

# ***IT EXPRESSWAY LIMITED (ITEL)***

(A Special Purpose Vehicle)

**Construction of G+1 Building at Okkiyam  
Thoraipakkam under R & R Scheme for 13 Project  
affected families in Rajiv Gandhi Salai (IT Corridor)  
in Chennai, Tamil Nadu**

## **BID DOCUMENT**

Section I :	Instruction to Bidders
Section II :	Forms of Bids & Forms of Securities
Section III :	Conditions of Contract
Section IV :	Contract Data
Section V :	Bill of Quantities
Section VI :	Drawings
Section VII :	Technical Specifications

**December 2012**

***ITEL***

IT Expressway Limited,  
Sindur Panthion Plaza, 2<sup>nd</sup> Floor, 346, Pantheon Road,  
Egmore, Chennai- 600 008  
Phone: 044-2819 4800, 044-2819 4900  
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# ***IT EXPRESSWAY LIMITED (ITEL)***

(A Special Purpose Vehicle)

**Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu**

Period of Issue of Tender Document	<b>11<sup>th</sup> December, 2012 to 27<sup>th</sup> December, 2012</b>
Bid Document Price	Rs 15,000/- DD in Favour of M/s. IT Expressway Limited, (ITEL) , payable at Chennai
Last Date and Time for Receipt of Bids	<b>28<sup>th</sup> December, 2012 at 15.00 Hrs</b>
Pre-Bid Meeting	<b>24<sup>th</sup> December, 2012, at 15.00 Hrs</b>
Bid – Opening Date and Time: Technical Bid Opening	<b>28<sup>th</sup> December, 2012 at 15.30 Hrs</b>

# ***IT EXPRESSWAY LIMITED (ITEL)***

(A Special Purpose Vehicle)

## **CONTENTS**

### **BID DOCUMENTS**

**Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu**

<b>Invitation for Bids</b>	
Section I	Instruction to Bidders
Section II	Forms of Bid & Forms of Securities
Section III	Conditions of Contract
Section IV	Contract Data
Section V	Bill of Quantities (BoQ)
Section VI	Drawings
Section VII	Technical Specifications



# IT EXPRESSWAY LTD

## INVITATION FOR BIDS

### **Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu**

Bids are invited by **M/s IT Expressway Limited (ITEL)** for implementation of the following works in **Rajiv Gandhi Salai (IT Corridor), in Chennai, Tamil Nadu.**

The broad scope of works to be carried out by the selected bidder includes the

- Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu

<b>Description of Works</b>	<b>Indicative value of work (Rs)</b>	<b>EMD / Bid Security value (Rs)</b>	<b>Period of Completion</b>
Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu	89.56 Lakhs	90,000/-	9 Months

Bid document can be obtained between **10.00 hrs** and **17.00 hrs** on all working days from **11<sup>th</sup> December, 2012 to 27<sup>th</sup> December, 2012** at the address for communication mentioned below on payment of Non-refundable fee of **Rs.15,000/- (Rupees Fifteen Thousand Only)**, by way of a crossed demand draft drawn in favour of **M/s IT Expressway Ltd**, payable on any scheduled bank in **Chennai**. Alternatively, the Bid document can also be downloaded from [www.tnrhc.com](http://www.tnrhc.com) and in such cases, the bidders will be required to pay the non-refundable fee as mentioned above, at the time of submission of Bids. The proposals shall be submitted through **Two-Cover System (Technical and Financial Proposals in separate envelopes)**

**EMD value for the work is Rs. 90,000/- (Rupees Ninety Thousand Only).**

Sealed proposals should reach at the following address not later than **15.00 hrs** on **28<sup>th</sup> December, 2012**

#### **Address for communication**

**General Manager (Projects) / ITEL**  
**IT Expressway Ltd.,**  
**Regd. Office: Sindhur Panthion Plaza, 2<sup>nd</sup> Floor,**  
**No. 346, Pantheon Road, Egmore,**  
**Chennai – 600 008, Tamil Nadu, India.**  
**Phone : 091-44-2819 4800 / 4900**  
**Fax No. 091-44-2819 5800**

**E.Mail: [tenders@tnrhc.com](mailto:tenders@tnrhc.com)**  
**Web : [www.tnrhc.com](http://www.tnrhc.com)**

# **Section I**

## **Instructions to Bidders**

**SECTION 1: INSTRUCTIONS TO BIDDERS****A: GENERAL****1. Scope of Bid****1.1 Background**

- (a) For developing the IT Corridor into a world-class Highway, the State Government has decided that the project will be implemented by IT Expressway Ltd (ITEL) (herein after referred to as “the Employer”), a Special Purpose Vehicle, specially created for this purpose by Tamil Nadu Road Development Company Ltd (TNRDC) as its wholly owned subsidiary.
- (b) Rajiv Gandhi Salai (IT Corridor) commences from km 0/000 at Madhya Kailash Temple Junction and extends up to Siruseri 20/100. The Rajiv Gandhi Salai is an important road in Chennai, as a number of IT Companies, Engineering Colleges/Institutions and the prestigious TIDEL Park are situated along the Road and this road is a major hub for the most of the IT and BPO companies in Chennai, Tamil Nadu.

Bids are invited by **IT EXPRESSWAY LIMITED, (ITEL)**, (A Special Purpose Vehicle) of Tamil Nadu Road Development Company Ltd, (TNRDC) for **“Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu”**

The estimated cost of the work is **Rs.89.56 Lakhs**

- 1.1.2 The successful bidder will be expected to complete the works within **9 Months** from the date of issue of ‘Notice to Commence the Work / Acceptance letter.
- 1.1.3 The execution of the above works is proposed to be on “Item Rate Contract basis”. The approximate quantities for all items of works to be executed are furnished in the Bill of Quantities (BoQ) - Section- V of the bidding document.

**1.2 Scope of works**

- 1.2.1 The broad scope of Construction Works to be carried out by the selected bidder includes the following components, but is not limited to:

- Construction of G+1 Residential Building with 13 dwellings in S No 211/1 of Okkiyam Thoraipakkam village, Tambaram Taluk, under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu
- Other works and services as may be indicated in the contract.

The Cost of the Bid document for the work is **Rs.15,000/- (Rupees Fifteen Thousand Only)** which is Non-Refundable as indicated in clause 5. EMD should be attached as prescribed in Clause 15.

Any bid not accompanied by the acceptable Bid Document Cost and EMD, shall be summarily rejected by the Employer as **Non- Responsive**.

2. Throughout this Bidding document, the term ‘bid’ and ‘tender’ and their derivatives (bidder/ tenderer, bid/ tender, bidding/ tendering, etc.) are synonymous.

**3. Eligible Bidders**

**3.1 Qualification of the Bidder**

To be qualified for award of the contract, bidders shall provide evidence satisfactory to the Employer of their capability and adequacy of resources to carry out the contract effectively.

3.2 Bids shall include the following relevant information & particulars in the prescribed forms attached in Section –II: Forms of bid & Forms of securities.

- (a) Copies of original documents defining the constitution or legal status, place of registration and principal places of business; written Power of Attorney of the signatory of the Bid to commit the bidder;
- (b) Total annual turnover in the civil works construction business expressed as total of payment certificates for work performed in each for the last three years;
- (c) Performance as Contractor, on works of a similar nature and complexity over the last three years and details of other work on hand and contractual commitments;
- (d) Major items of Contractor's equipments proposed for carrying out the contract;
- (e) The qualifications and experience of key personnel proposed for administration and execution of the contract.
- (f) Reports on the financial standing of the bidder including profit and loss statements, balance sheets and auditor's reports for the past three years.
- (g) Authority to seek references from the bidder's bankers;
- (h) Information regarding any litigation or arbitration resulting from contracts executed by the bidder in the last three years or currently under execution. The information shall include the names of the parties concerned, the disputed amount, cause of litigation, and matter in dispute;
- (i) Proposal of work methods, in sufficient detail to demonstrate the adequacy of the bidder's proposals to meet the technical specifications and the completion time referred in sub-clause 1.1.2 above.

3.3 Bidders shall not be under a declaration of ineligibility or blacklisted for corrupt and fraudulent practices or poor quality/ delayed implementation of any work by the Government of India (GoI), Government of Tamil Nadu (GoTN), other State Governments or any other agencies and/ or Statutory Authorities.

**4. Qualification Criteria and Information**

The Qualification will be based on the bidder who meets the following criteria with respect to general and particular experience, financial position, personnel, and

equipment capabilities and other relevant information as given by the applicant in the required format.

The following criteria must be fulfilled by the Bidder and the same shall be duly certified by auditors/ clients, as applicable. The Bidder shall note that the criteria set out hereunder shall be satisfied by the Bidder.

**4.1 Experience and Turn Over**

The bidder shall provide documentary evidence of having been actively engaged in the civil works construction business during the last three years in the role of contractor.

**4.2 Particular Construction Experience:**

The bidder shall provide evidence that the firm has successfully completed or substantially completed during last three years (year 2009-2010, 2010-2011 & 2011-2012) a single civil work contract of similar nature for the value of **Rs. 36 Lakhs**.

**4.3 Turn Over**

The bidder shall have generated a **minimum Annual Average Construction work Turnover of Rs 89 Lakhs** during the last 3 years commencing from the year 2009-2010, 2010-2011 & 2011-2012

**4.4 Personnel Capabilities**

The bidder shall supply general information on the management structure of the firm and shall make provision for suitably qualified personnel required for the work

**The Minimum Personnel requirement for the project is as follows:**

- i) A B.E Degree holder in Civil Engineering with 3 years experience and**
- ii) A Diploma holder in Civil Engineering**

All other necessary inputs of man power such as support staffs, field technical staffs, office staffs other than the above mentioned, as deemed necessary, shall be provided by the bidder within the quoted amount to ensure that the entire work is completed in accordance with the conditions stipulated in the Bid document.

In case of non deployment of the above personnel on the part of the contractor, a penalty of **Rs. 5,000/-** per month for the Diploma holder and **Rs. 10,000/-** per month for the Degree holder shall be levied based on the norms for the value of this contract.

The Bidder should have a valid **ESI / Workmen Compensation Policy and a valid EPF code**. The Bids submitted by the firms without a valid **ESI / Workmen Compensation Policy and a valid EPF code** , shall be declared Non-Responsive. However, the Successful bidder has to furnish valid **ESI / Workmen Compensation Policy and a valid EPF code before the commencement of work**.

**4.5 Equipment Capabilities**

The bidder is required to own or have assured access through hire or lease key equipments required for implementation of the project and **shall give an**



**undertaking** in the prescribed format to provide all the plants and machineries required for the project in good condition during the project period.

**4.6 Financial Capabilities**

The bidder shall demonstrate that he has access to or has available liquid assets (aggregate of working capital, cash in hand and uncommitted bank guarantee), line of credit and other financial means (independent of any contractual advance payment) sufficient to meet the construction cash flow requirement. The bidder must demonstrate the current soundness of the bidder's financial position, and indicate its prospective long-term profitability, if deemed necessary; the Employer shall have the authority to make enquiries with the bidder's bankers.

**4.7 Litigation History**

The bidder as on date should not have been debarred from taking up any civil construction works and shall not be under a declaration of ineligibility for corrupt and fraudulent practices by the Government of India, Government of Tamil Nadu or any other agency. The bidder should provide accurate information about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last three years. A consistent history of awards against the bidder will result in rejection of the bid. Suppression of any information or material in this regard would be construed as a fundamental breach and ITEL reserves its right to take appropriate action including cancellation of the bid, forfeiting of bid security etc., as may be deemed fit by ITEL at any time without requiring to give any notice to the applicant in this regard.

**4.8 Deleted**

**4.9 Construction Programme**

The Bidder shall submit details of proposed construction programme regarding work methodology including preliminary Environment Management Plan, Traffic Management Plan and Resource Management Plan.

The Bidder shall, pay special attention and concentrate on the following issues wherever mentioned throughout bid document and propose the construction programme accordingly:

- i) Test inspection and rejection of defective materials on work.
- ii) Carriage
- iii) Construction Plant
- iv) Water and Lighting
- v) Cleaning up during progress and for delivery
- vi) Accidents
- vii) Delays
- viii) Particulars of Payment

**5. Cost of Bid document**

The cost of bid document for the work is **Rs.15,000/- (Rupees Fifteen Thousand Only)** which is Non-Refundable as indicated in the Invitation for Bids. Any bid not

accompanied by the acceptable bid document cost will be rejected by the employer as Non-Responsive Tender.

The bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for such costs, regardless of the conduct or outcome of the tendering process.

**6. Site Visit**

The Bidder shall, prior to submission of the Bid for the work, at his own expense, responsibility and risk, is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction of the works. The costs of visiting the Site shall be at the Bidder's own expense.

**B. BIDDING DOCUMENT**

**7. Contents of the Bid Document**

The contents of the Bid documents are given in the succeeding paragraphs

7.1 The Bidding Document comprises the documents listed below and should be read in conjunction with any addenda issued in accordance with Clause 9

- (a) Section I Instructions to Bidders
- (b) Section II Forms of Bid and Forms of Securities
- (c) Section III Conditions of Contract
- (d) Section IV Contract Data
- (e) Section V Bill of Quantities (BoQ)
- (f) Section VI Drawings
- (g) Section VII Technical Specifications

7.2 The Bidder is expected to examine carefully all instructions, qualification information, forms, Conditions of Contract, Contract Data, Technical specifications, forms, BoQ, and Drawings in the Bid Document. Failure to comply with the requirements of Bid Document shall be at Bidder's own risk. Pursuant to Clause 25.2, bids, which are not substantially responsive to the requirements of the Bid Document, will be rejected.

**8. Clarification of Bidding Document**

A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing or by cable (hereinafter the term "cable" is deemed to include telex and facsimile) at the Employer's address indicated in the Invitation for Bid. The Employer will respond to any request for clarification which he receives **on or before the Pre Bid Meeting i.e on or before 24<sup>th</sup> December, 2012.**

**8.1 Pre Bid Meeting**

8.1.1 The bidder or his official representative is invited to attend a Pre Bid Meeting which will take place at the office of ITEL, Egmore on **24<sup>th</sup> December, 2012 at 15.00 Hrs** and the minutes of the meeting will be conveyed to the bidders who have purchased the document by post or fax or e-mail and will be uploaded in the website. It is the bidder's responsibility (for those who download from the website)

to keep track of the website specified in the NIT for minutes of pre bid meeting and/or any addendum. The minutes of Pre-bid meeting shall form part of this Bid document.

- 8.1.2 The purpose of the meeting will be to clarify issues and to answer questions on any matter regarding the work that may be raised on or before the date of Pre-Bid Meeting.

## 9. Amendment of Bidding Document

- 9.1 Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing addenda.
- 9.2 Any addendum thus issued shall form part of the bidding documents and shall be communicated in writing or by post or fax or e-mail to all the purchasers of the bidding documents and it will also be uploaded in the website. It is the bidder's responsibility (for those who download from the website) to keep track of the website specified in the NIT for any addendum. The addendum of the bidding document will not be notified in the newspaper. Prospective bidders shall acknowledge receipt of each addendum by post or fax to the Employer.
- 9.3 To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may, at his discretion, extend the deadline for submission of bids, in accordance with Sub-Clause 19.2.

## C. PREPARATION OF BIDS

### 10. Language of the Bid

- 10.1 The bid, and all correspondence and document related to the bid exchanged between the Bidder and the Employer shall be written in **English** language.

### 11. Documents Comprising the Bid

- 11.1 The bid shall be prepared and complete in accordance with the provisions of the Bid Document and shall be submitted by the bidder in a duly sealed and signed manner as appropriate. It shall comprise the following:

(a) **TECHNICAL BID (Envelope No.1)** :

- (i) Bidder, qualification and other information and supporting documents of Clause 4 as per formats given in Section-II of Bid Document,
- (ii) Earnest Money Deposit (EMD) as per Clause 15.1
- (iii) Bid Document cost as per Clause 5

**The Technical Bid must not include any details of Financial bid.**

(b) **FINANCIAL BID (Envelope No.2)** :

- (i) Letter of Financial Bid according to Section-II of Bid Document, and
- (ii) Bill of Quantities as given in Section-V of Bid Document.

- 11.2 The '**BID**' must be in a bound form with pages numbered serially and by giving an index of submissions. The forms and schedules given in Section-II, and Section-V

shall be filled in without exception and without any variation, both in respect of form and contents.

- 11.3 All the addenda issued should be properly incorporated. Failure to do so may result in the bid being rejected.

**12. Bid Prices**

- 12.1 Unless stated otherwise in the bidding documents, the contract shall be for the whole work or parts thereof as described in Sub-Clause 1, based on the quoted rates in Bill of Quantities submitted by the Bidder.

- 12.2 The bidder shall fill in rates and prices on unit basis (both in figures and words) for all items of the works described in the Bill of Quantities along with total bid price (both in figures and words). Items for which no rate or price is entered by the bidder will not be paid for by the Employer when executed and shall be deemed covered by the other rates and prices in the Bill of Quantities. Corrections, if any, shall be made by crossing out, initialling, dating and rewriting.

- 12.3 All duties, taxes (including service tax), fees, tolls, royalties, cess and octroi, insurance, contribution to labour welfare fund, EPF and other levies payable by the contractor under the contract, or for any other cause shall be included in the rates, prices and total Bid Price submitted by the Bidder.

- 12.4 The rates and prices quoted by the Bidder shall be fixed for the duration of the Contract and shall not be subject to adjustment on any account.

**13 Currencies of Bid and Payment**

The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees only.

**All payments shall be paid in Indian Rupees only.**

**14 Bid Validity**

- 14.1 Bids shall remain valid for a period of 90 days (Ninety days) after the deadline date for Bids as specified in Clause 19. A bid valid for a shorter period shall be rejected by the Employer as non-responsive.

- 14.2 In exceptional circumstances, prior to expiry of the original time limit, the Employer may request the bidders to extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his bid security for the period of the extension, and in compliance 19.2 in all respects.

**15 Earnest Money Deposit (EMD)**

- 15.1 The proposals duly filled in the required format must reach the Office of ITEL, Egmore, Chennai - 600008 on or before **15.00 hrs, on 28<sup>th</sup> December, 2012** along with **EMD/ Bid security for an amount of Rs.90,000/-** in one of the following forms:
- i) Form of **Demand Draft drawn in favour of M/s. IT Expressway Ltd**, as indicated in the bid document.
  - ii) **Bank Guarantee** from any Nationalised Indian Bank/Scheduled Bank approved by the RBI.
  - iii) The Bank Guarantees issued, as surety for the bid shall be valid for 28 days beyond the validity of the bid.
- 15.2 **Any bid not accompanied by the acceptable EMD shall be rejected by the Employer as Non- Responsive.**

**16 Alternative Proposals by Bidders**

Bidders shall only submit offers that comply with the requirements of the bidding documents, including the basic technical design as indicated in the drawing and specifications.

**Alternate proposals will not be considered.**

**17 Format and Signing of Bid**

- 17.1 Only relevant supporting documents shall be submitted along with the Bid, Documents furnishing additional information other than that is required as per Bid Document, if any, shall be submitted separately under separate heading, which may not be considered for evaluation.
- 17.2 The entire Bid including covering letter and supporting documents shall be duly page numbered and shall contain a detailed table of contents with page references.
- 17.3 The person or persons signing the Bids shall initial all pages of the Bids.
- 17.4 The Bidder shall prepare and submit one original of the Bid Document comprising the Bid as described in Clause 11, bound and clearly marked "**ORIGINAL**".
- 17.5 The Bid shall be typed or written in indelible ink and shall be signed by a person or persons duly authorized to sign on behalf of the Bidder. All pages of the bid where entries or amendments have been made shall be initialled by the person or persons signing the bid.
- 17.6 The Bid shall contain no alterations or additions, except those to comply with instructions issued by the Employer, or as necessary to correct errors made by the bidder, in which case such corrections shall be initialled by the person or persons signing the bid.
- 17.7 The Bidder shall furnish information as described in the Form of Bid and Qualification 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.

- 17.8 All witnesses and sureties shall be persons of status and probity and their full names, occupation and addresses shall be printed below their dated signatures.

#### D. SUBMISSION OF BIDS

##### 18 Sealing and Marking of Bids

- 18.1 The Bidder shall submit qualification information (Technical Bid) and Financial Bid in two separate envelopes, seal securely the Bid. These envelopes shall be clearly marked on top as “**TECHNICAL BID**” and “**FINANCIAL BID**” as appropriate. The Technical Bid and Financial Bid in two separate envelopes so sealed and marked shall then be put into an Outer Envelope and duly sealed.

- 18.2 The **Inner and Outer** envelopes shall

- (a) be addressed to the Employer at the following address:

**General Manager ( Projects) / ITEL,**

**IT Expressway Limited,**

**346, Sindur Panthion Plaza,**

**2<sup>nd</sup>- Floor, Pantheon Road,**

**Egmore, Chennai- 600 008,**

And

- (b) bear the following identification:

**Bid for “Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu”**

- 18.3 In addition to the identification mentioned above the inner and outer envelopes shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared late, pursuant to Clause 20.

- 18.4 If the outer envelope is not sealed and marked as above, the Employer will assume no responsibility for misplacement or premature opening of the bid and the bid will be rejected on the grounds of not substantially responsive.

##### 19 Deadline for Submission of the Bids

- 19.1 Bids must be received by the Employer at the address specified above not later than 15.00 Hours on 28<sup>th</sup> December, 2012. In the event of the specified date for the submission of bids declared a holiday for the Employer, the Bids will be received up to the appointed time on the next working day.

19.2 The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 9, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

**20 Late Submission of Bids**

**Any Bid received by the Employer after the deadline prescribed in Clause 19 will be returned unopened to the bidder.**

**21 Modification and Withdrawal of Bids**

21.1 Bidders may modify or withdraw their bids by giving notice in writing before the deadline prescribed in Clause 19.

21.2 Each Bidder's modification or withdrawal notice shall be prepared, sealed, marked, and delivered in accordance with Clause 18 & 19, with the outer and inner envelopes additionally marked "**MODIFICATION**" or "**WITHDRAWAL**", as appropriate.

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

21.4 Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 14.1 above or as extended pursuant to Clause 14.2 may result in the forfeiture of the Bid security pursuant to Clause 15.

21.5 Bidders may only offer discounts to, or modify the prices of their Bids only by submitting Bid modifications in accordance with this clause, or included in the original Bid submission.

**E. BID OPENING AND EVALUATION**

**22 Bid Opening**

22.1 The Employer will open all the Bids received (except those received late), including modifications made pursuant to Clause 19, in the presence of the Bidders or their representatives who choose to attend **at 15:30 Hrs on 28<sup>th</sup> December, 2012** at the office of the ITEL, Egmore, Chennai.

22.2 In the event of the specified date of Bid opening being declared a holiday, the Bids will be opened at the appointed time and location on the next working day by the employer.

22.3 Envelopes marked "**WITHDRAWAL**" shall be opened and read out first. Subsequently, all envelopes marked "Modification" shall be opened and the submissions therein read out in appropriate detail at the time of opening of Financial Bid.

22.4 After opening of the outer envelope containing the Bid, its contents shall be examined for compliance in pursuant to Clause 18.1. Bids found not complying are

liable to be rejected without further examination. The contents of envelope titled “**TECHNICAL BID**” will be opened first and its contents shall be scrutinised as per requirements of Bid document. Only for the Bidders, whose contents of Technical Bid have been found in order and evaluated as substantially responsive, the envelope titled “**FINANCIAL BID**” shall be opened. ITEL may notify those bidders whose bids were not considered as per conditions of the bid document and will return their Financial Bid “unopened” along with the EMD. ITEL shall simultaneously notify the technically qualified bidders indicating the date and time set for opening of the Financial Bid. The financial bid will be opened at the same address as specified in Clause 18.2 in the presence of Bidders or their authorized representatives who choose to be present in the bidding process.

The Tender scrutiny Committee will determine whether the submitted Financial bid is complete i.e. whether they have included cost of all items; if not, then the cost towards such missing items will be considered as NIL, but, the bidder shall, however, be required to carry out such obligations without any additional compensation. In case under such circumstances, if ITEL feels that the work cannot be carried out within the overall cost as per the submitted financial bid, such bid shall be considered non - responsive.

- 22.5 The Bidder's names, the Bid Prices, the total amount of each bid, any discounts, Bid modifications and withdrawals and such other details as the Employer may consider appropriate, will be announced and recorded by the Employer at the time of opening. No bid shall be rejected at Bid opening except for late bids pursuant to Clause 20 and conditional bids. Bids [and modifications pursuant to Clause 21] that are not opened and read out at Bid opening will not be considered for further evaluation regardless of the circumstances. Late and withdrawn bids will be returned unopened to Bidders along with the EMD submitted by them.

## **23 Process to be Confidential**

Information relating to the examination, clarification, evaluation, and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process until the award to the successful Bidder has been announced. Any effort by a Bidder to influence the Employer's processing of Bids or award decisions may result in the rejection of his Bid.

## **24 Clarification of Bids**

- 24.1 To assist in the examination, evaluation, and comparison of Bids, the Employer may, at his discretion, ask any Bidder for clarification of his Bid, including breakdowns of the unit rates. The request for clarification and the response shall be in writing or by cable, but no change in the price or substance of the Bid shall be sought, offered, or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids in accordance with Clause 27. Provided however, the employer shall seek the rectification of price with the bidder who quoted lowest in total;



- 24.2 Subject to sub-clause 24.1, no Bidder shall contact the Employer/ its representatives on any matter relating to its bid from the time of the bid opening to the time the contract is awarded.
- 24.3 Any effort by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidders' bid.

**25 Preliminary Examination of Bids and Determination of Responsiveness**

- 25.1 Prior to the detailed evaluation of Bids, the Employer will determine whether each Bid (a) has been properly signed; (b) is accompanied by the required securities and; (c) is substantially responsive to the requirements of the Bidding documents; and (d) provides any clarification and/ or substantiation that the Employer may require pursuant to Clause 24.
- 25.2 A substantially responsive Bid is one, which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the Bidding documents, the Employer's rights or the Bidder's obligations under the Contract; (c) not confirming to the requirement at Clause 18 or (d) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.
- 25.3 If a Bid is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

**26 Correction of Errors**

- 26.1 Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer, where there is a discrepancy between the unit rates in figures and in words, the lesser of the two will prevail.
- 26.2 The amount stated in the Bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, with the concurrence of the Bidder, shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount the Bid, will be rejected, and the Bid security may be forfeited in accordance with Sub-Clause 17.6.

**27 Evaluation and Comparison of Bids**

- 27.1 The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Clause 25.

- 27.2 In evaluating the Bids, the Employer will determine for each Bid, the evaluated Bid Price by adjusting the Bid Price as follows:
- (a) Making any correction for errors pursuant to Clause 26;
  - (b) Excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities;
- 27.3 Towards evaluation, the employer will take into account the adjusted Bid Price for construction/ improvement works arrive at the lowest evaluated rate of bid.
- 27.4 The Employer reserves the right to accept or reject any variation, deviation, or alternative offer and other factors which are in excess of the requirements of the Bidding document or otherwise result in the accrual of unsolicited benefits to the Employer shall not be taken into account in Bid evaluation.
- 27.5 If the Bid of the successful Bidder is seriously unbalanced in relation to or substantially below the Employer's estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analysis for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analysis, the Employer may require that the amount of the performance security set forth in Clause 31 be increased at the expense of the successful Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.

## **F. AWARD OF CONTRACT**

### **28 Award Criteria**

Subject to Clause 27, the Employer will award the Contract to the Bidder whose Bid has been determined to be substantially responsive to the Bidding documents and whose bids are evaluated to be the lowest, provided that such Bidder has been determined to be eligible and qualifying in accordance with the provisions of Clause 3 and 4. If the lowest bidder is not responding for further negotiations, the Employer reserves the right to negotiate with any of the eligible bidders who is willing to offer a negotiated and reasonable rate.

Awarding the work to bidders or summarily reject all the bids shall be the sole discretion of ITEL, based on the capability of the Bidders.

Employer reserves the right to appoint other contractor/contractors for "**Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu**" or part of this work/contract and any other works that the Employer may decide.

### **29 Employer's Right to accept any Bid and to reject any or all Bids**

- 29.1 Notwithstanding Clause 28, the Employer reserves the right to accept or reject any Bid, and to annul the Bidding process and reject all Bids, at any time prior to the award of Contract, 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 Employer's action.

**30. Notification of Award**

30.1 The Bidder whose Bid has been accepted will be notified of the award by the Employer prior to expiration of the Bid validity period by cable, telex or facsimile confirmed by registered letter. This letter (hereinafter and in the *Conditions of Contract* called the "Letter of Acceptance") will state the sum that the Employer will pay the Contractor in consideration of the execution, completion, and maintenance of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price").

**31 Performance Security**

31.1 Within 7 days of receipt of the Letter of Award, the successful Bidder shall deliver to the

a. Employer a Performance Security in the form of a bank guarantee from Nationalised Bank/ Scheduled Bank acceptable to the Employer in the form as given in Section 2 for an amount equivalent to **5% of the initial contract price** in accordance with Clause 27.5 and Clause 48 of Conditions of Contract. The Performance Security for works shall be valid for a period of **21 Months** from the date of commencement of improvement/ construction works or **12 Months** beyond the completion date whichever is later. The bidder should maintain the facility in acceptable condition as stipulated in the Bid document.

31.2 Failure of the successful bidder to comply with the requirements of Clause 31.1 shall constitute a breach of contract, cause for annulment of the award, forfeiture of the bid security, and any such other remedy the Employer may take under the contract.

**31.3 Retention Money**

In each, Interim Payment Certificate (IPC) @ 5 % of value of work executed during each bill will be withheld and the withheld amount will be refunded to the Contractor along with the Final Bill /Taking over certificate. The maximum amount of Retention money to be with held is restricted up to 5% of the contract value.

**32 Signing of Agreement**

32.1 At the same time that he notifies to the successful Bidder that his Bid has been accepted, the Employer will direct him to attend the Employer's office on a date determined by the Employer for signing the Form of Agreement provided in the Bidding Document incorporating all the agreements between the parties. The signing of the Form of Agreement shall take place only after the furnishing of the requisite performance security by the selected Bidder as per Clause 31.1

32.2 The Agreement will incorporate all agreements / correspondences between the Employer and the successful Bidder. It will be kept ready for signature of the successful bidder in the office of employer within 21 days following the notification of award along with the Letter of Award; the successful Bidder will sign the Agreement and deliver it to the Employer.

32.3 Upon furnishing of the Performance Security by the successful Bidder, the Employer will promptly notify the other Bidders that their Bids have been unsuccessful and refund the Bid Security.

**33 Corrupt or Fraudulent Practices**

33.1 The Employer requires that all the Bidders should observe the highest standard of ethics during the procurement and execution of this Contract. In pursuance of this policy, the Employer:

- (a) Defines, for the purposes of this provision, the terms set forth as follows :
  - “Corrupt practice” means the offering, giving, receiving or soliciting of anything of value to influence the action of Employer/ its representatives in the procurement process or in contract execution; and
  - “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 Employer, and includes collusive practice among Bidders (prior to or after Bid Submission) designed to establish Bid prices at artificial non-competitive levels and deprive the Employer of the benefits of free and open completion;
- (b) will reject a proposal for award if he 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 any contract in **ITEL**, if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, this Contract.

**34 TERMINATION**

In case the Contractor fails to carryout the works, as per the construction programme and as per the conditions stipulated in the Bid document, then the Employer, at its sole discretion is entitled to terminate this contract at the ‘**Risk and Cost**’ of the Contractor and to employ such other Contractor/s to carryout the balance works. The additional cost incurred by the employer in completing the works, which remain unfinished at the time of termination of the contract will be recovered from the Contractor. Any unrecovered ‘Risk and Cost’ amount will be a debt payable to the Employer and the Employer will take suitable actions for such unrecovered ‘Risk and Cost’ amount at the cost of the Contractor. Any bill/s for the works executed remains unsettled and/or the value of materials, machineries etc., taken over or possessed by the Employer at the time of termination or on termination will be adjusted towards the ‘Risk and Cost’ recoverable from the contractor.

**Section II**  
**Forms of Bid &**  
**Forms of Securities**

**SECTION II**

**FORMS OF BID & FORMS OF SECURITIES**

**1. LETTER OF APPLICATION**

(Letterhead paper of the Bidder)

[Including full postal address, telephone, fax, cable and telex addresses]

[date]

To:

**General Manager (Projects) / ITEL**

IT Expressway Limited

Sindur Panthion Plaza, 2<sup>nd</sup> Floor, 346, Pantheon Road,

Egmore, Chennai- 600 008

Sir,

1. Being duly authorised to represent and act on behalf of ----- (hereinafter "the bidder"), and having reviewed and fully understood all the bid information provided, the undersigned hereby apply to be qualified by your agency as a bidder for the contract of the **"Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu"**
2. ITEL and its associates / representatives are hereby authorized to conduct any inquiries or investigations to verify the statements, documents, and information submitted in connection with this application, and to seek clarification from our bankers and clients regarding any financial and technical aspects. This Letter of Application will also serve as authorization to any individual or authorised representative of any institution, to provide such information deemed necessary to verify statements and information provided in this application or with regard to the resources, experience, and competence of the Bidder.
3. This application is made in the full understanding that:
  - (a) ITEL reserves the right, to reject or accept any application, cancel the bidding process and reject all applications; and
  - (b) ITEL shall not be liable for any such actions and shall be under no obligation to inform the Bidder of the grounds for them.
4. The undersigned declared that the statements made and the information provided in the duly completed application are complete, true, and correct in every detail.

Authorised Signature

Name and Title of Signatory

**2. BIDDER, QUALIFICATION AND OTHER INFORMATION**

Bidders are requested to complete the information in this form through indicated formats or suitable attachments:

**A. Bidder Particulars**

No.	Particulars
(a)	Name of the Bidding Firm :
(b)	Status (Sole/ firm in partnership/ Pvt. or Public Ltd Company)
(c)	Place of incorporation/ registration : Year of incorporation/ registration :
(d)	Registered Head Office address/ Telephone/ Fax/ E-mail :
(e)	Contact Office address/ Telephone/ Fax / E-mail :
(f)	Contact Person and Title :
(g)	Names of Promoters :
(h)	Names of Principal Shareholders :
(i)	Shareholding Pattern :

**B. Details on Structure and Operation, Key Management Personnel of the Bidder's organization**

(To be enclosed as an attachment)

**C. Proof of Constitution of Legal Status**

(To be enclosed as an attachment)

**D. Power of Attorney authorizing the signatory of the Bid document to commit the Bidder**

(Original or Notary Attested Photocopy to be enclosed as an attachment)

**E. Financial Statement by the Bidder (Annual Reports, Turnover, Liquid Assets, Banker's Details)****(i) Audited Annual Reports for three years starting from Financial Year 2009-10 to Financial Year 2011-12**

[To be enclosed as an attachment]

Ref. Page Nos. \_\_\_\_\_

**(ii) Annual Turnover Data (duly supported by audited Annual Reports/ Provisional Certificate for respective periods and certification by Statutory Auditors)****Turnover from Construction related works in last three years ending March 31, 2012**

Description		2009-2010	2010-11	2011-2012
(a) Turnover from civil construction related works	Vide Page No.			
	Amount in INR			
(b) Factor for updating to 31, Mar 2012 level @6% pa		1.1236	1.06000	1.00

(c) Turnover updated to Mar 31, 2012 level (a) x (b)				
---	--	--	--	--

(d) Sum of Civil construction related works turnover updated to to 31 Mar 2012, for three years INR \_\_\_\_\_

(e) Average **civil construction related works** turnover for three years upto 31 Mar 2012 (updated to 31 Mar 2012 price level):

(f) **Is Average Annual Turnover (e) > INR 89 Lakhs** NR \_\_\_\_\_

(Average Annual Turnover)

(g) Supporting documents:

Description	Ref. Page No.

(iii) **Current Liquid Assets (as on 31 March 2012 duly supported by Certificate for Financial Year 2011-2012 by Statutory Auditors)**

Current Liquid Assets as on Mar 31, 2012	
Particulars	Amount in INR
Working Capital	
Cash in Hand	
Uncommitted line of credit	
Other Financial Means	

**Supporting Documents:**

Description	Ref. Page No.

(iv) **Details of Bidder's Bankers**

Name of the Banker	Contact Person, Contact Address, Phone number and fax number
(Banker 1)	
(Banker 2)	
.....	

**F. Qualifying Works**

For all works indicated below, the Bidder shall necessarily submit the relevant client's/ Engineer's Certificate.



<b>I (a) Details of qualifying civil works of similar nature [as per Clause 4.2]</b>			
<b>Description</b>	<b>2009-2010</b>	<b>2010-11</b>	<b>2011-2012</b>
(a) Name of Qualifying work			
(b) Cost of Qualifying work (in INR crore)			
(c) Period of implementation	From :	To :	
(d) Updation factor @ 6%	1.1236	1.0600	1.0000
(e) Updated value of work done during period under consideration			
<b>At least One Contract of similar nature for the value of Rs.36 Lakhs.</b>			

**Supporting Documents:**

<b>Description</b>	<b>Ref. Page No.</b>

**G. Litigation / Arbitration History [as per Clause 4.7]**

The Bidder shall provide the following information on history of litigation or arbitration resulting from contracts executed in the last three years or currently under execution.

Name of the Bidder: \_\_\_\_\_

1	(a)	Has the Applicant or its constituent partners consistent history of litigation/ arbitration awarded against / favour of him.	.....Yes/ No
	(b)	If yes, give details for each such case in the format of Table 1 below	
2	(a)	Has the applicant or any of its constituent partners been debarred/ expelled by any agency in India, during the last 3 years as on date of application, except on account of reasons other than non-performance, such as rescinding of joint venture, partner of joint venture pulling out, court directions leading to breaking up of a joint venture before start of work etc.	.....Yes/ No
	(b)	If yes, give details	
3	(a)	Has the Applicant or any of its constituent partners abandoned any contract work in India during the last 3 years.	.....Yes/ No
	(b)	If yes, give details	.....Yes/ No
4	(a)	Has the Applicant or any of its constituent partners been declared bankrupt during the last 3 years.	.....Yes/ No
	(b)	If yes, give details, including present status	
5		Has the Applicant or any of its constituent partners been debarred by ITEL/TNRDC or any other agency in India for as on date of application.	.....Yes/ No

**Format for Case Summary** (to be submitted by the Bidder each case pending/ settled):

<i>Item Head</i>	<i>Particulars to be Furnished</i>
Name of Client	
Year	
Cause of Litigation/ Arbitration/ Matter in Dispute	
Disputed Amount (Current Value in Indian Rupees)	
Resolved or pending resolution	
Award for or against	
Actual amount awarded (Current value in Indian Rupees)	
Other Claims Made, Settled/ Rejected	

**H. Details of Construction Program and Work Methodology (including Preliminary Environment Management Plan, Traffic Management Plan and Resource Management Plan) [as per Clause 4.9]**

(To be enclosed as an attachment)

Ref Page Nos. \_\_\_\_\_

**Declaration Statement**

*(Letterhead paper of the Bidder)*

[date]

**To**

**General Manager (Projects) / ITEL  
IT Expressway Limited**  
Sindur Panthion Plaza,  
2<sup>nd</sup> Floor, 346, Pantheon Road,  
Egmore, Chennai- 600 008

**Dear Sir:**

1. I, the undersigned, do hereby certify that all the statements made in the application and attachments thereto are true and correct.
2. The undersigned also hereby certifies that neither our firms M/s..... nor any of its constituent partners have abandoned any work awarded to us by any Agency in India nor any contract awarded to us for such works has been rescinded, during last three years prior to the date of this application.
3. The undersigned also furnish undertaking that we are not declared by any court of law as proclaimed offenders also that we are not convicted under any law for the offences punishable under Indian Penal Code, Negotiable Instrument Act of any Labour/ employee beneficial legislations.
4. The undersigned hereby authorize(s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by to verify this statement or regarding my (our) competence and general reputation.
5. The undersigned understands and agrees that further qualifying information may be requested, and agrees to furnish any such information at the request of the ITEL.

\_\_\_\_\_  
Signed by an Authorised Officer of the Firm

\_\_\_\_\_  
Title of Officer

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Date

**4. SPECIMEN FORMAT FROM BIDDER TO BANKERS AUTHORISING THEM  
TO PROVIDE INFORMATION TO ITEL/ ITS REPRESENTATIVES**

To  
Name of Bank/ Address/ city

Dear Sir:

We have recently submitted a Bid Proposals to M/s. IT Expressway Ltd., for implementing  
its project for  
\_\_\_\_\_. We hereby  
authorise you to provide all information/ data readily about us and our credit status, as  
may be desired by ITEL and you need not seek any clearance/ opinion from us for  
providing the information/ data to ITEL.

Sincerely,

\_\_\_\_\_  
Authorised Signatory

**LETTER OF FINANCIAL BID**

(Letterhead of the Bidder)

[date]

**General Manager (Projects) / ITEL  
IT Expressway Limited**

Sindur Panthion Plaza,  
2<sup>nd</sup> Floor, 346, Pantheon Road,  
Egmore, Chennai- 600 008

Dear Sir:

Sub: **“Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu”**

Having examined the Bid Document including Notice Inviting Bids, Instructions to Bidders, General Conditions of Contract, Special Conditions of Contract, Contract data, Technical Specifications, Bill of Quantities, Drawings, Schedules, Annexures and Addenda for the execution of the above named works, we, the undersigned, offer to execute and complete such works and remedy any defects therein in conformity with the said Bid Document at the prices indicated in the enclosed BoQ.

The Payment for:

Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu” for the sum of **INR \_\_\_\_\_ (Indian Rupees in words)** \_\_\_\_\_) **inclusive of all taxes** in accordance with the said Bid Document.

We undertake, if our Bid is accepted, to commence the works within fourteen (14) days of receipt of the Engineer’s order to commence, and to complete and deliver the sections and whole of the works comprised in the Contract within the period stated in the Appendix to Bid/ Contract data hereto.

We also undertake to furnish Performance Security (ie) in the form of a Bank Guarantee in accordance with the Conditions of Contract.

We agree to abide by this Bid for the period of Ninety (90 days) from the date of Bid opening, as prescribed in Clause 14.1 of the Instructions to Bidders (Section-I), and it shall remain binding upon us and may be accepted at any time before the expiry of that period.

We confirm our Agreement to treat the Bid Document, Drawings and other records connected with the works as secret and confidential document and shall not communicate information contained therein to any other person other than the person authorized by Employer or use such information in any manner prejudicial to the safety and integrity of the works.

We undertake that, in completing for (and, if the award is made to us, in executing) the above Contract, we will observe the laws against fraud and corruption in force in India namely “Prevention of Corruption Act 1988”.

We confirm that our firm has valid VAT/PAN registrations along with a valid **ESI/ Workmen Compensation Policy and a valid EPF code** as stipulated under Appendix 2 and 3 of GCC.

We hereby confirm that this Bid complies with the Eligibility, Bid validity and Bid security required as stated in the Bidding documents.

Yours faithfully,

Authorised Signature:

Name and Title of Signatory:

Name of Bidder with official seal:

Address:

**FORMAT FOR AGREEMENT****1. Agreement Form****Contract Agreement**

This agreement, made the \_\_\_ day of \_\_\_\_\_, 2013 between **M/s. IT Expressway Ltd (ITEL)**, (Promoted by Tamil Nadu Road Development Company Ltd), **Sindur Panthion Plaza, 2<sup>nd</sup> Floor, 346, Pantheon Road, Egmore, Chennai, Tamil Nadu, India**, (hereinafter called "the Employer") which expression shall unless the context otherwise requires, include its successors and assigns of the one part and

**M/s.**-----.(Herein after called "the Contractor") a company incorporated under the Companies Act ,1956 and having its registered office at \_\_\_\_\_ which expression shall unless the context otherwise requires, include its successors and assigns of the other part.

**WHEREAS**

The Employer is desirous that certain works should be executed by the Contractor, viz. **"Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu"** (hereinafter called "the Works") and the Employer has accepted the Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein, at a contract price of Rs. -----/- (**Rupees** \_\_\_\_\_ **only**) inclusive of all taxes.

**NOW THIS AGREEMENT WITNESSETH as follows:**

1. In this Agreement, words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement, viz.:
  - i) Letter of Award and Confirmation Letter;
  - ii) Notice to proceed with the works;
  - iii) The Priced Bill of Quantities.
  - iv) Conditions of Contract (including Special Conditions of Contract);
  - v) Instructions to Bidders
  - vi) Technical Specifications;
  - vii) Drawings; Construction Programme and
  - viii) Any other document listed in the Contract Data as forming part of the contract (Minutes of Pre Bid Meeting, addendum and clarifications).
3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy and defects therein in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works 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 thereto have caused this Agreement to be executed the day and year first before written.

Signed, sealed, and delivered by the said Employer and the Contractor in the presence of:

**WITNESSES:**

On behalf of <b>M/s. IT Expressway Ltd.</b> Egmore, Chennai	On behalf of the Contractor
1.	1.
2.	2.

**Binding Signature of the Employer:-**

\_\_\_\_\_

**Binding Signature of the Contractor:-**

\_\_\_\_\_

**2. Letter of Award**

(Letterhead paper of the Employer)

[date]

To: [name and address of the contractor]

Dear Sirs,

Sub: **“Construction of G+1 Building at Okkiyam Thoraipakkam under R & R scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu”**

This is to notify that your Bid dated \_\_\_\_\_ for INR \_\_\_\_\_ [as corrected and modified in accordance with the Instructions to Bidders] is hereby accepted by our Agency.

We note that as per bid, you do not intend to sub-contract any component of work.

You are hereby requested to send a Confirmation Letter acknowledging receipt of the Letter of Award and accepting the offer. You are requested also to furnish Performance Security, \*plus additional security for unbalance bids in terms of ITB Clause 27.5, in the form detailed in Clause 31 of ITB for an amount of INR \_\_\_\_\_ within 7 days of the receipt of this Letter of Award, valid up to **21 Months** from the date of commencement of works or **12 Months** beyond the completion date for works whichever is later and sign the Contract Agreement, failing which action as stated in Para 31.2 of ITB will be taken.

You are requested to submit the detailed Construction Program including Environmental Management Plan and Traffic Management Plan as per Clause 25 of Conditions of Contract within 7 days of receipt of this letter.

Yours faithfully,

Authorised Signature:  
Name and Title of Signatory:  
Name of Agency:



**3. Confirmation Letter**

(Letterhead paper of the Contractor)

**To:**  
[name and address of the Employer)

Dear Sir,

**Subject   “Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu”**

We acknowledge receipt of your Letter of Award, ref ITEL/        /        dated and unconditionally accept the offer to take up above captioned works at the price indicated in the Letter of Award.

We also confirm our acceptance to all the corrections and modifications made by the Employer in respect of our bid.

We undertake to provide you unconditional bank guarantee towards performance security and additional security for unbalanced bid as per the agreed format within the prescribed data as per the Instructions to Bidder and Conditions of Contract.

Yours faithfully,

Authorized Signature :  
Name and Title of Signatory :  
Name of Agency :

4. **Issue of Notice to Proceed with the Work**

(Letterhead paper of the Employer)

To: [name and address of the contractor)

Dear Sir,

Subject: **“Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu”**

Pursuant to your furnishing the requisite security as stipulated in ITB clause 31.1 and signing of the Contract Agreement for the **“Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu”** for construction, improvement and maintenance in that order, you are hereby instructed to proceed with the execution of the said works in accordance with the contract documents with effect from ----- ( date).

Yours faithfully,

Authorised Signature:

Name and Title of Signatory:

Name of Agency:

**FORM OF BANK GUARANTEE FOR EMD / BID SECURITY**

WHEREAS \_\_\_\_\_  
(Name of the Bidder) (hereinafter called the Contractor) wishes to submit his tender for **“Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu”** of herein after called “the Tender” KNOW ALL MEN by these present that we \_\_\_\_\_ (Name of Bank) of \_\_\_\_\_ having our Registered Office at \_\_\_\_\_ (\_\_\_\_\_ ) (hereinafter called the ‘Bank’) are bound unto the IT Expressway Limited (ITEL) (hereinafter called “the Employer”) the sum of the Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ ) for which payment can truly be made to the said Employer. The Bank bind themselves, their successors and assigns by these presents with the common seal of the Bank this day \_\_\_\_\_ of 2012 and undertake to pay the amount of \_\_\_\_\_ (Rupees \_\_\_\_\_ ) to the employer upon receipt of a written demand and without demur and without the employer having to substantiate his demand.

The conditions of this obligation are:

If the Tenderer withdraws his tender during the period of Tender validity specified in the Form of Tender Or

If the Tenderer having been notified of the acceptance of his Tender by the Employer during the period of tender validity Or

If the Tenderer fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required Or

Fails or refuses to furnish the Performance Security, in accordance with the Instruction to Bidders.

We undertake to pay the employer up to the above amount upon receipt of his first written demand and without demur and without the employer having to substantiate his demand, provided that in his demand the Employer will note that the amount claimed by him is due to the occurrence of any one of the above conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to -----(Date) and including the date 28 days beyond the validity of the bid as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, at any time prior to the closing date for submission of the Tender Notice of which extension to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date of expiry of this guarantee.

Notwithstanding anything contained herein.

- i) Our liability under this Guarantee shall not exceed the guaranteed amount **Rs. -----/- (Rupees -----only)**

This Guarantee shall be valid upto -----20\_\_ (**Expiry date**) and

- ii) We shall be liable to pay the guaranteed amount under this guarantee only and if we receive a written claim or demand duly signed by a duly Authorised official of the Employer before the -----20\_\_ (**Expiry date**) as mentioned above.

SIGNATURE OF AUTHORISED REPRESENTATIVE OF THE BANK \_\_\_\_\_

NAME AND DESIGNATION \_\_\_\_\_

SEAL OF THE BANK \_\_\_\_\_

SIGNATURE OF THE WITNESS \_\_\_\_\_

NAME OF THE WITNESS \_\_\_\_\_

ADDRESS OF THE WITNESS \_\_\_\_\_

**BANK GUARANTEE FOR PERFORMANCE SECURITY**

BG No ..... dated .....2013

To

**IT Expressway Ltd.,**  
Sindur Panthion Plaza,  
2<sup>nd</sup> Floor, Pantheon Road  
Egmore, Chennai – 600 008.

Bank Guarantee No. ....dated .....for Rs. ..../- (Rupees  
.....only)

WHEREAS vide the Work order no..... dated 2012 for “**Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu**” (hereinafter referred to as “**The Contract**”) **M/s**....., a company incorporated under the Companies Act, 1956, having its registered office at.....(address) (hereinafter referred to as “**The Contractor**” which expression shall unless repugnant to or inconsistent with the context mean and include its successors and assigns) has been awarded by **M/s IT Expressway Limited**, a company incorporated under the Companies Act, 1956, having its registered office at Sindur Panthion Plaza, 2<sup>nd</sup> Floor, 346, Pantheon Road, Egmore, Chennai- 600 008 (hereinafter referred to as “**The Employer**” which expression shall unless repugnant to or inconsistent with the context mean include its successors and assigns), the contract for “**Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu**”

AND WHEREAS it has been stipulated by you in the said contract that the Contractor shall furnish you a Performance Guarantee, within 7 days of signing the work order by a specified Scheduled / Nationalised Bank, for the sum specified therein as security for compliance with the contractor’s obligations in accordance with the Contract and against any breach or non-performance of the terms and conditions contained in the contract.

AND WHEREAS we .....**BANK**, having its Head Office at .....and amongst others, a branch office situated at....., have agreed to furnish a Performance Guarantee for a sum **Rs. -----/- (Rupees ----- only)** (hereinafter referred as the Guaranteed amount) as security for compliance of the contractor’s obligations under the contract.

NOW THEREFORE we hereby affirm that we as the Guarantor are responsible to you on behalf of the Contractor, for the guaranteed amount and we irrevocably undertake to pay you upon your first written demand and without demur or argument, any sum or sums within the limits of the guaranteed amount as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified herein. The guaranteed amount shall be payable merely on demand by the Employer. Any letter stating that the amount claimed in the demand notice/letter is due and payable, signed by a duly authorized official of the Employer to this effect, shall be final, binding or conclusive upon us.

We, hereby agree to pay on demand the guaranteed amount without demur by crediting to the Bank Account of the Employer, the details of which are to be informed to us by you during the validity of the guarantee.

Our liability under this Guarantee shall not be affected by any change in the constitution of the Contractor or of the Guarantor.

We hereby undertake that this Guarantee is absolute, irrevocable and unconditional and shall be enforceable against us notwithstanding any security or securities comprised in any instrument executed or to be executed by the contractor in favour of the Employer.

We hereby also agree that this guarantee shall not be wholly or partially satisfied or exhausted by any payments made to or settled with the Employer by the Contractor and shall be valid and binding on us and operative until the expiry of this Guarantee.

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

The jurisdiction in relation to this Guarantee shall be Courts at Chennai and Laws of India shall be applicable. This guarantee shall be valid up to -----20\_\_ (hereinafter referred to us as the "Expiry Date") which is a period of **21 Months** from the date of issue of work order or **12 Months** beyond the completion date whichever is later.

Notwithstanding anything contained herein.

- iii) Our liability under this Guarantee shall not exceed the guaranteed amount  
**Rs \_\_\_\_\_ (Rupees \_\_\_\_\_ only)**  
 This Bank Guarantee shall be valid up to -----20\_\_ (Expiry date) and
- iv) We shall be liable to pay the guaranteed amount under this guarantee only and if we receive a written claim or demand duly signed by a duly Authorised official of the Employer before the -----20\_\_ (Expiry date) as mentioned above.

IN WITNESS WHEREOF we have executed this guarantee on this .....2013.

Signature of Authorised Representative of the Bank .....

Name and Designation .....

Seal of the Bank .....

Signature of Witness .....

Name of Witness .....

# **Section III**

## **Conditions of Contract**

**Section III: CONDITIONS OF CONTRACT****A. GENERAL****1. Definitions**

- 1.1 Terms which are defined in the Contract Data are not also defined in the Conditions of Contract but kept their defined meanings. Capital initials are used to identify defined terms.

**Activity Schedules** means the priced and completed Activity Schedules forming part of the Bid.

**Bill of Quantities (BOQ)** means the completed Bill of Quantities attached in Appendix and forming part of this Contract.

**Compensation Events** are those defined in Clause 41 hereunder.

**Confirmation Letter** is the letter of the Contractor dated accepting the Letter of Award issued by the Employer.

**Construction Work** means “Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu”

The **Contract Completion Date** is the date of completion of Contractor’s Obligations under this Contract as certified by the Engineer in accordance with Clause 50.2.

The **Contract** is the contract between the Employer and the Contractor to execute, complete and maintain the Works. It consists of the documents listed in Clause 2.3 below.

The **Contract Data** defines the documents and other information which comprise the Contract.

The **Contractor** is a person or firm or corporate body who’s Bid to carry out the Works has been accepted by the Employer.

The **Contractor’s Bid** is the completed Bidding document submitted by the Contractor to the Employer.

The **Contract Price** is the price stated in the letter of Award and thereafter as adjusted in accordance with the provisions of the Contract.

**Days** are calendar days: **Months** are calendar months.

A **Defect** is any part of the works not completed in accordance with the Contract.

The **Defects Liability Period** is the period named in the Contract Data and calculated from the date of issue of completion certificate for the construction of improvement works (or) improvement works completion date, whichever is later.

The **Employer** is the party who will employ the Contractor to carry out the Works and in this case the employer is ITEL, Egmore, Chennai – 600008.

The **Engineer** is the person named in the Contract Data (or any other competent Person appointed and notified to the Contractor by the Employer to act in replacement of the Engineer) who is responsible for supervising the execution of the works and administering the Contract and in this case it is ITEL, Egmore, Chennai – 600008.



**“Engineer Representative”** means a person appointed from time to time by the Engineer under Sub-clause 5.1.

**Equipment** is the Contractor's plant / machineries and vehicles brought temporarily to the site to construct the works.

**Construction / Improvement Works** means **“Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu”**

The **Initial Contract price** is the Works Contract price in the Employer's Letter of Award.

The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Construction Works or Improvement Works or both, as the case may be. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Engineer by issuing an extension of time, in writing.

**Letter of Award** is the letter dated \_\_\_\_\_ issued by the Employer to the Contractor containing the Initial Contract Price and other details as enclosed in Appendix of this Contract.

**Materials** are all supplies, including consumables, used by the contractor for incorporation in the Works.

**Milestone** is a specified date or duration by which specified works are to be completed.

**Plant** is any Integral part of the Works which is to have a mechanical, electrical, electronic or chemical or biological function.

**Project Facility** means the stretch of the Road as mentioned in Contract Data, all appurtenances thereto, including road furniture, Sign boards and other road components and all access roads up to 50m from the edge of IT corridor (Rajiv Gandhi Salai).

The **Site** is the area defined as such in the Contract Data.

**Site Investigation Reports** are those which were included in the Bidding documents and are factual interpretative reports about surface and Sub - surface conditions at the site.

**Specification** means the Specification of the Works included in the Contract and any Modification or addition made approved by the Engineer in writing.

**Temporary Works** are works designed, constructed, installed, and removed by the Contractor which are needed for construction or installation of the Works.

A **Variation** is an instruction given by the Engineer/ Employer in writing which varies the Works.

The **Works** are what the Contract requires the Contractor to carry out as part of this Contract and shall refer to Construction Works or Improvement Works or Maintenance Works or any combination thereof.

The **Works Completion Date** is the actual date of completion of the Works as certified by the Engineer in accordance with Clause 50

## **2. Interpretation**

- 2.1 In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Heading have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Engineer will provide instructions clarifying queries about the Conditions of Contract.
- 2.2 If sectional completion is specified in the Contract data, reference in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the works (other than references to the Completion Date and Intended Completion date for the whole of the Works).
- 2.3 The documents forming the Contract shall be interpreted in the following order of priority:
  - a. Agreement
  - b. Letter of Award, Confirmation Letter and Notice- to Proceed with the Works
  - c. Bill of Quantities
  - d. Contract Data
  - e. Conditions of Contract including Special Conditions of Contract
  - f. Specifications and Drawings
  - g. Instructions to Bidders and
  - h. Any other document listed in the Contract Data / bid document as forming part of the Contract (Minutes of Pre-Bid meeting, addendum and clarifications).

## **3. Language and Law**

- 3.1 The language of the Contract and the law governing the Contract are stated in the Contract Data.

## **4. Engineer's Decisions**

- 4.1 Except where otherwise specifically stated, the Engineer will decide contractual matters between the Employer and the Contractors in his role representing the Employer.

## **5. Delegation**

- 5.1 The Engineer may delegate any of his duties and responsibilities to other person/organization after notifying the Contractor.

## **6. Communications**

- 6.1 Communication between parties which are referred to in the conditions are effective only when in writing. A notice shall be effective when it is delivered (in terms of Indian Contract Act).

## **7. Sub- contracting**

- 7.1 The contractor shall not, with out the prior consent of the Employer assign the contract or any part thereof or any benefit or interest therein or there under.

The contractor shall not sub contract the works. Except where otherwise provided by the contract, the contractor shall not sub contract any part of the works, without the prior consent of the Employer. Any such consent shall not relieve the contractor from any liability or obligation under the contract and he shall be responsible for the acts, defaults and neglects of any Subcontractor, his agents, servants or workmen as fully as if they were the acts, defaults or neglects of the contractor, his agents, servants or workmen.

Provided that the contractor shall not be required to obtain such consent from the employer for:

- a. The provision of labour and
- b. The purchase of materials which are in accordance with the Specifications and quality standards specified in the Contract.

## **8. Other Contractors**

- 8.1 The Contractor shall cooperate and share with the other contractors, public authorities, utilities, and the Employer and his representative between the dates given in the Schedule of the other contractors. The Contractor shall also provide facilities and services to them as may be necessary for smooth coordination. The Employer may modify the schedule of other contractors and shall notify the Contractor of any such modification.
- 8.2 Pursuant to 8.1, the Contractor hereby agrees and acknowledges that the Employer is well within their right to appoint other contractor for “**Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu**” and any other works that the Employer may decide. The Contractor acknowledges that the Employer has no liability what so ever towards the Contractor in this regard and that the Contractor will, Unconditionally and without any financial charge, extend all necessary assistance and cooperation to the Employer and other Contractor(s), so as to ensure that the Works are completed in terms of the Milestones stipulated in the Contract Data.
- 8.3 Any default in the above regard shall be treated as a fundamental breach of the contract in terms of Clause 54.2

## **9. Personnel**

- 9.1 The Contractor shall employ required personnel to carry out the functions stated in the approved program in terms of Clause 25.
- 9.2 If the Engineer asks the Contractor to remove a person who is a member of the Contractor’s staff or his work force stating reasons, the Contractor shall ensure that the person leaves the site within seven days and has no further connection with the work in the Contract.

### **9.3 Labour Statutory requirement**

The Contractor shall confirm to and comply with the regulations and by-laws of the State or Central Government and other statutory Body the provisions contained in the various Acts specified in Appendix 2 of this section.

The Minimum Personnel requirement for the project is as follows:

- i) A B.E degree holder in Civil Engineering with 3 years experience and**
- ii) A Diploma holder in Civil Engineering**

All other necessary inputs of man power such as support staffs, field technical staffs, office staffs other than the above as deemed necessary shall be provided by the bidder within the quoted amount to ensure that the entire work is completed in accordance with the conditions stipulated herein.

#### **10. Employer's and Contractor's Risks**

- 10.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

#### **11. Employer's Risks**

- 11.1 The Employer is responsible for the expected risks which are in so far as they directly affect the execution of the Works in the Employer's country, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, Insurrection or military or usurped power, civil war, (unless restricted to the Contractor's employees), and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive.

#### **12. Contractor's Risks**

- 12.1 All risks of loss or damage to physical property or personal injury and death which arise during and in consequence of the performance of the Contract other than the expected Employer's risks are the responsibility of the Contractor.

#### **13. Insurance**

- 13.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the start Date to the end of the Defects liability period, in the Amounts and deductibles stated in the Contract Data for the following events:

- a. loss of or damage to Works, Plant and Materials;
- b. loss of or damage to Equipment;
- c. loss of or damage of property (except the Works, Plant, Materials and Equipment) in connection with the Contract;
- d. personal injury or death of employer/employee personal and third party persons;

However, it is for the contractor to decide whether the minimum amount specified in the Contract data is sufficient, and if he considers it necessary, to insure for a greater amount. The policy should cover an unlimited number of claims in any one year.

- 13.2 Policies and certificates for insurance shall be delivered by the Contractor to the Engineer for the Engineer's approval before the start Date. All such insurance shall provide for compensation to be payable in the type and proportions of currencies required to rectify the loss or damage incurred. The contractor shall be responsible for effecting change to the policies and certificates as may be directed by the Engineer, within time period indicated by the Engineer.

- 13.3 If the Contractor does not provide the policies and certificates as required, the Employer may effect the insurance which the Contractor should have provided and recover the premiums the Employer has paid, from payments otherwise due to the Contractor or, if no payment is due, the payment of the premiums shall be a debt due and if warranted, recovered by invoking Performance Security.

- 13.4 Alterations to the terms of insurance shall not be made without the approval of the Engineer.

- 13.5 Both parties shall comply with any conditions of the insurance policies.
- 13.6 The Contractor shall be entitled to place all insurance relating to the Contract with insurers from India, which have been determined to be acceptable to the Employer.

**14. Queries about the Contract Data**

- 14.1 The Engineer will clarify queries on the Contract Data.

**15. Contractor to undertake the Works**

- 15.1 The Contractor shall undertake the Works in accordance with the Specifications, Conditions of Contract, Contract data, Drawings, and as per the instructions of the Engineer.

**16 The Construction/ Improvement Works to be Completed by the Intended Completion Date**

- 16.1 The contractor shall commence execution of the construction/ improvement works on the start date and shall carry out the construction/ improvement works in accordance with the construction program submitted by the contractor, as updated with the approval of the Engineer and complete them in all respects by the Intended Completion date.

- 16.2 All the time during the construction period, Contractor shall notify the Engineer details of drawings and instructions required and of why and by when it is required. This notice shall be given by the contractor at least one month advance correlating the approved construction program.

**17.0 Approval by the Engineer**

- 17.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Engineer, who is to approve them if they comply with the Specifications and Drawings.
- 17.2 The Contractor shall be responsible for design of Temporary Works.
- 17.3 The Engineer's approval shall not alter the Contractor's responsibility for the quality, and design of the Temporary Works, who shall bear all consequences of failures thereof.
- 17.4 The Contractor shall obtain approval of other parties/ agencies to the design of the Temporary Works where required.
- 17.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent works are subject to prior approval by the Engineer before their use.

**18.0 Safety**

- 18.1 The contractor shall be responsible for the safety of all activities on the Site. The proposed work site falls in High speed road Corridor. In addition to the safety of workmen in the project, the Contractor is responsible for the safety of the road users. The Contractor shall at his own cost formulate and implement an efficient traffic movement/regulation plan so as to achieve safe and efficient movement of vehicular traffic and pedestrians.
- 18.2 The contractor shall make necessary safety arrangements and equipments specified in Appendix 1 of this section.

18.3 Any damage caused to the existing structure, the road surface and other appurtenances shall be remedied /restored /replaced to the original condition at the cost of the Contractor and to the satisfaction of the Employer.

18.4 In case of default by the contractor, the Employer has the option to carry out the required remedial/restoration/replacement works and deduct the expenditure incurred from the payments due to the Contractor.

The Contractor shall take all reasonable steps to protect the environment on and off the Site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

18.5 During continuance of the contract, the Contractor shall abide at all times by all existing enactments on environments on environmental protection and rules, labour laws made there under, regulations, notifications and bye-laws of the State or Central Government, or local bodies/authorities and any other law, bye-law, regulations that may be passes or notification that may be issued in this respect in future by the State or Central Government or the local authority.

18.6 Salient features of some of the major Statutory laws (Acts) that are applicable are given below:

The Water (Prevention and Control of Pollution) Act, 1974, provides for the prevention and control of water pollution and the maintaining and restoring of wholesomeness of Water. 'Pollution' means such contamination of water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water (whether directly or indirectly) as may, or is likely to, create a nuisance or render such water harmful or injurious to public health or safety, or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms.

The Air (Prevention and Control of Pollution) Act, 1981, provides for prevention, control and abatement of air pollution. 'Air Pollution' means the presence in the atmosphere of any 'air pollutant', which means any solid, liquid or gaseous substance (including noise) present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment.

The Environment (Protection) Act, 1986, provides for the protection and improvement of environment and for matters connected therewith, and the prevention of hazards to human beings, other living creatures, plants and property. 'Environment' includes water, air and land and the inter-relationship which exists among and between water, air and land, and human beings, other living creatures, plants, micro-organism and property.

The Public Liability Insurance Act, 1991, provides for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling hazardous substances and for matters connected herewith or incidental thereto. Hazardous substance means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act 1986, and exceeding such quantity as may be specified by notification by the Central Government.

**19.0 Discoveries**

- 19.1 Anything of historical or other interest or of significant value unexpectedly discovered on the Site is the property of the Employer. The Contractor is to notify the Engineer/ Employer of such discoveries and carry out the Engineer's instructions for dealing with them.

**20.0 Possession of the Site**

- 20.1 The Employer shall give possession of the site to the Contractor in accordance with the Contract Data. If possession of a part is not given by the agreed date stated in the Contract Data, then the Intended Completion Date shall be postponed by the Employer as may be required for that particular part/ stretch. However, this will not be applicable if sufficient work site is made available to the Contractor as and when required, for him to proceed ahead with the progress of work and if available work fronts remain unattended.
- 20.2 The Employer will coordinate with service provider/ concern authorities for shifting of utilities and removal of encroachments etc. and making the site unencumbered from the project construction area required for completion of work. This includes initial and frequent follow-up meeting / actions/ discussions with each involved service provider/ concern authorities. The contractor will not be entitled for any additional compensation for delay in shifting of utilities and removal of encroachments by the service provider/ local bodies/concern authorities.

**21.0 Access to the Site**

- 21.1 The Contractor shall allow the Engineer and any person authorized by the Engineer access to the Site, to any place where work in connection with the Contract is being carried out or is intended to be carried out and to any place where materials or plant are being manufactured / fabricated / tested/ stored for the works.

**22.0 Instructions**

- 22.1 The Contractor shall carry out all instructions of the Engineer which comply with the applicable laws where the Site is located.

**23.0 Disputes**

- 23.1 If either party believes that a decision taken by the Employer was either outside the authority given to the Employer by the contract or that the decision was wrongly taken, the objecting party may file written notice of dispute to the other party with a copy to the Engineer stating that it is giving the notice pursuant to this Clause while stating clearly the basis for the dispute.
- 23.2 The party receiving the dispute notice will consider it and reply in writing within 30 days of the receipt of the notice. If no reply is received or the reply is not acceptable to the other party, the affected party may refer only to the High Court of Madras (Chennai) for adjudication.
- 23.3 Further, in case of any dispute or difference between the parties to the contract after the completion of the works or after the determination / abandonment of the contract or any other matter/s arising thereof shall be referred to or filed with the High Court of Madras (Chennai) within a period of **18 Months** beyond such date. No other courts or persons or bodies will have any jurisdiction over the dispute/s beyond such date.

**24.0 Deleted**

## **B. Time Control**

### **25.0 Program**

25.1 The Contractor should adhere to the construction programme submitted by the contractor and approved by the Engineer and complete the works within the agreement time without any lapse.

### **26.0 Extension of the Intended Completion Date for Construction/ Improvement Works**

26.1 The Engineer shall extend in consultation with Employer the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work and which would cause the Contractor to incur additional cost.

26.2 The Engineer shall decide whether and by how much to extend the Intended Completion Date within 21 days of the Contractor asking the Engineer for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

### **27 Delays Ordered by the Engineer**

27.1 The Engineer in consultation with the Employer may instruct the Contractor to delay the start or progress of any activity within the Works.

### **28 Management Meetings/ Site Visits**

28.1 Either the Engineer or the Contractor may require the other to attend a Management Meeting. The business of a Management Meeting shall be to review the programme for the remaining work and to deal with the matters regarding progress of works etc.

28.2 The Engineer shall record the minutes of Management Meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the Engineer either at the Management Meeting or after the Management Meeting and stated in writing to all who attended the meeting. Failure to attend the Management Meetings/ site visits shall attract penalties at the rate indicated in the Contract Data and in case of non-attendance of more than three such meetings/ visits then the same shall be construed as fundamental breach of Contract in terms of Clause 54.

### **29 Early Warning**

29.1 The Contractor is to warn the Engineer at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price or delay the execution of works. The Engineer may require the Contractor to provide an estimate of the expected effect of the future event or circumstance on the Contract Price and Completion Date. The estimate is to be provided by the Contractor as soon as reasonably possible.

29.2 The Contractor shall cooperate with the Engineer in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by any one involved in the work and in carrying out any resulting instructions of the Engineer.



### **C. Quality Control**

#### **30 Identifying Defects**

- 30.1 The Engineer shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect.
- 30.2 The contractor shall permit the Employer's Technical auditor to check the contractor's work and notify the Engineer and Contractor of any defects that are found. Such a check shall not affect the Contractor's or the Engineer's responsibility as defined in the Contract Agreement.

#### **31 Tests**

- 31.1 The Contractor shall establish suitable Testing Facility with adequate and suitable equipment, to the satisfaction of the Engineer, in the vicinity of the Project Road or site office premises or Works Site premises. The cost of setting up the Testing Facility and testing there to, shall be to the account of the Contractor. If the Engineer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples.

#### **32 Correction of Defects**

- 32.1 The Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.
- 32.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defects within the length of time specified by the Engineer's notice.

#### **33 Uncorrected Defects**

- 33.1 If the Contractor has not corrected a Defect within the time specified in the Engineer's notice, the Engineer will assess the cost of having the Defect corrected and rectify the defects if needed, by employing other persons and the Contractor will pay this amount or can be recovered from the bills of the contractor.

### **D. Cost Control**

#### **34 Bill of Quantities (BOQ)**

- 34.1 The Bill of Quantities for works contains items for the Works being implemented by the Contractor as in Section – V.
- 34.2 The Bill of Quantities is used to calculate the payment for works. The Contractor will be paid for the quantity of the work done at the rate in the Bill of Quantities for each item of work.

#### **35 Changes in the Quantities**

- 35.1 Any additional quantity required for completing the work will have to be carried out by the Contractor at the same quoted rate. There will be no percentage ceiling either addition or reduction in the quantities for completion of the project.
- 35.2 Provided further that no change in the rate or price for any item contained in the Contract shall be considered unless such item accounts for an amount more than 2 % of the Contract Price, and the actual quantity of work executed under the item

exceeds or falls short of the quantity set out in the Bill of Quantities by more than 25 %

**36. Variations during Implementation of Construction/ Improvement Works**

36.1 Approval and methodology for all variations either Rate or Quantity should be followed as per the directions of the Engineer / Engineers representative.

**37 Payments for Variations in Construction/ Improvement Works**

37.1 The Contractor shall provide the Engineer with an estimate and quotation (with break up of unit rates) along with detailed justification, vouchers, for carrying out the Variation items, **if not available in the BOQ** and when requested to do so by the Engineer. The Engineer shall assess the quotation, with in a period of 7 (seven) days of the request (or) with in a reasonable time by the Engineer, and before the variation is ordered.

37.2 If the work in the Variation corresponds with an item description in the Bill of Quantities and if, in the opinion of the Engineer, the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in form of new rates for the relevant items of work as per the Tamil Nadu Building Practice / National Building Code and standard procedures.

(a) The Contractor shall submit a detailed rate analysis with all supporting documents. Such analysis shall be prepared based on similar items available in Bill of Quantities, subject to mutual Agreement between the Engineer and the Contractor and according to the Tamil Nadu Building Practice/ National Building Code and standard procedures adopting the schedule of rates for the current year applicable to the Chennai region of Tamil Nadu.

(b) In case the data for the item is not available in the standard data, observed data with current schedule of rates applicable to Chennai region of Tamil Nadu shall be adopted.

With the concurrence of the employer, the Engineer shall determine the quantities and rates for the variation works. Prior approval should be obtained for all the variation items from the employer.

37.3 If the Contractor's quotation is unreasonable (or if the contractor fails to provide the Engineer with a quotation within a reasonable time specified by the Engineer in accordance with Clause 37.1), the Engineer shall fix the variation rate and make a change to the Contract Price which shall be based on Engineer's own forecast of the effects of the Variation on the Contractor's costs.

37.4 If the Engineer decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, the Engineer shall instruct in writing, to commence the additional works before the approval of the rate.

37.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.

**38. Cash flow forecasts**

The Contractor is to provide the Engineer with a cash flow forecast and an updated cash flow forecast as appropriate.

**39. Payment**

39.1 “The Contractor shall submit a statement in 3 (three) copies to the Engineer by the 7<sup>th</sup> (seventh) day of each month, signed by the authorized representative of the Contractor, for the work executed up to the end of the previous month in a tabulated form approved by the Engineer, showing the amounts to which the Contractor considers himself to be entitled. The statement shall include the following items, as applicable, which shall be taken into account in the sequence listed:

- (a) the estimated value of work executed (Works executed & payable) up to the end of the month in question determined in accordance with conditions of contract, at base unit rates and prices;
- (b) the Actual value certified for payment for the Temporary and Permanent Works executed up to the end of the previous month, at base unit rates and prices;
- (c) the estimated value at base unit rates and prices of the Temporary and Permanent Works for the month in question, obtained by deducting (b) from (a);
- (d) the value of any variations executed up to the end of the month in question, less the amount certified in the previous Interim Payment Certificate.
- (e) amount to be deducted for all taxes in accordance with contract conditions.
- (f) net amount of application, which will be expressed in Indian Rupees.
- (g) The details of RFI, joint measurement sheets, level sheets, test results to be enclosed along with the bill.

Notwithstanding the terms of this Sub-Clause or any other Clause of the Contract, no amount will be certified by the Engineer for payment until the Performance Security has been provided by the Contractor and approved by the Employer.”

**39.2 Monthly Payments**

“Within 7 (seven) days of receipt of the monthly statement from the Contractor in pursuant to above, the Engineer shall broadly determine the amount due to the Contractor and shall, accordingly, recommend to the Employer for release to the Contractor up to a maximum of 70% of net payment as part payment against the monthly statement, pending certificate of IPC by the Engineer. Within 10 (ten) days of the receipt of recommendation of the Engineer, the Employer shall make payment to the Contractor.

The said statement shall be approved or amended by the Engineer in such a way that in his opinion, it reflects the amount due to the Contractor in accordance with the Contract, after deduction, of any sums which may have become due and payable by the Contractor to the Employer. In cases where there is a difference of opinion as to the value of any item, the Engineer’s view shall prevail.

Within 21 (twenty one) days of the receipt of the monthly statement referred as above, the Engineer shall carry out check measurement as required by the employer and recommend payment of balance 30% of bill, if satisfied; Engineer to account for liquidated damages and other deductions, and add/deduct amounts to account for variation in price of bitumen as the case may be, while arriving at amount payable to contractor; if not satisfied with works, Engineer to inform Employer and instruct Contractor to complete the works within a stipulated time and carry forward this balance amount;

Engineer shall determine the amount due to the Contractor and shall deliver to the Employer and the Contractor, an Interim Payment Certificate, certifying the amounts due to the Contractor after adjusting the payment already released to the Contractor against the said statement.

Employer will make payment within 10 (ten) days of receipt of payment recommendation from Engineer; and

Notwithstanding anything contained herein above, the final payment due shall be made only upon completion of Improvement works, and suitable certification by the Engineer.

### 39.3 Retention money

In each Interim Payment Certificate (IPC) @ **5%** of value of work executed during each bill will be withheld and the withheld amount will be refunded to the contractor along with the Final bill / Taking over certificate. The maximum amount of Retention money to be with held is restricted up to **5%** of the contract value.

## 40 Delayed and Disputed Payments

40.1 The Employer shall pay the Contractor, the amounts certified by the Engineer within the periods stipulated in this Contract. If the Employer makes a late payment, the contractor shall be paid interest on the late payment along with the next payment. Interest shall be calculated from the date by which the payment should have been made up to the date when the payment is made at the rate of 8% p.a.

40.2 If an amount certified is increased either in a later certificate or as a result of any judgement, the contractor shall be paid interest upon the delayed payment as set out in this clause. Interest as referred above, shall be calculated from the date upon which the increased amount would have been accepted by the Employer in the absence of dispute.

## 41 Compensation Events

41.1 The following are compensation events unless they are caused by the Contractor;

- (a) The Engineer orders a delay in execution of works for a period of more than 60 days;
- (b) The effect on the Contractor of any of the Employer's Risks; and
- (c) Other Compensation Events listed in the contract data, if any.

41.2 If a Compensation Event would prevent the Works from being carried out in terms of the Contract, then the Employer shall extend the Intended Completion Date as may be warranted. The Engineer shall decide by how much the Intended Completion Date shall be extended.

41.3 As soon as information demonstrating the effect of each Compensation Event has been provided by the Contractor, it is to be assessed by the Engineer and the Intended Completion period shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Engineer shall adjust the Intended Completion Period on Engineer's own forecast. The Engineer will assume that the Contractor will react competently and promptly to the event.

41.4 The Contract shall be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor not having given early warning or not having cooperated with the Engineer/Employer.

## 42. Tax

42.1 The rates quoted by the Contractor shall be deemed to be inclusive of the service tax, sales tax, contract tax, royalty, Toll tax, cess and other taxes/duties/levies as may be levied by Central / State Governments and local bodies that the Contractor

will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law.

- 42.2 The contractor shall have valid Registration for VAT and PAN as prescribed in Appendix 3

**43. Currency**

- 43.1 All payments shall be made in Indian Rupees only.

**44. Price Adjustment for Works**

No price adjustment shall apply to this work/contract.

**45. Penalty and Liquidated Damages**

**45.1 For Construction/ Improvement Works**

- (a) In case of non-completion of the construction works within the Intended Completion Date, the Contractor shall pay liquidated damages to the Employer at the rate specified in contract data for each day that the actual completion date is later than the intended completion date. The liquidated damages amount shall be deducted from payments due to the Contractor and shall not be refundable. The total amount of liquidated damages shall not exceed the amount defined in the Contract Data.
- (b) Time is the essence of the Contract and payment or deduction of penalty or liquidated damages shall not relieve the Contractor from his obligation to complete the works as per agreed Construction Program or from any of the other Contractor's obligations and liabilities under the Contract or the Employer's right to invoke the Performance Security.
- (c) In case of default performance on the part of the contractor to engage required personnel for the work as stipulated in Clause 9.3, a penalty of **Rs. 5,000/-** per month for the Diploma holder and **Rs. 10,000/-** per month for the Degree holder shall be levied based on the norms for the value of this contract.

**45.2 For Maintenance Works**

In case the Contractor has not rectified or addressed deficiencies as directed by the Engineer at the time of Site inspections during defects liability period, the Employer retains the right to get works done through a third party and debit the cost and expenses incurred to the Contractor. Alternatively, the Engineer may recommend invoking of Performance Security in part or full, as the case may be. In case the Contractor still fails to rectify or address deficiencies even after invoking Performance Security, as described earlier, then the Employer shall treat the event as fundamental breach of Contract in terms of Clause 54 of Conditions of Contract.

**46.0 Deleted**

**47. Advance Payment for Construction/ Improvement Works**

- 47.1 No Mobilisation advance/Machinery and equipment advance payment will be made to the Contractor for the works.
- 47.2 No material advance will be made or paid to the Contractor.

**48. Securities**

48.1 The Performance Security (including additional security for unbalanced bids) shall be provided to the Employer not later than the date specified in the Letter of Award and shall be issued in an amount and form indicated in Contract Data from:

- a. State Bank of India or subsidiaries;
- b. Any Indian Nationalised Bank; or
- c. Any Scheduled Bank

as acceptable to the Employer, and denominated in Indian Rupees. The Performance Security shall be valid for period of **21 Months** from construction commencement date or until **12 Months** beyond the completion date, whichever is later. In case the Intended Completion Date is extended, then the Contractor shall submit a fresh Performance Security or extension of the date of the Bank Guarantee/s if any, furnished as security, the same value valid up to a date one month beyond the issue of Defect Liability Certificate.

**49. Cost of Repairs**

49.1 Loss or damage to or defective works or Materials during the Contract Period shall be remedied by the Contractor at the Contractor's cost to the satisfaction of the Engineer/Employer. In case of default by the Contractor, the Employer shall carry out suitable remedial measures and deduct the amount incurred thereto from payments due to the Contractor.

**E. Finishing the Contract****50. Completion**

50.1 The Contractor shall request the Engineer to issue a Certificate of Completion of Works and the Engineer will do so upon deciding that the Works are completed in all respects.

50.2 Upon satisfactory compliance and observance of the performance standards by the Contractor during the Defect Liability Period, the Engineer shall suitably inform the Employer who may then issue the Certificate of Contract Completion to the Contractor, Subject to Contractor satisfying all Provisions under this Contract.

**51 Taking Over**

51.1 The Employer will take over the Site and the Works with in 1 month of the Engineer issuing a certificate of Contract Completion in terms of Clause 50.2.

**52 Final Account**

52.1 In case of Construction / Improvement Works, the Contractor shall supply to the Engineer a Detailed account of the total amount that the contractor considers payable under the Contract on or before 30 days beyond the Engineer shall assess the quality and completion status of Construction /improvement Works in terms of this Contract and upon satisfaction, shall certify and final payment that is due to the contractor within 30 days of receiving the Contractor's account. If the Engineer is not satisfied, then the Engineer shall issue within 7 days thereto a schedule that states the scope of the corrections or additions that are necessary. If the Contractor fails to comply with the Engineer's instructions. The Engineer shall levy Liquidated Damages and shall recommend the Employer suitably. The Employer retains the right to employ a third party and carry out the remaining works and deduct the payment from pending bills of the Contractor.

**53 As Built Drawings, Operating and Maintenance Manuals**

- 53.1 “As Built” Drawings and Operation and Maintenance Manuals as required by the Employer shall be supplied by the Contractor as stated in the Contract Data.
- 53.2 If the Contractor does not supply the Drawings and/or manuals as stated in the Contract Data, or they do not receive the Engineer’s approval, the Engineer shall withhold the amount stated in the Contract Data from payments due to the Contractor.

**54. Termination**

- 54.1 The Employer or the Contractor may terminate the contract if the other party causes a fundamental breach of the Contract.

- 54.2 Fundamental breach of Contract includes, but shall not be limited to the following:

- (a) Contractor stops work for 28 days when no stoppage of work is shown on the agreed program and the stoppage has not been authorized by the Employer.
- (b) Employer or the Contractor is made bankrupt or goes into liquidation, other than for a reconstruction or amalgamation
- (c) Payment certified by the Engineer is not paid by the Employer to the Contractor within 60 days of the Engineer’s Certificate.
- (d) The Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;
- (e) The Contractor does not maintain a security (performance security, Security against Advance Payment etc) which is required;
- (f) In case of the Contractor has awarded more than 20% of value of works on sub-contract
- (g) The Contractor has defaulted in fulfilling his obligations under this Contract;
- (h) The Contractor has contravened clause 7,8 and 9 of the conditions of contract
- (i) The Contractor does not adhere to the agreed construction program of individual milestone and also fails to take Satisfactory remedial action as per agreements reached in the Management Meetings (clause 28) for a period of 30 days;
- (j) The Contractor fails to carry out the instructions of Engineer within a reasonable time determined by the Engineer in accordance with Clause 15.1 and 22.1 of the conditions of Contract.
- (k) The Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract Data; and
- (l) If the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in the executing the Contract.

For the purpose of this paragraph “corrupt practice” means the offering, giving, receiving or soliciting anything of value, to influence the action of a public official or the Employer or Engineer 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, and includes collusive practice among Contractors (prior to or after bid submission) designed to establish bid prices at artificial non competitive levels and to deprive the Employer of the benefits of the free and open competition.”

- 54.3 When either party to the Contract gives notice of a breach of Contract to the Engineer for a cause than those listed under Clause 54.2 above, the Engineer shall decide whether the breach is fundamental or not.
- 54.4 **Notwithstanding** the above, the Employer may terminate the Contract for his convenience.
- 54.5 If the Contract so terminated the Contractor shall stop work immediately make the site safe and secure and leave the site as soon as reasonably possible.
- 54.6 In case the Contractor fails to carryout the works, as per the construction programme submitted by the Contractor and approved by the Engineer then the Employer, at its sole discretion is entitled to terminate this contract at the '**Risk and Cost**' of the Contractor and to employ such other Contractor/s to carryout the balance works. The additional cost incurred by the employer in completing the works, which remain unfinished at the time of termination of the contract will be recovered from the Contractor. Any unrecovered '**Risk and Cost**' amount will be a debt payable to the Employer and the Employer will take suitable actions for such unrecovered '**Risk and Cost**' amount at the cost of the Contractor. Any bill/s for the works executed remains unsettled and/or the value of materials, machineries etc., taken over or possessed by the Employer at the time of termination or on termination will be adjusted towards the '**Risk and Cost**' recoverable from the contractor.

#### **55. Payment upon Termination**

If the Contract is terminated because of fundamental breach of Contract by the Contractor, the Engineer shall issue a certificate for the value of the work done less advance payment received up to the date of the issue of the work certificate, less other recoveries due in the terms of the Contract, less taxes due to be deducted at source as per applicable law and the estimated/actual '**Risk and Cost**' to be recovered from the contractor due to termination. If the total amount due to the Employer exceeds any payment due to the Contractor the difference shall be a debt payable to the Employer.

If the Contract is terminated at the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Engineer shall issue a certificate for the value of the Works done, the reasonable cost removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's cost of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

#### **56 Property**

- 56.1 All materials on the site, plant, Equipment, Temporary Works and Works are deemed to be property of the Employer, if the Contract is terminated because of a Contractor's default.

#### **57. Release from Performance**

- 57.1 If the Contractor is frustrated by the outbreak of war or by any other event entirely outside the control of the Employer or the Contractor, the Engineer shall certify that the Contractor has been frustrated. The Contractor shall make the site safe and stop works as quickly as possible after receiving this certificate and shall be paid for all works carried out before receiving it and any work carried out afterwards to which commitment was made.



**58. Maintenance of ROW**

- 58.1 Throughout the period of the Contract, the Contractor shall at all times maintain public vehicular access along the right-of-way to all public and private access and land. The contractor on written request to the Engineer, (including a drawing, program and specification), be given approval to operate.

**59. Field Laboratory with Equipment and Tests**

- 59.1 Without any extra cost shall provide and maintain adequately equipped field laboratory,
- 59.2 The cost of making any test to be conducted on all types of materials as per quality assurance plan, Tamil Nadu Building Practice/ National Building Code, standard procedures and specifications shall be borne by the contractor, and the contractors quoted rates shall include the same.
- 59.3 Third Party Inspection on Factory / Site shall be arranged by the contractor as per the instruction of the Employer. The Employer (or) Third Party Quality Auditor(s) appointed by the Employer shall be entitled to visit Factory / Site, Conduct sampling and Testing on the Products/works in accordance with relevant specifications. The entire expenses towards the third party inspection shall be borne by the contractor.

**60. Approval of Proprietary Product / Process / System**

Within 7 days of award of the work, the Contractor shall submit the following information for all proprietary products for approval by the Engineer. The Engineer may instruct and additional tests for the purpose of accepting the product which shall be followed by the Contractor

**I. Name of manufacturer and name of product/process/system.**

Complete details of manufacturer of the product/process/system shall be furnished. Details of where similar product/process/system has been successfully used be furnished. Authenticated copies of License/ collaboration Agreement shall be furnished.

**II General features of the product/product process system.**

Detailed write-up with method statements shall be furnished for each product/process system. This shall include complete working drawings and installation drawings, technical specification covering fabrication, material, system of corrosion protection, etc

**III Acceptance test and criteria**

Manufacturer shall submit a quality assurance system document. Details of acceptance test and criteria of acceptance shall be furnished in this document.

## **APPENDIX 1**

### **Safety Measures**

#### **I Contractor's Liability**

The contractor shall be absolutely and solely responsible for any and all kinds of injuries or damages to person and property of any description whatever may be caused by or result from the execution of the works, whether these may have been carried out skillfully and carefully and strictly in conformity with the provisions of the specifications or not.

#### **II Responsibility for Accidents, Damages etc.**

The care of the whole of the permanent works shall remain with the contractor who shall be responsible for all accidents or damages from whatever cause arising and chargeable for anything that may be stolen, removed destroyed or damaged to whomsoever belonging and also for making good all defects and damages to the said works or to any property adjoining or any cause whatever whether such damage or defects were occasioned by the negligence of the contractor or not or may be or might have been discovered during the progress of the works or in consequences thereof, or shall appear to be known after the completion whereof or whether payment may wholly or partially have been made or the works approved as supposed to have been properly done and no certificate of approval of any works by any officers of ITEL/TNRDC shall affect or prejudice the right of ITEL against the contractor or be considered or held as at all conclusive as to the sufficiency of any works or materials.

#### **III Contractor to be responsible for all Trespasses and Damages**

In the event of accidents to any person including employees of ITEL on duty, damages to property, trespass on land, injury to cattle, horses, or other animals or damage injury of any description to any person or thing arising out of the execution of the works, the contractor shall be held responsible for and make good the same and shall indemnify ITEL from all claims or expenses on account thereof and if ITEL has to pay any money in respect thereof the sum so paid and the costs incurred by ITEL shall be charged to the contractor as so much money paid to him on account of his contract and the contractor shall not be at liberty to dispute or question the right of ITEL to make such payment for him or on his account notwithstanding the same may have been made without his consent of authority and decision or determination in law or otherwise to the contrary notwithstanding. ITEL shall not be liable to, or for in respect of any damages or compensation or claim there for, under any Act for the time being in force or common law because or by reason or in consequences of any accident or injuries to workmen or others in the employment of the contractor or any subcontractor or of any person acting under him or on his behalf or the staff / persons employed by ITEL for supervision of the work under his contract and the contractor shall save ITEL harmless and indemnify in respect thereof and of any all costs and expenses incidental there to or consequent thereon.

#### **IV Safety Measures**

1. All the works to be carried out in and around the work site, it must be under the contractors supervision with their supervisor, at their own risk and cost
2. The contractor should possess rubber gloves, gum safety boots, helmet, face mask, torch light, emergency light etc. as safety equipments in good condition
3. Each and every employee of the contractor should have insurance cover under Workmen Compensation Act.
4. The Contractor has to carry out any activity of the construction work only after informing and getting concurrence of ITEL / Engineer in charge

#### **V Safety Equipments & Loose Tools:**

The Contractor will be responsible to make available the safety equipment and loose tools as listed below if the Contractor fails to keep the safety equipment and loose tools and consumable items as listed the above will be procured by ITEL and the cost will be deducted immediately from the bill payable to the contractor with a penalty of Rs. 2,000/-

#### **VI Safety Measures to be adhered**

1. Only experienced, skilled people have to be employed by the contractor
2. All personnel should be covered by insurance under Workmen Compensation Act.
3. All labour act provisions has to be met with
4. Rubber gloves, gum safety boots, helmet, face mask, torch light, emergency light etc are need to be provided by the contractor.
5. Exhibit labels of "Safety First"

**VII List of Safety equipments to be provided by the contractor**

SI No	Name of Equipment
1	Face Mask
2	Shock proof hand gloves
3	Disposable hand gloves
4	Gum boot / Safety shoes
5	First Aid Box
6	Emergency light
7	Helmet / hard hat
8	Safety cones
9	Traffic barriers
10	Warning lights
11	Red flags
12	Caution boards

**Note:** The above is only an illustrative minimum list. The contractor must note that it is their responsibility to ensure the lives and safety of the workers employed by them. Towards this end, all the equipments of appropriate specifications should be procured and made available to the workers in usable conditions throughout the period of contract. Responsibility for any health problem or death will solely rest with contractor.

**APPENDIX 2****Labour Statutory Requirements****I General**

The Contractor shall confirm to and comply with the regulations and by-laws of the State or Central Government or ITEL/TNRDC and of all other local authorities such as Corporation of Chennai, The Tamil Nadu Electricity System, The Chief Electrical Inspector to Government of Tamil Nadu, The Government Customs and Police Departments Fire Service, the provisions contained in the various Labour Acts enacted by the State Legislature and Central Parliament in force and rules made there under including those under Minimum Wages Act, Factories Act, The Indian Electricity Act and rules framed under it, Workmen Compensation Act, The Employees State Insurance Act 1948, Provident Fund Regulations Act, The EPF and Miscellaneous Provisions Act 1952, Employees Provident Fund 1961 and scheme made under the said Act, Health and Sanitary Arrangements for workers etc. and the Contract Labour (Regulation and Abolition) Central Act 1970 and the Contracts (Regulation and Abolition) Central Rules 1971 etc. for Welfare and protection of works, workers or for the safety of the public and other Insurance provisions.

**II Further, the Contractor has to give a declaration for the following provisions:-**

- i. That in the capacity of Contractor, the Contractor has to comply with the provisions of Contract Labour (Regulation & Abolition) Act, 1970 by obtaining a valid license under the Act and the Rules thereto and similarly under Factories Act wherever applicable.
- ii. The Contractor has to pay the wages in accordance with the Minimum Wages Act to all his / their employees
- iii. That the Contractor has to abide to recover the Employees Provident Fund and the Employees' Insurance contributions (both Employees and employers contribution) from the payment of bills every month
- iv. The Contractor's Code Nos. for E.S.I / Workmen Compensation Policy and E.P.F. are----- & ----- and both the Employees, Employers contributions will be remitted by the contractor in his / their code numbers and copy of the remittance challans will be produced. In case, if the contractor is failing to remit, he / they will inform wage rates of employees to the Principal employer so that they can remit Employees' State Insurance Contribution & Employees Provident Fund contribution (both for employer and employee) and authorize them to make deductions from the payment of bills
- v. That the contractor has to authorize to recover the contributions towards Tamil Nadu Manual Worker (Regulations of Employment and Conditions of work) Act, 1982 fund at the percentage prescribed by the Government from time to time.
- vi. That the contractor has to further declare and undertake that in case of any liability pertaining to his / their employees is to be discharged by the Principal Employer for his / their lapse, the contractor undertake to reimburse the same or the Principal Employer is authorized to deduct the same from the contractor's dues as payable.
- vii. That the contractor will maintain the Registers and records about the Contract Labour employed under Section 29 of Labour (Regulation & Abolition) Act wherever applicable
- viii. That the contractor will take insurance policy under Workmen Compensation Act to meet out any untoward incident until the contract labourers are issued with ESI card

### **III Compliance with Labour Regulations**

During continuance of the contract, the contractor and his sub contractors shall abide at all times by all existing labour enactment's and rules made there under, regulation, notifications and bye laws of the State or Central Governments or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the State or the Central Government or the local authority. The Contractor shall keep ITEL indemnified in case any action is taken against ITEL by the competent authority on account of contravention of any of the provisions of any Act or rules made there under, regulation's or notifications including amendments. If ITEL is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for non-observance of the provisions stipulated in the notifications / bye laws / Acts / Rules / Regulations including amendments, if any, on the part of the contractor, the Engineer / ITEL shall have the right to deduct any money due to the contractor including his amount of performance security. ITEL /Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by ITEL.

The employees of the Contractor and the Sub-Contractor in no case shall be treated as the employees of ITEL at any point of time.

### **IV Contribution to Fund**

Notwithstanding anything contained in any Law for the time being enforced or in any Agreement every person / Contractor who undertakes any Civil work shall be liable to pay a sum at such percent, not exceeding one percent of the total estimated cost of the work as may be fixed by the Government, by notification, as contribution to the fund constituted for the benefit of manual workers in the employment in Civil Works under a scheme, framed under Section 3 of Tamil Nadu Manual Workers (Regulation of Employment and Conditions of Work) Act, 1982. The percentage of total estimated cost of work, as may be fixed by the Government, notification from time to time shall be recovered from the Contractor, deductible at source and remit it to the Tamil Nadu Constructions Workers Welfare Board within such period as may be prescribed.

### **V Contract Labour Welfare**

- i. The rights and benefits conferred on the workmen employed by the contractor under the provisions of various Labour Laws are the responsibility of the contractor. The contractor has to indemnify ITEL in case of loss or any damages. It is the responsibility of the contractor to take insurance policy under Workmen's compensation Act, 1923 for each labour engaged by the contractor. The contractor will be responsible for any deficiency on safety measures to be adhered as stipulated in Safety measures to be adhered in Appendix 1. A photocopy of the insurance under Workmen's Compensation Policy should be furnished to ITEL. The policies should be kept alive till the completion of the contract period.
- ii. The Contractor shall produce fitness certificate from any Authorized Medical Attendant (AMA) of Government Hospital for all the Technical Staff and Labour Staff to be employed.

### **VI Following Laws shall be adhered to by the contractor wherever applicable**

- a. Workmen Compensation Act, 1923
- b. Payment of Wages Act, 1936
- c. Industrial Disputes Act, 1947
- d. Minimum Wages Act, 1948
- e. Factories Act, 1948

- f. Employees PF and Miscellaneous Act, 1952
- g. Payment of Bonus Act, 1965
- h. Payment of Gratuity Act, 1972
- i. Equal Remuneration Act, 1979
- j. Maternity Benefit Act, 1951
- k. Contract Labour (Regulation & Abolition) Act 1970
- l. Industrial Employment (Standing Orders) Act 1946
- m. Trade Unions Act 1951
- n. Child Labour (Prohibition & Regulation) Act 1986
- o. Inter-State Migrant Workmen's (Regulation of Employment & Conditions of Service) Act 1979
- p. The Building and other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996
- q. Employee State Insurance Act, 1948
- r. The Tamil Nadu Manual Workers (Regulation of Employment and Conditions of Work) Act, 1982
- s. The Bonded Labour System (Abolition) Act, 1976
- t. The Employer's Liability Act, 1938

#### **VII Elimination of Child Labour**

1. Attention of all contractor are invited to the Child Labour (Prohibition and Regulations) Act 1986, which prohibits employment of children below 14 years of age in certain occupations and process and provides for regulations of employment of children in all other occupations and progress. Employment of child labor is prohibited in building and construction industry.
2. Hence, all the contractors are requested to adhere to the provisions in the above Act and see that engagement of child labour in the operational activities of ITEL are completely prohibited. Any violation of the provision will lead to penal action and removing of the contractor from the list of registered contractors.

**APPENDIX 3**

**Tax Registration Number**

We confirm that our firm/company has valid VAT/PAN details as under:

- i) VAT No. \_\_\_\_\_
- ii) PAN No. \_\_\_\_\_

We confirm that our firm/company has valid ESI/ Workmen Compensation Policy and EPF codes as under:

- i) ESI No. \_\_\_\_\_  
or
- ii) Workmen Compensation Policy No. \_\_\_\_\_
- iii) EPF No. \_\_\_\_\_



# **Section IV**

# **Contract Data**

## SECTION IV CONTRACT DATA

Item	Clause Reference
The following documents are also part of the contract and enclosed as Appendix	2.3
Detailed program regarding Work Methodology, Quality control and Assurance Plan to complete the work as per the construction programme	--
Operation and Maintenance Manuals.	53
<p><b>The Employer is :</b></p> <p><b>IT Expressway Limited,</b> Sindur Panthion Plaza, 2<sup>nd</sup> Floor, 346, -Pantheon Road, Egmore, Chennai- 600 008.</p> <p><b>Phone: 044 - 2819 4800, 044 - 2819 4900 Fax 91- 44 -2819 5800</b></p> <p>Name of Authorised Representative : <b>Managing Director / ITEL</b></p> <p>-----</p> <p><b>Engineer is :</b></p> <p><b>IT Expressway Limited,</b> Sindur Panthion Plaza, 2<sup>nd</sup> Floor, 346, -Pantheon Road, Egmore, Chennai- 600 008.</p> <p><b>Phone: 044 - 2819 4800, 044 - 2819 4900 Fax 91- 44 -2819 5800</b></p> <p>Name of Authorised Representative : <b>General Manager (Projects) / ITEL</b></p>	1.1
<p><b>The name of the Contract is :</b></p> <p><b>“Construction of G+1 Building at Okkiyam Thoraipakkam under R &amp; R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu”</b></p>	1.1
The Start Date shall be the date of issue of Acceptance letter / Notice-to-Proceed by the Contractor for the Works.	1.1
<b>Intended Completion Date: 9 Months</b> from the Date of Commencement as indicated in the Notice to Proceed with the Works / Acceptance letter.	1.1,16,26
The Contractor Shall submit a Detailed Work Program including Construction Program, Work Methodology, Quality Control, for the works (in such form and detail as the Engineer prescribe) within 7 days of delivery of Letter of Award. The Program should have adequate details and conform to the contract provisions.	25
<p><b>Site Possession</b></p> <p>The Date shall be the date of commencement of work as indicated in the Acceptance Letter/Notice to Proceed with the works</p>	20

The Site is <b>“Construction of G+1 Building at Okkiyam Thoraipakkam under R &amp; R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu”</b>	1												
The Defects Liability Period is <b>12 Months</b> after construction / improvement works Completion Date	50.2												
<b>Insurance requirement :</b> <table border="0"> <tr> <td><b>Item</b></td> <td><b>Minimum cover for</b></td> </tr> <tr> <td>Works, Plant and material</td> <td>Equivalent to <b>1.15 times</b> of the contract value</td> </tr> <tr> <td>Fire policy/ Loss or damage to Equipment</td> <td>Rs <b>10 Lakhs</b></td> </tr> <tr> <td colspan="2"><b><u>Personal Injury or death Insurance</u></b></td> </tr> <tr> <td>For other people</td> <td>Rs <b>10 Lakhs</b></td> </tr> <tr> <td>Contractor’s employee</td> <td>In accordance with applicable existing laws</td> </tr> </table>	<b>Item</b>	<b>Minimum cover for</b>	Works, Plant and material	Equivalent to <b>1.15 times</b> of the contract value	Fire policy/ Loss or damage to Equipment	Rs <b>10 Lakhs</b>	<b><u>Personal Injury or death Insurance</u></b>		For other people	Rs <b>10 Lakhs</b>	Contractor’s employee	In accordance with applicable existing laws	13
<b>Item</b>	<b>Minimum cover for</b>												
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<b><u>Personal Injury or death Insurance</u></b>													
For other people	Rs <b>10 Lakhs</b>												
Contractor’s employee	In accordance with applicable existing laws												
The language of the Contract Document is <b>English</b>	3												
The law which applies to the Contract is the <b>Law of Union of India</b>	3												
The currency of the contract is <b>Indian Rupees Only.</b>	43												
<b>Retention money :-</b> In IPC’s @ <b>5 %</b> of value of each bill will be withheld and the withheld amount will be refunded to the Contractor along with the Final Bill / Taking over certificate.	39.3												
Penalty for not attending Management Meetings/ Site Visits : <b>Rs 1,000/-</b> per incidence The maximum amount of the penalty is <b>2%</b> of initial contract Price for Works.	28.2												
The liquidated damages for non-completion of construction Works within the intended completion date shall be <b>5%</b> of contract value for each week’s delay or part there of beyond the completion date. The maximum amount of liquidated damages for the whole of the works is <b>5%</b> final Contract Price for Works.	45.1												
Performance Security shall be of <b>5 %</b> of Contract Price for Construction and Improvement Works as stated in the Acceptance letter / work order, valid for <b>21 Months</b> from commencement Date of Construction / Improvement works or until <b>12 Months</b> beyond the Intended Completion Date for Works, whichever is later.  The standard form of Performance Security acceptable to the Employer shall be an unconditional and irrevocable Bank Guarantee of the type as presented in section – II of Bidding Documents.	48												
Hard copy and a soft copy of “As- Built” Drawings (in scale as per codal specifications) and Operation and Maintenance manuals are required before issuing the “Certificate of Completion of Works”. The amount to be withheld for failing to supply the “As- Built” Drawings and Operation and Maintenance Manuals within the date required is <b>Rs. 2 Lakhs.</b>	53												

# **Section V**

# **Bill of Quantities**

## **Bill of Quantities for works**

### **(BOQ)**

#### **A. Preamble**

1. The Bill of Quantities shall be read in conjunction with the Instruction to Bidders, General and Special Conditions of Contract, Technical Specifications, Drawings and conforming to the Indian standard specification.
2. The Bidder should closely peruse all the specification clauses for items of works for which he is tendering his rates.
3. The quantities given in the Bill of Quantities are approximate and provisional, which are given to provide a common basis for making payment for works. Actual quantities of work are likely to increase or decrease as per the requirement at site. Hence, there is no claim for any additional or less quantities than the specified in the BOQ.
4. The rates in the Bill of Quantities shall, except in so far as it is otherwise provided under the Contract, include all construction plant, labour, supervision, materials, erection, transportation, maintenance, insurance, administrative overheads, profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract.
5. The Bidder shall indicate the unit rate and line total on the Total Estimate Bid Amount, which shall be applicable on each item of the Bill of Quantities, whether quantities are stated or not.
6. General directions and description of work and materials are not necessarily repeated nor summarized in the Bill of Quantities. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the Bill of Quantities. References to the relevant sections of the contract documentation shall be made before entering prices against each item in the Bill of Quantities.
7. The method of measurement of completed work for payment shall be in accordance with relevant best practices as set forth in the specification of the Tamil Nadu Building Practice, National Building Codes and other conditions of contract as specified by the Employer or as per codal provisions/specifications as may be decided by the Employer.

**Construction of G+1 Building at Okkiyam Thoraipakkam under R & R Scheme for 13 Project affected families in Rajiv Gandhi Salai (IT Corridor) in Chennai, Tamil Nadu**

**Bill of Quantities**

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
1	Special	Providing vertically cast in situ RCC Under ream pile of 300mm dia in cement concrete ratio 1:1.5:3 using ordinary Portland cement concrete with 20mm size and down graded hard broken granite stone jelly and river sand of good quality to a depth including labour charges for driving piles, mobilisation charges, (transportation, erection of equipments and maintenance) but excluding cost of steel and fabrication of reinforcement but including cost of betanite solution with temporary casing of required length, pouring concrete using Tremme pipes, all materials, hire charges for all tools and plants required for the work, curing etc., complete as directed by the Engineer-in-charge.	1 R.m	544.00 Running Metre			
2	Special	Providing vertically cast in situ RCC Under ream pile of 230mm dia in cement concrete ratio 1:1.5:3 using ordinary Portland cement concrete with 20mm size and down graded hard broken granite stone jelly and river sand of good quality to a depth including labour charges for driving piles, mobilisation charges, (transportation erection of equipments and maintenance) but excluding cost of steel and fabrication of reinforcement but including cost of betanite solution with temporary casing of required length, pouring concrete using Tremme pipes, all materials, hire charges for all tools and plants required for the work, curing etc., complete as directed by the Engineer-in-charge.	1 R.m	129.00 Running Metre			

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
3	23 & 24 V, VI S2	Earth work excavation for foundation (for narrow excavation) to full depth as per designed in all soils and sub soils except soft disintegrated rock not requiring blasting and hard rock requiring blasting and bailing water wherever necessary. Refilling the sides of foundation with excavated earth other than sand in layers of well rammed and compacted and depositing the surplus earth in places shown by the Engineer-incharges with an initial lead of 10m and initial lift of 2m and clearing and leveling the site etc. complete complying with standard specification.	1 Cu.m	127.00 Cubic Metre			
4	24 & 26 V, VI S3	Supplying and filling in foundation and basement with river sand in layers of not more than 15cm thick well rammed, watered and consolidated etc., complete as per standard specification and as directed by the Engineer-in-charge.	1 Cu.m	378.00 Cubic Metre			
5		Supplying and filling in basement with well gravel including filling in layers of not more than 15cm thick well rammed, watered and consolidated etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 Cu.m	263.00 Cubic Metre			
6	28 V, VI (S2) (S5A), 11	Plain Cement Concrete 1:5:10 (One cement five sand and ten broken Machine crushed stone jelly) using HBG Machine creased Machine crushed stone jelly of size 40mm gauge for founding and basement including dewatering if found necessary and laid in layers of not more than 15cms thick etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 Cu.m	60.00 Cubic Metre			

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
7	30(S) 86, 86A V, VI (S3) VII	Providing form work for centering, shuttering etc., for all RCC works including strutting up to 3.29m in all floors using mild steel sheets of size 90x60cm of B.G 10 stiffened with mild steel angles of size 25 x 25 x 3mm laid over silver oak (country wood) joist of size 10 x 6.5cm spaced at about 90cm c/c supported by casurina props of 10 to 13 cm dia (spaced at 75cm center) complying with standard specification and as directed by the Engineer-in-charge and removing the same after specified period with out damaging the concrete etc. complete.					
a		For Pile cap, plinth beam bed blocks templates staircase, steps piers raft beam, raft slab etc.,	1 Sq.m	380.00 Square Metre			
b		For Rectangular beam, slab, waist slab, landing slab, lintel, and ball other plain surfaces etc., complete	1 Sq.m	984.00 Square Metre			
c		For square or rectangular column boxing top and bottom slab, sill slabs, sunshade, fascia fins, drops, etc.,	1 Sq.m	307.00 Square Metre			
8	30 V,VI (S5) VII	Reinforced cement concrete ratio 1:1.5:3 (One cement one point five sand and three broken Machine crushed stone jelly) using 20mm gauge hard broken granite jelly for all RCC works excluding cost of Reinforcement and fabrication charges centering and shuttering but including proper vibration, laying curing etc., complete complying with standard specification and as directed by the Engineer-in-charge.					
a		in foundation and basement	1 Cu.m	53.00 Cubic Metre			
b		in Ground floor	1 Cu.m	67.00 Cubic Metre			
c		in First Floor	1 Cu.m	48.00 Cubic Metre			
d		in Terrace Floor	1 Cu.m	7.00 Cubic Metre			



SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
9	S.S 86 & 86A V,VI(S3) (S6) VII	Supplying, fabricating and placing in position steel reinforcement using mild steel or ribbed TOR steel rods for all RCC works as per design given by the Engineer-in-charge including cost of steel and binding wire and labour charges in all floors etc., complete complying with standard specifications and as directed by the Engineer-in-charge.	1 Qtl	260.00 Quintal			
10	Special	Supplying and fixing MS Grills for Windows,Ventilators and main gate using required MS angles, flats, square rod of approved design and as directed by the Engineer-in-charge including cost of MS Grills, labour charges and cost of one coat of red oxide primer etc., complete complying with standard specification.	1Kg	3307.00 Kilogram			
11	Special	Supplying and fixing of MS hand rails using 50mm dia M.S pipe, MS flat size 40mm x 4mm three line horizontal and with 25mm square bar vertical (height of hand rails 0.83M) including cost and conveyance of all materials to work site including cutting, bending, tying, fabrication and placing in position including cost of primer painting with one coat and painting with ready mixed paint two coats and all other incidental charges etc. complete complying with standard specification and as directed by the Engineer-in-charge.	1 R.m	30.00 Running Metre			
12	31 & Similar to 31c V, VI (S5) VII	Brick work in Cement Mortar 1:5 (one cement and five sand) in foundations, basement and superstructure using second class ground moulded chamber burnt stock bricks of size 9" X 4 3/8" X 2-3/4" including curing neat finishing, etc., complete complying with standard specifications and drawings and as directed by the Engineer-in-charge.					
a		In Foundation and basement	1 Cu.m	60.00 Cubic Metre			
b		In Ground Floor	1 Cu.m	150.00 Cubic Metre			

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
c		In First Floor	1 Cu.m	96.00 Cubic Metre			
d		In Terrace Floor	1 Cu.m	13.00 Cubic Metre			
13	31 & Similar to 31c V, VI (S5) VII	Brick partition wall in CM 1:3 (One of cement and three of sand) 11.5cm thickness using II class chamber burned bricks of size 9" x 4 3/8" x 2 3/4" including both side plastering with CM 1:5 12mm thick and using hoop iron with reinforcement if found necessary. The loop iron reinforcement shall be paid separately and as directed by the Engineer-in-charge.					
a		in Ground Floor	1 Sq.m	270.00 Square Metre			
b		in First Floor	1 Sq.m	280.00 Square Metre			
c		in Terrace Floor	1 Sq.m	94.00 Square Metre			
14	56,57 & V,VI (S4) 3	Plastering with Cement Mortar 1:5 (One cement and Five sand) 12mm thick in all floors including curing and finishing neatly etc., complete complying with standard specification and as directed by the Engineer-in-charge etc. complete.	1 Sq.m	1811.00 Square Metre			
15	56 , 57 & V, VI,(S4) 3	Plastering with Cement Mortar 1:3 (One cement and three sand) 12mm thick with fine river sand for plastering in all floors including curing, neat finishing, etc., complete complying with standard specification and as directed by the Engineer-in-charge etc. complete.	1 Sq.m	2110.00 Square Metre			
16	56 , 57 & V, VI,(S4) 3	Plastering with Cement Mortar 1:3 ( One cement and three sand) 20mm thick mixed with water proofing compound conforming to IS at 2% by weight of cement used including neat finishing, curing, etc., complete in all floors complying with standard specification.	1 Sq.m	100.00 Square Metre			

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
17	56 , 57 & V, VI,(S4) 3	Special ceiling plastering and finishing all RCC exposed surfaces such as RCC slabs, sunshades, canopies, stair case steps, landing slabs etc with CM 1:3 (One cement and three sand) 10mm thick including hacking the surfaces and providing necessary CM nosing, beading as per size specified wherever necessary using the same mix etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 Sq.m	673.00 Square Metre			
18	56 , 57 & V, VI,(S4) 3	Plastering with Cement Mortar 1:3 (One cement and three sand), 12mm thick band / border size 1" to 4" width fine river sand for plastering including curing, neat finishing etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 R.m	200.00 Running Metre			
19		Brick jelly Lime Concrete 1:2:5 (One Lime, two sand and five brick jelly) using 40mm gauge brick jelly for flooring including laying, consolidating, finishing, rendering the top surface rough to receive the floor finish, curing, etc., complete complying with standard specification (for flooring in toilet sunken portions) and as directed by the Engineer-in-charge.	1 Cu.m	18.00 Cubic Metre			
20	51 (10-1) V, VI (S5) VII,3	Weathering course in brick jelly lime concrete using best quality broken brick jelly of size 20mm uniform gauge in pure slaked lime (no sand to be used) in the proportion of brick jelly to lime being 32:12.5 cft laid over the RCC roof slab in a single layer of required design, slope and consolidated to the required finished thickness by beating the concrete with wooden beaters of approved pattern, keeping the surface constantly wet by sprinkling lime jaggery water, etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 Cu.m	50.00 Cubic Metre			
21	44-1 V VI (S5A) VII3	Finishing the top of roof with one course of machine pressed tiles of size 230mm x 230mm x 20mm of approved quality laid in CM 1:3 (one cement and three sand) mixed with 2% of water proofing compound by weight of cement used and pointed with the same oiled mortar including mixing of red oxide etc. complete complying with standard specifications and as directed by Engineer-in-charge.	1 Sq.m	300.00 Square Metre			

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
22	28,29	Paving the flooring in first quality colour and design ceramic tiles joint free of size 305mm x 305mm x 6mm thick of approved make, quality and colour in all floors over a base layer of cement mortar 1:3 (one cement three sand ) 20mm thick and laid straight alignment and pointed neatly with colour cement at the rate of 0.40 kg/m <sup>2</sup> laid without any air gap in the tiles neatly and fixing in position as per standard specifications and as directed by the Engineer-in-charge (The colour & quality of tiles should be got approved by the Engineer before use on work)	1 Sq.m	500.00 Square Metre			
23	39	Dadoing the walls with first quality colour glazed tiles with printed design size 300mm x 200mm x 6mm of best approved quality and colour in all shade of the glazed tiles in all floor over a base layer in cement mortar 1:2 (one cement two sand) 10mm thick and laid in situ true alignment and pointed neatly with colour cement at the rate of 0.40kg/m <sup>2</sup> to suit the colour of the tiles fixed in position without any air gap in the tiles neatly etc., complete complying with standard specification and as directed by the Engineer-in-charge (The colour & quality of tiles should be got approved by the Engineer before use on work)	1 Sq.m	222.00 Square Metre			
24		Paving the floor with cement based hydraulically pressed anti - skid step tiles (Like Eurocon tiles) of 20mm thick approved special quality and set in CM 1:3 (One cement and three sand) 20mm thick using river sand and pointing with colour cement at the rate of 0.40kg/m <sup>2</sup> and mixing with colour pigment at the rate of 0.30kg/m <sup>2</sup> including finishing etc., complete complying with standard specification and as directed by the Engineer-in-charge (The colour & quality of tiles should be got approved by the Engineer before use on work)	1 Sq.m	27.00 Square Metre			

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
25		Supplying and laying hydraulically pressed plain cement concrete interlocking paver blocks of M20 grade, 60mm thick of approved quality and laying the same over 50mm thick sand bedding layer and compacting using plate vibrator to the required level and slope including cost of material & labour charges etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 Sq.m	75.00 Square Metre			
26		Supplying and fixing fine polished cuddapah slab of 38 to 40mm thick for cupboard / kitchen medi arrangements including labour for fixing in position etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 Sq.m	65.00 Square Metre			
27		Supplying and fixing of Single Leaf door with country wooden frames of size 100mm x 75mm with Solid core Flush shutters with commercial ply on both side with teak wood lipping alround 35mm thick approved quality including cost and conveyance of all materials to site including fixing furniture fittings and labour for wrought and put up in position of frames and shutters etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 Sq.m	86.00 Square Metre			
28		Supplying and fixing of glazed Windows with country wooden frames of size 100mm x 75mm with Glazed shutters (double leaf - with central rail) size 75mm x 40mm with plain glass 4mm thick including cost and conveyance of all materials to site including fixing furniture fittings and labour for wrought and put up in position of frames and shutters etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 Sq.m	53.00 Square Metre			

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
29		Supplying and fixing in position of colour powder coated Aluminium anodised glazed sliding windows with following specification. The window outer frame made out of aluminium anodised three way base cutter section of size 91.8mm x 45.5mm x 2mm for bottom frame and 92.2mm x 31.4mm x 2mm colour anodised aluminium section for top and side members. The shutter frame made out of colour anodised aluminium section of size 10mm x 18mm x 2mm for vertical, bottom and interlocking section and fixing 5.5mm thick plain glass with necessary 'Q' rubber beeding for shutter panels etc. The rate inclusive of all above materials, colour anodised aluminium handle, sliding runners, corner lock, push button lock, nylon bush 15 microns colour anodised for all aluminium section etc and labour for making and fixing etc complete and as directed by the Engineer-in-charge.	1 Sq.m	28.00 Square Metre			
30	Electrical standard Specification	Wiring with 2 x 1.5 sq.mm (22Nos/0.3mm dia) PVC insulated single core unsheathed copper conductor cable of 1100 Volt grade in suitable PVC rigid pipes concealed in wall and ceiling with PVC accessories in flush with wall 3mm thick hylum sheet cover with T.W. switch box and 5 Amps Flush type switch and making good of the concealed portion with suitable colour for PVC concealed Light point / Fan point, Labour and circuit main etc., complete and as directed by the Engineer-in-charge.	1 Point	194.00 Points			
31	Electrical standard Specification	Wiring with 2 x 2.5 sqmm (36Nos x 0.3mm dia) / 1x1.5 sqmm PVC insulated single core unsheathed copper conductor cable of 1100 volt grade in suitable PVC rigid pipes concealed in wall and ceiling with PVC accessories in flush with wall 3mm thick hylum sheet cover with TW switch box including 5A, 3pin noninterlocking Socket with continuous earth connection of 14 SWG TC wire and 5A Flush type switch and making good of the concealed portion with suitable colour for PVC concealed 5A Plug point, labour and circuit main etc., complete and as directed by the Engineer-in-charge.	1 Point	52.00 Points			

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
32	Electrical standard Specification	Wiring with 2 x 4sqmm (56Nos x 0.3mmdia) / 1x1.5 sqmm (22Nos x 0.3mm dia) PVC insulated single core unsheathed copper conductor cable of 1100 volt grade in suitable PVC rigid pipes concealed in wall and ceiling with PVC accessories in flush with wall 3mm thick hylum sheet cover with TW switch box including 15A ,3 pin noninterlocking socket with continuous earth connection of 14 SWG TC wire and 15A Flush type switch and making good of the concealed portion with suitable colour for PVC concealed 15A power plug point, labour and circuit main etc., complete and as directed by the Engineer-in-charge.	1 Point	26.00 Points			
33	Electrical standard Specification	Supply and run of 2 x 4 sq.mm (56 Nos/0.3mmdia)PVC insulated single core unsheathed copper conductor cable of 1100volt grade in suitable PVC Rigid pipe concealed in wall and ceiling with continuous earth connections by 14 SWG TC Wire making good of the concealed portion with suitable colour (Main switch to switch board) etc., complete and as directed by the Engineer-in-charge.	1 R.m	650.00 Running Metre			
34	Electrical standard Specification	Supply and run of 2 x 6 sq.mm (84 Nos / 0.3mmdia) PVC insulated single core multistrand fire retardant flexible copper cable with ISI mark suitably bent at both ends with necessary angle iron up right and supports for mains (from DB to Main switch) etc., complete and as directed by the Engineer-in-charge.	1 R.m	75.00 Running Metre			
35	Electrical standard Specification	Supply and run of 1x16 sq.mm (101 Nos/0.45mmdia) PVC insulated single core multistrand fire retardant flexible copper cable with ISI mark suitably bent at both ends with necessary angle iron up right and supports for mains (From 100A main kitkat fuse to DB) etc., complete and as directed by the Engineer-in-charge.	1 R.m	30.00 Running Metre			
36	Electrical standard Specification	Supply and fixing of double pole MCB 6 / 32A 10KA for circuit incoming with ISI mark suitably (LEGREND / HAGER) with all suitable accessories etc., complete and as directed by the Engineer-in-charge.	1 No (Each)	13.00 Nos.			

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
37	Electrical standard Specification	Supply and Fixing of TNEB meter Board suitable for 32A single phase service connection with 32 Amps DP Metal clad switch with rewirable fuse units , 32A neutral link and earth link on Teak Wood Planks Board Size - 2.0 m x 1.2 m with supporting Country Wood Frame size - 70mm x 70mm with painting with suitable bolt and nuts for fixing the Teak Wood Board on wall with earth connection and inter connection wiring with 4 sqmm copper wire from EB meter to Fuse unit etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 No	14.00 Nos.			
38	Electrical standard Specification	Supply and fixing 3 Nos of 100A incoming porcelain Fuse with covering box / Neutral Link / Earth Link Unit and Supply and erection of 1 no of 3 Phase DBS 8 way TPDB 32A / way with fuse & Neutral link (GEM/Equivalent), all accessories with necessary angle iron up right and supports materials with earth connection etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 set	1.00 set			
39	Electrical standard Specification	Earthing as per P.W.D standard with an electrode of 2Mtr. Class B. G.I Pipe of not less than 50mm dia complete with necessary brick masonry chamber with cover slab work etc. complete complying with standard specification and as directed by the Engineer-in-charge.	1 No	1.00 No			
40	Electrical standard Specification	Supplying and run of 31/2 Core 70 sq.mm PVC armoured UG LT cable for Service Connection Cable with ISI Mark etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 R.m	200.00 Running Metre			
41	Electrical standard Specification	Supplying and fixing of Single fluorescent fitting 4 Ft. 40W with copper choke and condensor complete with ISI mark ( Philips / Crompton / Wipro) etc. complete and as directed by the Engineer-in-charge.	1 No	46.00 Nos.			
42	Electrical standard Specification	Supplying and fixing of Water tight bulk head fitting suitable for 60 Watts lamp with guard heavy type complete with ISI mark (Philips / Crompton Greaves) etc. complete and as directed by the Engineer-in-charge.	1 No	6.00 Nos			
43	Electrical standard Specification	Supplying and fixing of 11 Watts PL Lamp with ISI mark (Philips/Osram) etc., complete and as directed by the Engineer-in-charge.	1 No	30.00 Nos			



SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
44		Supplying and fixing in position Indian water closet Oriya type of size 580 mm x 440 mm white glazed earthen ware of approved quality with 'P' trap or 'S' trap conforming to IS: 2556-part XII with sand cushion and forming flooring all-round the closet using 40mm broken brick jelly in lime concrete 1:2:5 (one part of lime, two parts of sand and five parts of brick jelly) 100mm thick and finishing the top to required slope and including giving necessary connection soil pipes by dismantling brick masonry, reinforced cement concrete roof/floor slab and making good the dismantled portion to original condition without leakage etc. complete complying with standard specification and as directed by the Engineer-in-charge (The water closet should be got approved by the Engineer before use on work.)	1 No	13.00 Nos.			
45		Supplying and fixing in position best quality approved make Indian made white glazed earthenware Wash hand basin of size 550mm x 400mm with a pair of cast iron brackets, including cost of 15mm diameter brass chromium plated pillar tap, 32mm dia metre G.M Wheel valve, 15mm dia brass nipple 15mm dia nylon connection etc. including fixing the wash hand basin in the wall in position with pair of CI brackets with teak wood plugs and screws and giving necessary water supply connection and painting the brackets with two coats of paint over a priming coat of anticorrosive paint including testing for leakage etc. complete complying with standard specification. The quality and colour of wash hand basin and specials should be got approved by the Engineer -in-charge before use on work.)	1 No	13.00 Nos.			

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
46		Supplying, laying and jointing the following PVC blue pipes (brand or equivalent) of following diameter of approved quality and best variety of pipes with pressure withstanding 10 kg/sq.cm and laid properly above ground level to alignment including fixing of required GI specials but excluding cost of such specials, cutting and threading, including fixing to walls with necessary teakwood plugs clamps and screws making holes in the wall or drilling hole in the roof and making good of the distributed portion in the original condition with necessary brick work and plastering wherever necessary with necessary scaffolding charges etc., complete in all floors complying with standard specification.(The PVC pipes shall be got approved by the Engineer-in-Charge before use on works.)					
a		32mm dia PVC pipe	1 R.m	150.00 Running Metre			
b		25mm dia PVC pipe	1 R.m	220.00 Running Metre			
c		20mm dia PVC pipe	1 R.m	150.00 Running Metre			
47		Supplying and fixing of following dia G.I Specials of approved quality and variety of various size, including necessary cutting and threading of GI pipes for jointing the specials and labour charges for fixing in position etc., complete complying with standard specification and as directed by the Engineer-in charges (The G.I. Specials used on the work shall be got approved by the Engineer-in-charge before use on works)					
a		32 mm dia GI Elbow	1 No	25.0 Nos.			
b		32 mm dia GI Tee	1 No	20.00 Nos.			
c		32 mm dia GI Union	1 No	10.00 Nos.			
d		32 mm x 25 mm GI Reducer Tee	1 No	25.00 Nos.			

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
e		25 mm dia GI Elbow	1 No	45.0 Nos.			
f		25 mm GI Union	1 No	20.00 Nos.			
g		25 mm dia GI Tee	1 No	30.00 Nos.			
h		25 mm x 20 mm dia GI Reducer Elbow	1 No	45.00 Nos.			
i		20 mm dia GI Tee	1 No	40.00 Nos.			
j		20 mm dia GI Elbow	1 No	60.00 Nos.			
k		20 mm x 15 mm dia GI Reducer Elbow	1 No	100.00 Nos.			
48		Supplying and fixing in position first quality of Gun Metal Gate Valve / Wheel Valve heavy type with ISI mark of approved quality of the following dia including cost of shellac, thread, labour charges for cutting, threading, fixing in position etc., complete complying with standard specification and as directed by the Engineer-in-charge for both internal and external water supply arrangements (The Gate Valve / Wheel Valve should be got approved by the Engineer-in-charge before use on works.)					
a		32 mm dia Gun Metal Gate Valve	1 No	4.00 Nos.			
b		25 mm dia Gun Metal Wheel Valve	1 No	13.00 Nos.			
49		Supplying, laying and jointing PVC soil waste pipes of working pressure of 6 kg/cm <sup>2</sup> Finolex (or) equivalent of best approved quality and best variety confirming to ISS and with ISI mark of the following sizes and providing leak proof joint with PVC adhesive etc., including cutting, threading and fixing PVC specials but excluding cost of such specials including fixing to the wall with special clamps dismantling masonry / RCC works wherever necessary and making good the dismantled portion to the original condition,complying with standard specification etc., complete and as directed by the Engineer-in-charge.					

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
a		160mm dia pvc pipe	1 R.m	70.00 Running Metre			
b		110mm dia PVC pipe	1 R.m	100.00 Running Metre			
c		75mm dia PVC pipe	1 R.m	100.00 Running Metre			
50		Supplying and fixing in position PVC Specials such as plain bend, door, plain tee, door tee, offsets, Y- Junction, plain or with door of various size of Finolex (or) equivalent best approved quality confirming ISS and providing leak proof joint by PVC adhesive etc., including necessary cutting, threading and fixing and giving connection to PVC pipes etc., complete complying with standard specification and as directed by the Engineer-in-charge.					
a		110 mm dia PVC Elbow	1 No	45.00 Nos.			
b		110 mm dia PVC door Elbow	1 No	15.00 Nos.			
c		110 mm dia PVC door Tee	1 No	10.00 Nos.			
d		110mm dia PVC Cowl	1 No	10.00 Nos.			
e		110mm dia PVC "Y"	1 No	10.00 Nos			
f		75 mm dia PVC Elbow	1 No	35.00 Nos.			
g		75 mm dia PVC Tee	1 No	15.00 Nos.			
h		75 mm dia PVC door Tee	1 No	10.00 Nos.			
i		75 mm dia PVC Cowl	1 No	10.00 Nos.			

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
51	107 V, VI, (S1) VII	Supplying and fixing in position approved ISI quality of following dia PVC rain water down fall pipes having a working pressure of 4 Kg/cm <sup>2</sup> including cost of necessary PVC shoe, PVC bend, C.I. gratings of required diameter and special clamps, brass screws, nails, teakwood block. The rate inclusive of fixing the same in to true alignment etc., complete complying with standard specification and as directed by the Engineer-in-charge.					
a		110 mm dia PVC pipe	1 R.m	50.00 Running Metre			
52		Supplying and fixing in position 15mm dia C.P screw down tap (Heavy type) of approved make conforming to IS specification and quality including cost of shellac, thread, cutting and threading wherever necessary etc., complete complying with standard specification and as directed by the Engineer - in charge. (Taps should be got approved by the Engineer before use on the works)	1 No	40.00 Nos.			
53		Supplying and fixing in position CP shower rose with stop cock arrangements of size 15mm dia inlet and 100mm dia out let to the pipe line with necessary cutting, joining with shellac etc., complete complying with standard specification and as directed by the Engineer-in-charge	1 No	13.00 Nos.			
54		Supplying and fixing in position 150 x 150mm square P or S trap stone ware gully trap 'A' grade with cast iron gratings of size 150 x 150mm with C.I Air right cover with frames of size 300 x 300mm at bottom and top respectively with necessary earth work excavation, laid over a bed of brick jelly lime concrete 1:2:5, 150mm thick using 40mm size broken brick jelly including necessary brick masonry with plastering in CM 1:3 both sides and by using Cement Concrete 1:2:4 using 20mm stone jelly for fixing the gully trap and giving connections to the stone ware sewer line etc. complete, complying with standard specification and as directed by the Engineer-in-charge.	1 No	8.00 Nos.			

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
55		Supplying and fixing in position PVC Nahini/floor trap with PVC grating type of size 100mm x 75mm dia with best quality gratings of approved brand fixed over a bed of brick jelly lime concrete 1:2:5 (one lime two sand and five aggregate) brick jelly 40mm and finishing with CM 1:3 (one cement and three sand) including dismantling masonry wherever found necessary and making good to the original condition and giving connections to the cast iron pipes etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 No	40.00 Nos.			
56		Supplying and fixing in position Cudappa slab sink of size 600mm x 600mm x 200mm including the cost of 32mm dia "B" class G.I waste water pipe and 32mm dia C.P waste coupling and testing for leakage etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 No	13.00 Nos.			
57		Constructing brick masonry chamber in C.M 1:4 inside size 60cm x 60cm and deep 50cm brick wall, RCC manhole cover with frames (H) of size 60 cm x 60 cm, foundation M10 grade and inside plastering 12mm thick in CM 1:3 finished with a floating coat of neat cement etc., complete complying with standard specifications and as directed by the Engineer-in-charge.	1 No	8.00 Nos.			
58	Special	Drilling of bore wells 300 mm dia any where in Chennai city including transportation from the place with in the above district soil sedimentary strata of clay and sand stone, shale pebbles, boulders, etc by first taking pilot of 150mm/ 300mm dia and the enlarging to required dia by direct or reverse rotary mud circulation method using contractor's rig fuel labour drilling bentonites mud and water required for the drilling at the site by the Engineer-in-charge including charges for flushing & developing the borewell for entire depth with suitable air compressor, pebbles stone side filling etc., complete and as directed by the Engineer-in-charge.	1 R.m	40.00 Running Metre			

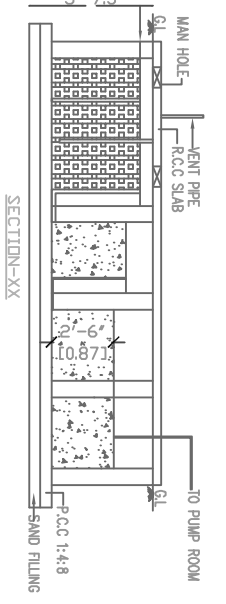
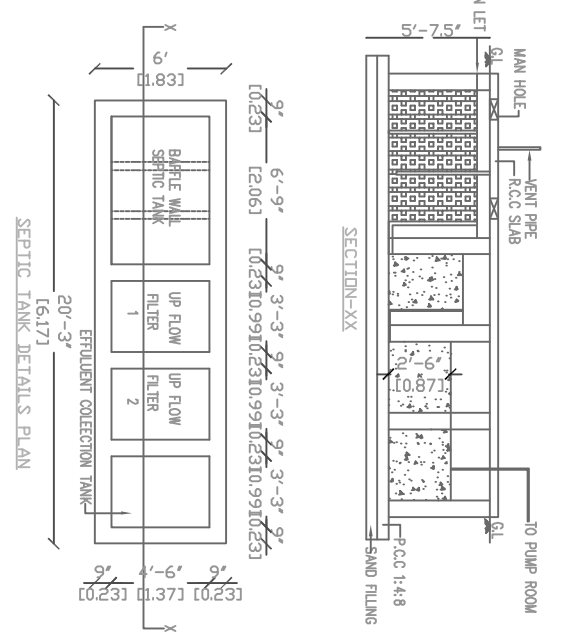
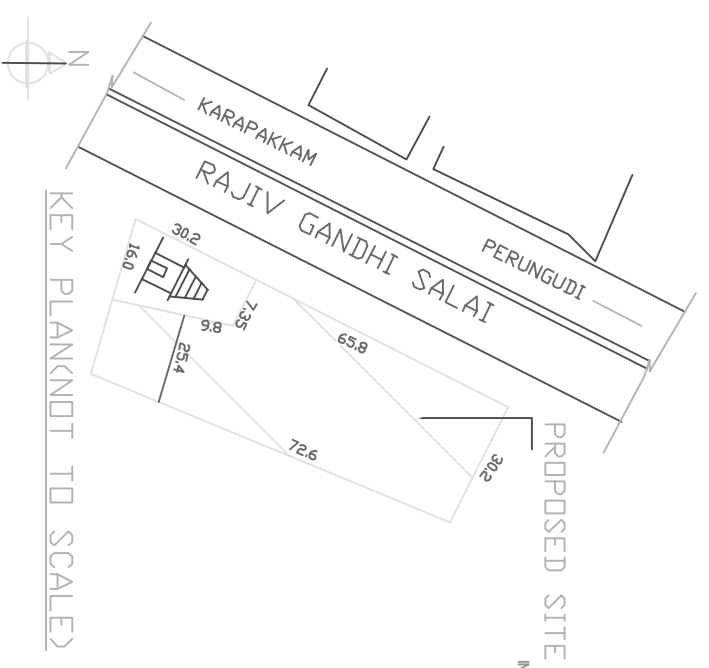
SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
59	Special	Supplying and fixing 160mm dia PVC and HDPE pipes Special Blue pipes assemble (without slots) in the drilled hole including jointing the pipes with PVC coupler and with cement paste etc., complete and supporting and packing the annular space with pebbles of size and quality is approved by the Engineer-in-charge.	1 R.m	20.00 Running Metre			
60	Special	Supplying and fixing 160mm dia PVC and HDPE pipes Special Blue slotted pipes assemble in the drilled hole including jointing the pipes with PVC coupler and with cement paste etc., complete and supporting and packing the annular space with pebbles of size and quality is approved by the Engineer-in-charge.	1 R.m (One Running metre)	20.00 Running Metre			
61	Special	Supplying and fixing of 1.5 HP Suguna II stage SP jet monobloc with 1 1/4 x 1 Jet asses of approved brand Suguna Jet Motor with accessories of Foot Valve, starter, 32A Main switch, panel board etc., complete and as directed by the Engineer-in-charge.	1 set	1.00 set			
62	Special	Supplying and fixing in position RCC well ring size 1.8M dia, depth 2.0M of soak pit, rain water harvesting and filling with stone aggregate graded from 20mm to 40mm size, sand with RCC top slab etc., complete complying with standard specifications and as directed by the Engineer-in-charge.	1 No	2.00 Nos.			
63	SS63 VI,VII 2,3	White washing three coats with best freshly burnt shell lime white in colour in all floors. Including cost of lime blue powder fevicol type gum brushes, and scaffolding charges etc. complete complying with standard specification and as directed by the Engineer-in-charge.	1 Sq.m	800.00 Square Metre			
64		Supplying and painting the walls with two coats of oil bound distemper over one coat of water based cement primer including cost for distemper, primer, cleaning and scrapping the walls, rendering the walls smooth with necessary putty, brushes, scaffolding arrangements, labour charges, etc., complete as per standard specification (The colour and shade of the distemper shall be got approved by the Engineer-in-charge.	1 Sq.m	1703.00 Square Metre			

SI No	TNBP No./NBC No.	Description of Item	Unit	Quantity	Rate (Rs)		Amount (Rs)
					In Figures	In Words	
65	51 V,VI,(S4),VII	Supplying and Painting walls three coats with cement paint of approved colour consists of two coats of approved colour cement paint over one coat of white cement primer including cost of all materials and labours, clearing, preparation of wall surfaces and scaffolding, curing in all floors etc. complete complying with standard specification and as directed by the Engineer-in-charge.	1 Sq.m	2218.00 Square Metre			
66		Supplying and Painting the New wood work with two coats of best synthetic enamel paint over one coat of primer approved quality, colour including ordinary scrapping and preparation of surfaces (The colour and quality should be got approved by the Engineer-in-charge before use) the rate includes cost of brushes, high scaffolding charges, finishing neatly etc., complete complying with standard specification.	1 Sq.m	330.00 Square Metre			
67	66,66A V2,VII, 13.5	Supplying and Painting the New iron works two coats with synthetic enamel paint including primer of approved quality and colour including ordinary scraping using brushes and neat finishing etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 Sq.m	182.00 Square Metre			
68	18	Dismantling, removing and carefully stacking Reinforced cement concrete and roughening the surface and old existing concrete in the foundation area etc., complete complying with standard specification and as directed by the Engineer-in-charge.	1 Cu.m	16.00 Cubic Metre			
<b>Total Amount (Rs)</b>							
<b>(Rupees _____ Only)</b>							

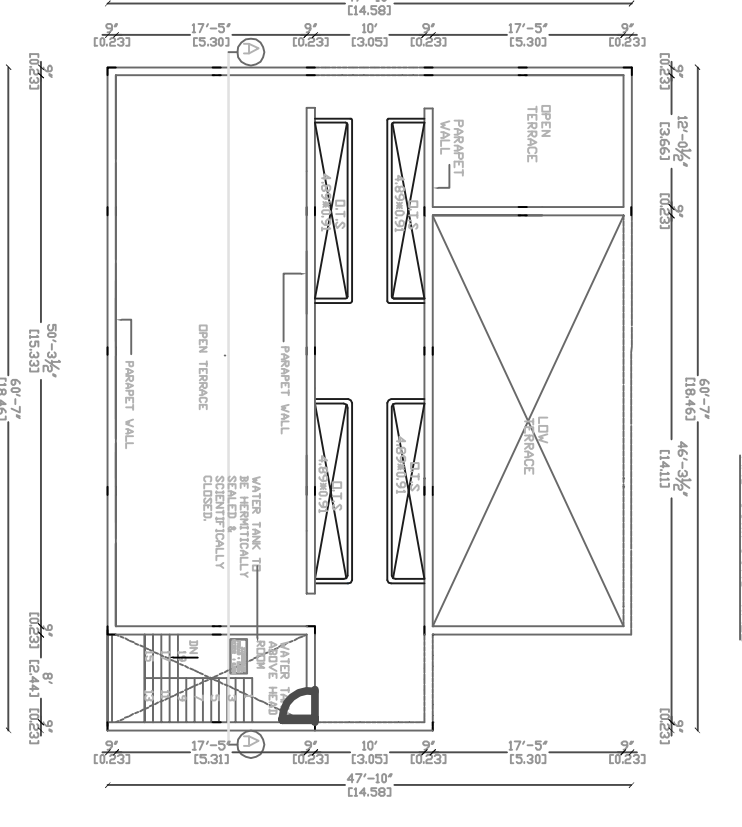
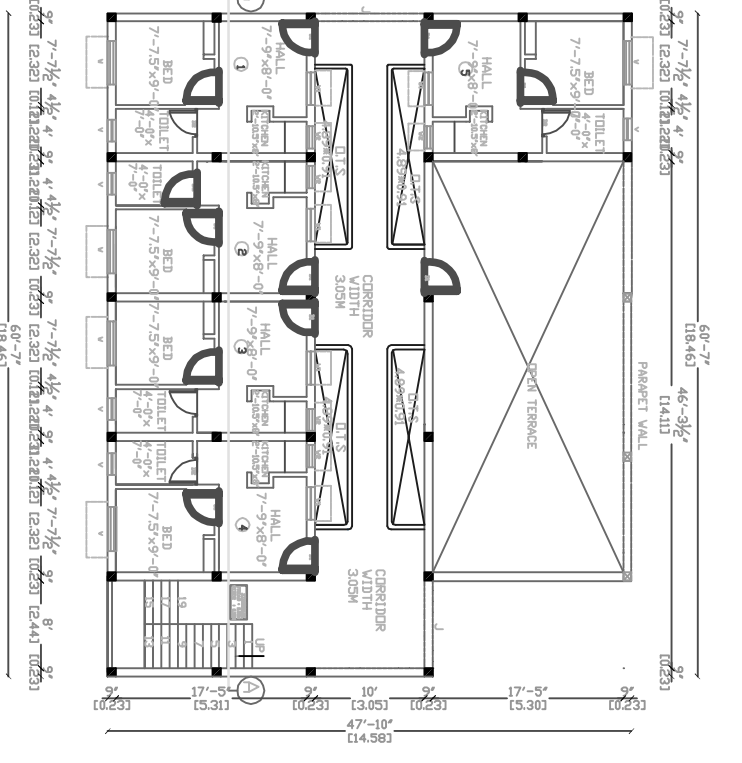
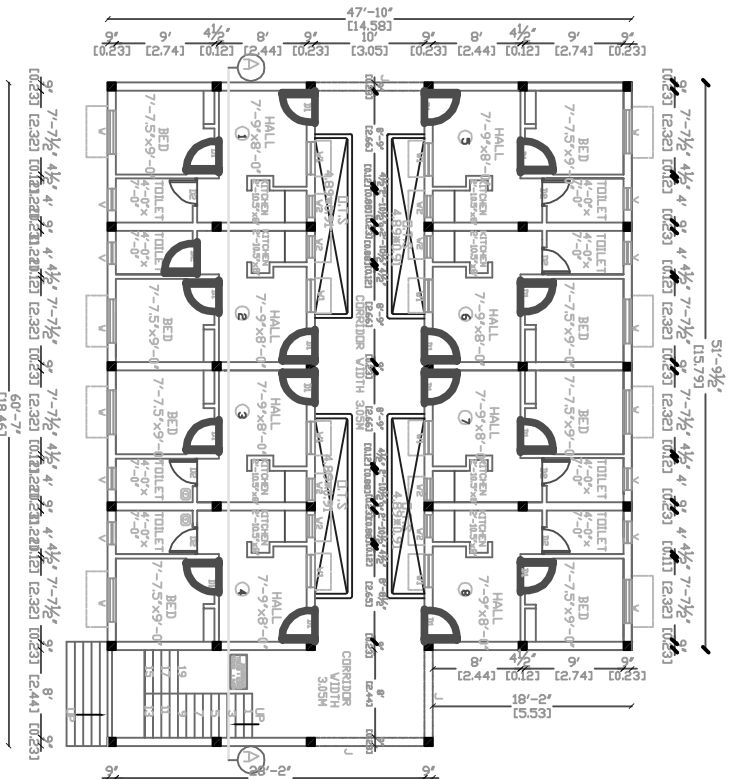
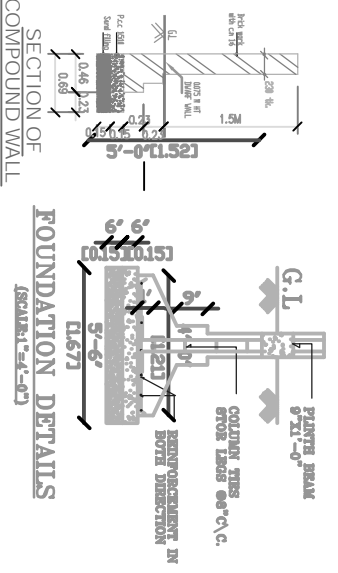
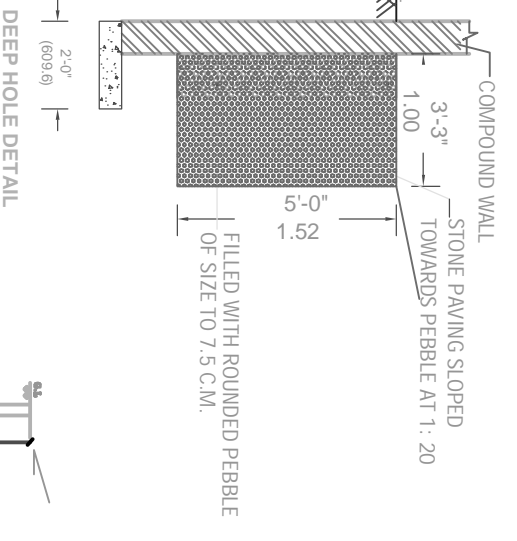
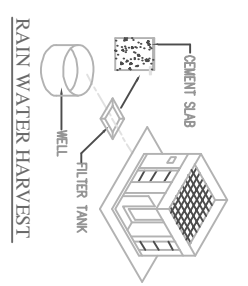
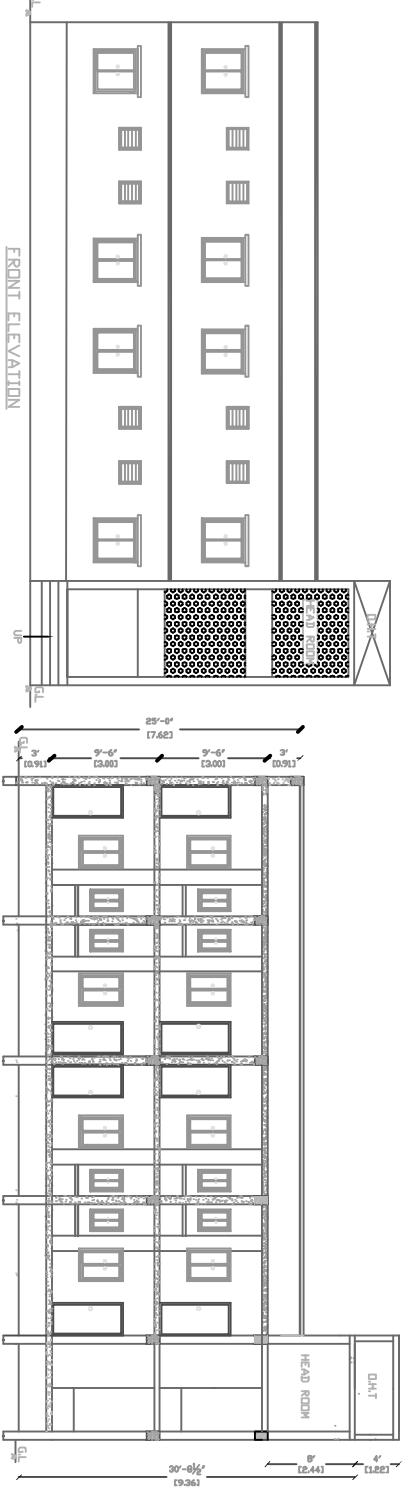


# **Section VI**

# **Drawings**



NO OF FLATS OR DEWELLING	....13 NOS
ASSUMING 3 PERSONS FOR FLATS---3X13=39 SAY 40 PERSONS	
NO OF USERS OR PERSONS	....40 PERSONS
ASSUMING 2 FIXTURES PER FLAT	40X2=80 UNITS
PER HOUR DISCHARGE	.... 80X6=480 LPM
SEPTIC TANK	
SURFACE AREA NEEDED 480X0.92	=441.6 SAY 5.05 SQ.M
VOLUME OF SEDIMENTATION	
ASSUMING 0.3M DEPTH 5X0.3M	= 1.5 SQ.M
FOR DIGESTION	40X0.032
FOR SLUDGE STORAGE	0.0002X365X40=2.92 SQ.M
FREE BOARD FOR SUDGE 16X0.3	= 1.50 SQ.M
DEPTH = VOLUME / STORAGE	= 24.30 SQ.M = SAY 10 SQ.M
SIZE OF SEPTIC TANK 6X1.3X1.55M	
LIQUID DEPTH OF SEPTIC TANK	= 1.55M
VOLUME 40X0.045	= 1.80 SQ.M
UPFLOW FILTER DEPTH	
ALLOWING 0.3 M FREE BOARD 1.55-0.3	= 1.25 M
AREA NEEDED 1.25	= 1.0 SQ.M
SIZE OF UPFLOW FILTER 1.00X1.00M	
UPFLOW NO-1	= 1.00X1.00X0.95M
UPFLOW NO-2	= 1.00X1.00X0.85M



PLAN SHOWING THE PROPOSED CONSTRUCTION OF REHABILITATION RESIDENTIAL BUILDING IN DDKTYAM, THORAPAKKAM, JENDER R & R SCHEME IN SINDR211/1, OF DDKTYAM DURAIAPPAKKAM VILLAGE, TAMBARAM TALUK, KANCHEEPURAM DISTRICT. CLIENT: IT EXPRESSWAY LTD, SCALE: 1"=8'-0" (1:100)	<b>SPECIFICATION:</b> 1. FOUNDATION: COLUMN FOOTING 2. SUPER STRUCTURE: SUPERSTRUCTURE IN BRICK WORK IN C.M. 1:5 3. FLOORING: FLOOR FINISH WITH CEMENT. 4. PLASTERING: CONCRETE PLASTERING WITH C.M. 1:3. 5. ELECTRICAL WORK: ELECTRIFICATION WORK WITH CONCEALED WIRING. 6. WEATHERING COURSE: WEATHERING COURSE WITH PRESSED TILES	<b>SCHEDULE OF JOINERY</b> <table border="1"> <tr> <td>D DOOR</td> <td>3'0" X 7'0"</td> <td>0.91 X 2.10</td> </tr> <tr> <td>D1 DOOR</td> <td>2'6" X 7'0"</td> <td>0.75 X 2.10</td> </tr> <tr> <td>W WINDOWS</td> <td>4'0" X 4'6"</td> <td>1.21 X 1.37</td> </tr> <tr> <td>V VENTILATOR</td> <td>2'0" X 1'6"</td> <td>0.60 X 0.45</td> </tr> </table>	D DOOR	3'0" X 7'0"	0.91 X 2.10	D1 DOOR	2'6" X 7'0"	0.75 X 2.10	W WINDOWS	4'0" X 4'6"	1.21 X 1.37	V VENTILATOR	2'0" X 1'6"	0.60 X 0.45	<b>COLOUR INDEX</b> PROPOSED ROAD PLOT BOUNDARY	<b>AREA STATEMENT</b> <table border="1"> <tr> <th>SOFT</th> <th>SQM</th> </tr> <tr> <td>PLOT EXTENT</td> <td>= 31204.00</td> </tr> <tr> <td>G. FLOOR AREA</td> <td>= 2619.71</td> </tr> <tr> <td>F. FLOOR AREA</td> <td>= 1924.77</td> </tr> <tr> <td>TOTAL</td> <td>= 4544.48</td> </tr> <tr> <td>PLOT COVERAGE</td> <td>= 8.39%</td> </tr> <tr> <td>F.S.I</td> <td>= 0.14</td> </tr> </table>	SOFT	SQM	PLOT EXTENT	= 31204.00	G. FLOOR AREA	= 2619.71	F. FLOOR AREA	= 1924.77	TOTAL	= 4544.48	PLOT COVERAGE	= 8.39%	F.S.I	= 0.14	<b>OWNER SIGNATURE</b>  <b>LICENCED SUPERVYOR</b>
	D DOOR	3'0" X 7'0"	0.91 X 2.10																												
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# **Section VII**

# **Technical Specifications**

**PREAMBLE**

**1** The Technical Specifications contained herein shall be read in conjunction with the other Bidding Documents.

**1.1 Site Information**

**General**

1.1.1 The information given hereunder and provided elsewhere in these documents is given in good faith by the Employer but the Contractor shall satisfy himself regarding all aspects of site conditions and no claim will be entertained on the plea that the information supplied by the Employer is erroneous or insufficient.

1.1.2 The area in which the works are located is in plain terrain, the approximate longitude and latitude of the region (Tamil Nadu) being 76° 15' / 80° 20' East and 8° 05' / 13° 35' North.

**1.1.3 Climatic Conditions**

1.1.3.1 The temperature in this region is as under:

i) During summer months, the average maximum temperature is 42°C.

ii) During winter months, the average minimum temperature is 18°C.

1.1.3.2 The average annual rainfall in the area is of the order of 800mm.

**1.1.4 Seismic Zone**

The works are located in Seismic Zone-II as defined in IS :1893 (Part I) - 2002

**2 GENERAL REQUIREMENTS**

The Technical Specifications in accordance with which the entire work described hereinafter shall be constructed and completed by the Contractor shall comprise of the following:

**2.1 General Technical Specifications**

The General Technical Specifications shall be the Tamil Nadu Building Practice/ National Building Code and standard procedures and deemed to be bound into this document.

The latest edition till 28 days before the final date of submission of the bid of all specifications / standard shall be applicable.

**FOR CONTRACTORS SPECIAL ATTENTION**

1. Clean river sand shall be used in all cases.
2. Only clean fresh water shall be used on the work. The contractor shall make his own arrangements for water and shall meet all charges therefore. The special attention of the contractor is drawn to clause 39 of preliminary specification of the T.N.B.P. regarding water and lighting.
3. The broken stone for concrete and RCC work shall be granite and passed by the Engineer in charge
4. All iron work or steel work of every kind such as to be embedded in concrete shall immediately on arrival at the site be properly scrapped and wire brushed and given priming coat of approved lead painting without claims for extra.
5. The iron holdfasts shall be build up on the walls in cement mortar 1:3 at the time of construction of walls No extra claim shall be due for the same wherever the holdfasts are to be provided to 9" thick wall. Those should be fixed with cement concrete 1:3:6 using 20mm gauge broken granite stone jelly for proper anchorage and proper biding. No separate for such pockets of concrete filling at masonry along with adjacent masonry.
6. The Teakwood shall be best Indian Teakwod only and shall be subject to inspection and approval by the Engineer in charge before use on work. Country wood where specified shall be "Karimarudhu" or "Kongu" for scantling "Aiyini" for planks.
7. Holes for Electric, wiring, water supply and drainage's etc. shall be provided as directed during progress of work without any claim for extra.
8. The work will be carried out with the lest hindrance to the adjoining building and the contractor will be responsible for the damages caused to the existing fixtures, electric fittings etc. the course of execution and the contract shall make good nay damages without any claim for extra.
9. In the case of "T" beams and "L" beams the quantity given in the schedules is the quantity for rib portion only. The top flange portion will be always measured with the general slab portion and paid for the slab rate only. For all RCC works, the rate shall be include the treatment of bearing as per TAMILNADU BUILDING PRACTICE.
10. Concrete works: All exposed concrete surfaces will be required to be finished by cement plaster as detailed in Schedule "A".
11. Plastering all external corners, edges of beams, edges of doors and windows openings etc. shall be finished sharp using richer mortar and also finished truly vertical or horizontal as the case may be. The rate for plastering shall include the cost of finishing as above and no separate extra for the corners, edges beams etc shall be paid.
12. If rates are not separately called for, for similar items of works in difference floors, the contractor should not that one rate is applicable for all floors indicated in the detailed plans. Any claims for extra for such items floor war will not be entertained under any circumstances.
13. The project if any to the masonry will be measured under the relevant items and non extra will be paid for finishing the same.

## **RISK INSURANCE**

14 (v). The work executed by the contractor or under this contract shall be maintained by the contractor's risk until the work is taken over by the Engineer in charge. The Government should not be liable to pay for any loss or damages occasioned by (or) arising out of fire, flood, volcanic eruptions, earth quake, other conclusion of nature and all other natural calamities, risk arising out of act of God during such period and that the option whether to take insurance coverage (or) not to care such risks is left to the contractor.

The contractor shall not be liable for all or any loss of damages occasioned by or arising out of acts for foreign enemies, invasions, hostilities or war like operation (before or after declaration of war) rebellion military or usurped power.

## **ADDITIONAL SPECIFICATION**

1. The arrangements of M.S. rods for all RCC works shall be in accordance with the working drawing supplied.
2. (i). Payments for centering works for all RCC items shall be made only after the concrete is laid, even though separate items for centering works are included in the schedule. The centering and form shall be provided to the extent and area ordered by the Engineer in charge during execution.  
(ii). All cement concrete for RCC works shall be machine mixed and vibrated.  
(ii). All lime mortar shall be ground in mortar will be as per TNBP
3. M.S. steel rods should be cut and placed as reinforcement with proper care according to the available rods at site, so as to ensure the minimum possible wastage. The maximum percentage of wastage of permissible in any size of reinforcement rods shall be of 5% which will be charged on at the issue rate of

## **ADDITIONAL SPECIFICATION**

List of specification for the various item of work supplementing those prescribed in the BoQ.

### **5. Construction materials**

#### **5.1. Cement:**

The contractor has to make his own arrangements for the procurement of Cement of required specifications for the works subject to the following :-

(A). The contractor shall procure cement required for the works only from reputed cement factories (main produced of their authorised agents, manufacturing cement to ISI standard) acceptable to the Engineer-in-Charge. The contractor shall be required to furnish to the Engineer-in-Chief bills of payment and cost certificates issued by the manufactures or their authorised agents to authenticate procurement of quality cement from the approved cement factory. The contractor shall make his own arrangements for safe haulage and adequate storage of cement.

(B). The contractor shall procure in stand packing of 50Kg per bag from the authorised manufacturer. The contractor shall make necessary arrangement at his own cost to the satisfaction of Engineer-in-Charge for actual weighment of random sample from the available stock and shall confirm with the specification laid down by the Indian Standards Institutions or other standard foreign intuitions as the case may be. Cement shall be got tested for all the tests as directed by the Engineer-in-Charge atleast one month in advance before the use of cement bags brought and kept at site godown.

(C). The employer will furnish air reccraing agents and admixtures required to the contractor free of cost at the employer stores. The use of such admixtures and agents shall be made as per the instructions of the Engineer-in-Charge. The cost of cartage / storage, handling, batching mixing

shall be borne by the Contractor and shall be included by him to unit officers tendered for concrete

(d). The contractor should store the cement of 60 days requirement atleast one month in advance to ensure the quality of cement to brought to site and shall not remove the same without the written permission of Engineer - in - Charge.

The contractor shall forthwith remove from the works area, and the cement that the Engineer-in-Charge may disallow for use on account of failure to meet with required quality and standard.

(E). The contractor will have to construct sheds for storing cement having capacity not less than the cement required for 9 days use, at approved locations. The Engineer - in - Charge or the representative shall have free access to such store at all times.

(F) The contractor shall further at all times satisfy the Engineer-in-Charge on demand by production of records and test books or by submission of returns and other profs as directed that the cement is being used as tested and approved by the Engineer - in - Charge for the purpose and the contractor shall at all times, keeps his record upto date and enable the Engineer-in-Charge to apply such checks as he may desire.

(G) Cement which has been unduly long in storage with the contractor or alternatively has deteriorated due to inadequate storage and thus become unfit for use on the works will be rejected by the Department and no claim will be entertained. The Contractor shall forth with remove from the work are any cement the Engineer - in - Charge may disallow for use of work and replace it by cement complying with the relevant Indian Standards

## 5.2. STEEL

The contractor shall provide mild steel (MS) reinforcement basis, High Yield strength deformed (HYSD) bars, rods and structural steel etc., required for the works only from the main and secondary producers manufacturing steel or other authorized agents to the prescribed specifications. Bureau of Indian Standards requirements and licensed to affixing ISI test certificate issued by the Government approval laboratory certification marks and acceptable to the Engineer - in - Charge. Necessary ISI test certification are to be produced to Engineer - in - Charge before use on works. The Diameters and weight of steel should be as follows.

Sl No.	Diameter of Rod	Sectional weight in kg per running meter both for plain and HYSD steel
1	6 Millimeters	-
2	8 Millimeters	-
3	10 Millimeters	-
4	12 Millimeters	0.89
5	14 Millimeters	0.21
6	16 Millimeters	1.58
7	18 Millimeters	2.09
8	20 Millimeters	2.47
9	22 Millimeters	2.98
10	25 Millimeters	3.85
11	28 Millimeters	4.83
12	25 Millimeters	6.35
13	20 Millimeters	4.03
14	32 Millimeters	6.31
15	33 Millimeters	6.71
16	36 Millimeters	7.99
17	40 Millimeters	8.06
18	42 Millimeters	10.88

Note : If any rods other than those specified above are used the weight shall be as per standard steel tables.

## **ADDITIONAL CONDITION**

The contractor should use steel centring sheets over sites as to obtain the required finish to the under side of the slab centring steel sheets must be made smooth and perfectly level and to give smooth and even finish to the RCC ceiling centring and form work shall be provided to the and area ordered by the Engineer in charge during execution.

### **ADDITIONAL CONDITION OF CONTRACT - II**

The contractor shall at his own expenses provide arrangements for this provision of footwear for any labour during cement mixing work all other similar type of work involving the use of tar mortar etc. to satisfaction of the Engineer - in - charge and no his failure to do so, the Government shall be entitled to provide same and recover the cost from the contract.

When there are complaints of non-payment of wages to he labourers bills of the contractor may be with held pending a clearance of certificate from the labour department.

### **ADDITIONAL CONDITION OF CONTRACT - II**

Rules for the provision of health and sanitary arrangements for workers employed by the PWD and his contractors.

The contractor's special attention is invited to clause 37, 38, 39 and 51 of the TamilNadu Building Practice and he is requested to provide at his own expense the following amenities to the satisfaction of the Engineer in charge.

#### **1. FIRST AID**

1.1 .At the work site there shall be maintained a readily accessible place, first aid appliances and medicines including adequate supply sterilized dressings and sterilized cotton wool. The appliances shall be kept in a good order. They shall be under the charge of responsible person who shall be readily available during working hours.

#### **2. DRINKING WATER**

2.1.(a) Water of good quality fit for drinking purposes shall be provided for the work people on a scale of not less than three gallon head per day.

(b). Where drinking water is obtained from an intermittent Public Water Supply each work place shall be provided with the storage tanks where such drinking water shall be stored.

(c). Every water supply and storage shall be at a distance not less than 50 feet from any latrine / drain or other existing well which is within such proximity of latrine, drain on any other source of pollution, the well shall be properly closed. If water is drawn from it for drinking. All such wells shall be entirely closed and be provided with a trap door, which shall be dust and waterproof.

(d). A reliable pump shall be fitted to each covered well. The trap door shall be kept locked and opened only for cleaning or inspection which shall be done atleast once in a month.

#### **3. WASHING AND BATHING PLACES**

3.1 Adequate washing and bathing places shall be provided separately for men and women. Such places shall be kept clear and drained condition. Bathing or washing should not be allowed in or near the drinking water well.



#### **4. LATRINES AND URINALS**

4.1. There shall be provided within the premises of every work place latrines and urinals in an accessible place and the accommodation separately for each of them shall be on the following scale or on the scale so directed by the Engineer in charge in any particular area.

- i. Where the number of persons employed does not exceed 50-3 seats.
- ii. Where the number of persons employed exceed 50 but does not exceed 100-3 seats.
- iii. For every additional 100 persons 3 seats.

#### **PART - I**

#### **ARTICLES - 1**

1. Suitable scaffolds shall be provided for workmen for all work that cannot be safely done from ladder or by any other means.
2. A scaffold shall not be constructed, taken down or subsequently altered except,
  - a). Under the supervision of a competent and responsible person and
  - b). by competent workers possessing adequate experience in this kind of work.
3. Scaffolds shall be so constructed that no part thereof can be displaced in consequent of normal use.
4. Scaffolds shall not be over loaded so far as practicable and shall be evenly distributed.
5. Before installing lifting gear on scaffolds special precautions shall be taken to ensure the strength and stability of the scaffolds.
6. A competent person shall periodically inspect scaffolds.
7. Before allowing a scaffold to be used by his workmen every employer shall satisfy as to whether the scaffold has been executed by his workmen or not he should take step to ensure that it functions fully with the requirements of this article.

#### **ARTICLE - 2**

1. Working platform gangways and staircase shall be so constructed that no part thereof can sag unduly or unequally.
  - a). Be so constructed and maintained to obviate from risks of persons tripping or slipping and
  - b). Be kept free from any unnecessary obstruction.
  - c). Every working platform gangway working place and staircase shall be suitably forced.

#### **ARTICLE - 3**

1. Every opening in the building or in a working platform shall except for the time to the extent required to allow the excess of persons or the transport or shirting of materials be provided with suitable means to prevent the fall of persons or materials.
2. When persons are employed on a roof where there is danger of falling from the height exceed that to be prescribed by national laws of regulations, suitable precautions shall be taken to prevent the fall of persons or materials.

3. Suitable precautions shall be taken to prevent persons being struck by articles which might fall from scaffolds or other working places :

#### **ARTICLE - 4**

1. Safe means of access shall be provided, to all working platforms and other working places.
2. Every ladder shall be securely fixed and of such length as to provide secure hand hold and foot held at every position at which it is used.
3. Every place where work is carried on and the means of approach there to shall be adequately lighted.
4. Adequate precautions shall be taken to prevent persons danger from electrical equipment.
5. No materials on the site shall be so attached or placed as to cause danger to any persons.

#### **GUIDE LINES FOR ADOPTION OF STRENGTH GARDENING OF CONCRETE**

1. Plain and reinforced concrete have been graded according to the cube compressive strength and designation as M100: M150, M200, M250, M300, M350 and M400. In the designation of concrete the letter "M" refers to the mix and the "Number" to the specified 28 days work cube compressive strength of that mix expressed in Kg. Cm sq.m.
2. Approximately the M100, M150, M200, M250 grades of concrete corresponds to 1:3:6, 1:2:4, 1:11/2:3 and 1:2 nominal mixed of ordinary concrete currently used. The national building code gives necessary specification for strength gardening of concrete, proportionately and works control and the same may be followed the extract of the same is enclosed.
3. The proportion of aggregates, cement and water to be used for controlled concrete shall be designed by preliminary tests of the materials to be actually used to obtain the specified strength with the maximum quantity of cements. However, the maximum total quantity of aggregate by weight per 50 Kg of cement shall not normally exceed 450 Kg.
4. For any particular item compressive strength required to be obtained by the concrete at 28 days in the preliminary and work test on the 15cm cubes minimum cement content, required to be used and the approximate proportions approved fine and coarse aggregate shall be specified, in the tender schedule. These particulars will be only for the guidance of the contractor for quoting rates.
5. Immediately upon the receipt of the award of contract, the contractor shall inform the Engineer in charge the exact location of the sources of the materials which he propose to use and get the materials approved. The mix with the actual approved materials to be used shall be got designed in an approved laboratory by the contractor with minimum quantity of cement to give the specified strength in the preliminary tests and the proportions shall be used so long as the materials continue to be of the same quality and the same sources subject only to slight changes in the relative qualities is of fine and coarse aggregate for the purpose of promoting work ability provided the work tests also show the required strength.
6. If during the progress of work, the contractor wishes to change the materials the proportion shall be fixed on the basis of the fresh preliminary tests to give the required strength after the Engineer in charge is satisfied that the materials satisfy the specification. No adjustment of cost shall be made for change of proportions of cement fixed in the original preliminary tests.

#### **PROPORTIONING OF MIX**

Each batch of mix shall be proportioned by weight of cement fine aggregate and coarse aggregate, water for each bag shall be added in quantity measured by volumes or by weight. Where weight of cement determined by accepting the maker weight per bag, a reasonable number of bag shall be weighted separately to check the nett weight, and the

cement is weighted weight per bag, a reasonable number of bags shall be weighed on the site and not in bags. It shall be weighted separately from the aggregate. In the weighting equipment's shall be maintained in a clean and serviceable condition and their accuracy checked periodically.

### **MIXING**

Mixing shall be done by mechanical mixes. The quantities of fine aggregate and water shall be adjusted duly in the field to compensate for bulking due to the quantity of moisture present in fine aggregate and free water in the coarse aggregate at the time of use.

### **TESTS**

Tests shall be got done in an approved laboratory at the cost of the contractor.

#### **PRELIMINARY TEST**

If concrete mixes are specified by its strength then the mix needs be designed and preliminary test should be carried out.

Preliminary test is conducted in a laboratory on the trial mix of concrete produced in the laboratory with the object of :

- a). Designing a concrete mix before the actual concrete operation starts.
- b). Determining the adjustments requirement in the designed mix when there is a change in the materials used during the execution of works or.
- c). Verifying the strength of cement mix.

#### **B. WORK TESTS**

The test shall be conducted either in the field or in a laboratory on the sample made in the work spot of the concrete used on the work.

The samples shall be spread as evenly as possible throughout the day then wide changes of weather conditions occur during concrete additional sample may be taken as desired by the Engineer in charge.

All expenses on the tests shall be borne by the contractor. Nothing extra shall be paid to the contractor for carrying out the tests.

All samples or tests shall be taken in the presence of the Engineer in charge concerned and the contractor or his authorized agent.

All mix design and test date and results shall be maintained as part of the record for the contract and shall be signed by the Engineer in charge and the contractor.

A register of cement concrete cubes cast and tested giving the following particulars shall be maintained at the site :

1. Name of work and reference to Agreement
2. Serial Number
3. Date and time of sample taken
4. Sample Number
5. Number of cubs
6. Identification marks
7. Proportions of mix
8. Description of the portion of work represented by the sample and quantity of concrete represented by the sample

9. Initial of Engineer in charge and the contractor's authorized agent in whose presence the sample is taken.
10. Result of 7 days test.
11. Result of 28 days test.
12. Review and remarks by Engineer in charge.

#### **EXTRACT OF:**

### **NATIONAL BUILDINGS CODE OF INDIA, 1970**

#### **Part VI Section 5A : PLAIN AND REINFORCED CONCRETE**

#### 4.2 Grades of concrete.

4.2.1. Plain and reinforced concrete shall be in seven grades as designated as M100, M150, M200, M250, M300, M350 and M400.

Note ; In the designated of a concrete mix, letter "M" refers to the mix and the number of specified 28 days work cube compressive strength of that mix expressed in Kg/sq.m.

4.2.2.1. Where ordinary Portland cement or Portland blast furnace slag cement conforming to accepted standard VI 5 (2)\* is used. The compressive strength requirements for various grades of concrete shall be as given in Table.1. Where requirements specified in Table.1. shall be met at 7 days. Where other cements are used, the Engineer - in - Charge shall specify the corresponding requirements preferably on the basis of preliminary tests.

\*IS 269 / 1967 specification for ordinary rapid hardening and low heat Portland cement.

\*IS 455 / 1967 specification for Portland and blast furnace slag cement.

4.2.2.2. The strength requirements specified in Table.1. shall apply to both controlled concrete and ordinary concrete (see 4.31) preliminary tests need not however, be made in the case of ordinary concrete:

a. In order to get a relatively quicker idea of the quality of concrete, optional works tests on beams for modulus of rupture at 72 + or - 3 hours / at 7 days, compressive strength tests at 7 days may be carried out in addition to 28 days compressive strength test. In all cases, the 28 days compressive strength specified in Table.1. shall alone be the criterion for acceptance or rejection of the concrete. If however from tests carried out in a particular job over a reasonably long period, it has been established to the satisfaction of engineer - in - Charge that a suitable ratio between the 28 days strength and the modulus of rupture at 72 + or - 2 hours at 7 days of compressive strength at 7 days may be accepted. The Engineer-in-Charge may suitably relax the frequency of 28 days compressive strength test specified in Table.5. provided the expected strength values at the specified early age are consistently met. For this purpose the values given in Table.2. may be taken for general guidance in the case of concrete with ordinary cement.

b. Whether the strength of a concrete mix, as indicated by test lies between the strength for any two grades, specified in Table.1. such concrete shall be classified for all purpose as a concrete belonging to the lower of the two grade between which its strength lies.

#### 4.3. Proportioning and works control :

4.3.1. Methods of proportioning : The determination of the proportion of cement aggregate and water to attain the required strength shall be made by one of the following.

- a). With preliminary tests by adopting nominal concrete mixes. Such concrete shall be ordinary concrete.

#### 4.3.2. Controlled Concrete:

4.3.2.1. As far as practicable, controlled concrete should be used on all concrete works. Controlled concrete for use in plain and reinforced concrete structures shall be in grade M100, M150, M200, M250, M300, M350 and M400.

4.3.2.2. The concrete mix shall be designated to have an average strength corresponding to the value specified for preliminary test in table.1. The proportions chosen should be given such that the concrete is of adequate workability for the conditions prevailing on the work in question and may properly compacted with the means available.

The maximum total quantity of aggregate by weight per 50 Kg of cement shall not exceed 450 Kg. Except where otherwise specifically permitted by the Engineer - in - Charge.

4.3.2.3. Except where it can be shown to the satisfaction of the Engineer-in-Charge that supply of proper graded aggregate of Uniform quantity may be maintained over the period of work, the grading of aggregate should be controlled by obtaining the coarse aggregate in different sizes being stocked in separate stock pile. The materials should be stock piled for several hours preferably a day before use. The grading of coarse and fine aggregate should be checked as frequently as possible the frequency for a given job being determined by the Engineer - in - Charge to ensure that the suppliers are maintaining the grading uniform with that on the samples use in the preliminary tests.

4.3.2.4. In proportioning concrete the quantity of both cement and aggregate should be determined by weight. Where the weight of cement is determined by accepting the manufacturer's weight per bag and reasonable number of bags should be weighed separately to check the net weight where the cement is weighed on the site and not in bags it should be weighed separately from the aggregates. Water should be either measured by volumes in calibrated tanks or weighed. All measuring conditions and their accuracy may be periodically checked.

4.3.2.5. It is most important to maintain the water cement ratio constant at its correct value. To this end, determination of moisture contents in both fine and coarse aggregates should be made as frequently as possible the frequency for given job being determined by the Engineer - in - Charge according to weather conditions. The amount of the added water should be adjusted to compensate for any observed variations in the moisture contents. The determination of moisture content in the aggregate shall be carried out in accordance with good practice (VI-05-9) IS 2386 Part III - 1963. To allow for the variation in the weight of aggregates due to variation in their moisture content suitable adjustment in the weight of aggregate should also be made.

4.3.2.6. No substitution in materials used on the work or alternation in the established proportions except as permitted in 4.3.2. Shall be made without additional tests to show that the quality and strength for this purpose.

4.3.2.7. Workability of the concrete should be checked at frequent intervals. To slump test or where facilities with the compacting factor test conducted in accordance with good practice VI 5 (10) may adopted for this purpose.

4.3.2.8. A competent persons should be employed where first duty will be supervision all stage in the preparation and placing of the concrete. All work test specimen should be made and site tests carried out with his direct supervision.

#### 4.3.3. Ordinary Concrete:

4.3.3.1. Where it is considered not practicable to use controlled concrete, ordinary concrete may be used for concrete of grades M100, M150, M200, M250. The proportions of materials for nominal concrete mixes for ordinary concrete shall be in accordance with table.3.

4.3.3.2. In purporting concrete the quantity of cement should be determined by weight. The quantities of fine and coarse aggregates may be determined by volume but these

should also preferably be determined from the volume specified in table.3. and the weight per litre of dry aggregate. If fine aggregate is moist and volume batching is adopted, allowances shall be made for bulking in accordance with good practice (VI.5 (9) \*)

4.3.3.3. The water cement ratio shall not be more than the specified in table.3. The cement content of the mix specified in the table.3. any nominal mix may be increased if the quantity of water in a mix has to be increased to overcome to the difficulties of placement and compaction so that the water cement ratio specified in Table.3. is not exceeded.

Note.1: In case of vibrated concrete, the limit specified may be suitably reduced to avoid aggregation.

Note.2 : The quantity of water used in the concrete mix for reinforced concrete work should be sufficient, but should not be more than what is sufficient to, produce a dense concrete of adequate workability for the purpose, which will surround the properly grip, all the reinforcements, work ability of the concrete should be controlled by maintaining water cement ratio that is found to give a concrete which is just sufficiently wet to be placed and compacted without difficulty with the means available.

4.3.3.4. Workability of concrete should be controlled by direct measurement of water content, making allowance for any surface water in the fine and coarse aggregates. The slump test may be conducted in accordance with good practice (VI.5 (10)).

4.3.3.5. Allowance should be made for surface water present in the aggregate when computing the water cement surfaces water shall be determined by field methods in accordance with good practice VI.5 (9). In the absence of exact data the amount of surface water may be estimated from the values given in the Table.4.

4.3.3.6. If ordinary concrete made in accordance with the proportions given for a particular grade does not yield the specified due to proper qualities of materials not being available, such concrete shall be classified as belonging to the appropriate lower grade.

Ordinary concrete proportioned for a grade given in accordance with table.3. shall not however be placed in a higher grade on the ground that the test strengths are higher than the minimum specified. No interpolation shall be permissible.

#### 4.4. Sample size and acceptance criteria

4.4.1. All tests shall be carried out in accordance with good practice (VI-5 (4)).

4.4.2. The number of test specimens required, the frequency of sampling and the criteria for acceptance of a concrete as conforming to the specified grade shall being accordance with table.5. for both ordinary concrete and controlled concrete. No preliminary tests are, however, necessary in the case of ordinary concrete.

\* ISI 199 - 1959 - Methods of sampling, and analysis of concrete.

\* IS 2386 (Part III 1963) specific gravity, density, voids absorption and bulking - methods of tests for aggregation for concrete.

\* IS 223866 - Methods of test for aggregates for concrete. IS (Part III) 1963-Specific gravity density voids absorption and bulking.

\* IS 516 - 1959 - Method of tests for strength of concrete.

**TABLE.1.**

**STRENGTH REQUIREMENTS OF CONCRETE**

(CLAUSE 4.2.2.1 AND 4.2.2.2.)  
(All values in Kgs / Cm. Sq.)

Grade of compressive strength of 15cm cubes at 28 days after mixing concrete .....  
conducted in accordance with good practice VI.5 (4). \*

1	Preliminary tests min. 2	Work test Min3
M100	135	100
M150	200	150
M200	260	200
M250	320	250
M300	380	300
M350	440	350
M400	500	400

Note 1 : Preliminary Test : A test is conducted in a laboratory on the trail mix of concrete produced in the laboratory with the object of

- a). Designing the adjustments required in the designed mix when there is a change in the materials used during the execution of work, or
- b). Determining the adjustment required in the designed mix when there is a change in the materials used during the execution of work, or
- c). Verifying the strength of concrete mix

Note 2 : Work Test : A test conducted either in the field or in laboratory on the specimens made on the works out of the concrete being used on the works.

Note 3 : Size of cubes : In the working test, with the approval of the Engineer-in-Charge 10cm cubes may be used in place of 15cm cubes provided the maximum nominal size of aggregate does not exceed 20mm. Even the use of 15cm cubes should normally be restricted to concrete's having a maximum nominal size of aggregate not exceeding 40mm. Where concrete with aggregates larger than 40mm size is required to be tested, the size of cubes should be specified by the Engineer-in-charge, keeping in view that generally the length of side of the cube should be about four times the maximum nominal size of aggregate in the concrete constituting the cube specimen.

\* IS 5-16 - 1959 - Methods of test for strength of concrete

Note 5 : Cylinder strength - Compressive strength test may, with the approval of the Engineer-in-charge, be conducted on 15cm, diameter and 30cm high cylinder in accordance with good. Practice (VIU.5 (4))\* instead of one cube, where cylinder strength figures are adopted the compressive strength figures given above shall be modified according to the formula. Minimum cylinder compressive strength required 0.8 compressive strength specified for 15cm cubes.

THE CENTRAL ROAD RESEARCH INSTITUTE, New Delhi has carried out test with a view to establishing a relation between water cement ratio and the compressive strength of concrete using ordinary Portland cement manufactured in the country to accepted Standards (VI-5 (2)).

As a result of these, it has been considered advisable to give graphs showing the relationship between the compressive strength of Concrete mixes with different water cement ratios and the 7 days compressive strength of concrete tested in accordance with

good practice (VI - 5 - (2)). These graphs have been given in Appendix - A. As there would be some assistance in obtaining the water cement ratio for trail mix of concrete.

**TABLE.2.**

**OPTIONAL WORKS TEST REQUIREMENTS OF CONCRETE**

(Clause 4.2.2.2 (a))

(All values in Kg/cm.sq.)

All test shall be conducted in accordance with good practice (VI-5-(4)\*).

Grade of concrete 1.	Compressive strength of 15 cm cubes min 7 days	Modules scripture by beams test in	
		At 7.2 + /- 2 Hours 3.	At 7.2 + /- 2 Hours 4.
M100	70	12	17
M150	100	15	21
M200	135	17	24
M250	170	19	27
M300	200	22	30
M350	235	23	32
M400	270	25	34

Note : Notes 3 to 5 under Table.1. are also applicable to this table. \* L.S. 510-1959 Methods of test for strength of concrete  
\* L.S. 261-1967 Specification for ordinary rapid hardening and best Portland cement

**TABLE.3  
CONCRETE MIX PROPORTIONS  
ORDINARY CONCRETE**

Grade of concrete 1.	Total quantity of dry aggregates by volume per 50 Kg of cement to be taken as the sum of the individual volumes of fine and coarse aggregate max 2.	Proportion of fine aggregate to coarse aggregate 3.	Quantity of water per 50 Kgs. Of Cement max 4.
M100	300 Litres	--	34 Litres
M150	220 Litres	--	32 Litres
M200	160 Litres	--	30 Litres
M250	100 Litres	--	27 Litres

Note : It may be noted for general guidance that M100, M150, M200 and M250 or ordinary concrete correspond approximately to 1:3:6, 1:2:4, 1:1 1/2:3 and 1:1:2 nominal mixes of ordinary concrete currently used in the country.

The preparations of the aggregate should be adjusted from upper limit to lower limit progressively as the grading of the fine aggregate becomes finer and the maximum size of coarse aggregate becomes larger. Example, for an average grading of fine aggregate . Zone II in accordance with good practice (VI-5-(1)) the proportion shall be 1:1 1/2, 1:2 and 1:3 for maximum size of aggregate 10mm, 20mm and 30mm respectively.



**TABLE.4.**

**SURFACE WATER CARRIED BY AVERAGE AGGREGATE**

Aggregate 1.	Appr. Quantity of surface water 1/m <sup>3</sup> 2.
Very wet sand	120
Moderate wet sand	80
Moist sand	40
Moist gravel or crushed work / 20-40	40

- Course aggregate, less the water it will carry
- I.S. 383 - 1963 - specification for coarse and fine aggregate for natural coarse
- I.S. 516 - 1959 - Specification for nominal and manufactured aggregate for use in mass concrete.

**SPECIFICATION FOR SANITARY FITTING SD DRAINAGE AND WATER SUPPLY**

1. Water closets basins urinals sinks and other sanitary were shall be of approved make as required in the relevant items fixing of these shall be in accordance with the special specification.
2. The rates shall include the dismantling making holes in walls or slabs and restoring the structure to the original conditions after the completion of the work.
3. The work should be carried out with least hindrance to the adjoining building and the contractor shall be responsible for any damage caused to the existing fixture, electric fittings etc. in the course of execution and the contractor shall make good any such damage without claim for extra.
4. The rate for laying stone were pipes shall include necessary all incidental charges during execution of work and making good the damage to the roads and other structures.
5. The rates for laying G.I. pipes or PVC pipes shall include fixing with wooden plus G.I / C.I. clamps and brass screws where the pipes area fixed to wall. The rates for G.I. pipes shall also include wrapping them with tarred taps where they are buried in earth the portions embedded in masonry and painting with white lead two coats for portions above ground level.
6. The clamps for G.I. pipes fitting should not be spaced more than a part the wooden plugs for pipe and bracket fitting should be properly fixed in C.M. 1:3 in holder make in masonry with the wide and of wedge shaped plugs in side the walls. The size of plugs should not be less than 1 sq.m. inch at one end, ½ sq.m inch at the other end with depth of not less than 3".
7. Painting with two coats of best white paint or any other colour approved by the Engineer in charge over priming cot of red lead to all flushing tanks brackets claps used for fixing pipes and all other connection.
8. The contractor should employ sufficient number of qualified licensed plumber with necessary experience and skill in the trade to the satisfaction of the Engineer in charge concerned for execution of water supply and sanitary items of work.
9. The rate shall include all dismantling making holes in walls or slabs and testing the structure to the original condition after the completion of the work.

## **ADDITIONAL CONDITIONS**

1. The water for works shall be as far as practicable free from earthling vegetable or organic matter and from salts or other substance likely to interface with the setting of mortar of otherwise prove harmful to the work
2. All items of work shall be done in accordance with the relevant classes of TNBP and agenda volume to the TNBP or amendments from time to time.
3. The contractor shall be responsible for the safe custody of all the departmental materials once they are handed over to the contractor at the departmental stores. The cost of any materials in the custody of the contractor stolen, lost, destroyed or damaged or if rendered unfit for the work will be recovered from the contractor at the issue rate.
4. For testing the concrete and aggregate the contractor must procure the following equipments and make them available at site.
  - I Steel mould for making 45cm cube of concrete (The mould will be in two halves for easy removal)
  - II Slumps cone for testing consistency (slump test) the cone will be 30cm height truss casted cone with top and bottom diameters of 10 cm and 20cm respectively. In addition a steel rod 15cm dia and 50cm in length and with tamping and rounded is to be procured.
  - III For finding fineness modulus and coarse aggregate hand operated over a apparatus may be procured along with weighing machine for weighing the aggregate and the sand.
5. The testing is to be done at the contractor's cost for all building materials and also for concrete cubes.
6. The work shall be executed and measured as per metric dimension given in the schedule of quantities drawing etc. (F.P. units where indicated are for guidance only)
7. Unless otherwise specified all the rates quoted by the contractor shall be for works at all levels of the buildings.
8. Rates for every item of work to be done under this contract shall be for all lifts and leads, heights, depths, lengths and widths except when specifically mentioned in the item, otherwise nothing extra will be paid on this account

The rates for all item in which use of cement is involved is inclusive of charges for curing.

## **SUPPLYING AND FIXING INDIAN TYPE WATER CLOSET**

1. The Indian type Water Closet shall be fixed in position at floor level in a bed of concrete brick jelly in lime mortar 1:2 so as to complete by embedding the closet trap and foot rests. The existing masonry structure after dismantling the floor, making the holes etc. shall be restored to its original condition after completion of work. The foot rests should be fixed at an angle as per Standard.
2. The PVC flushing tank shall be of three gallons capacity of Indian make confirming to ISI specification supported on C.I. Brackets with necessary C.I. chain and handle for pull float hell valve ½" PVC connections to the water main and closet including pier the white glazed paint 2 coats over a priming coat of red lead.

3. The fixing of water closet shall include the dismantling of existing floor however indicated making holes in necessary walls etc. and restoring structure to original condition after completion of the work. The flushing tank and accessories will be fixed to the walls with necessary clamps and brackets in C.M. 1:4.

#### **ADDITIONAL CONDITIONS**

The tenderer shall ensure that no damage is caused to the existing structure / building whether it is Government owned or private owned etc. in the adjacent areas in close proximity to the proposed site. And if any damage is caused due to pipe driving etc. to the adjacent buildings it shall be rectified / compensated by the tenderer at his own cost to the satisfaction of departmental officers / owners in case of private buildings. Any damages to work resulting from rains or frame any other cause until the work is taken over by the department after completion will be made good by the contractor at his own cost.

The contractor has to make his own arrangements for procuring water and electricity for construction purpose. Construction and curing should be done with water free from injurious amounts of deletion materials portable water are generally considered satisfactory for curing and fixing concrete and masonry. However the water to be used should be periodically tested at contractors cost for its suitability for using the construction work and got approved from the Engineer – in - charge. And electricity for all types of his use like lighting, welding, pumping and mosaic and marble polishing etc. should also be made available at his own cost.