use of any document or information enumerated in GCC Clause 5.1 except for purposes of performing the Contract.
- 53 Any document, other than the Contract itself, enumerated in GCC Clause 5.1 shall remain the property of the Procuring agency and shall be returned (all copies) to the Procuring agency on completion of the Supplier’s performance under the Contract if so required by the Procuring agency.

5.4 The Supplier shall permit the Procuring agency to inspect the Supplier's accounts and records relating to the performance of the Supplier and to have them audited by auditors appointed by the procuring agency, if so required.

**6. Patent Rights**

6.1 The Supplier shall indemnify the Procuring agency against all third-party claims of infringement of patent, trademark, or industrial design rights arising from use of the Goods or any part thereof in the Procuring agency's country.

**7. Performance Security**

7.1 Within twenty (20) days of receipt of the notification of Contract award, the successful Bidder shall furnish to the Procuring agency the performance security in the amount specified in SCC.

7.2 The proceeds of the performance security shall be payable to the Procuring agency as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

7.3 The performance security shall be denominated in the currency of the Contract acceptable to the Procuring agency and shall be in one of the following forms:

(a) a bank guarantee or an irrevocable letter of credit issued by a reputable bank located in the Procuring agency's country, in the form provided in the bidding documents or another form acceptable to the Procuring agency; or

(b) a cashier's or certified check.

7.4 The performance security will be discharged by the Procuring agency and returned to the Supplier not later than thirty (30) days following the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in SCC.

**8. Inspections and Tests**

8.1 The Procuring agency or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Procuring agency. SCC and the Technical Specifications shall specify what inspections and tests the Procuring agency requires and where they are to be conducted. The Procuring agency shall notify the Supplier in writing, in a timely manner, of the identity of any representatives retained for these purposes.

8.2 The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at point of delivery, and/or at

the Goods' final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Procuring agency.

- 83 Should any inspected or tested Goods fail to conform to the Specifications, the Procuring agency may reject the Goods, and the Supplier shall either replace the rejected Goods or make alterations necessary to meet specification requirements free of cost to the Procuring agency.
- 84 The Procuring agency's right to inspect, test and, where necessary, reject the Goods after the Goods' arrival in the Procuring agency's country shall in no way be limited or waived by reason of the Goods having previously been inspected, tested, and passed by the Procuring agency or its representative prior to the Goods' shipment from the country of origin.
- 85 Nothing in GCC Clause 8 shall in any way release the Supplier from any warranty or other obligations under this Contract.

## **9. Packing**

- 9.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.
- 9.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract, including additional requirements, if any, specified in SCC, and in any subsequent instructions ordered by the Procuring agency.

## **10. Delivery and Documents**

- 10.1 Delivery of the Goods shall be made by the Supplier in accordance with the terms specified in the Schedule of Requirements. The details of shipping and/or other documents to be furnished by the Supplier are specified in SCC.
- 10.2 Documents to be submitted by the Supplier are specified in SCC.

- 11. Insurance** 11.1 The Goods supplied under the Contract shall be delivered duty paid (DDP) under which risk is transferred to the buyer after having been delivered, hence insurance coverage is sellers responsibility.
- 12. Transportation** 12.1 The Supplier is required under the Contract to transport the Goods to a specified place of destination within the Procuring agency's country, transport to such place of destination in the Procuring agency's country, including insurance and storage, as shall be specified in the Contract, shall be arranged by the Supplier, and related costs shall be included in the Contract Price.
- 13. Incidental Services** 13.1 The Supplier may be required to provide any or all of the following services, including additional services, if any, specified in SCC:
- (a) performance or supervision of on-site assembly and/or start-up of the supplied Goods;
  - (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods;
  - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods;
  - (d) performance or supervision or maintenance and/or repair of the supplied Goods, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
  - (e) training of the Procuring agency's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods.
- 13.2 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged for other parties by the Supplier for similar services.
- 14. Spare Parts** 14.1 As specified in SCC, the Supplier may be required to provide any or all of the following materials, notifications, and information pertaining to spare parts manufactured or distributed by the Supplier:

- (a) such spare parts as the Procuring agency may elect to purchase from the Supplier, provided that this election shall not relieve the Supplier of any warranty obligations under the Contract; and
- (b) in the event of termination of production of the spare parts:
  - (i) advance notification to the Procuring agency of the pending termination, in sufficient time to permit the Procuring agency to procure needed requirements; and
  - (ii) following such termination, furnishing at no cost to the Procuring agency, the blueprints, drawings, and specifications of the spare parts, if requested.

## **15. Warranty**

- 15.1 The Supplier warrants that the Goods supplied under the Contract are new, unused, of the most recent or current models, and that they incorporate all recent improvements in design and materials unless provided otherwise in the Contract. The Supplier further warrants that all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship (except when the design and/or material is required by the Procuring agency's specifications) or from any act or omission of the Supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.
- 15.2 This warranty shall remain valid for twelve (12) months after the Goods, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the Contract, or for eighteen (18) months after the date of shipment from the port or place of loading in the source country, whichever period concludes earlier, unless specified otherwise in SCC.
- 15.3 The Procuring agency shall promptly notify the Supplier in writing of any claims arising under this warranty.
- 15.4 Upon receipt of such notice, the Supplier shall, within the period specified in SCC and with all reasonable speed, repair or replace the defective Goods or parts thereof, without costs to the Procuring agency.
- 15.5 If the Supplier, having been notified, fails to remedy the defect(s)

within the period specified in SCC, within a reasonable period, the Procuring agency may proceed to take such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Procuring agency may have against the Supplier under the Contract.

## **16. Payment**

16.1 The method and conditions of payment to be made to the Supplier under this Contract shall be specified in SCC.

16.2 The Supplier's request(s) for payment shall be made to the Procuring agency in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Services performed, and by documents submitted pursuant to GCC Clause 10, and upon fulfillment of other obligations stipulated in the Contract.

16.3 Payments shall be made promptly by the Procuring agency, but in no case later than sixty (60) days after submission of an invoice or claim by the Supplier.

16.4 The currency of payment is Pak. Rupees.

## **17. Prices**

17.1 Prices charged by the Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in SCC or in the Procuring agency's request for bid validity extension, as the case may be.

## **18. Change Orders**

18.1 The Procuring agency may at any time, by a written order given to the Supplier pursuant to GCC Clause 31, make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods to be furnished under the Contract are to be specifically manufactured for the Procuring agency;
- (b) the method of shipment or packing;
- (c) the place of delivery; and/or
- (d) the Services to be provided by the Supplier.

18.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier's performance of any provisions under the Contract, an equitable adjustment shall be



made in the Contract Price or delivery schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this clause must be asserted within thirty (30) days from the date of the Supplier's receipt of the Procuring agency's change order.

**19. Contract Amendments**

19.1 Subject to GCC Clause 18, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

**20. Assignment**

20.1 The Supplier shall not assign, in whole or in part, its obligations to perform under this Contract, except with the Procuring agency's prior written consent.

**21. Subcontracts**

21.1 The Supplier shall notify the Procuring agency in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in the original bid or later, shall not relieve the Supplier from any liability or obligation under the Contract.

21.2 Subcontracts must comply with the provisions of GCC Clause 3.

**22. Delays in the Supplier's Performance**

22.1 Delivery of the Goods and performance of Services shall be made by the Supplier in accordance with the time schedule prescribed by the Procuring agency in the Schedule of Requirements.

22.2 If at any time during performance of the Contract, the Supplier or its subcontractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Procuring agency in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Procuring agency shall evaluate the situation and may at its discretion extend the Supplier's time for performance, with or without liquidated damages, in which case the extension shall be ratified by the parties by amendment of Contract.

22.3 Except as provided under GCC Clause 25, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of liquidated damages pursuant to GCC Clause 23, unless an extension of time is agreed upon pursuant to GCC Clause 22.2 without the application of liquidated damages.

**23. Liquidated**

23.1 Subject to GCC Clause 25, if the Supplier fails to deliver any or

## **Damages**

all of the Goods or to perform the Services within the period(s) specified in the Contract, the Procuring agency shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in SCC of the delivered price of the delayed Goods or unperformed Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in SCC. Once the maximum is reached, the Procuring agency may consider termination of the Contract pursuant to GCC Clause 24.

## **24. Termination for Default**

24.1 The Procuring agency, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate this Contract in whole or in part:

- (a) if the Supplier fails to deliver any or all of the Goods within the period(s) specified in the Contract, or within any extension thereof granted by the Procuring agency pursuant to GCC Clause 22; or
- (b) if the Supplier fails to perform any other obligation(s) under the Contract.
- (c) if the Supplier, in the judgment of the Procuring agency has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this clause:

“corrupt practice” means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution.

“fraudulent practice” means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition.

24.2 In the event the Procuring agency terminates the Contract in whole or in part, pursuant to GCC Clause 24.1, the Procuring agency may procure, upon such terms and in such manner as it deems appropriate, Goods or Services similar to those

undelivered, and the Supplier shall be liable to the Procuring agency for any excess costs for such similar Goods or Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.

**25. Force Majeure** 25.1 Notwithstanding the provisions of GCC Clauses 22, 23, and 24, the Supplier shall not be liable for forfeiture of its performance security, liquidated damages, or termination for default if and to the extent that its delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

25.2 For purposes of this clause, “Force Majeure” means an event beyond the control of the Supplier and not involving the Supplier’s fault or negligence and not foreseeable. Such events may include, but are not restricted to, acts of the Procuring agency in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

25.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Procuring agency in writing of such condition and the cause thereof. Unless otherwise directed by the Procuring agency in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

**26. Termination for Insolvency** 26.1 The Procuring agency may at any time terminate the Contract by giving written notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Procuring agency.

**27. Termination for Convenience** 27.1 The Procuring agency, by written notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that termination is for the Procuring agency’s convenience, the extent to which performance of the Supplier under the Contract is terminated, and the date upon which such termination becomes effective.

27.2 The Goods that are complete and ready for shipment within thirty (30) days after the Supplier’s receipt of notice of termination shall be accepted by the Procuring agency at the

Contract terms and prices. For the remaining Goods, the Procuring agency may elect:

- (a) to have any portion completed and delivered at the Contract terms and prices; and/or
- (b) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods and Services and for materials and parts previously procured by the Supplier.

**28. Resolution of Disputes**

28.1 The Procuring agency and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

28.2 If, after thirty (30) days from the commencement of such informal negotiations, the Procuring agency and the Supplier have been unable to resolve amicably a Contract dispute, either party may require that the dispute be referred for resolution to the formal mechanisms specified in SCC. These mechanisms may include, but are not restricted to, conciliation mediated by a third party, adjudication in an agreed manner and/or arbitration.

**29. Governing Language**

29.1 The Contract shall be written in the language specified in SCC. Subject to GCC Clause 30, the version of the Contract written in the specified language shall govern its interpretation. All correspondence and other documents pertaining to the Contract which are exchanged by the parties shall be written in the same language.

**30. Applicable Law**

30.1 The Contract shall be interpreted in accordance with the laws of the Procuring agency's country, unless otherwise specified in SCC.

**31. Notices**

31.1 Any notice given by one party to the other pursuant to this Contract shall be sent to the other party in writing or by cable, telex, or facsimile and confirmed in writing to the other party's address specified in SCC.

31.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.

**32. Taxes and Duties**

32.1 Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods to the Procuring agency.

# **SINDH PUBLIC PROCUREMENT REGULATORY AUTHORITY**

## **STANDARD FORM OF BIDDING DOCUMENT FOR PROCUREMENT OF GOODS & SERVICES**

---

**Tender For Supplying, Installation, Testing &  
Commissioning Of New Imported Passenger Elevator  
(Lifts) 02 Nos. For I.T Block Sindh Madressatul Islam  
University (SMIU) City Campus, Karachi.**

---

### **PART TWO (PROCUREMENT SPECIFIC PROVISIONS)**

- Invitation for Bids (IFB)
- Bid Data Sheet (BDS)
- Special Conditions of Contract (SCC)
- Schedule of Requirements
- Technical Specifications
- Sample Form
- Eligibility

## **Table of Contents - Part Two**

**SECTION I. INVITATION FOR BIDS**.....

**SECTION II. BID DATA SHEET**.....

**SECTION III. SPECIAL CONDITIONS OF CONTRACT**.....

**TABLE OF CLAUSES**.....

**SECTION IV. SCHEDULE OF REQUIREMENTS**.....

**SECTION V. TECHNICAL SPECIFICATIONS**.....

**SECTION VI. SAMPLE FORMS** .....

**SAMPLE FORMS**.....

1. *Bid Form and Price Schedules*.....
2. *Bid Security Form*.....
3. *Contract Form*.....
4. *Performance Security Form*.....
5. *Bank Guarantee for Advance Payment*.....
6. *Manufacturer's Authorization Form*.....



## SINDH MADRESSATUL ISLAM UNIVERSITY

Aiwan-e-Tijarat Road, Karachi-74000.

Phones: +92-21-99217501-02-03 Ext: 324 Fax:+92-21-99217504

Email: [info@smiu.edu.pk](mailto:info@smiu.edu.pk), URL <http://www.smiu.edu.pk/>

NO. SMIU/TEND/2019-2020-04

Date: 19<sup>th</sup> July, 2019

### **NOTICE INVITING TENDER**

Sealed bids on item rate basis are invited on prescribed bidding documents from experienced specialist vendors/firms interested to participate for the work mentioned below. The interested firms shall submit their tender based on single stage – one envelope procedure as per Rules No 46 (1) of SPPRA-Rules 2010 (Amended-2019):-

No	Name of Work	Bid Security	Tender Fee	Time for Completion
1.	Supplying, Installation, Testing & Commissioning of new Passenger Elevators (Lifts) 02 Nos for I.T block Sindh Madressatul Islam University (SMIU) City Campus, Karachi.	2% of Bid Price	Rs. 5,000/-	03 Months

### **Terms & Conditions:**

- 1- Interested firms can obtain Tender Documents from the office of Director (Works & Services), Sindh Madressatul Islam University, Karachi by furnishing a written request duly appended with a Pay Order / Demand Draft as Tender Fee (non-refundable) amounting to Rs. 5,000/- in favour of Sindh Madressatul Islam University, on any working day during office hours from **Tuesday 23<sup>rd</sup> July, 2019** to **Tuesday 6<sup>th</sup> August 2019** and can be download from SPPRA website: [www.pprasindh.gov.pk](http://www.pprasindh.gov.pk) and SMI- University website: [www.smiu.edu.pk](http://www.smiu.edu.pk)
- 2- Sealed Tenders will be received back on **Wednesday 7<sup>th</sup> August, 2019 by 02-00 PM** and will be opened by the SMI U Procurement Committee in the presence of the bidders or their authorized representatives who wish to be present, on same day at **02-30 PM** in the **Conference Room No. 02, first floor Main Building, Sindh Madressatul Islam University, Aiwan-e- Tijarat Road Behind HBL Plaza, Karachi.**
- 3- **Eligibility Criteria:**
  - a. Valid registration with Pakistan Engineering Council (PEC) category C-6 or above in the relevant field of specialization of work in ME 03and EE04.
  - b. Similar nature projects successfully completed with cumulative cost greater than 200 million with work orders and completion certificate issued by respective Clients duly appended with bid proposal.
  - c. Registration with income tax department (NTN certificates) with active status in Federal Board of Revenue duly appended with bid proposal.
  - d. Registration certificate of GST and SRB duly appended with bid proposal.
  - e. Bio Data of Engineering and Technical Staff working with the firm along with attested CVs.
  - f. Documentary evidence of work executed / works in progress and certificate of satisfactory completion of works by the employers during at least last three years. List of works should indicate cost of each work and copy of letter of award of work.

- g. List of machinery, equipment, tools & tackles on permanent inventory of bidder and available.
  - h. An affidavit certificate that the bidder firm has never been black listed by Government/ Semi Government / Autonomous / Private Bodies and that the firm has not been involved in any litigation and arbitration with Government/ Semi Government / Autonomous / Private Bodies.
  - i. In case of partners / partnership deed, giving full particulars of Directors/Proprietors or other connected in the partnership along with the Power of Attorney. In case of being sole proprietorship, such undertaking shall furnished on affidavit.
  - j. In case of joint ventures, same conditions to be fulfilled by both the firms.
  - k. Affidavit shall be submitted stating that all documents/ particulars/ information/data furnished with the bid proposal are true and correct.
  - l. The interested bidders must have turnover of at least 50 million for last three years.
- 4- Bid Validity Period: 90 days
- 5- Earnest Money at the rate of 2% of bid price should be submitted along with Bid Proposal in shape of Call Deposit/Pay order/Demand Draft/Bank Guarantee issued by any scheduled bank of Pakistan in favour of Sindh Madressatul Islam University Karachi.
- 6- Conditional bid proposals and/or bid proposals **without earnest money** shall not be considered.
- 7- Bids must be offered on the prescribed bidding documents issued by Sindh Madressatul Islam University or downloaded from SPPRA/SMIU website.
- 8- If interested firms/bidders download the tender documents from SPPRA or SMIU website, they will have to submit tender fee in the form of a Pay Order / Demand Draft (non-refundable) amounting to Rs. 5,000/- in favour of Sindh Madressatul Islam University along with the bid proposal. If the tender fee is not submitted with bid proposal, it will not be considered by the SMI U Procurement Committee.
- 9- Procuring Agency reserves the right to reject all or any bids subject to the relevant provisions of SPPRA Rules-2010 amended (2019).
- 10- In case any unforeseen situation resulting in closure of office on the date of opening or if Government declares Holiday, the tender shall be submitted/opened on the next working day at the same time and venue.

**Director (Works & Services)**



## Bid Data Sheet

The following specific data for the goods to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB) Part One. Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

<b>Introduction</b>	
<b>ITB 1.1</b>	<b>Name of Procuring Agency:</b> Sindh Madressatul Islam University, Karachi
<b>ITB 1.1</b>	Sindh Government Grant.
<b>ITB 1.1</b>	<b>Name of Project:</b> Development of SMIU Model School and University Academic Block at SMIU City Campus, Karachi.
<b>ITB 1.1</b>	<b>Name of Contract.</b> Supplying, Installation, testing and commissioning new Passenger Elevators (Lifts) 02 Nos. for I.T block Sindh Madressatul Islam University (SMIU), City Campus, Karachi
<b>ITB 4.1</b>	<b>Name of Procuring agency.</b> Sindh Madressatul Islam University, Karachi.
<b>ITB 6.1</b>	<b>Procuring Agency's address, telephone, telex, and facsimile numbers:</b> Aiwan-e-Tijarat Road, Behind HBL Plaza, Karachi-74000, Pakistan. Phone 021-99217501-3, Fax. 021-99211274
<b>ITB 8.1</b>	<b>Language of the bid.</b> English

<b>Bid Price and Currency</b>	
<b>ITB 11.2</b>	The Bid Proposal must be quoted in Pak Rupees as per the given BOQ including cost of material, labor, insurances, incidentals, applicable duties & taxes, contractors overheads & profits etc.
<b>ITB 11.5</b>	The price shall be fixed,

<b>Preparation and Submission of Bids</b>	
<b>ITB 13.3 (d)</b>	<b>Qualification requirements:</b> As per details in the NIT.
<b>ITB 14.3 (b)</b>	<b>Spare parts:</b> Required for One (01) year of operation after Defects Liability Period.
<b>ITB 15.1</b>	<b>Amount of bid security.</b> 2% of bid price in shape of Call Deposit /Pay Order/Demand Draft/Bank Guarantee issued by any scheduled bank of Pakistan in favor of Sindh Madressatul Islam
<b>ITB 16.1</b>	<b>Bid validity period:</b> 90 days from the date of opening of bid.
<b>ITB 17.1</b>	<b>Number of copies:</b> One Original + 1 copy
<b>ITB 18.2 (a)</b>	<b>Address for bid submission:</b> Conference Room No. 02, first floor, Main Building, Sindh Madressatul Islam University, Aiwan-e- Tijarat Road Behind HBL Plaza, Karachi.
<b>ITB 18.2 (b)</b>	<b>IFB title and number.</b> SMIU/TEND/2019-2020-
<b>ITB 19.1</b>	Deadline for bid submission. As per details in the NIT.
<b>ITB 22.1</b>	Time, date, and place for bid opening. As per details in the NIT.

<b>Bid Evaluation</b>	
<b>ITB 25.3</b>	Criteria for bid evaluation. <ol style="list-style-type: none"> <li>1. Lowest Bid Amount.</li> <li>2. Prompt delivery Schedule forming part of Bid.</li> <li>3. Comprehensive assurance from principals for availability of Spare Parts &amp; after Sales Services through their local counterparts.</li> <li>4. No deviation from prescribed payment schedule.</li> </ol>

<b>ITB 25.4 (c) (ii)</b>	Deviation in payment schedule. Not Applicable
<b>ITB 25.4 (d)</b>	Cost of spare parts. <i>As per BOQ</i>
<b>ITB 25.4 (f)</b>	Operating and maintenance costs. <i>Maintenance Cost as per BOQ.</i>
<b>ITB 25.4 (g)</b>	Performance and productivity of equipment. The offered equipment should match with the given specification or an improved performance Data.
<b>ITB 25.4 (h)</b>	Evaluation and selection shall be based on the Specifications, warranties and performance details of the equipment offered.
<b>Contract Award</b>	
<b>ITB 29.1</b>	Percentage for quantity increase or decrease. (N/A)

## Table of Clauses

1. DEFINITIONS (GCC CLAUSE 1).....	
2. COUNTRY OF ORIGIN (GCC CLAUSE 3).....	
3. PERFORMANCE SECURITY (GCC CLAUSE 7).....	
4. INSPECTIONS AND TESTS (GCC CLAUSE 8).....	
5. PACKING (GCC CLAUSE 9).....	
6. DELIVERY AND DOCUMENTS (GCC CLAUSE 10).....	
7. INSURANCE (GCC CLAUSE 11).....	
8. INCIDENTAL SERVICES (GCC CLAUSE 13).....	
9. SPARE PARTS (GCC CLAUSE 14).....	
10. WARRANTY (GCC CLAUSE 15) .....	
11. PAYMENT (GCC CLAUSE 16) .....	
12. PRICES (GCC CLAUSE 17).....	
13. LIQUIDATED DAMAGES (GCC CLAUSE 23) .....	
14. RESOLUTION OF DISPUTES (GCC CLAUSE 28).....	
15. GOVERNING LANGUAGE (GCC CLAUSE 29).....	
16. NOTICES (GCC CLAUSE 31).....	

## Special Conditions of Contract

The following Special Conditions of Contract shall supplement the General Conditions of Contract. Whenever there is a conflict, the provisions herein shall prevail over those in the General Conditions of Contract. The corresponding clause number of the GCC is indicated in parentheses.

### 1. Definitions (GCC Clause 1)

GCC 1.1 (g)—The Procuring agency is: **Sindh Madressatul Islam University (SMIU), Karachi.**

GCC 1.1 (h)—The Procuring agency's country is: **Pakistan.**

GCC 1.1 (i)—The Supplier is:

#### *Sample Provision*

GCC 1.1 (j)—The Project Site is: Sindh Madressatul Islam University City Campus, I.T Block, Aiwan-e-Tijarat Road, Behind HBL Plaza, Karachi-74000,

### 2. Country of Origin (GCC Clause 3)

Refer details given in Technical Specification Part-1 (1.3) of the bidding documents.

### 3. Performance Security (GCC Clause 7)

GCC 7.1—The bidder must submit within seven (07) days from the date of notification for award of contract, performance security @10% of the Contract Price in the form of Call Deposit/Pay order/Demand Draft/bank guarantee from any scheduled bank in Pakistan which shall be held and returned after maintenance / warranty period / defect liability period of one year.

On receipt of 10% Performance Security, 2% Bid Security will be refunded.

### 4. Inspections and Tests (GCC Clause 8)

GCC 8.6—The prescribed equipment will be checked, tested and a Quality Control Certificate will have to issued by the Principal Company stating that complete equipment meets the specifications and the equipment has complied and passed all prescribed tests.

### 5. Packing (GCC Clause 9)

Same as per GCC 9

### 6. Delivery and Documents (GCC Clause 10)

GCC 10.3—Upon shipment, the Supplier shall immediately notify the Procuring Agency, full details of the shipment, including Contract number, description of

Goods, quantity and usual transport document. The Supplier shall mail the following documents to the Procuring Agency:

- (i) copies of the Supplier's invoice showing Goods' description, quantity, unit price, and total amount;
- (ii) original and two copies of the usual transport document (for example, a negotiable bill of lading, a non-negotiable sea waybill, an inland waterway document, an air waybill, a railway consignment note, a road consignment note, or a multimodal transport document) which the buyer may require to take the goods;
- (iii) copies of the packing list identifying contents of each package;
- (iv) insurance certificate;
- (v) Manufacturer's or Supplier's warranty and QA & QC Certificates;
- (vi) Inspection certificate, issued by the nominated inspection agency, and the Supplier's factory inspection report; and
- (vii) Certificate of origin.

#### **7. Insurance (GCC Clause 11)**

GCC 11.1— The insurance of complete equipment during shipment, transportation to site, installation and warranty period shall be the responsibility of the vendor/firm awarded this contract.

#### **8. Incidental Services (GCC Clause 13)**

GCC 13.1—Incidental services to be provided are mentioned in GCC clause 13 and the cost of Incidental services are included in the Contract Price.

#### **9. Spare Parts (GCC Clause 14)**

GCC 14.1—Additional spare parts requirements are:

GCC 14.1—Supplier/ Vendor will provide a complete list of fast consumable items required for the maintenance of the machine as well as all essential spare required to maintain sufficient inventories with the Procuring Agency enabling smooth operations for the next two years. The cost of all essential spares should be quoted in the BOQ. The vendor will also guarantee for availability of all spare during the next 5 years from the date of commissioning and hand-over of the elevators.

#### **10. Warranty (GCC Clause 15)**

GCC 15.2— The Vendor/Supplier shall provide a comprehensive warranty of the complete equipment including its performance for one years from the date of commissioning of the elevator and its handing over. Vendor/Supplier will have all performance tests conducted at their own cost and expense to ensure that elevator performance satisfactorily during one year post commissioning.

#### **11. Payment (GCC Clause 16)**

GCC 16.1—The method and conditions of payment to be made to the

Vendor/Supplier under this Contract shall be as follows:

**Payment for Goods supplied:**

Payment shall be made in Pak. Rupees in the following manner upon submission of the Bank Guarantee against the payment of S.No (i) to (iii) from any schedule Bank in Pakistan.

- (i) 25% percent of the Goods Price shall be paid on confirmation of order.
- (ii) 30% percent payment of the Goods Price shall be made on arrival of material, inspection and its confirmation at Karachi Port.
- (iii) 15% percent of the Good Price on successful completion of guide rails & landing doors.
- (iv) 30% percent of the Good Price shall be paid on successful installation, testing, commissioning and handing over.

**12. Prices (GCC Clause 17)**

GCC 17.1— Prices charged by the Vendor/Supplier for Goods delivered and Services performed under the Contract shall not vary from the prices quoted in the approved bid.

**13. Liquidated Damages (GCC Clause 23)**

GCC 23.1—Applicable rate:

If the Vendor/Supplier fail to complete the work within the stipulated time, liquidated damages at the rate of 50,000/ per day shall be recovered from Supplier subject to the maximum of 10% (ten percent) of the agreed bid/contract price.

**14. Resolution of Disputes (GCC Clause 28)**

GCC 28.3—The dispute resolution mechanism to be applied pursuant to GCC Clause 28.2 shall be as follows:

In the case of a dispute between the Procuring Agency and the Vendor/Supplier, the dispute shall be referred to the Vice Chancellor **Sindh Madressatul Islam University (SMIU)** for adjudication or arbitration and the decision of the Vice Chancellor shall be binding for the Vendor/Supplier.

**15. Governing Language (GCC Clause 29)**

GCC 29.1—The Governing Language shall be: **English**

**16. Applicable Law (GCC Clause 30)**

GCC 30.1-The Contract shall be interpreted in accordance with the laws of Islamic Republic of Pakistan which includes the following legislation:

**The Employment of Children (ECA) Act 1991**

**The Bonded Labour System (Abolition) Act of  
1992 The Factories Act 1934**

**17. Notices (GCC Clause 31)**

GCC 31.1—Procuring Agency’s address for notice purposes: Aiwan-i-Tijarat Road,  
Behind Habib Bank Plaza, Karachi

—Supplier’s address for notice purposes: \_\_\_\_\_



### **Schedule of Requirements**

The delivery schedule expressed as weeks/months stipulates hereafter a delivery date which is the date of delivery required.

<b>Number</b>	<b>Description</b>	<b>Quantity</b>	<b>Delivery schedule (shipment) in weeks/months from_____<sup>1</sup></b>
---------------	--------------------	-----------------	---

**Time Limit / Completion Period is same as mentioned in NIT  
i.e 03 Months**

**Technical Specifications is enclosed as Volume-II to this  
document**

**Sample Forms**

- 1. *BID FORM AND PRICE SCHEDULES*.....
- 2. *BID SECURITY FORM*.....
- 3. *CONTRACT FORM*.....
- 4. *PERFORMANCE SECURITY FORM*.....
- 5. *BANK GUARANTEE FOR ADVANCE PAYMENT*.....
- 6. *MANUFACTURER’S AUTHORIZATION FORM*.....

# 1. Bid Form and Price Schedules

Date: \_\_\_\_\_  
 IFB N°: \_\_\_\_\_

To: *[name and address of Procuring Agency]*

Gentlemen and/or Ladies:

Having examined the bidding documents including Addenda Nos. *[insert numbers]*, the receipt of which is hereby duly acknowledged, we, the undersigned, offer to supply and deliver *[description of goods and services]* in conformity with the said bidding documents for the sum of *[total bid amount in words and figures]* or such other sums as may be ascertained in accordance with the Schedule of Prices attached herewith and made part of this Bid.

We undertake, if our Bid is accepted, to deliver the goods in accordance with the delivery schedule specified in the Schedule of Requirements.

If our Bid is accepted, we will obtain the guarantee of a bank in a sum equivalent to 10% percent of the Contract Price for the due performance of the Contract, in the form prescribed by the Procuring agency.

We agree to abide by this Bid for a period of *[number]* days from the date fixed for Bid opening under Clause 22 of the Instructions to Bidders, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

Until a formal Contract is prepared and executed, this Bid, together with your written acceptance thereof and your notification of award, shall constitute a binding Contract between us.

Commissions or gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded the contract, are listed below:

Name and address of agent	Amount and Currency	Purpose of Commission or gratuity
_____	_____	_____
_____	_____	_____
_____	_____	_____
(if none, state "none")		

We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this \_\_\_\_\_ day of \_\_\_\_\_ 19 \_\_\_\_\_.

*[signature]* \_\_\_\_\_

*[in the capacity of]* \_\_\_\_\_

Duly authorized to sign Bid for and on behalf of \_\_\_\_\_

**Price Schedule in Pak. Rupees is enclosed as Volume-III to this Document.**

## 2. Bid Security Form

Whereas *[name of the Bidder]* (hereinafter called “the Bidder”) has submitted its bid dated *[date of submission of bid]* for the supply of *[name and/or description of the goods]* (hereinafter called “the Bid”).

KNOW ALL PEOPLE by these presents that WE *[name of bank]* of *[name of country]*, having our registered office at *[address of bank]* (hereinafter called “the Bank”), are bound unto *[name of Procuring agency]* (hereinafter called “the Procuring agency”) in the sum of for which payment well and truly to be made to the said Procuring agency, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this \_\_\_ day of \_\_\_\_\_ 19\_.

THE CONDITIONS of this obligation are:

1. If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or
2. If the Bidder, having been notified of the acceptance of its Bid by the Procuring agency during the period of bid validity:
  - (a) fails or refuses to execute the Contract Form, if required; or
  - (b) fails or refuses to furnish the performance security, in accordance with the Instructions to Bidders;

we undertake to pay to the Procuring agency up to the above amount upon receipt of its first written demand, without the Procuring agency having to substantiate its demand, provided that in its demand the Procuring agency will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including twenty eight (28) days after the period of bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

\_\_\_\_\_  
*[signature of the bank]*

### 3. Contract Form

THIS AGREEMENT made the \_\_\_\_\_ day of \_\_\_\_\_ 19\_\_\_\_ between *[name of Procuring Agency]* of *[country of Procuring agency]* (hereinafter called “the Procuring agency”) of the one part and *[name of Supplier]* of *[city and country of Supplier]* (hereinafter called “the Supplier”) of the other part:

WHEREAS the Procuring agency invited bids for certain goods and ancillary services, viz., *[brief description of goods and services]* and has accepted a bid by the Supplier for the supply of those goods and services in the sum of *[contract price in words and figures]* (hereinafter called “the Contract Price”).

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
  - (a) the Bid Form and the Price Schedule submitted by the Bidder;
  - (b) the Schedule of Requirements;
  - (c) the Technical Specifications;
  - (d) the General Conditions of Contract;
  - (e) the Special Conditions of Contract; and
  - (f) the Procuring agency’s Notification of Award.
3. In consideration of the payments to be made by the Procuring agency to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Procuring agency to provide the goods and services and to remedy defects therein in conformity in all respects with the provisions of the Contract
4. The Procuring agency hereby covenants to pay the Supplier in consideration of the provision of the goods and services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the contract at the times and in the manner prescribed by the contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, sealed, delivered by \_\_\_\_\_ the \_\_\_\_\_ (for the Procuring agency)

Signed, sealed, delivered by \_\_\_\_\_ the \_\_\_\_\_ (for the Supplier)



#### 4. Performance Security Form

To: *[name of Procuring agency]*

WHEREAS *[name of Supplier]* (hereinafter called “the Supplier”) has undertaken, in pursuance of Contract No. *[reference number of the contract]* dated \_\_\_\_\_ 19\_\_\_\_ to supply *[description of goods and services]* (hereinafter called “the Contract”).

AND WHEREAS it has been stipulated by you in the said Contract that the Supplier shall furnish you with a bank guarantee by a reputable bank for the sum specified therein as security for compliance with the Supplier’s performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Supplier a guarantee:

THEREFORE WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Supplier, up to a total of *[amount of the guarantee in words and figures]*, and we undertake to pay you, upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within the limits of *[amount of guarantee]* as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the \_\_\_\_\_ day of \_\_\_\_\_ 19\_.

Signature and seal of the Guarantors

\_\_\_\_\_  
*[name of bank or financial institution]*

\_\_\_\_\_  
*[address]*

\_\_\_\_\_  
*[date]*

## 5. Bank Guarantee for Advance Payment

To: *[name of Procuring agency]*

*[name of Contract]*

Gentlemen and/or Ladies:

In accordance with the payment provision included in the Special Conditions of Contract, which amends Clause 16 of the General Conditions of Contract to provide for advance payment, *[name and address of Supplier]* (hereinafter called "the Supplier") shall deposit with the Procuring agency a bank guarantee to guarantee its proper and faithful performance under the said Clause of the Contract in an amount of *[amount of guarantee in figures and words]*.

We, the *[bank or financial institution]*, as instructed by the Supplier, agree unconditionally and irrevocably to guarantee as primary obligor and not as surety merely, the payment to the Procuring agency on its first demand without whatsoever act of objection on our part and without its first claim to the Supplier, in the amount not exceeding *[amount of guarantee in figures and words]*.

We further agree that no change or addition to or other modification of the terms of the Contract to be performed thereunder or of any of the Contract documents which may be made between the Procuring agency and the Supplier shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition, or modification.

This guarantee shall remain valid and in full effect from the date of the advance payment received by the Supplier under the Contract until *[date]*.

Yours truly,

Signature and seal of the Guarantors

\_\_\_\_\_  
*[name of bank or financial institution]*

\_\_\_\_\_  
*[address]*

\_\_\_\_\_  
*[date]*

## 6. **Manufacturer's Authorization Form**

[See Clause 13.3 (a) of the Instructions to Bidders.]

To: *[name of the Procuring agency]*

WHEREAS *[name of the Manufacturer]* who are established and reputable manufacturers of *[name and/or description of the goods]* having factories at *[address of factory]*

do hereby authorize *[name and address of Agent]* to submit a bid, and subsequently negotiate and sign the Contract with you against IFB No. *[reference of the Invitation to Bid]* for the above goods manufactured by us.

We hereby extend our full guarantee and warranty as per Clause 15 of the General Conditions of Contract for the goods offered for supply by the above firm against this Invitation for Bids.

*[signature for and on behalf of Manufacturer]*

---

*Note:* This letter of authority should be on the letterhead of the Manufacturer and should be signed by a person competent and having the power of attorney to bind the Manufacturer. It should be included by the Bidder in its bid.

**VOLUME-II**  
**TECHNICAL SPECIFICATION**

# **SMIU CAMPUS KARACHI IT BLOCK**

**TENDER DOCUMENT**  
**Vertical Transportation System**  
Technical Specifications

# **SPECIFICATIONS**

## TABLE OF CONTENTS

### Contents

PART 1 – GENERAL.....	1
1.1 SCOPE .....	1
1.2 COMPLIANCE WITH REGULATIONS/STANDARDS.....	2
1.3 PRODUCTS .....	3
1.4 SUBMITTALS AND SAMPLES .....	4
1.5 MAINTENANCE.....	5
1.6 MATERIALS .....	6
1.7 ELEVATOR CARS: .....	7
1.8 KEYS .....	7
1.9 HOISTING.....	8
PART 2 – TECHNICAL SPECIFICATIONS.....	8
2.1 ELEVATORS SCHEDULES .....	8
2.2 PERFORMANCE.....	11
2.3 NOISE AND VIBRATION CONTROL.....	12
2.4 CONTROL SYSTEM.....	13
2.5 MACHINE ROOM EQUIPMENT.....	18
2.6 HOISTWAY EQUIPMENT .....	21
2.7 HOISTWAY ENTRANCES .....	24
2.8 CAR EQUIPMENT .....	25
2.9 CAR ENCLOSURES .....	30
2.10 CONTROL AND SIGNAL FIXTURES .....	33
2.11 COMMUNICATION SYSTEMS .....	36
2.12 ELEVATOR SEISMIC DESIGNS AND EMERGENCY OPERATIONS.....	38
PART 3 – EXECUTION .....	39
3.1 SITE CONDITIONS AND INSPECTION .....	39
3.2 PRODUCT DELIVERY, STORAGE AND HANDLING .....	39
3.3 INSTALLATION .....	39

3.4	FIELD QUALITY CONTROL.....	40
3.5	ADJUSTMENTS.....	40
3.6	CLEANUP AND TOUCHUP.....	41
3.7	ACCEPTANCE INSPECTIONS AND TEST.....	41
3.8	OWNER'S INFORMATION.....	43
3.9	OWNER'S PERSONNEL TRAINING.....	44
3.10	WARRANTY INSPECTION.....	44



## ELECTRIC TRACTION ELEVATORS

### PART 1 – GENERAL

#### 1.1 SCOPE

- A. The specification included in this Section is intended to cover the complete provision and installation of Two (2) Machine Room Less (MRL) Passenger Elevators gearless traction elevators for the IT Building. All work and material necessary to accomplish this installation in a complete and appropriate manner, except that specifically excluded as “Work by Others”, shall be provided. This work is to be carried out in accordance with the requirements of international and local codes, which may govern the requirements of the installation.
- B. Applicable requirements of the following sections of this specifications apply to all work required under this section.
  - 1. Conditions of Contract.
  - 2. General Conditions of Contract.
- C. Work Installed, but Furnished by Others: (Refer Clause No. 1.8.B.6 & 2.4.G)
  - 1. A life safety, supervised “all building paging” speaker is to be installed in each elevator car canopy.
  - 2. A sound-powered firefighters’ telephone jack is to be installed in elevator car operating station for fire-fighters elevator.
  - 3. Security Card (proximity type) Readers Interface and Computer: Card reader, interface boards, security computer, monitor and keyboard for encoding, overriding, and monitoring restricted access floors on all passenger elevators and service / firefighters elevators. System compatible card readers shall be furnished and installed in each of the above elevators in the elevator main car operating stations with interface controllers and wiring to the machine room junction boxes by the Elevator Contractor. The contractor shall ensure the provisions for

security system related to elevators including data gathering panels in lift m/c rooms and coordinate the work.

4. Remote CCTV color monitors to display elevator car camera signals and hook up to Cat-6 trail cable run to machine room junction boxes. CCTV color cameras shall be furnished in each of the listed elevators by the Building Contractor.

D. Work or Items Furnished, But Not Installed:

1. Three copies of elevator maintenance manuals, operating instructions, wiring diagrams and parts ordering manuals, and lubrication charts are to be furnished. Windows compatible CD or DVD disc containing this information are to be provided.
2. Elevator operating keys (five sets of each key).

## 1.2 COMPLIANCE WITH REGULATIONS/STANDARDS

A. Elevator Equipment shall comply with Manufacturer's Standards such as BS (EN), JIS or ASME and installation works shall comply with BS (EN) and local authorities' requirement.

1. Applicable International Building Code (IBC) 2003
2. Applicable Local Building Laws
3. Local Codes, Ordinances and Laws
4. BS 5655 Current Edition
5. ASME A17.1-2005 Safety Code for Elevators and Escalators
6. Elevator Inspectors' Manual, ASME A17.2-2004
7. BS 7671, Requirements for Electrical Installation, IEE Wiring Regulations, 17<sup>th</sup> Edition
8. National Electrical Code No. NFPA 70-2002

9. BS (EN) 81.1, Safety rules for Construction and Installation of Lifts – Electric Lifts.

10. BS 5588-5, Fire Precautions in the Design, Construction and use of Buildings, Part 5: Code of Practice for Firefighting stairs and lifts.

11. All lifts to comply with NFPA 101 Life Safety Code.

B. Permits: Obtain and pay for all local construction permits, commissioning inspections, and the first year's elevator operating permits.

C. Local codes shall have priority over all other codes in case of difference between codes.

### 1.3 PRODUCTS

A. Approved Manufacturers:

1. Gearless Elevators of the following manufacturers and countries of origin or Equivalent are approved brands.

- Sigma (Korea/China)
- Hyundai (Korea/China)
- Schindler (Europe/China)
- Thyssen Krupp (Europe/China)
- Kone (Europe/China)
- Otis (Europe/China)
- Suzhou Fuji (China)

a. Elevator contractor shall be capable of providing maintenance service, including adequate local parts inventory within the city of Karachi.

- b. Contractor shall be capable of providing 24-hour-a-day emergency service and respond to trouble calls within 1-1/2 to 2 hours and passenger entrapments within 30 minutes of notification.
- c. Contractor shall employ competent personnel, experienced in elevator maintenance.
- d. Contractor shall perform all maintenance during specified maintenance period and shall offer contract maintenance service to Owner. Maintenance service shall not be assigned or transferred.
- e. Elevator contractor shall be authorized sole representative of the manufacturer. A certificate of authorization from the principal shall be provided by contractor.

## 2. Guarantee:

- a. The materials and workmanship of the elevator apparatus installed shall comply in every respect with these specifications. Any defects (not due to ordinary wear and tear, or improper use or care) which may develop within 1 year from date of final acceptance and/or beneficial use of each individual elevator shall be corrected to the satisfaction of the Architect/Engineer at no additional cost.
- b. The Elevator Contractor shall make any and all modifications, adjustments and improvements to the elevator systems necessary to meet the performance requirements specified in Part 2.2 of these specifications.

### 1.4 SUBMITTALS AND SAMPLES

- A. Within 20 days after receipt of Notice to Proceed, submit soft copy of Windows CD or DVD and three copies of the shop drawings and required material for review. In general, the following are required:
  1. Shop Drawings: Equipment arrangement, entrances and car enclosures. Provide drawings at the following scale: hoistway sections 1:50; hoistway shaft details 1:50; hoistway and machine room plans 1:20; elevator cars and hoistway entrances 1:20; fixtures 1:10.

2. Design Data: Indicate equipment lists, reactions, rail loads and stacking plan, door weights, heat emissions, stack effect remediation, ride quality, wind loads, and relevant design information on layouts.
3. Power Data: Provide Kilowatts load, accelerating current, full-load running current, demand factor and regenerative loads for applicable motors and power conversion units.
4. Finish Material: Submit samples as per the Architect/Engineer's requirements. Submit samples of the following: 30 cm x 30 cm materials and finishes exposed to view; welded entrance frame detail, engraving (1 word in each size); extruded stainless steel car sill.
5. Fixtures: Submit cuts and shop drawings and samples of all fixtures including one of each of the following: each type of hall lantern; hall pushbutton; light fixture; car operating panel; color LCD display screen; elevator monitoring CRT, CPU and keyboard, etc.
6. Manufacturer's Certificates: Submit certificate of elevator performance with As-built drawings and documents. After adjustments, test, and inspections are performed, forward certificate signed by Elevator Manufacturer stating that the equipment and controls provide the level of elevator service and ride qualities specified. Include certification that elevator hoistway doors, frames, transom panels, hardware and accessories comply with specified fire rating requirements.

## 1.5 MAINTENANCE

- A. The Contractor shall provide maintenance service for 12 months, which shall include the following:
  1. Preventative maintenance on all equipment described herein for a period of 12 months commencing on date of final acceptance by Owner of each elevator unit, including unlimited 24-hour emergency callbacks. The maintenance shall include systematic examinations, adjustment, cleaning and lubrication of all equipment. The Contractor shall also repair or replace electrical and mechanical parts whenever required and shall use only genuine, standard parts produced by the Manufacturer of the equipment installed. Maintain elevator machine rooms, hoistways, and pits in clean condition.

2. All maintenance work shall be performed by competent personnel under the supervision and in the direct employment of the Contractor.
3. Consumable materials and spare parts for 12 months maintenance period shall be included in the bid price.
4. Preventive maintenance program indicating activities and their frequency shall be submitted with the bid.

## 1.6 MATERIALS

The materials shall comply with following standards:

- A. Steel: Low carbon, cold rolled to stretcher leveled standard flatness as per ASTM A366 for sheet steel and ASTM A36 for structural steel.
- B. Stainless Steel: Type 304 with No. 4 or 8-polished directional finish on exposed surfaces as per ASTM A167, as specified. Furnish to be as per Architect/Engineers requirements.
- C. Aluminum: Extrusions per ASTM B221; sheet and plate per ASTM B209.
- D. Paint: All exposed metal work furnished under this section, except as otherwise noted, shall be cleaned of oil, grease, scale and other foreign matter and factory painted with two coats of Manufacturer's standard rust-resistant primer. After erection, provide two finish coats of industrial enamel paint. Galvanized metal exposed inside of the hoistway or in the machine room need not be painted (except as noted). Field paint and touch up any ferrous metal that is exposed or welded during construction or installation.
- E. Prime Finish: Clean all surfaces receiving a baked enamel finish of oil, grease, scale, etc. Apply one coat of rust-resistant mineral paint followed by a filler coat over uneven surfaces. Sand smooth and apply final coat of mineral paint.
- F. Baked Enamel: Prime per "E" above. Apply and bake three additional coats of enamel in the solid color and finish as selected by the Architect.

## 1.7 ELEVATOR CARS:

- A. General – All Elevators complete cars shall be delivered to the jobsite by the contractor.

Elevator Contractors shall provide cars as specified in the relevant section of these specifications. The cars are to include all interior finishes, the ceiling and interior lighting. The car platforms, steel shells, plenums, emergency exits and contacts, front returns, transoms, and doors, sills, stiles, slings, safety plank, roller guides, headers, door operators, controls, toe guards, emergency exit and contacts are to be included in the bid.

- B. Cars: The Elevator Contractor shall provide all drawings and materials included in this specification and install the cars. The Elevator Contractor shall also be responsible for the following:

1. Provide and install all electrical controls and signal fixtures and wire complete.
2. Provide and install conduit and wiring to lighting and ventilating fixtures.
3. Provide and install car door headers, tracks and threshold.
4. Provide and install car door hangers and gibs on car doors and hang doors.
5. Provide and install car operating panels and position indicator controls, sound-powered telephone jacks, car telephones, service panels, and faceplates.
6. Install life safety speakers and CCTV cameras in car canopy and security card readers in car front return; cameras and card readers and speakers provided by Building Contractor (Refer clause 1.1C 3&4).

## 1.8 KEYS

- A. Five sets of keys to operate all keyed switches and locks shall be furnished upon completion. Keys shall be tagged properly. All keying shall be arranged with the Building Owner.

## 1.9 HOISTING

This clause is related to general attendance to be provided by Elevator Contractor at no extra cost as part of the contract for the following items:

- Unloading, distributing, hoisting craneage and lowering of materials, equipment machinery or the like.
- Scaffolding, including mobile platforms or provision of any specialist scaffolding.
- Provision of all specialist lifting, hoisting, craneage etc. for off loading, positioning and installation of services equipment.

## PART 2 – TECHNICAL SPECIFICATIONS

### 2.1 ELEVATORS SCHEDULES

<b>2.01 Passenger Elevators:</b>	<b>Machine Room Less (MRL) Type</b>
Number of Cars:	Two (2) Elevators
Capacity:	630 Kg (8 persons)
Speed:	1.0 m/s
Roping:	1:1 or 2:1
Control:	Sigma, Hyundai, Schindler, Thyssen Krupp, Kone, Otis, Suzhou Fuji make or Equivalent Brand Microprocessor based Duplex Selective Collective system (latest version)
Encoder:	Machine-Room Mounted, Digitally pulsed type
Motor Control:	ACV <sup>3</sup> F with automatic leveling and digital closed-loop motor feedback
Power Converter:	I.G.B.T. Converter/Inverter regenerative drives equipped with isolation transformers and EMI filter networks
Power Characteristics:	400 Volts, 3-Phase, 50 Hertz



Stops:	7 Stops and openings in line
Floors Served	G, 1- 6.
Travel:	73ft-6inch
Car Inside:	1100 Wide X 1400 Deep X 2175 High (To Dropped Ceiling)
Entrance Size:	800 Wide X 2100 High
Entrance Type:	2-Panel, Center Opening
Door Operation:	High-Speed, Heavy-Duty, Closed-Loop Master ACV <sup>3</sup> F Door Operator (Minimum Opening Speed 0.75-0.90m/Sec)
Door Protection:	Infrared, pulsed matrix proximity detectors with variable timing feature and nudging Door edge Mechanical Protection.
Machine:	Overhead Gearless Traction (ACV <sup>3</sup> F PMSM or Induction Type)
Guide Rails:	Planed Steel Tees
Buffers:	Oil, spring return with access ladders, inspection platforms and blocking
Compensation:	Wire Rope and Pit Sheaves
Car Enclosure:	As specified in relevant sections of these specifications
Entrances:	As specified in relevant sections of these specifications
Signals –	
Registration Lights:	Car and hall touch buttons wall mounted
Position Indicators:	Car (Dual Color LCD Digital Type), Lobby
Communication System:	Intercoms and Distress Signal System
Car Video Camera:	CCTV Pinhole Color Camera Installation and providing Cat-6 Trail Cables
Life Safety:	All Building Paging Speaker

Additional Features:-

Up fall and unintended car movement protection (individual, dual acting hoist machine emergency brakes, counterweight safeties or hoist machine rope brakes).

Car and Counterweight Roller Guides

Car Top Inspection Station

Access Panel in Car Ceiling

Automatic Emergency Landing Device, Battery Powered to lead car to nearest landing in event of power failure and doors to open

Emergency Car Lighting with Battery Packs, Chargers and a Test Button

Zone 2B Seismic Designs and Operations

Single Car Operating Panels

Hinged Car Front Return Panels

Car Card Reader Installation, Trail Cables and Interface Box

Hoistway Access Switches

Independent Service Feature

Platform Isolation

Load-Weighing Device (Pre-Dispatch and Hall Call Bypass)

False-Call Canceling

Conduits and Remote Wiring to Control Panels

Rail Backing (As Required)

Extruded or Milled Stainless Steel Car Sills (Narrow)

Fire Fighter's Lift features as per codes in one of the two lifts

Hoistway Sill Support Angles

12-Month Maintenance with 24-Hour Callback Service

Machine, Power Converter and Controller Sound Isolation

As-Built Wiring Diagrams, Operating Instructions, Maintenance Instructions, Parts Ordering Information, and a Lubrication Chart

## 2.2 PERFORMANCE

- A. Speed:  $\pm 3\%$  under any loading condition or travel direction.
- B. Capacity: Safely lower, stop and hold up to **125%** of the rated load.
- C. Stopping Accuracy: 6 mm under any car loading condition.
- D. Door Times: The door **opening** time shall be measured from the instant the doors start to open until they are in the fully open position.

The door **closing** times shall not be less than those permitted by the ASME A17.1 Code, Rule 112.4.

The door opening times and the door closing times shall meet the requirements as per the relevant codes and shall be adjustable.

- E. Floor-to-Floor Time: Floor-to-floor time shall be measured from the instant the doors start to close at one floor until the car is level and stopped at the next floor. Doors shall not be more than 3/4 open before the car is level and stopped. These performance times shall be obtainable with dependable, consistent operation without undue wear or stress on the equipment and without excessive maintenance. The elevator shall provide a comfortable ride with smooth acceleration, retardation and a soft stop. The time for the elevators to travel from floor to floor under any loading condition shall not exceed the stipulated limits as per codes.

- F. System-Response Time: The group passenger system-response times for the indicated group elevators as measured by registration of hall calls, shall meet the criteria as stipulated by the relevant BS codes during any 15-minute period of the day with all passenger elevators in group service.

The system response time requirements are to be based upon not more than 125 hall calls being registered within each 15-minute period. The system-response time for service at floors not served by all group elevators shall not be included in the verification of system-response time performance.

At the completion of the project, and when the passenger elevator group floors are at least 80% occupied, the Elevator Contractor shall record each elevator group's system response time and submit the results to the elevator consultant for verification.

### 2.3 NOISE AND VIBRATION CONTROL

- A. All elevator equipment (including hoist machines, deflector sheaves, power conversion units and support equipment) shall be mechanically isolated from the structure and electrically isolated from the building power supply and each other to prevent noise and vibration being transmitted to occupied area of the building.
- B. Elevator equipment shall be designed, installed and adjusted to meet the performance requirements of Section 2.2 within the following parameters.
1. Horizontal acceleration (postwise and front to back) within cars during all riding and door operating conditions shall not exceed 15mg peak to peak.
  2. Acceleration and deceleration shall be constant and shall be at least  $1.0\text{m/sec}^2$  on the gearless elevators and not exceed  $1.4\text{m/sec}^2$  with an initial ramp between 0.5 and 0.75 second.
- C. Measured noise levels relating to elevator equipment and its operation shall not exceed 50-66 dBA in the elevator cars and lobbies and 75 dBA in elevator machine room under any condition including door operation and car exhaust fan on highest speed.

## 2.4 CONTROL SYSTEM

A. Operational Control: The various systems specified hereafter shall be provided for each elevator/group per the elevator schedules.

1. Microprocessor-Based, Simplex Selective Collective: Elevator shall operate without an attendant from buttons located at each floor entrance jamb and in the car. The registration of a hall call, when the car is idle, shall automatically start the elevator and dispatch it to the corresponding floor. If a call is registered at the floor where the car is idle, the doors shall automatically open.

Once the direction of travel has been established, the car will not reverse direction until all car calls have been answered or until all hall calls, ahead of the car and corresponding to the direction of car travel, have been answered.

The car shall slow down and stop automatically at floors corresponding to registered calls, in the order in which they are approached in each direction of travel. As slowdown is initiated for a hall call, that call shall be automatically canceled and the hall button for that direction of travel remain ineffective until the car leaves the floor. Car calls shall be similarly canceled.

The car shall only answer calls corresponding to the direction in which the car is traveling except that it may answer a call in the opposite direction if that call is the highest (or lowest) call registered.

Registration of a call shall cause the appropriate button to illuminate. When the call is answered, the light shall go out.

2. Microprocessor – Based, Duplex Selective Collective: Elevators shall operate without attendants from buttons in each car and at each floor. With two cars in service and no calls registered, one car shall normally park at the service level entry floor (“home” car). The other car shall park where last used (“free” car). Registration of a hall call above the entry floor or a car call in the free car shall cause that car to start and begin operation. When a car has been started, it shall respond to calls registered for the direction of its travel in the order in which the floors are reached. Once the direction of travel has been established, the car will

not reverse direction until all car calls have been answered or until all hall calls, ahead of the car and corresponding to the direction of car travel, have been answered.

Cars shall slow down and stop automatically at floors corresponding to registered calls, in the order in which they are approached in each direction of travel. As slowdown is initiated for a hall call, that call shall be automatically canceled and the hall button for that direction of travel remain effective until the elevator leaves the floor. Car calls shall be similarly canceled.

The cars shall only answer calls corresponding to the direction in which the car is traveling except that it may answer a call in the opposite direction if that call is the highest (or lowest) call registered.

When the free car is clearing calls, the home car shall respond to:

- a. A call registered on the home car buttons.
- b. An up hall call registered below the free car while the free car is traveling up.
- c. An up or a down call registered above the free car while the free car is traveling down.
- d. A hall call registered and the free car is delayed in its normal operation for a predetermined period.

When both cars are clearing calls, only one car shall stop in response to any registered hall call. The first car to clear its calls shall return to the main floor and become the home car. Should the last service required bring both cars to the main floor, the car that arrived first shall become the free car.

Registration of a call shall cause the appropriate button to illuminate. When the call is answered, the light shall go out.

### 3. Additional Features:

- a. Anti-Nuisance Feature-Passenger Elevators: In the event car loading or operation is not commensurate with the number of car calls registered (when the elevator is in automatic operation), all false car calls for that elevator or deck shall be automatically canceled.
- b. Load Weighing-Passenger Elevators: Provide under platform mounted micro switches or strain gauges or for weighing the passenger load in each elevator when they are in automatic operation. Design the control system to provide dispatching in advance of normal intervals and to provide landing call bypass when the car is filled to approximately 50% of full-capacity load. Settings shall be individually adjustable from 50-70% of full load.
- c. Artificial Intelligence Systems: Include one or more "artificial intelligence" approaches to maximizing the interfloor traffic performance and reducing the number of "long wait calls" for group of elevators.

Contractor shall supply full details of his preferred approach to these requirements with his bid response.

- d. Stopping Accuracy: An automatic 2-way stopping and leveling device shall be provided, designed to govern the stopping accuracy of the car to within  $\pm 6$ mm above or below the landing sill. This operation shall be effective to avoid overtravel, as well as under travel, of the car and maintain the stopping accuracy regardless of the load in the car, direction of travel, rope slippage or stretch.
- e. Remote Monitoring and Diagnostics: Equip each car controller and the group dispatch logic controller with standard ports, interface boards, and drivers to accept maintenance, data logging, and fault finding diagnostic computers, keyboards, modems, and programming tools. The system shall be capable of driving remote color LCD monitor(s) that continually scan and display the status of each car and call. Provide each group with a full, interactive elevator monitoring (EMS) system.

- B. Independent Service: Provide controls for operation of each elevator from car buttons only. Under this operation door closing shall be initiated by activating the desired destination floor button or the door close button.

Attendant Service Feature – Provide for elevators as specified in Elevator Schedule.

- C. Door Operation-Passenger Elevators: Doors shall open automatically when the car arrives at a floor to permit the transfer of passengers. When another car is at the lobby floor terminal and is loading for departure or upon expiration of a timed interval, the doors shall close until the arriving car is designated for loading. In the event a passenger has entered the elevator, before it is assigned for dispatching, the doors shall reopen upon registration of a call on the car button or by pressing the door open button. If no other car is at the terminal, an arriving car shall have its doors open until the car is dispatched or expiration of a timed interval with no demand. Equip the car doors with preopening circuits so that the doors are about  $\frac{3}{4}$  open when the elevator is level at the landing.

- D. Door Operation-Service Elevators:

1. Doors shall open automatically when the car arrives at a floor to permit egress of passengers and carts. After the timed interval, the doors shall automatically close. Equip the car doors with preopening circuits so that the doors are approximately  $\frac{1}{2}$  open when the elevator is level at the landing.
2. Include an extended door hold open button in the main car operating panel to extend the door hold open time (10-20 seconds, time to be adjustable thru the E.M.S. keyboard) to facilitate cart transfers when the elevator is on automatic service. Registration or re-registration of a car call shall cancel the hold open time.

- E. Emergency Features:

1. Firefighters' Service: Equip the elevators with control system to operate and recall the cars during a fire or other emergency condition per ASME A17.1-2005, Section 2.27. Provide terminals on the controller for connection of signal from sensors provided in other sections of the work.



Operation shall be similar on all elevators and visual/audible signal shall operate until return is complete or automatic operation restored. Provide the designated level and alternate return level sequencing per the Local Fire Authority Requirements.

2. Emergency Car Lighting and Emergency Alarm Unit: Car-mounted or machine room mounted battery unit including solid-state charger and testing means enclosed in common metal container. Battery to be rechargeable nickel cadmium, lead acid, or gel-cell type with a 10-year minimum life expectancy. Mount the emergency call bell on each car top. Locate emergency lamps above the car dropped ceiling so that the unit is not readily visible from the car interior but gives sufficient intensity to provide at least 50 lux measured at a height of 1 meter above the car floor. Alternately, if incandescent car interior lights are provided as a part of the car design, illuminate two of these lamps during an emergency lighting condition. Locate an emergency lighting test button in the car service panel. A main line power failure or pressing the test button shall illuminate the emergency lighting bulbs.
  3. Automatic Emergency Landing Device: In the event of normal power failure, an automatic battery powered landing device shall bring elevators to the nearest landing and doors shall open.
  4. Standby Power Transfer: In the event of normal power failure, adequate standby power will be supplied through normal feeders to start and run Elevators designated full time at rated speed. Provide controls to automatically start and run the cars nonstop to the designated terminal, one car at a time. E.M.S. selection controls shall also be provided in the command center panel so that any alternate group elevator may be selected to run continually. Under either mode of operation, only designated elevators shall be running on standby power at a time. Provide standby power to run the elevator E.M.S. system, the intercom system and all car lights, exhaust fan and emergency call bells.
- F. Car-to-Lobby Switches: Provide a switch or E.M.S. keyboard operations for each elevator in the command center control panel to return the car to the lobby floor. Activating the switch (control) shall cause the car to return to the lobby floor while bypassing hall calls but answering registered car calls en route.

- G. Security System: Provide means to limit elevator access to selected floors. The security shall function as follows:
1. Computer input commands may be entered into the interactive elevator monitoring system keyboard located in the command center console to prevent registration of car calls to any selected floor on the elevators when they are in normal operation.
  2. The Elevator Contractor shall install proximity type card readers (provided by Other Trades) in the elevators, as specified in Elevator Schedule, car main operating panel and security system interface controllers in the machine room car controllers listed. Hook up the readers and the interface controllers to enable properly encoded cards accepted by the car readers to override selected floor blocks initiated in the E.M.S. system and permit car call registration. Provide all required elevator interface boards, junction boxes wiring and installation to form a complete system.
  3. Elevators shall serve all floors when on independent or attendant service irrespective of floor security status.
  4. System shall be arranged so that firefighters' operation controls shall override floor security block outs.
  5. When on the security mode, the hall lantern for restricted floors shall operate normally when the car arrives at a level and the elevator is in automatic operation.
- H. Sound-Powered Telephone Jack: Install a sound-powered telephone jack (provided by the Life Safety Contractor) and wiring in each elevator car. The system shall provide for 2-way communications between all of the stations with the wiring terminating at each machine room car controller's junction box.

## 2.5 MACHINE ROOM EQUIPMENT

- A. Arrange equipment in machine rooms. Provide identifying numbers on machine, power-conversion unit, controller, data concentrator and main line and auxiliary disconnect switch.

B. Gearless Traction Machine:

1. ACV<sup>3</sup>F induction or P.M.S.M. gearless traction type motor with brake, drive sheave and deflector sheave mounted in proper alignment on a common, isolated bedplate. Machine shall have sealed ball or roller bearings and meet testing requirements without external cooling. Single-wrap, traction hoist machine drive sheaves with "V" grooves shall be provided with friction reducing liners or be equipped with a minimum of 6ea., 13mm diameter or larger steel hoist ropes. Provide blocking to elevate secondary or deflector sheave above machine room floor.
2. Elevators shall be equipped with overhead gearless hoist machines equipped with steel hoist ropes and a minimum 40:1 hoist rope diameter to machine drive sheave ratio. Synthetic hoist ropes or steel messenger polyurethane flat belt suspension means are not acceptable for these units.
3. Isolate the machine or bedplate and the deflector sheave from the building structure in order to minimize noise vibration transmission into occupied area of the building.
4. Provide ACV<sup>3</sup>F induction motors with thermostatically operated cooling blowers, shrouds and mounting means.
5. Provide a direct drive, digital, closed-loop velocity encoder on hoist machine.
6. Provide dual, double independently operated disc or drum brakes to meet the "up-fall" elevator protection requirements.
7. Hoist machine installations, which require blockouts through machine room, floor for other than hoist ropes shall be provided with a 14-gauge galvanized sheet metal smoke closures over entire blockout on underside of machine room floor slab.

- C. Power Conversion and Regulation Units: Provide solid-state, alternating current variable voltage, variable frequency (ACV<sup>3</sup>F) I.G.B.T. converter/inverter drives. The units shall be designed to limit current, suppress noise and prevent transient voltage feedback into the building power supply. Provide internal heat sink cooling fans for the power drive

portion of the converter panels. Isolate unit from the building structure to minimize noise and vibration transmission. Provide each unit with isolation transformers, line filters, noise filter networks, and choke inductors, as required. The Elevator Contractor shall be responsible for all required corrections to suppress solid-state converter noises (audible and vibratory), radio frequency interference in unit, or eliminate regenerative voltage transients induced into main line feeders or the standby power generator. All gearless ACV<sup>3</sup>F drives shall be regenerative and utilize dynamic braking during an overhauling condition. Supplement direct-current power for the operation of the hoist machine brake, door operator, dispatch logic processors, and signal fixtures, etc., shall be supplied from separate, static power supplies.

- D. Encoder: Encoders shall be provided and mounted in the machine room. The encoders shall be the solid-state, optical, digital-count type, mechanically coupled to the car via a slotted tape with drive sheaves and a pit-tensioning sheave or driven from the car governor. Optical, inductive pulse, or mechanical cam-type tape encoders or rail "friction" encoders mounted in the hoistway shall not be used on the gearless elevators.
- E. Controller: Cabinet type controller shall be provided, with removable doors or drawers and adequate ventilation fans to dissipate heat complying with NEC Code Article 110-16(a) working clearances. Wire to identified terminal block studs. Identifying symbols or letters identical to those on wiring diagrams permanently marked adjacent to each component on the controller. Provide the proper ampere rating marked adjacent to all fuse holders. Each car controller, the group dispatch controller and data concentrator panels (if provided) shall be equipped with plug-compatible diagnostic ports, system monitoring ports, and remote LCD drivers and plugs. Provide the dispatch controller or data concentrator panel with a 56k modem and data card for the remote monitoring telephone line connections.
- F. Security Interface Cabinet: Provide cabinet for all elevators equipped with on board security card readers. The cabinet shall contain all interface terminals and the elevator interface computer boards, including:
  - 1. Card reader interface (six shielded wiring pairs per card reader elevator).

2. Card reader control mode (one shielded wiring pair per card reader elevator).
  3. Floor select button enable (one shielded pair per floor or multiplexed/zone per card reader elevator).
  4. Emergency-stop pushbutton monitoring, if provided (one shielded pair per card reader elevator).
- G. Templates, Forms, Sleeves and Guards: All templates, forms and sleeves for providing necessary openings in the concrete slab over the hoistway shall be provided as part of this work. Sleeves for conduit and other small holes shall project 25mm above the concrete slab. Provide 25mm steel angle guards around hoist cables, governor ropes, encoder tapes, or duct slots that penetrate the machine room slab. Provide approved rope and smoke guards for sheaves and cable machine room slab penetrations.
- H. Machine Beams: Provide structural steel beams required for support of the elevator machine, secondary sheave, overhead sheaves, governors and dead-end hitches. Provide bearing plates, anchors, shelf angles, blocking, etc., to support beams and equipment. Elevator Contractors shall provide special slab support shelf angles welded into the webs of their machine beams, if required, to support the machine room slab and decking. Cope the machine beams and weld them to the building support steel, as required by the Structural Engineer for proper load transfer.
- I. Governor: Centrifugal type, car and counterweight driven with pull-through jaws. Provide two bi-directional electrical shutdown switches and any overhead supports required which are additional to building structure.

## 2.6 HOISTWAY EQUIPMENT

- A. Guide Rails: Steel T-section suitable for travel, car and counterweight weights, seismic accelerations and support locations at structural floors. Provide rail backing, intermediate counterweight tie brackets, divider beams and hoistway inserts, if necessary, to meet ASME A17.1 Code requirements and the specified ride qualities. NOTE: only Other Trades will provide those supports indicated on the structural drawings. The Elevator

Contractor shall be responsible for any additional divider beams, rail supports, brackets or attachments.

- B. Buffers: Oil type with any blocking, supports, and permanent inspection ladders and platforms (required where the car and/or counterweight buffer oil inspection port is located 2.0m or more above the pit floor). Provide reduced stroke buffers if required, to meet the minimum code overhead requirements.
- C. Sheaves: Machined grooves with ball or roller bearings. Provide mounting means to machine beams, machine bedplate, car and counterweight structural members, etc. Provide drip pans under 2:1, overhead, and deflector sheaves, rope guards on drive, compensation, 2:1 and all secondary sheaves. Provide car top and counterweight 2:1 sheaves with removable top metal dust covers and guards. Provide lock down compensation pit embedment items and support channels, if required.
- D. Governor and Encoder Pit-Tensioning Sheaves: The sheaves shall be mounted to pit support members or the rails and provided with guides or pivot points to enable free vertical movement.
- E. Compensation Gearless Elevators: Rope type (lock down type on elevators with speeds greater than 3.5mps or with travels in excess of 100M) with pit-tensioning sheaves. Provide electrical contacts on tension sheave to stop elevator on sheave over or under travel.
- F. Counterweight: Channel construction, steel channel frame with metal filler weights, and 2 subweight retainer rods that pass through all subweights and the counterweight crosshead, guided by four sets of roller guide shoes. Each roller guide shall have three rollers of a diameter sufficient to limit the rotational speed to less than 1000 r.p.m.
  - 1. Provide seismic counterweight retainer plates on the top and bottom of each counterweight frame on elevators.
- G. Counterweight Safety: Per Code. Provide on all elevators with "occupied" spaces below their pits and as indicated in Elevator Schedules.
- H. Counterweight Guard: Metal guard around counterweight in pit, per code.

I. Hoist and Governor Ropes:

1. 8 x 19 or 8 x 25 seale construction traction steel type; use 13mm minimum diameter for all hoist ropes.
2. Governor rope with adjustable wedge type shackles.
3. Fasten hoist ropes or belts with adjustable, wedge type shackles.
4. 2:1 roping dead-end hitches shall be provided with dampening springs.

J. Normal and Final Terminal Stopping Devices: As per Code. Provide emergency terminal slowdown devices, if required, to meet the minimum Code overhead and pit depth requirements.

K. Electrical Wiring:

1. Conductors: Stranded copper throughout with individual wires coded and all connections on identified studs or terminal blocks. Use no splices or similar connections in wiring except at terminal blocks, control cabinets, junction boxes. Provide 10% spare conductors throughout. Flexible conduit shall not be used on flat portions of the car top.
2. Conduit, Etc.: Painted or galvanized steel and duct. Conduit size shall be 20mm minimum. Flexible conduit exceeding 45cm in length or mounted on flat portions of the car top shall not be used. Flexible heavy-duty service cord may be used between fixed car wiring and car door protection light matrix junction boxes.
3. Traveling Cables: Flame and moisture-resistant outer cover. Include six sets of shielded communication wires and car lighting circuits from machine room to car connection points. Prevent traveling cables from rubbing or chafing against hoistway or car items. Traveling cables exceeding 30m in length shall be supported with steel internal messenger wires. Provide a continuous vertical strip of wire cloth between the cables and hoistway items. Provide each set of traveling cables with 10% spare conductors and 4 spare sets of shielded pairs and a coaxial or dedicated CCTV monitor cable(s).

L. Entrance Equipment:

1. Door Hangers: 2-point suspension with upthrust adjustment. Hanger rollers shall be equipped with polyurethane insert tires; no metal-to-metal contact permitted.
2. Door Tracks: Bar or formed, cold-drawn steel with smooth hanger contact surface. Tracks shall be removable for replacement.
3. Interlocks: Type operable without retiring cam. Provide fire-resistant wiring, NEC, Type SF-2 or equivalent.
4. Closers: Spring, spirator, or weighted type attached to the entrance struts.
5. Relating Cables: Provide between door panels, include stainless steel aircraft cord, swaged fasteners, sheaves and adjustment clips.
6. Provide the emergency "blind" hoistway access doors located in the express run portions of the hoistway(s), if required, with electrical contacts and closers per ASME A17.1, Rule 2.11.1.2.

M. Pit Stop Switch: As Per Code.

N. Floor Numbers: Provide painted 10cm high fire floor numbers within the hoistway as per ASME A17.1 Code, Rule 2.29.2.

## 2.7 HOISTWAY ENTRANCES

- A. Summary: Provide complete entrances with the clear dimensions and finishes indicated. Entrance for Fireman Elevator S1 shall be 2-hour fire rated.
- B. Frames: No. 14 U.S. gauge steel welded and mitered construction.
- C. Door Panels: No. 16 U.S. gauge steel with 2 removable, fire type gibs located .3m on center per panel. Doors with heights greater than 2.10m shall be constructed with interlocking stiffening ribs. Providing all door panels with top and bottom fire safety retainer clips that mesh with the entrance jambs when in the closed position per ASME A17.1 Code Rule 2.11.11.8.
- D. Sight Guards: Same material and finish as door panels.



- E. Transoms: Provide fire rated flush transoms and offset, sheet type transoms at indicated openings.
- F. Sills: Passenger elevators extruded or formed stainless steel at the ground and Concourse entrances. Provide extruded aluminum sills at all other floors. Provide and install "groutless" steel angle sill supports for all entrance sills.
- G. Fascia, Toe Guards, Dust and Hanger Covers: No. 14 U.S. gauge furniture steel with Manufacturer's standard dark color enamel finish.
- H. Struts and Headers: Provide for necessary support of entrances and related material. Provide door open rubber bumpers on each entrance support strut.

## **2.8 CAR EQUIPMENT**

- A. Car Frame: Welded or bolted steel channel construction.
- B. Car Safety Device: Type B, flexible guide clamp type.
- C. Platform: Isolated type constructed entirely of steel; Class "A" freight loading.
- D. Guide Shoes: Roller type with three or more sound-deadening rollers per shoe. Maximum rotation speed, 350rpm up to speeds of 5.0mps.
- E. Floor Covering: Inset Stone or granite as approved by the Architect/Engineer set with thin set mortar in passenger elevators.
- F. Car Sill: Narrow type, extruded or formed stainless steel, set at a height to be flush with the finished car flooring.
- G. Toe Guard: As Per Code.
- H. Car Door Hangers and Tracks: Conform to specification on hoistway entrance hangers and tracks. Equip doors with polyurethane-tired hanger rollers.
- I. Header: Constructed of 5mm thick steel shaped to provide stiffening flanges, securely mounted and braced to the car top.

- J. Car Door Clutches: Provide heavy-duty clutches, vanes, linkage arms, drive blocks and pickup rollers or cams to provide positive, smooth, quiet door operations and up to 75-150mm of predoor opening. The clutches shall be designed with movable vanes to permit the car doors to be closed while the hoistway doors remain open at the floor for maintenance purposes. Provide car doors with restrictors per ASME A17.1 Code Rule 2.12.5.
- K. Car Door Electrical Contact: Electrical contact to operate in conjunction with the car doors so that elevator cannot operate unless doors are closed or within tolerance allowed by Code.
- L. Door Operator: High-speed, heavy-duty, ACV<sup>3</sup>F closed loop, door operator capable of opening doors at no less than .75 to .9mps and accomplishing reversal in no more than 6.5 cm of door movement. Provide Service elevator with medium-speed, heavy-duty ACV<sup>3</sup>F closed loop, door operators with a minimum opening speed of .33mps. Arrange operator so the car doors can be opened by hand from inside the car in case of power failure, if it is within the hoistway door-unlocking zone.
- M. Door Reopening and Control Devices:
1. Car Door Reversal Device: A solid-state electronically operated infrared door reversal, proximity device shall be installed on the car doors. The device shall contain specially designed electronic components enclosed in an insulated chassis. The device will create a criss-cross matrix of invisible, infrared, light beams, minimum 32 beams, which shall scan the car doorway and shall detect, through the breaking of any light beam, any opaque object that may be placed in its path. Provide the service elevators with special "3D" type units to respond to entering cart traffic.  
  
After a car stop is made, the door shall remain open for a predetermined interval before closing. If, while the door is closing, the matrix of invisible light beams is interrupted by a passenger or an object entering or leaving the car, the door shall stop and reopen, after which the door shall again start to close.
  2. Door Open Timing Feature Service Elevators: Timing feature shall operate in conjunction with door light ray matrix to provide adjustable,

reduced, hold-open time once rays are broken and reestablished. In the event rays are broken beyond an adjustable time, a buzzer shall sound and doors try to close at reduced speed.

3. Variable Timing Feature Passenger Elevators: Provide separately adjustable timers, to enable varying the time that the hoistway doors remain open after stopping in response to a car call or a landing call. The dwell time for a car call stop shall be adjustable between 1 and 4 seconds and the timing for a landing call stop shall be adjustable between 3 and 8 seconds. If a stop is made in response to both a landing call and a car call, the timing of the landing call shall predominate. In the event that the light beam is interrupted while the doors are opening or after the doors are fully open, the time that the doors remain open after the light beam has been reestablished shall be reduced to an adjustable time between 2 and 1 second, depending upon whether a landing call or a car call predominated. This time shall also be a minimum time that the doors remain open if the door protection beams are interrupted and reestablished before the door is fully open.
4. Nudging Action: In the event, a door protection light beam is continually obstructed, or the door hold open button is continually activated, for a predetermined time interval (20 seconds) after automatic door closing has been initiated, a buzzer shall sound and the doors shall be closed at a gentle, reduced speed. Timers shall be individually adjustable.

#### N. Car Control Stations:

1. Two opposite-hand car control stations with stainless steel flush mounted faceplates containing the operating fixtures, and a lockable service panel shall be mounted in the car front return panels on the passenger elevators. A single car operating station with a brushed stainless-steel faceplate, recessed mounted with tamperproof screw shall be provided for the service elevators.
2. The front return panels or faceplates shall be engraved and filled with the identifying number of each elevator and its capacity in KG and number of permitted persons. The floor call buttons, alarm button, door

open button, and emergency stop switch shall be suitably identified by permanently applied, tactile symbols and markers. All automatic operating controls (provide vandal-resistant type on the Service Elevator) shall be located no higher than 135 cm above the car floor (90 cm for stop switch and alarm button). Engrave and fill CERTIFICATE OF INSPECTION ON FILE IN THE BUILDING OFFICE and NO SMOKING at the top of the return panels or faceplates in each car. The operating panel shall contain the following controls and buttons:

- a. Car floor buttons with 13 mm numbers corresponding to the floors served for registration of car calls. Call registered lights, located within or behind the buttons, shall illuminate the floor number corresponding to the call registered.
- b. An illuminating alarm button shall be provided at the bottom of each car station to ring a bell located in the hoistway near the main lobby and on top of the car.
- c. Provide an illuminating intercom call button. Actuating the intercom call button shall activate the control center panel intercom distress signal. The call button light shall flash for 10-20 seconds once the intercom call is answered.
- d. A red emergency stop switch shall be provided at the bottom of each car station to interrupt the power supply independently of the regular operating devices. The switch shall be so arranged that when operated, it will sound the alarm bell as described above and activate the control center panel intercom distress signal. The actuation of this switch shall not cancel registered calls. Alternately, the stop switch may be installed in the car service panel.
- e. A door open button, which shall stop the closing motion of the doors and return them automatically to their fully open position. This button shall be effective while the car is at a landing and until the car starts into motion, regardless of any special operational features (except firefighters' service).
- f. Provide an extended time, door hold open button with an internal registration light in the main car-operating panel on the service

elevators to increase the normal door open time (automatic operation) to 10-20 seconds for cart transfer. Registration or re-registration of a car call shall cancel this hold open time and the registration light.

- g. One Firefighters' service key switch, door close button, light jewel, buzzer, and call cancel button.
- h. One sound-powered telephone jack.
- i. One security card reader in specified elevators (provided by others).
- j. A service panel with a heavy-duty, vandal-resistant, hinged, lockable, door matching the front return panel finishes or faceplates shall be mounted below the main car operating station.

The service panel shall contain the following controls with each control and its operating positions identified by engraved and black filled letters:

- 1) A door protection light ray cutout switch to disconnect the light rays from the door closing circuit.
- 2) An inspection (hand) service switch for disconnecting all automatic operation, limiting the car speed, and making the appropriate hoistway access switch operable, when the car is at the top or bottom terminal, conforming to the ASME A17.1 Code.
- 3) Car lighting ON and OFF Switch.
- 4) An emergency lighting "test" button to activate the car emergency lights.
- 5) A 4-position (off, low, medium, high speeds) car exhaust fan switch.
- 6) CCTV security camera on/off switch.
- 7) An independent service selection switch to permit the selection of independent or automatic operation.

- 8) Attendant service operating lights, chimes and "up", "down", and "pass" and "door control" buttons for service elevators.
- 9) A start button for closing the doors and starting the elevator when operating on independent service. Alternately, the car floor pushbuttons may be used for this function.
- 10) A 220 volt, 1 phase, 50-hertz 13A duplex power outlet.

- O. Car Top Control Station: Provide stations as per Code.
- P. Emergency Exits: Provide car top emergency access exits, car side exits (if required), and contacts as per Code.
- Q. Work Light and Duplex Plug Receptacle: Provide on the top and the bottom of the elevator car lights with an on/off switch and wire lamp guards.

## 2.9 CAR ENCLOSURES

- A. Passenger Elevators: Elevator car enclosure shall be manufactured as per code. The interior side and rear wall finishes, the car ceiling, the car handrails and lighting, and car flooring finished materials and features are to be as below: (Passenger Elevators P1 – P3)
  1. Wall Finish: Stainless Steel panels in finish as per Architects choice.
  2. Floor Finish: Granite as per Architects choice.
  3. Car Doors: Stainless steel finish as per Architects choice.
  4. Ceiling: Stainless Steel in decoration finish with concealed lighting as approved by Architect
  5. Front Return Panels and Integral Entrance Columns: Provide patterned and mirrored polished stainless steel finish as approved by Architect. The entire units are to swing on concealed hinges or pivots for access to integral car station wiring and fixtures. Secure in closed position with concealed 3-point latch. Provide cabinets with flush doors for service controls and cutouts for pushbuttons, etc.

6. Transom: Stainless steel with finish as approved by Architect
  7. Shell: Reinforced U.S. 14 gauge furniture steel side and rear walls with baked enamel interior finish, top and side exits (if required). Shell base is to contain concealed ventilation cutouts on the side and rear walls. Apply sound-deadening mastic to exterior.
  8. Top: Reinforced U.S. 12 gauge furniture steel with hinged, lockable exit and baked enamel finish.
  9. Ventilation: 3-speed, exhaust fan with a diffuser and exhaust and intake port screens. The fan shall exhaust the car air into the hoistway.
  10. CCTV Security Cameras: Install color CCTV security cameras provided by the building contractor concealed in the elevator dropped ceilings and positioned to view the complete elevator car interiors and the car position indicator. Provide shielded wire pairs or coaxial cables from each CCTV camera run to the lift machine room junction boxes.
- B. Fireman/Service Elevators: Fireman/Service Elevator car enclosure shall be provided by the Elevator Contractor and manufactured as per code. Provide the following features:
1. Shell: Reinforced U.S. 14 gauge furniture steel side and rear walls with baked enamel interior finish and side exits (if required). Apply sound-deadening mastic to exterior.
  2. Top and Extended Dog House Portions: Reinforced U.S. 12 gauge furniture steel with hinged, lockable exit and white baked enamel interior finish.
  3. Front Return Panels: U.S. 14 gauge, stainless steel, rigidized No. 4 finish, integral with entrance columns with cutout for the operating panel and service cabinets.
  4. Entrance Columns and Transom: U.S. 14 gauge, stainless steel, rigidized finish as approved by Architect.
  5. Car Door Panels: Same construction as hoistway door panels, stainless steel, rigidized finish as approved by Architect.

6. Base: Rigidized stainless steel with protected ventilation cutouts.
7. Ventilation: 2-speed exhaust fan with a diffuser, exhaust and intake port screen and a stainless steel grille mounted in the car canopy. The fan shall exhaust the car air into the hoistway.
8. Lighting: Multiple, 2-lamp, 36-watt fluorescent recess-mounted fixtures with a white-back reflector, a hinged stainless steel wire mesh lockable access cover with a translucent diffuser all flush mounted around the perimeter (side and rear walls) in the car canopy.
9. Walls: Rigidized U.S. 14 gauge, stainless steel panels to form the complete side and rear car walls as approved by Architect.
10. Bumpers: Mount two lines of Rubber bumpers or oak bumpers on the side and rear walls at a height of 45 cm and 90 cm above the car floor.
11. Flooring: Aluminum checkered flooring mounted to the platform with mastic and recessed stainless steel fasteners to form a level surface.
12. Pads: 3-section removable, full-height quilted fire-retardant protection pads for each elevator to cover walls and front returns with cutouts for access to car control station and service cabinet. The pads shall extend from the car canopy to 2.5 cm above the floor. Stainless steel hanger buttons shall be installed around the full car perimeter within a minimum clearance from the ceiling.
13. Attendant Seat: Provide a recessed mounted, fold down seat located in the car sidewall adjacent to the car-operating panel for use by the car attendant in service elevators. Seat to be lockable in the storage and deployed positions.
14. CCTV Security Cameras: Install color CCTV security cameras provided by the Building Contractor in the selected elevator ceilings and positioned to view the complete elevator car interiors and the car position indicator. Provide shielded wire pairs or coaxial cables from each CCTV camera run.



## 2.10 CONTROL AND SIGNAL FIXTURES

- A. Pushbuttons: Provide the Passenger elevator groups with touch button controls as specified in Elevator Schedules, flush mounted. Provide standard, finished stainless steel fixtures mounted with vandal-resistant screws at all typical floors. Each fixture shall include touch buttons for each direction of travel, which illuminate to indicate call registration.
- B. Hoistway Access Switches: Mount without faceplates in entrance frame side jamb at all top floors and bottom floors where walk-in pits are not provided.
- C. Firefighters' Switch and Box: Mount in central Fire Command Center and identify purposes with permanent engraving. Provide flush-mounted box with lockable hinged cover as directed by the local Fire Department to contain keys and instructions for emergency use of elevators. Box faceplate material to be similar to fire command console faceplate and contain engraved legend, EMERGENCY ONLY in 13 mm high letters.
- D. Interactive Elevator Monitoring System: Provide a microprocessor-based, interactive elevator monitoring and control system E.M.S. that will permit elevator data acquisition and control. Provide consoles, containing 40 cm color S.V.G.A. or LCD monitors (1 per group), interactive keyboards, central processing computers, 12-giga byte hard disk storage device, an 8.8 cm floppy disk, 1.44 M byte C.D. disk drive, graphic cards, serial communication data links, laser printers, power supplies, driver cards and complete wiring. The consoles shall be located in the command center control panel and shall be provided with a synchronous communications to each elevator group's performance, elevator status, tabular display, security features, elevator on-off functions, elevator control functions, elevator parameter functions, performance monitoring, fault diagnostics, traffic analysis and report generation. The interactive elevator parameter functions shall include the capability to change the lobby loading sign floor selections, elevator acceleration/deceleration values and jerk rates, the elevator door dwell times, the hall lantern pre and post-call activation times, elevator energy conservation, security car and hall call lock offs, up peak, down peak, bypass, attendant service selections, standby power applications, etc., from the console keyboards. The E.M.S. keyboard shall be used to

program or change messages displayed on the car position indicators and the lobby loading displays.

E. Command Center Control (Security Room) and Indicator Panels (Include All Elevators):

1. Provide communication and E.M.S. control items such as a master intercom station, car-to-lobby commands, floor lock-off/override commands, intercom selection switches, bypass/loading lights, standby power selection features, car on and off commands, attendant service selections, pilot lights, etc., located in a flush-mounted panel with lockable, hinged door(s).
2. Provide discrete car position and travel direction displays, and hall call group waiting light displays, on color 40 cm SVGA or LCD monitors, standby power status indicators, car operating light, etc., in an exposed faceplates of the same material and as a component part of the control panels.
3. Engrave and fill the panel faceplates with operating instructions for all controls. Provide all conduits and wiring to the control panels.
4. Provide and install the console to enclose all Command Center control panel items provided by the Elevator Contractor. Console to be of a type similar to that provided by Security Contractor for the building equipment located in the Command Center, Finish to be baked enamel on steel or plastic laminate equipped with a stainless steel faceplate.

F. Car Position Indicators:

1. Passenger Elevators: Dual color, 250mm, LCD or LED display screens mounted in each car swing front return panel. The position indicators shall display the travel direction and floor position of the elevator in the hoistway at all times.
  - a. The passenger elevator LCD or LED display system consisting of screens, necessary control hardware and links to the Elevator Monitoring System (EMS), shall be provided for each car. The screens shall be protected by clear plastic lenses and shall be readable over a wide viewing angle.

- b. Car position and direction, operational messages, directory information messages for each floor, and discretionary messages shall be displayed on the screen. The upper part of the screen shall be reserved for car position and direction, which shall be displayed at all times. All messages shall be displayed on the lower part of the screen, with space for four lines of approximately 18 characters per line; only one message shall be displayed at a time.
- c. Up to eight discretionary messages, created in the EMS, shall be downloaded from it to the display at a one time. A duration shall be assigned for each of the discretionary messages so that they are displayed, one after another, for the time intervals specified. Up to 128 directory messages shall be similarly downloaded. When the car has committed to stop at a floor, a directory message shall be displayed overriding any discretionary message. While the car doors are open, the directory message shall continue to be displayed and triangle indicating the car's direction shall move up and down. When the car doors close, the directory message shall disappear. The current time, date and outside temperature and wind speed shall be displayed for a brief fixed period if so commanded through EMS, then the interrupted discretionary message shall be displayed again until its specified duration has been completed. An operational message shall be displayed whenever required, overriding both directory and discretionary messages.
- d. Up to ten custom floor labels for position indication, to be displayed instead of default values, shall be created and downloaded through the E.M.S. Display of the discretionary and directory messages shall be turned on and off from the E.M.S. Should the link to E.M.S. or the E.M.S. itself fail, all information other than directory and discretionary messages and time shall continue to be displayed in the normal manner. The outside temperature shall be measured by means of a temperature probe supplied and mounted by the Elevator Contractor or by a temperature signal provided by the B.M.S. Contractor.
- G. Hall Lanterns: Provide direction signals illuminating white for up and red for down, located adjacent to each hoistway entrance at indicated landings. Provide hall lanterns as approved by Architect

from Manufacturer's different options, equipped with polished stainless steel (passenger elevators) or brushed stainless steel faceplates mounted with tamperproof screws at typical levels. Lantern shall illuminate indicating the direction of travel and chime sound (once for up direction, twice for down direction) approximately 4 seconds before the arriving car's doors open. Provide the Passenger Elevators with fixed-car assignment (prediction) type hall lanterns and car selections so that the appropriate hall lantern is lighted and its chime sounded within 2 second of hall call registration. As the responding car approaches the landing, the lantern shall signal the elevator's final arrival by pulsing the hall lantern and resounding the chime for the departure direction.

- H. Engineering Indicator Panel: Provide indicator panel, EMS, LCD or ports to accept portable monitors in each elevator machine room as part of, or adjacent to, the group supervisory control panel. As a minimum, the display shall be capable of providing the following:
1. Waiting passenger indicators for each floor.
  2. Position and direction indicators for each elevator.
  3. Control function indicators and keyboards normally provided to assist maintenance and adjuster personnel to verify correct operation, program, and trouble-shoot the system.

## 2.11 COMMUNICATION SYSTEMS

- A. General: Provide Audio Intercom system for all Elevators including all equipment. Provide all wiring and conduits between elevator hoistways and the intercom stations. The system shall contain the following stations:

Station Location	Station Type	Selection Buttons To Call
All Elevator Control Panels	Master	Elevator Car, Command Center Panel (Security Room)

Station Location	Station Type	Selection Buttons To Call
Command Center Panel (Security Room)	Master	Elevator Control Panel, All Elevator Car
All Elevator Cars	Slave	Command Center Panel (Security Room)

1. Basic Equipment: The system shall contain the following equipment:
  - a. A solid-state amplifier including preamplifier of appropriate rating shall provide voice transmission with adequate volume and a minimum of distortion at each station in the system.
  - b. Master stations shall contain the following:
    - 1) Speaker, microphone and a handset for 2-way communication.
    - 2) Selection buttons to enable communication with the master and slave stations as listed above. When a selected button is depressed, continual reception from that station shall be maintained.
    - 3) A two-position talk-receive button: Press to talk, release to receive.
    - 4) "In use" light to be illuminated when any master station is being used.
    - 5) Reset button shall reset the station selection buttons and switch off the "in use" light, making the system available for use by any master station.
    - 6) A volume control knob for adjustment of incoming volume.
    - 7) A button to establish communications with all other stations in the elevator system simultaneously, command center panel.
    - 8) A distress light consisting of a separate light fixture for each elevator, shall be illuminated when the alarm button or emergency stop switch in the elevator car is actuated. This light shall be provided in the master station in the command center panel. A buzzer shall sound whenever a distress light is illuminated.

- 9) Both the distress light and buzzer shall remain energized until the intercom selection button for that car has been depressed at the command center to indicate communication.
- 10) A slave station in each elevator car, shall consist of a microphone and speaker or transceiver-speaker combination located above the car dropped ceiling. The car remote speakers shall be mounted in the car canopy and be equipped with a protective grille.

Provide an illuminating intercom call button in each car.

Provide a selection switch in the command center control panel for making the lobby control master intercom station active or inactive.

## 2. Station Housings:

- a. The master station in the machine rooms shall be housed in a metal cabinet of baked enamel finish attached to the group elevator supervisory control panel or wall mounted. Provide a handset with 7.5m long cord.
- b. The command center master intercom shall be provided with stainless steel faceplates with engraved and filled operating instructions. Coordinate faceplates and installation of units with the Console Manufacturer. Provide each master station with a handset, equipped with a 3m long cord.

### 2.12 ELEVATOR SEISMIC DESIGNS AND EMERGENCY OPERATIONS

Seismic Designs: The Elevator Contractor shall prepare and submit all required equipment seismic design calculations, reactions, and supporting information on the shop drawing as per ASME A17.1-2005. Provide all required seismic designs, restraints, guards, tie downs and operations for Zone 2B.

Calculations shall indicate the vertical and horizontal seismic design loads, for all operating and control equipment and the rail loads. Calculations shall bear the stamp of a licensed Structural Engineer.

## **PART 3 – EXECUTION**

### **3.1 SITE CONDITIONS AND INSPECTION**

- A. Prior to beginning the installation of equipment, examine the hoistway and machine room areas and verify that no irregularities exist that would affect quality of execution of work as specified. Particularly, note:
  - 1. Hoistway size and plumbness.
  - 2. Sill supports and pockets.
  - 3. Support areas for brackets, beams, etc.
  - 4. Building and divider beams.
- B. Notify the Main Contractor if any discrepancies exist in the building work that will prevent the installation of the elevator equipment.
- C. Scaffolding for installation of hoist way equipment and any special hoist way equipment or special scaffolding required is to be arranged by Elevator Contractor.
- D. Separator beams in hoist way shall be provided by Elevator Contractor as per requirement.

### **3.2 PRODUCT DELIVERY, STORAGE AND HANDLING**

- A. Deliver materials in Manufacturer's original, unopened protective packaging.
- B. Store materials in original protective packaging. Prevent soiling, physical damage or wetting.
- C. Protect equipment and exposed finishes during transportation, erection and construction period against damage and stains.

### **3.3 INSTALLATION**

- A. Install each equipment item in accordance with accepted Manufacturer's direction, referenced codes and specifications.

- B. Install machine room equipment with clearances complying with referenced codes and specifications.
- C. Install items so that they may be removed by portable hoists or other means for maintenance and/or repair.
- D. Install items so that access for maintenance is safe and readily available.
- E. Install equipment to afford maximum safety and continuity of operation after a seismic acceleration.
- F. Add equipment identification numerals.

### **3.4 FIELD QUALITY CONTROL**

- A. Work at the jobsite will be checked during the course of installation. Full cooperation with these Inspectors is mandatory. Any corrective work they require shall be accomplished prior to performing further installation dependent upon or related to the required correction.
- B. Have Code Authority acceptance inspection performed. Verification that such tests have been completed, all corrective work accomplished and installation approved for issuance of a permit to operate shall be required before acceptance of any unit.

### **3.5 ADJUSTMENTS**

- A. Align guide rails vertically within a tolerance of 1.6mm in 30 m. Secure joints without gaps and file any irregularities to a smooth surface.
- B. Balance cars after the final car installations to equalize pressure of roller guide shoes on rails.
- C. Lubricate all equipment in accordance with Manufacturer's instructions.
- D. Adjust motors, power converters, brakes, and controllers, leveling switches, limit switches, stopping switches, door operators, interlocks and safety devices to achieve required performance levels.
- E. Fabricate and assemble the various parts in the shop insofar as practical to minimize field assembly. Parts, which cannot be shop, assembled or require



close field fit shall be trial assembled in the shop and marked for field erection.

### **3.6 CLEANUP AND TOUCHUP**

- A. Keep work areas orderly and free from debris during progress of project.
- B. Remove all loose materials and filings resulting from this work from hoistway surfaces.
- C. Clean machine room equipment and floor of dirt, oil and grease.
- D. Clean hoistway, car, car enclosures, entrances, operating and signal fixtures, and trim of dirt, oil, grease and finger marks.
- E. Touchup all minor scratches, dings or imperfections in finished materials and painted surfaces that are exposed to public view.

### **3.7 ACCEPTANCE INSPECTIONS AND TEST**

- A. General: Final acceptance of the installation shall be made only after all field quality control inspections and tests are complete, all submittals and certificates have been received and the Owner's Representative satisfied that the following have been satisfactorily completed:
  - 1. Workmanship and equipment comply with specification.
  - 2. Contract speed, capacity and floor-to-floor performance comply with specification.
  - 3. Performance of following is satisfactory:
    - a. Starting, accelerating, running.
    - b. Decelerating, leveling, stopping.
    - c. Door operation and closing force.
- B. Personnel, Equipment and Instruments: Furnish personnel, equipment and instruments to perform required tests. The following instruments may be necessary to complete the tests:

1. Test weights.
2. Multi meter.
3. 500-volt Megger.
4. Alternating-current voltmeter and ammeter.
5. Stop watch.
6. Celsius-calibrated thermometers (4 minimum on traction elevator test).
7. Precision tachometer.
8. Spring scale for door-force test.
9. Decibel meter for noise test.
10. 3-axis recording accelerometer for vibration, car sway and car ride test.

C. Traction Elevators:

1. Insulation-Resistance Test: Test safety circuit, door lock circuit, loop circuit, and motor and generator field circuits at 500 volts. Minimum resistance to ground shall be 1 megohm.
2. Running Test: With equipment within 5°C of ambient machine room temperature, the following shall be accomplished:
  - a. Insert thermometers in hoist motor field coil windings. (Shield with cotton waste).
  - b. Check floor-to-floor performance time, speed, stopping accuracy and general ride of elevator with no load, balanced load and full load in car.
  - c. Run fully loaded car continuously for a period of one hour with a minimum of 150 starts, stopping at each floor in both directions for a period of 10 seconds.

- d. At the end of the test, again check floor-to-floor performance time, stopping accuracy and general ride with full load, balanced load and no load in car.

### 3 Test Results:

- a. In all test conditions speed and performance times specified shall be met, stopping accuracy shall be maintained without releveling and general riding quality shall be acceptable to the Owner's Representative.

- b. Temperature rise in windings shall not exceed 50° Celsius above ambient.

- D. Performance Guarantee: Should these tests develop any defects or poor workmanship, any variance or noncompliance with the requirements of the specified codes and/or ordinances or any variance or noncompliance with the requirements of these specifications, the following work and/or repairs shall be completed at no expense to the Owner.

1. Replace all equipment that does not meet Code or specification requirements.
2. Perform all work and furnish all materials and equipment necessary to complete the specified operation and/or performance.
3. Perform all retesting required by the governing Code Authority and the Owner to verify the specified operation and/or performance.

## 3.8 OWNER'S INFORMATION

- A. Submittals: Provide written information and equipment necessary for proper maintenance and adjustment of the equipment prior to final acceptance, as follows:
1. Single-line wiring diagram of as-installed elevator circuits with index of location and function of all components. Mount installation diagrams on masonite panels or hang bound sets in racks and leave on the job. Provide three final corrected sets, one copy, CD (computer disc) within 90 days after job acceptance for the Owner's file.

2. Lubrication instructions, including recommended grade of lubricants.
3. Parts catalogs for all replaceable parts including ordering forms and instructions.
4. Complete operating and maintenance instructions for all controls and switches provided.
5. Five sets of keys to operate each type of key switch provided.
6. Any special maintenance or trouble shooting tools or devices required for maintenance on all elevators.

### **3.9 OWNER'S PERSONNEL TRAINING**

- A. Train designated Owner's elevator operating, safety and security personnel (3 persons) to operate all elevator systems, intercoms, card readers, E.M.S. Systems, security keyboards, elevator operations, emergency systems and car operating panel controls etc.
- B. Provide all required training information, videos, CD ROMs, manuals, training classes, and training personnel to the provide Owner's personnel with training knowledge, and information on how to operate all of the elevator interface functions and controls.

### **3.10 WARRANTY INSPECTION**

- A. At least 30 days prior to warranty expiration, schedule final inspection and retest with Owner's Representative. Requirements shall include close examination of all equipment.
- B. Replace, repair or adjust any equipment found defective and covered by warranty prior to expiration of warranty period.

**End of Section**

**VOLUME-III**  
**BILL OF QUANTITIES**

BILL OF QUANTITIES  
SUMMARY OF COST

S. NO.	DESCRIPTION	TOTAL AMOUNT IN PAK RUPEES
<b>NON-SCHEDULE ITEMS</b>		
1	VERTICAL TRANSPORTATION SYSTEM	
	TOTAL AMOUNT	

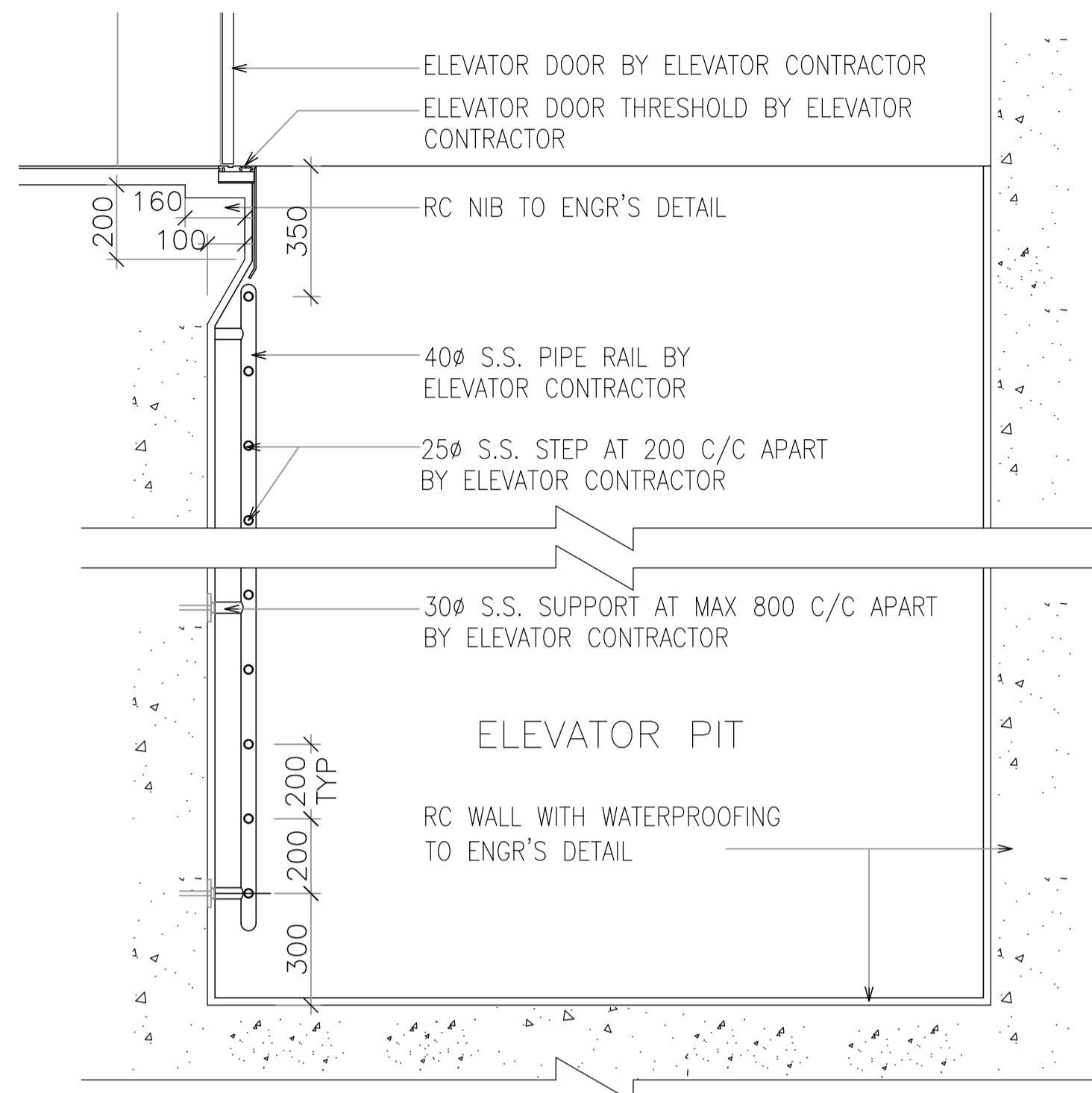
## BILL OF QUANTITIES

S.No.	DESCRIPTION	QTY	UNIT	RATE (Rs.)	AMOUNT (Rs.)
1	2	3	4	5	6 = (3 x 5)
<b>NON-SCHEDULE ITEMS</b>					
1	<b>VERTICAL TRANSPORTATION SYSTEM</b>				
a)	Supply, installation, testing and commissioning of brand new imported Passenger Elevator, Machine Room Less (MRL), fully complied and certified by EN Standard of minimum features including VVVF, high efficiency motor, complete stainless steel finish for ambient condition of 50°C, capacity of 630 Kg (8 persons), as per below mentioned details, fulfill handicap requirements, total travel height as per drawing,. (May vary upto ± 15% as per Architectural drawings) entrance 800mm CO. Lift shall minimum includes car, hoisting machinery, counter-weight, supports, brackets, automatic controls, embedded parts, access ladder, separator screen & trap door, electric overload, shaft lighting, intercom system, gong, surge protection, emergency operation for cabin/ door, automatic emergency landing device /ALD (UPS/Battery) and safety devices complete in all respect as per specification and according to EN 81.1 standard compliance, warranty period 1 year.				
i	Speed: 1.0 m/s Stop: 7 and opening in line, Travel: 73'-6" approx, Center Opening Duplex Control	2	No.		
b)	Spare parts for one year after Defect Liability period for 2 Nos. Elevators as per manufacturer's recommendations. (Priced list of spares to be submitted with tender).	1	Lot		
c)	Civil and Allied works relevant to necessary adjustments which are required during installation of elevator equipment (2 Nos. Elevators).	2	Job.		
d)	MAINTENANCE OF ELEVATORS Maintenance (24 hrs/day, 07 days/week & 365 days /year) after defect liability period of One (01) year. (2 Nos. Elevators)	12	Per Month		
<b>CARRIED TO VTS SUMMARY =====&gt;&gt;&gt;&gt;</b>					

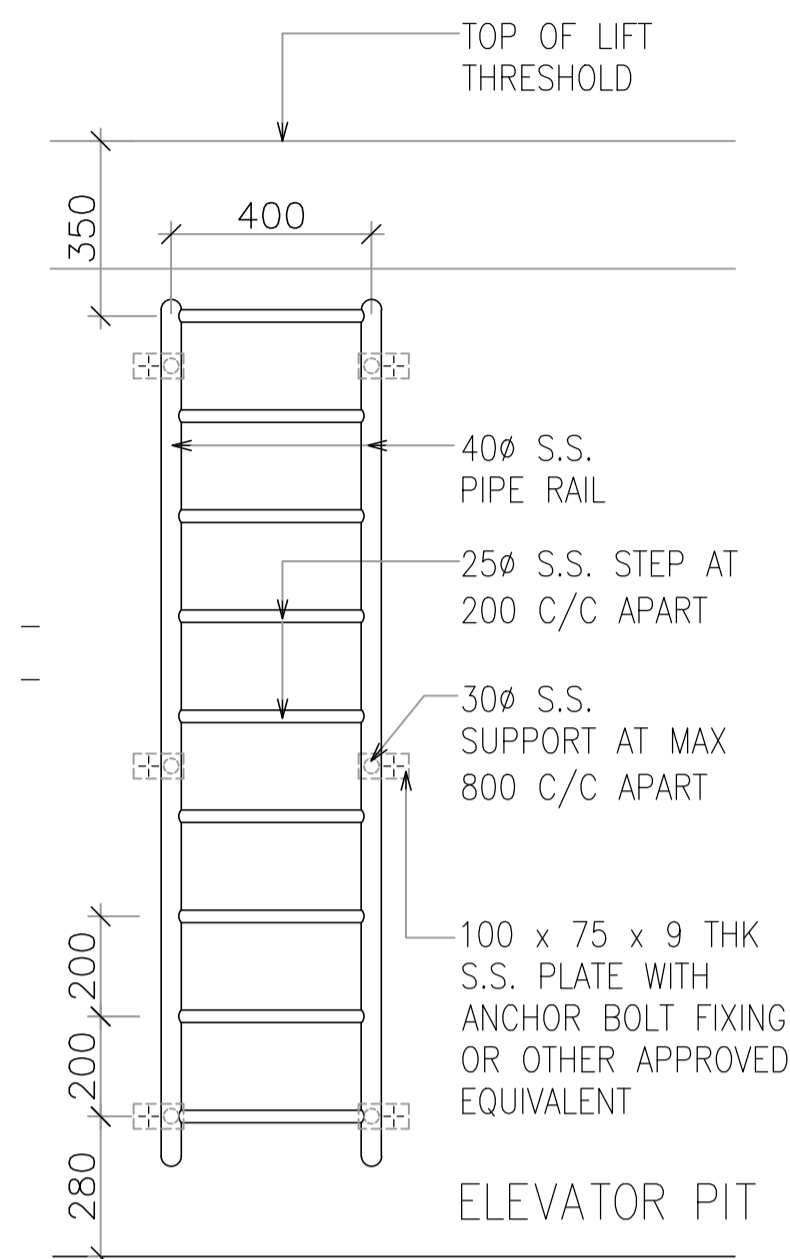
**VOLUME-IV**  
**DRAWINGS**



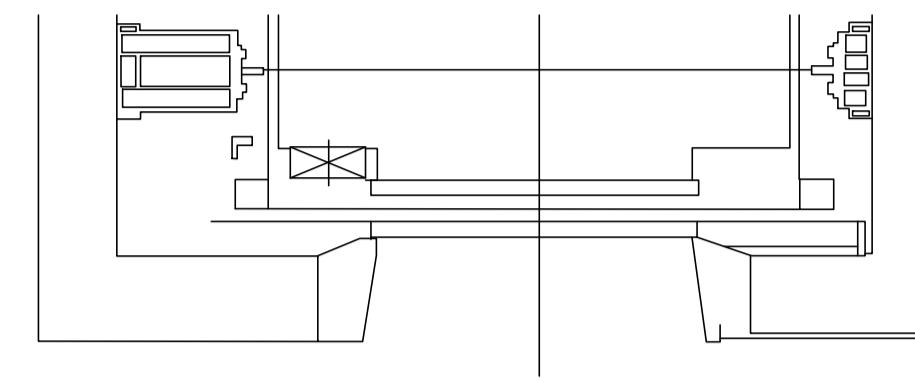




**TYPICAL SECTION OF ELEVATOR THRESHOLD AND LIFT PIT**

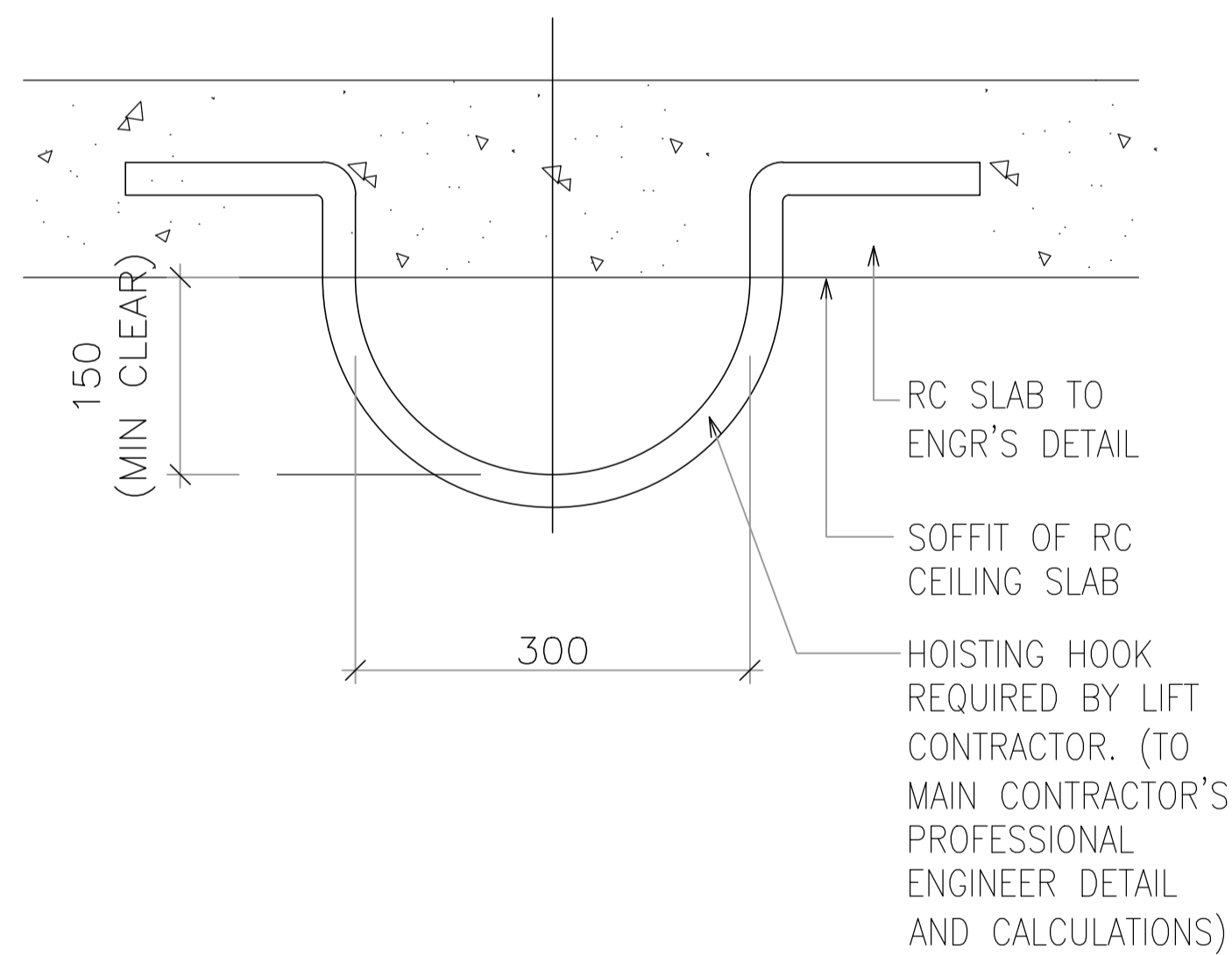


**ELEVATION OF CATLADDER TO LIFT PIT**

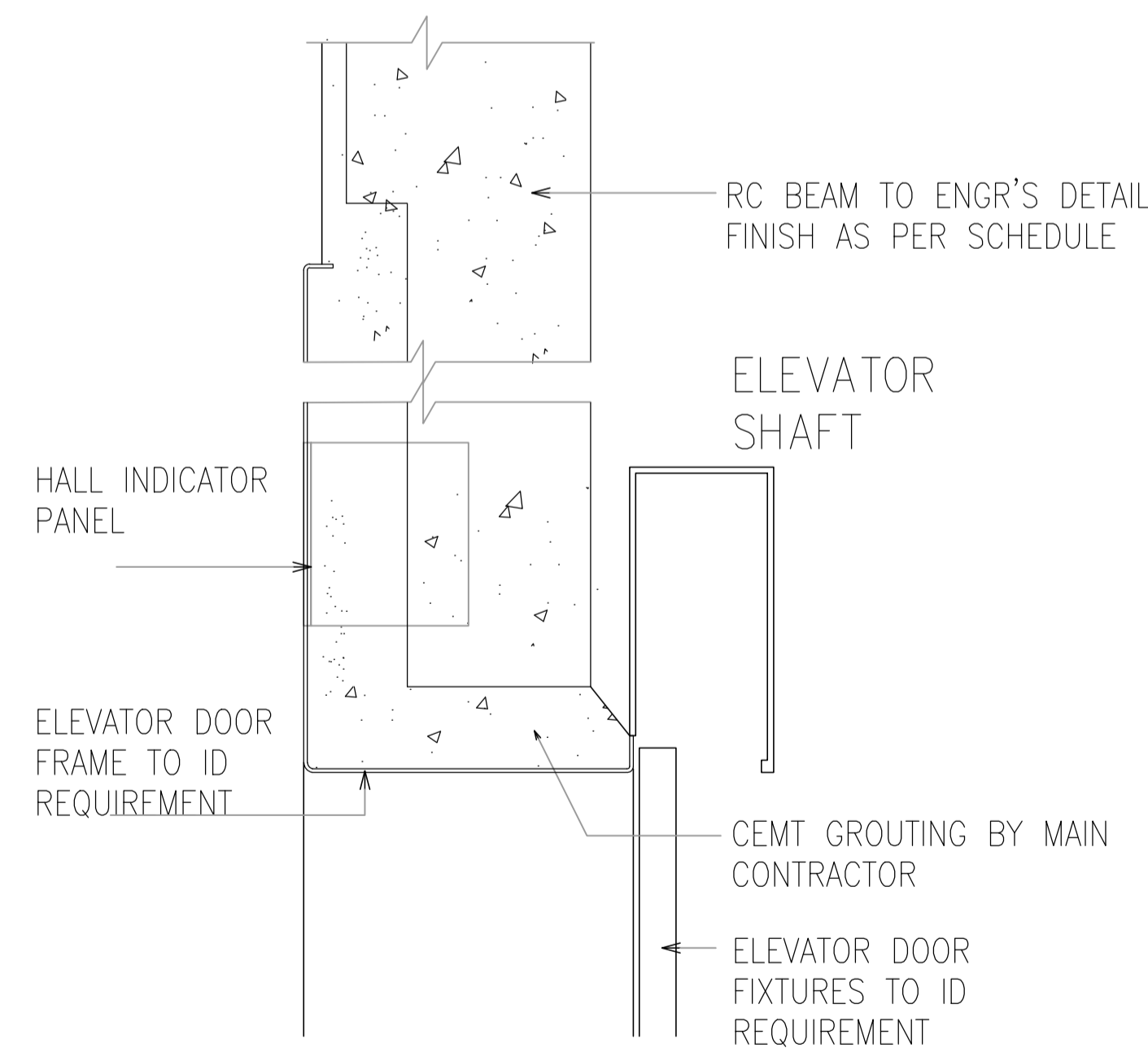


**TYPICAL PLAN OF LIFT ENTRANCE**

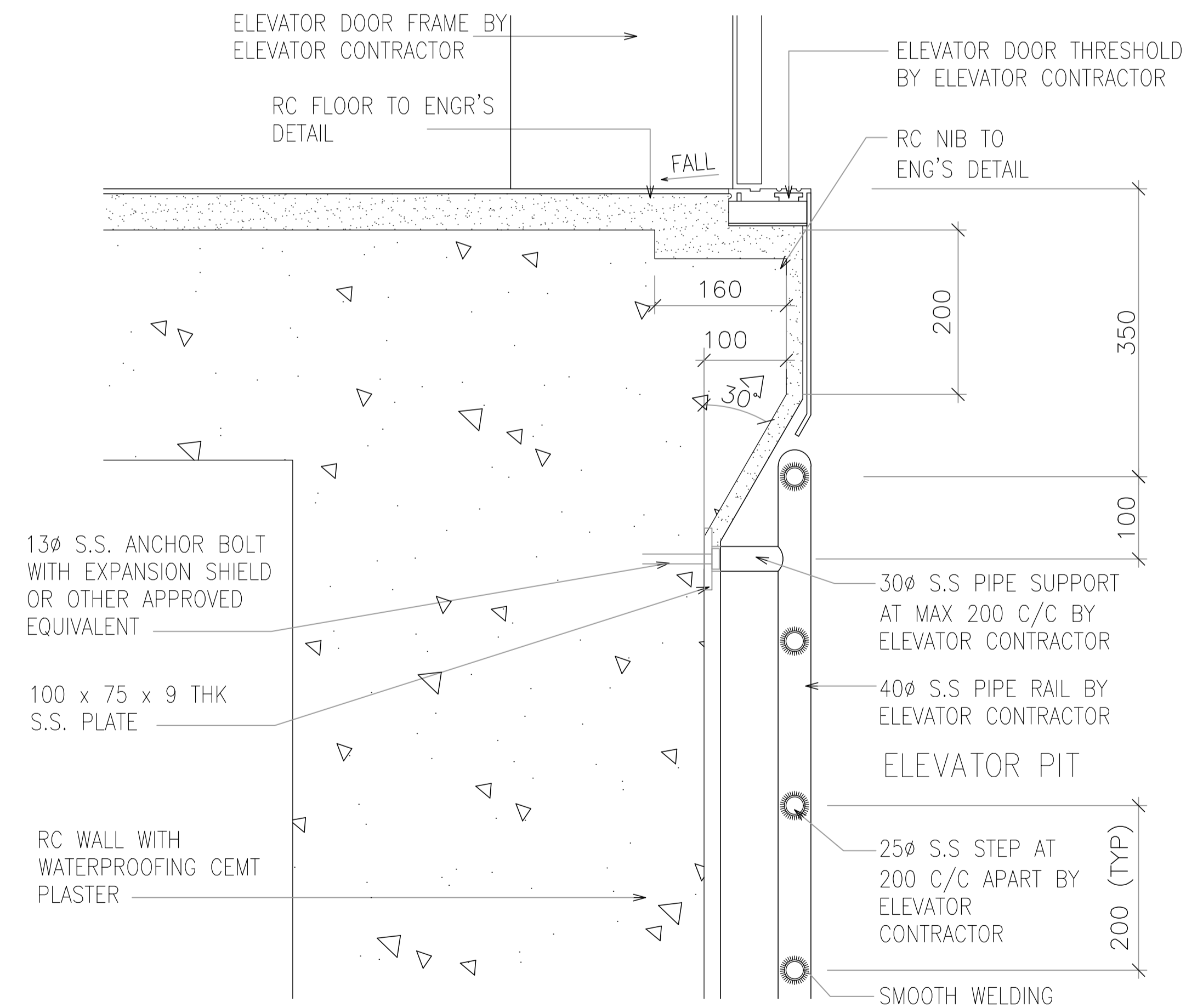
**NOTES:**  
EXACT LOCATION OF CATLADDER AT ELEVATOR PIT TO BE APPROVED BY ENGR. AND ELEVATOR CONTRACTOR



**SECTION OF HOISTING HOOK AT LIFT MOTOR ROOM**

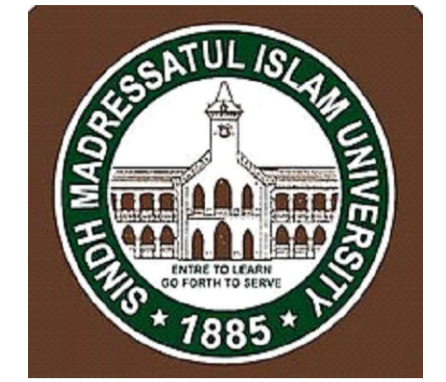


**SECTION OF LIFT ENTRANCE HEAD**



**SECTION OF LIFT ENTRANCE & CATLADDER**

Client :



Consultant :



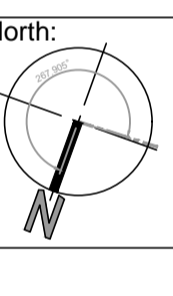
**EA Consulting Pvt Ltd**  
Head Office-AL-9, 15th Lane, Khayaban-e-Hilal, Phase 7, Defence Housing Authority, Karachi, 75500 - Pakistan  
Phone No. : 111-111-984, Fax No. : 594-1625  
Email : info@eaworld.com | www.eaworld.com

Project :

**DEVELOPMENT OF SMIU CAMPUS KARACHI**

Key Plan :

**Note:**  
• All Dimensions to be confirmed on site with architect.  
• Do not scale.  
• Only written dimensions to be followed.  
• Any discrepancies to be clarified with the architect.  
• For structure details refer, structure engineer drawings / details



No.	DATE	DESCRIPTION
0	25, May 2018	ISSUED FOR TENDER
REVISIONS		

<b>Date of Issue</b>	May 25, 2018
<b>Issued To</b>	Client
<b>Issued For</b>	Tender

**VERTICAL TRANSPORTATION**

Status: **TENDER**

Building Name: **I.T BLOCK CITY CAMPUS**

Drawing Title: **TYPICAL LIFT DETAILS**

Designed :	Checked :	Approved :
M.F	M.F	JIS
Drawn :	Date :	Scale / Sheet :
J.A	May 2018	N.T.S=@A1
Project Code :	00986	Rev. :
		0
Drawing No. :	EA-00986-SIT-VT-0200	

Client :



Consultant :



**EA Consulting Pvt Ltd**

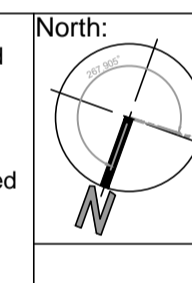
Head Office: AL-9, 15th Lane, Khayaban-e-Hilal, Phase 7,  
Defence Housing Authority, Karachi, 75500 - Pakistan  
Phone No. : 111-111-994, Fax No. : 594-1625  
Email : info@eaworld.com | www.eaworld.com

Project :

**DEVELOPMENT OF  
SMIU CAMPUS  
KARACHI**

Key Plan :

- Note:**
- All Dimensions to be confirmed on site with architect.
  - Do not scale.
  - Only written dimensions to be followed.
  - Any discrepancies to be clarified with the architect.
  - For structure details refer structure engineer drawings / details



No.	DATE	DESCRIPTION

No.	DATE	DESCRIPTION
0	25, May 2018	ISSUED FOR TENDER

<b>Date of Issue</b>	May 25, 2018
<b>Issued To</b>	Client
<b>Issued For</b>	Tender

**VERTICAL  
TRANSPORTATION**

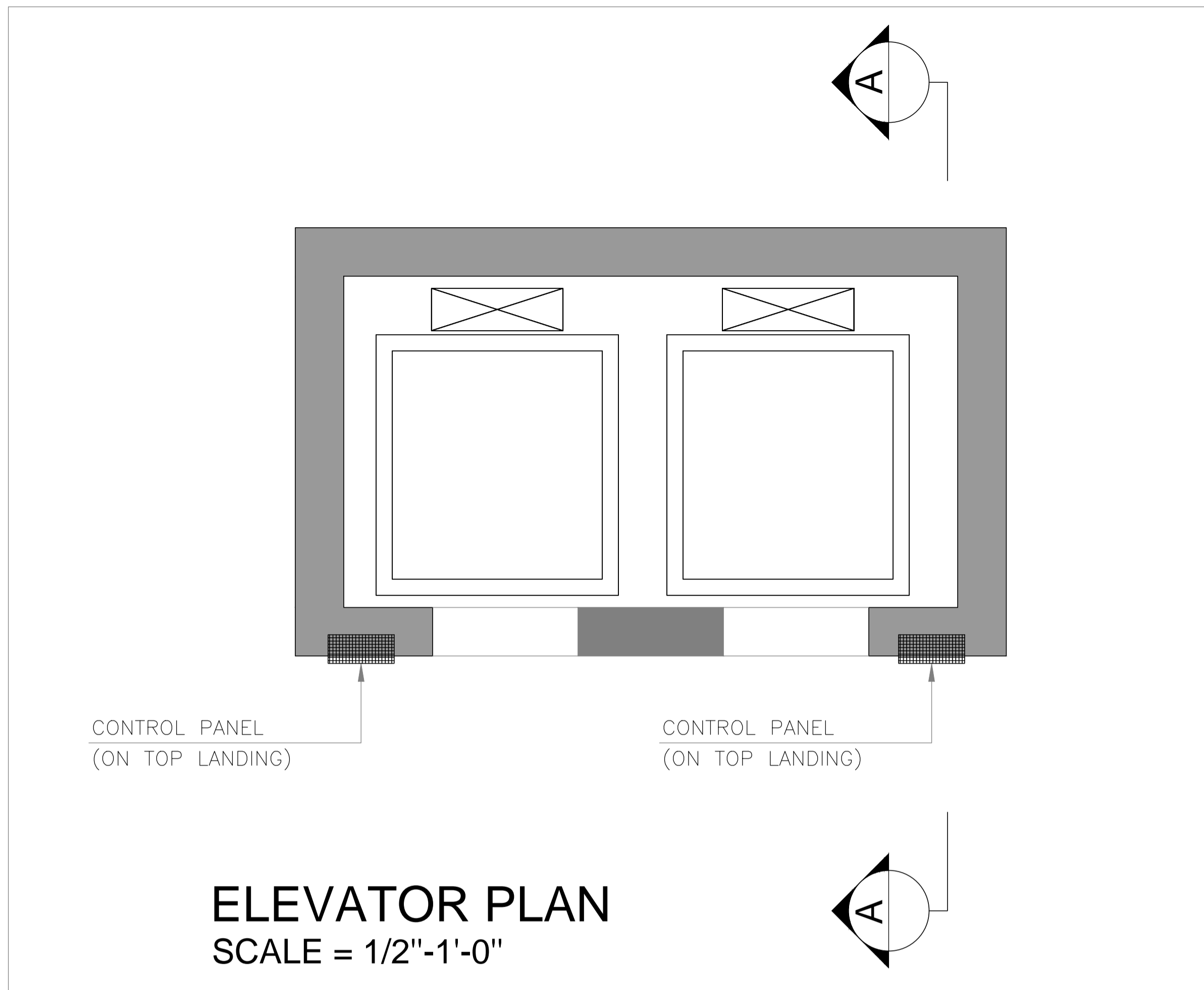
Status: **TENDER**

Building Name:  
**I.T BLOCK  
CITY CAMPUS**

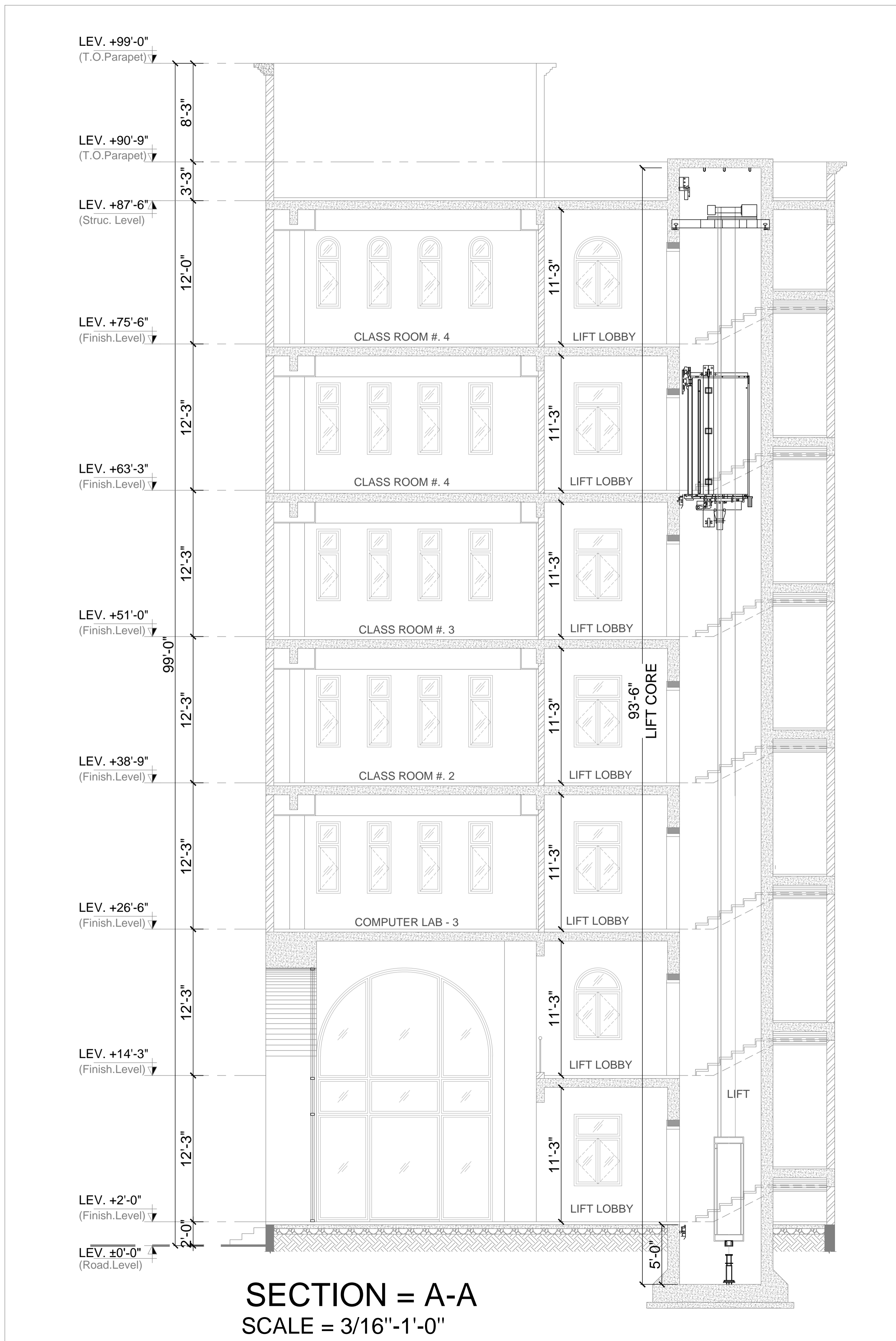
Drawing Title :  
**GROUND FLOOR PLAN  
ELEVATOR LAYOUT**

Designed :	Checked :	Approved :
M.F	M.F	JIS
Drawn :	Date :	Scale / Sheet :
J.A	May 2018	3/16'-1'-0"=@A1
Project Code :	Rev. :	
00986	0	
Drawing No. :	EA-00986-SIT-VT-0300	

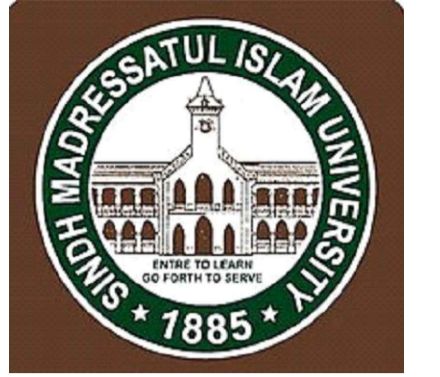




- NOTES;**
1. OPENING TO BE COORDINATED WITH ELEVATOR JAMB & ELEVATOR HEAD.
  2. CLEAR HEIGHT OF ELEVATOR DOOR OPENING TO BE 2250mm CLEAR FROM FFL.
  3. ALL ACCESSORIES eg. CAST IN HOOK BEAMS, OPENING ETC. AT ELEVATOR MOTOR RM. TO BE INCLUDED BY THE CONTRACTOR.
  4. SUITABLE MAINTENANCE STAINLESS STEEL LADDER TO BE PROVIDED BY CONTRACTOR TO ELEVATOR PIT.
  5. ALL LEVELS TO BE CHECKED AND COORDINATED BY ELEVATOR CONTRACTOR ie. SHOP DRAWINGS BEFORE FABRICATION.
  6. PASSENGER ELEVATOR MACHINE ROOM LESS TYPE.(MRL)  
CAPACITY : 630KG  
SPEED : 1.0 m/s  
DOOR TYPE : CENTRE OPENING  
DOOR SIZE : 800mm x 2100mm.  
NO OF STOP : 7 (SEVEN) / IN LINE



Client :



Consultant :



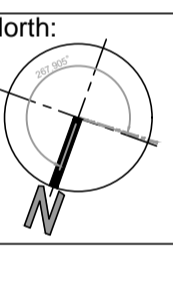
**EA Consulting Pvt Ltd**  
Head Office: AL-9, 15th Lane, Khayaban-e-Hilal, Phase 7,  
Defence Housing Authority, Karachi, 75500 - Pakistan  
Phone No. : 111-111-994, Fax No. : 594-1625  
Email : info@eaworld.com | www.eaworld.com

Project :

**DEVELOPMENT OF  
SMIU CAMPUS  
KARACHI**

Key Plan :

- Note:**
- All Dimensions to be confirmed on site with architect.
  - Do not scale.
  - Only written dimensions to be followed.
  - Any discrepancies to be clarified with the architect.
  - For structure details refer, structure engineer drawings / details



No.	DATE	DESCRIPTION
0	25. May 2018	ISSUED FOR TENDER

REVISIONS

<b>Date of Issue</b>	May 25, 2018
<b>Issued To</b>	Client
<b>Issued For</b>	Tender

**VERTICAL  
TRANSPORTATION**

Status: **TENDER**

Building Name:  
**I.T BLOCK  
CITY CAMPUS**

Drawing Title:  
**ELEVATOR PLAN &  
SECTION A-A**

Designed :	Checked :	Approved :
M.F	M.F	JIS
Drawn :	Date :	Scale / Sheet :
J.A	May 2018	AS SHOWN @ A1
Project Code :	Rev. :	
00986	0	
Drawing No. :	EA-00986-SIT-VT-0400	