

**NATIONAL PROJECTS CONSTRUCTION CORPORATION LTD.**

*(A Government of India Enterprise)*

**SOUTH EASTERN ZONAL OFFICE, PHASE-VII, HIG-59, SAILASHREE VIHAR,  
BHUBANESWAR- 751021, ODISHA STATE**

**Phone: 0674 – 2741417**

**Email: [npccbbsr@gmail.com](mailto:npccbbsr@gmail.com)**

**Web site: [www.npcc.gov.in](http://www.npcc.gov.in)**



**E-TENDER for**

**Construction of NDA motivational hall at Sainik School, Kalikiri,  
Dist: Chittoor , Andhra Pradesh.**

**ISSUED TO:**

M/s.

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## VOLUME-01

### SECTION-I

### NOTICE INVITING TENDER

## NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED

(A Government of India Enterprise)



SOUTH EASTERN ZONAL OFFICE, PHASE-VII, HIG-59,  
SAILASHREE VIHAR, BHUBANESWAR- 751021  
ODISHA STATE

An ISO 9001:2008 Organization

WEBSITE: [www.npcc.gov.in](http://www.npcc.gov.in)

### NOTICE INVITING TENDER

NIT No: NPCC/SEZ/CA/SSK/126

Date: 23.09.2021

National projects Construction Corporation Limited (NPCC) on behalf of **Principal, Sainik School Kalikiri, Chittoor, Andhra Pradesh** invites Percentage rate tenders in electronic tendering system for Construction of NDA Motivational Hall at Sainik School, Kalikiri, Dist: Chittoor , Andhra Pradesh detailed below:

Tender document is also available for viewing on the “Notices and Tenders” link of the NPCC website <http://npcc.gov.in> , cpp portal & e-tendering Portal. Bids to this tender will be accepted only through ONLINE mode through the website <https://etenders.gov.in/eprocure/app>.

No other mode of bid will be considered and accepted. For applying Online, the bidder should get itself registered at <https://etenders.gov.in/eprocure/app>.

A detailed vendor guide is given on the link of website

S. No.	Particulars	Description
1.	Name of Building/ Work	Construction of NDA motivational hall at Sainik School, Kalikiri, Dist: Chittoor , Andhra Pradesh
2.	Completion time	12 months (including rainy season)
3.	Approx. estimated cost (Including GST)	Rs. 91,82,512.00 (Rupees Ninety One Lakh Eighty Two Thousand Five Hundred Twelve only)
4	Cost of Tender Documents (Non Refundable) in the form of NEFT/RTGS in the accounts details given in below & section {ii} clause no 2	Rs.11,800/- (Rupees Eleven Thousand Eight Hundred Only), (Rs.10,000 plus 18% GST@ Rs.1800/-)
4.	Earnest Money Deposit (EMD) in the form of NEFT/RTGS in the accounts details given in below & section {ii} clause no 2	Rs. 1,83,650.00 (Rupees One Lakh Eighty Three Thousand Six Hundred Fifty) Valid for 150 days from last day of submission of tender.
5.	Validity of Tender	120 days from last date of submission of tender
6.	Issuance of Tender Documents	Available on NPCC Ltd.'s E-tender portal, <a href="https://etenders.gov.in/eprocure/app">https://etenders.gov.in/eprocure/app</a>
7	Bid submission start date	From 23.09.2021
8.	Receipt of Tender end date	Upto 01.10.2021 up to 16:00 Hrs.

9.	Opening of Tenders(Technical Bid)	On 04.10.2021 at 16:30 Hrs.
10.	Opening of Tender (Price Bid)	To be intimated to eligible bidders subsequently.
11	Site Visit	Bidder are advised to visit the proposed site before quoting the bid

Tender cost (non-refundable) and EMD will be submitted online in following NPCC Bank Account :

S.No.	Description	Particulars
1	Name of the Beneficiary	National Projects Construction Corporation Limited
2	Bank Name	Punjab National Bank
3	Bank Address	ChandrashekharPur, Bhubaneswar , Khorda - 751016
4	Bank Branch code	297700
5	Account No.	2977002100001344
6	IFSC Code	PUNB0297700

The EMD in any other form shall not be accepted. The proof of payment for EMD and Tender Fee indicating UTR No. needs to be uploaded in technical bid folder. The bidder has to submit the proof of payment on date as specified in the NIT.

The Technically qualified bidders will be intimated for the date, time and venue for opening of financial Bids opening. List of Financial comparison charts of bidders will be displayed in the portal. No separate intimation will be given for this, unless the above date is changed. In case of change of date, due intimation will be given online. No individual intimation will be given.

In case, due to any reason the scheduled dates for opening of technical and financial parts as mentioned above are holidays or due to any reason the office remains closed or due to any acts of God it becomes unapproachable (solely at the discretion of tender inviting authority), the next working day will be applicable while the previous specified time will remain the same.

National Projects Construction Corporation Limited (NPCC) reserves the right to reject or cancel any or all pre-qualification documents and bid document without assigning any reason's whatsoever.

## 1.1 PRE-QUALIFICATION CRITERIA

The intending Bidder should fulfill the following minimum pre-qualifying criteria

- Turnover:** Average Annual Financial Turnover on construction works during the last three years, ending 31st March of the previous financial year i.e. 2019-20 should be at least 50 % of the estimated cost. Applicant has to attach the balance sheet along with profit & loss statement duly certified by Chartered accountant for last three years.
- Experience:** Applicant should have the experience of completion of similar works during last 07 years ending last day of month previous to the one in which tenders are invited should be either of the following.

- a. Three similar completed works each costing not less than the amount equal to 40% of the estimated cost, certificate should be attached **OR**
  - b. Two similar completed works each costing not less than the amount equal to 60% of the estimated cost, certificate should be attached **OR**
  - c. One similar completed work costing not less than the amount equal to 80% of the estimated cost, certificate should be attached
- iii. **Similar works mean:** Civil work comprising – Construction of RCC framed structure of the Building including water-supply, Drainage, internal electrification. from Central / State Govt. Departments / Central PSUs/ State PSU/ Central or state Autonomous bodies, City Development Authority/Municipal Corporation of City formed under any act by Central/State Government and published in Central/State.
  - iv. **Profitability:** The applicant should be a profit (net) making firm and Should not have incurred any loss in the last 2 (two) financial years and have not incurred losses for more than two years out of last five years ending 31st March, 2020 duly certified by Chartered Accountant.
  - v. **EPF Registration:** Bidder should have valid EPF registration and copy needs to be enclosed
  - vi. **Joint Venture:** Joint Ventures are not permitted.
  - vii. **Goods & Services Tax (GST) Registration:** Bidder must have valid Goods & Services Tax Registration and documents for up to date return in GSTR-1 and challan thereof.
  - viii. **Credit Facility:** Agency shall have Un-utilized credit facility of 10% (minimum) of Estimated cost put to tender issued on or after the date of publication of this NIT duly Certified by Bank.  
**Or**  
**Bank Solvency:** A Bidder should have a Solvency of 40% of the estimated cost issued by a Bank. The Solvency Certificate should have been issued within 6 months from last date of the submission of tender but in the current financial year. The bidder has to submit the Bank Solvency on date as specified in the NIT.
  - ix. The applicant must have adequate organizational set up as well as having sufficient number of experienced personnel, and infrastructure to complete the project well within time frame.
  - x. NPCC is free to get documents verified and agency shall have no objection to it . In case, it is found at any stage that the agency has made any false information, agency will be disqualified.
  - xi. **Bid Capacity:** Applicant/ Agencies who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value. The available bid capacity will be calculated as under:  
Assessed available bid capacity = (A x N x 2) - B  
N = Number of years rounded up to first decimal prescribed for completion of the subject contract.  
A = Maximum value of works executed in anyone year during last five years (up dated to the price level of current financial year at the rate of 7% simple interest per annum)

B = Value of existing commitments or ongoing works to be completed in the next 'N' years.

Note: 1.The bidder shall furnish statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works preferably countersigned by the Nodal officer or his nominee-in-charge in the format available in documents.

2. Financial Turn Over and cost of completed works of previous years shall be given weightage of 7% per annum based on rupee value to bring them to current financial year price level for bid capacity.

xii. **PAN:** Bidder should have valid Permanent Account Number (PAN) of Income Tax.

Application complete in all respects should reach the Zonal Manager, PHASE-VII, HIG-59, SAILASHREE VIHAR, BHUBANESWAR- 751021, ODISHA STATE. The application must be accompanied with non-refundable cost of tender document of Rs.11,800/- (Rupees Eleven Thousand Eight Hundred Only), (Rs.10,000 plus 18% GST@ Rs.1800/-) ONLINE. Incomplete application/application not meeting the above criteria or not accompanied shall be summarily rejected. NPCC reserves the right to call for clarification if needed at its own discretion and applicant will not have any claim on this ground of any nature.

**NOTE:** Complete Financial Bid as mentioned above must be received by the Employer online not later than the date and time indicated Above and Tender Fee Submission Copy , EMD submission copy & PROFARMA I to XIII (as mentioned format) in the Zonal office , PHASE-VII, HIG-59, SAILASHREE VIHAR, BHUBANESWAR- 751021, ODISHA STATE not later than the receipt of tender end date.

Contractors can upload document in the form of JPG format and/PDF format only. The documents duly digitally signed by the person authorized to sign the bid shall be uploaded on NPCC Ltd.'s E-tender portal, <https://etenders.gov.in/eprocure/app>. **Any corrigendum/addendum/errata in respect of the above tender shall be made available only at our official website [www.npcc.gov.in](http://www.npcc.gov.in) , CPP Portal and website <https://etenders.gov.in/eprocure/app>. No further press advertisement will be given. Hence, all bidders are advised to check NPCC website [www.npcc.gov.in](http://www.npcc.gov.in), CPP Portal and <https://etenders.gov.in/eprocure/app> regularly.**

**ZONAL MANAGER  
(South Eastern Zone)**

**For and on behalf of**

**Principal, Sainik School Kalikiri, Chittoor, Andhra Pradesh**

1. The **Principal, Sainik School Kalikiri, Chittoor, Andhra Pradesh** for Kind information please.
2. The Sr. Manager (PMC/IT), C.O., NPCC, Gurugram for information please & uploading on NPCC web site. Soft copy being sent through e-mail to [npccit@gmail.com](mailto:npccit@gmail.com).

**VOLUME-01**  
**SECTION-II**



**INSTRUCTIONS TO TENDERERS**



**1. General:****Qualification of the Bidder**

All bidders shall provide Forms of Bid and Qualification information as necessary.

All bidders shall include the following information and documents with their bids, Qualification Information unless otherwise stated

- (a) Copies of original documents defining the constitution or legal status, place of registration, and principal place of business; power of attorney of the signatory of the Bid to commit the Bidder in Non Judicial stamp paper and duly notarized.
- (b) Turnover for each of the last five years.
- (c) Reports on the financial standing of the Bidder, such as profit and loss statements duly signed by auditors for the past five years;
- (d) The contractor would furnish an affidavit in non-judicial stamp paper as per Performa provided.
- (e) Copy of GST registration certificate and acknowledgement of upto date filed return.
- (f) Copy of EPF registration certificate and upto date EPF challan.
- (g) Documents pertaining to minimum qualifying criteria.
- (h) Tender Documents Duly sealed and signed as token of Acceptance.
- (i) Copy of ESI Registration Certificate.

Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have:

- (i) Made misleading or false representations in the forms, statements, affidavits and attachments submitted in proof of the qualification requirements; and / or record of submission of any false / fake document(s).
- (ii) Record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, substandard, litigation history, or financial failures etc.
- (ii) Participated in the previous bidding for the same work and had quoted unreasonably high or low bid prices and could not furnish rational justification for it to the Employer.

**Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.**

**2. Cost of Bidding**

The Bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will, in no case, be responsible or liable for those costs.

Preparation of Bids  
Documents Comprising the Bid

A-Technical Bid-

- 1) **Tender cost (non-refundable) and EMD will be submitted online in following NPCC Bank Account :**

S.No.	Description	Particulars
<b>1</b>	Name of the Beneficiary	<b>National Projects Construction Corporation Limited</b>
<b>2</b>	Bank Name	<b>Punjab National Bank</b>
<b>3</b>	Bank Address	<b>Chandrashekhar Pur, Bhubaneswar , Khorda - 751016</b>
<b>4</b>	Bank Branch code	<b>297700</b>
<b>5</b>	Account No.	<b>2977002100001344</b>
<b>6</b>	IFSC Code	<b>PUNB0297700</b>

The EMD in any other form shall not be accepted. The proof of payment for EMD and Tender Fee indicating UTR No. needs to be uploaded in technical bid folder. The bidder has to submit the proof of payment on date as specified in the NIT.

- 2) Declaration  
a) Scanned copy of Affidavit by the bidder as per Performa.  
3) Scanned copy of Power of attorney of authorised signatory signing the bid

B-Financial bid-(Finance Cover)

- i) ` Duly Quoted and digitally signed Bill of Quantity (BOQ) in the file supplied by employer inshall be uploaded

C - My Document in Portal

Scanned copies in Prescribed Formats and all supported document required as per allAnnexure and Performas given in tender document to be attached in My Document” in pdf format file duly digitally signed by the bidder.  
Copy of GST registration certificate and acknowledgement of upto date filed return.

The tenders shall be strictly as per the conditions of contract. Tenders with any additionalcondition(s)/modifications shall be rejected

NOTE: - a) All the documents should be digitally signed.

Bid Validity:- The offer should be valid for 120 (One hundred Twenty) days from the last date of opening of tenders. In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may 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 will not be required or permitted to modify his bid, but will be required to extend the validity of his earnest money for a period of the extension.

The Earnest Money may be forfeited:

- a) If the Bidder withdraws the Bid after bid opening (technical bid) during the period of Bid validity;
- b) In the case of a successful Bidder, if the Bidder fails to furnish the required Performance Security & Sign the Agreement
- c) **The Bid without EMD shall be considered incomplete and summarily rejected.**

### 3 Online Submission of Bids

Bidding through E-Tendering System:

- (a) The bidding under this contract is electronic bid submission through website <https://etenders.gov.in/eprocure/app.in> Detailed guidelines for viewing bids and submission of online bids are given on the website. Any citizen or prospective bidder can logon to this website and view the Invitation for bids and can view the details of work for which the bid is invited. The prospective bidder can submit bids on line; however the bidder is required to have enrolment /registration in the web site and should have valid Digital Signature Certificate (DSC) in the form of smart card/e-token. The DSC can be obtained from any authorized certifying agencies. The bidder should register in the web site <https://etenders.gov.in/eprocure/app> using the relevant option available. Then the digital signature registration has to be done with the e-token, after logging into the site. After this the bidder can login the site through secured login by entering the password of the e-token & the user id/password chosen during registration. After getting the bid schedules, the Bidder should go through them carefully and then submit the documents as asked, otherwise, the bid will be rejected.
- (b) The completed bid comprising of documents, should be uploaded on the website given above through e-tendering along with scanned copies of requisite certificates as are mentioned in different sections in the bidding document and scanned copy of bid security in ONLINE MODE.

#### Deadline for Submission of Bids

- (a) Complete Bids in two parts as mentioned above must be received by the Employer online not later than the date and time indicated in the Bid Data Sheet and also original of EMD, Cost of tender document, Affidavit as mentioned in NIT.
- (b) The Employer may extend the deadline for submission of bids by issuing an amendment 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 Modification/Withdrawal/Late Bids:
- (c) The electronic bidding system would not allow any late submission of bids after due date & time as per server time.

- (d) Bidders may modify their bids by uploading their request for modification before the deadline for submission of bids. For this the bidder need not make any additional payment towards the cost of tender document. For bid modification and consequential re-submission, the bidder is not required to withdraw his bid submitted earlier. The last modified bid submitted by the bidder within the bid submission time shall be considered as the bid. For this purpose, modification/withdrawal by other means will not be accepted. In on line system of bid submission, the modification and consequential resubmission of bids is allowed any number of times. The bidders may withdraw his bid by uploading their request before the deadline for submission of bids, however, if the bid is withdrawn, the re-submission of the bid is not allowed.
- (e) No bid shall be modified or withdrawn after the deadline of submission of bids.
- (f) Withdrawal or modification of a bid between the deadline for submission of bids and the expiration of the original period of bid validity as mentioned elsewhere above or as extended pursuant to tender inviting authority's requirement may result in the forfeiture of the bid security.

#### **4. Bid Opening and Evaluation**

- (a) The Employer inviting bids or its authorized representatives will open the bids online and this could be viewed by the bidders also online. In the event of the specified date for the opening of bids being declared a holiday for the Employer, the bids will be opened at the appointed time on the next working day.
- (b) The file containing the Part I of the bid will be opened first.
- (c) In all cases, the amount of bid security, cost of bid documents, processing fee for E-tender and validity of the bid shall be scrutinized. Thereafter, the bidders' name and such other details as the Employer may consider appropriate, will be notified as Part I bid opening summary by the authority inviting bids at the on line opening.
- (d) Evaluation of Part I of bids with respect to bid security, qualification information and other information furnished in Part I of the bid, shall be taken up, and a list will be drawn up of the qualified bidders whose Part II of bids will be eligible for opening.
- (e) The result of evaluation of Part I of the Bids shall be made public on e-procurement following which on next working day from the date of making public the result of evaluation of Part I of the Bids part II or the price bid of the qualified bidders will be opened.

#### **(f) Application for Part I shall be evaluated in two stages as under:**

##### **STAGE-I:**

Evaluation of the Technical documents submitted, initially, it shall be seen whether the Construction Agencies/firms submitted all the documents mentioned herein above.

For non compliant the application shall be rejected at this stage itself.

- (g) The Employer shall inform, the bidders, who have qualified during evaluation of Part I of bids, of the date, time of online opening of Part II of the bid, if the specified date of opening of financial bid is changed. In the event of the specified date being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day.
- (h) Part II of bids of only these bidders will be opened online, who have qualified in Part I of the bid. The bidders' names, the Bid prices, the total amount of each bid, and such other details as the Employer may consider appropriate will be notified online by the Employer at the time of bid opening.
- (j) **The final selection will be based on Lowest offer i.e L1.**

#### 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 attempt by a Bidder to influence the Employer's processing of bids or award decisions may result in the rejection of his/her Bid

#### Clarification of Bids and Contacting the Employer

- (a) No Bidder shall contact the Employer on any matter relating to its bid from the time of the bid opening to the time the contract is awarded.
- (b) Any attempt by the bidder to influence the Employer's bid evaluation, bid comparison or contract award decision may result in the rejection of his bid.

#### Examination of Bids and Determination of Responsiveness

- (a) During the detailed evaluation of "Technical Bids", the Employer will determine whether each Bid (a) meets the eligibility and Qualifying criteria (b) has been properly signed; (c) is accompanied by the required securities; and (d) is substantially responsive to the requirements of the bidding documents. During the detailed evaluation of the "Financial Bids", the responsiveness of the bids will be further determined with respect to the remaining bid conditions, i.e., priced bill of quantities, technical specifications and drawings.
- (b) A substantially responsive "Financial 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; or (c) whose rectification would affect unfairly the competitive position of other bidders presenting substantially responsive bids. No conditional bid will be accepted in any form.
- (c) If a "Financial 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 nonconforming deviation or reservation.

#### Correction of Errors

- (a) Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:
  1. Where there is a discrepancy between the rates in figures and in words, the rate in words will govern; and
  2. Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

- (b) The amount stated in the Bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount, the Bid will be rejected, and the Earnest money shall be forfeited.

#### Evaluation and Comparison of Bids

- (a) The Employer will evaluate and compare only the bids determined to be substantially responsive.
- (b) In evaluating the bids, the Employer will determine for each bid the evaluated bid price by adjusting the bid price by making correction, if any, for errors
- (c) If the Bid of the successful Bidder is seriously unbalanced in relation to the Engineer's estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, the Employer may require that the amount of the performance security set forth in 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. The amount of the increased performance security shall be decided at the sole discretion of the Employer, which shall be final, binding and conclusive on the bidder.
- (d) To assist in the examination, evaluation and comparison of bids, the Employer may, at his discretion, ask any bidder for providing clarification of his bid, including breakdown 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, permitted. If clarification is not provided within the stipulated time period, the bid will be declared non-responsive.

### **5. AWARD OF CONTRACT**

#### **Award Criteria**

- (a) The Employer will award the Contract to the Bidder whose Bid has been determined: The contract of the project will be awarded to the bidder who will be the Lowest i.e. L1 Employer's Right to accept any Bid and to reject any or all Bids
- (b) The Employer reserves the right to accept or reject any Bid, and to cancel the bidding process and reject all bids, at any time prior to the award of Contract, without thereby

#### **Notification of Award and Signing of Agreement.**

- a. 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, fax, letter, e-mail or facsimile confirmed by registered letter. This letter (hereinafter and in the Part I General Conditions of Contract called the "Letter of Acceptance") will state the sum that the Employer will pay to the Contractor in consideration of the execution, (hereinafter and in the Contract called the "Contract Price") and completion period.
- b. The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security.
- c. The Agreement will incorporate all agreements between the Employer and the Successful Bidder. It will be signed by the Employer and the successful Bidder after the performance security is furnished.



## Corrupt or Fraudulent Practices

The Employer requires the bidders / Contractors to strictly observe the laws against fraud and corruption in force in India, namely, Prevention of Corruption Act, 1988.

## Escalation in Price

No Escalation will be paid on account of any increase in price index in the price of materials, labour and whatsoever. No Price escalation shall be applicable even during extended period for completing the works. No extra claim in case of delay in handing over shall be entertained. Only extension without escalation will be granted in case of delay in handing over of the site.

**Tentative scope for Construction of NDA motivational hall at Sainik School, Kalikiri, Dist: Chittoor , Andhra Pradesh under the Principal, Sainik School Kalikiri, Chittoor, Andhra Pradesh as Follows:**

S. No.	Description
1.	Construction of NDA motivational hall at Sainik School, Kalikiri, Dist: Chittoor , Andhra Pradesh

Clarification, if any required, may be obtained from the office of the Zonal Manager, PHASE-VII, HIG-59, SAILASHREE VIHAR, BHUBANESWAR- 751021, ODISHA STATE. on any working day between 11.00A.M. to 5.00 P.M.

## Site Visit

- The bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility and cost all information that may be necessary for preparing the bid and entering into a contract for construction of the Works.
- The bidder and any of its personnel or agents will be granted permission by the Employer/Owner to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the bidder, its personnel, and agents, will release and
- Indemnify the Employer/Owner and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
- Before submitting a Bid, the Bidder shall be deemed to have satisfied himself by actual inspection of the site and locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates entered in the Price Bid document are adequate and all inclusive for the completion of work to the entire satisfaction of the Employer/Owner.

## 6. PERFORMANCE GUARANTEE:-

Within 15 days from the date of issue of LOA / LOI, the tenderer shall submit Performance Guarantee amounting to 3% (Three percent) of the awarded

value of work in the form of Demand Draft/fixed deposit in favour of NPCC LTD. or Bank Guarantee from the Nationalized /Scheduled Bank of equivalent value. No interest will be paid under any circumstances. Performance guarantee shall remain valid up to completion of project in all respect or taken over by the client whichever is later. On receipt of the performance guarantee in the form of DD/FDR/BG and its confirmation from Bank the EMD will be refunded. An amount is to be deposited equivalent to 0.01% per day of the amount of Performance guarantee for extended /delayed period of submission of Performance guarantee. In no case the extension will be granted for more than 15 days. In case of non submission of Performance guarantee within stipulated / extended period, it will be presumed that agency is not interested in the work and EMD submitted will be forfeited without any notice.

## **7. SECURITY DEPOSIT:-**

The security deposit will be deducted from the successful contractor at the rate of 10% from the Gross value of each R/A bills till it reaches 5% of the contract value. No interest will be paid on the Security Deposit under any circumstances. The total security deposit will be refunded only after expiry of defect liability period. However after successful completion of work 50% of the security deposit can be released against bank guarantee from the Nationalized / Scheduled Bank as per approved format.

8. On acceptance of tender, the name of the authorized representative(s) of the contractor who would be responsible for taking instructions from Engineer-in-charge or his authorized representative shall be intimated by the contractor within 07 days from the date of issue of telegram/letter/telex/fax of intents by NPCC.
9. The tenderer shall not be permitted to tender for works if his near relative is posted as an Accountant or an Assistant Engineer or any higher ranks in the project office or concerned Zonal office of the NPCC. The contractor shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any of the officers in NPCC. Any breach of this condition by the tenderer would render him liable to the withdrawal of the work awarded to him and forfeit of Earnest Money and Security Deposit. This may also debar the contractor from tendering for future works under NPCC.

## **10. TAXES AND DUTIES**

10.1 The contract price is inclusive of all taxes, duties, cess and statutory levies payable under any law including but not restricted to Goods and Service tax(GST) levied by Union and State governments (CGST, SGST, UTGST, IGST), labourcess, Custom duty, Royalty, Toll tax and any other such taxes and duties leviable by local/State/Union Government from time to time on all such articles, materials which may be used for this work or any other tax(duty etc.,) paid by the contractor.



10.2 In case of any change in rate of tax or any provision relating levy of tax resulting in increase in burden of tax on the contractor, the contractor shall not be entitled to receive any compensation for such increase in quantum of tax on the contractor. Similarly, no recovery shall be made from the contractor on account of decrease of rate of tax or any provision relating to levy of tax.

10.3 Contractor must be registered under Goods and Service tax (GST) laws, and copy of the registration certificate of the same shall be submitted to NPCC.

10.4 Apart from the registration as mentioned at 10.3 above contractors shall also obtain all other necessary registrations required under any other Local/State/Union Government Statute, for the execution of this contract, if any.

10.5 Contractor must submit as a compliance of GST Laws, Tax invoice, as per applicable rules and regulations under the GST Act(s), failing which GST amount will be recovered by NPCC without any recourse or prior notice from the next invoices/security Deposit/Bank Guarantees and/or available dues with NPCC.

10.6 The contractor/service provider shall be responsible for issuing of Tax Invoices, filing of statutory return and deposit of statutory taxes within the time limit as prescribed in law. Any interest/Penalty/taxes (non availment of Input tax credit due to mismatch to GSTR2) which is required to be paid by NPCC due to default by the Contractor/service provider to comply with the above mentioned activity/provisions as prescribed in laws, rules and regulations shall be recovered from the Contractor/Service provider and adjustment shall be made when mismatch is attended and solved and credit is extended to NPCC.

10.7 Apart from compliance mentioned at 10.6 above, in the event of nonpayment/default in payment of taxes and duties and any other statutory compliances, under any other Local/State/Union Government Statute, NPCC reserves the right to withhold the dues/payment of contractor and make payment to Local/State/Union Government authorities or to Labourers, as may be applicable.

10.8 It is clearly understood that the contractor is fully aware of all GST Laws and his Liabilities and responsibilities under the said laws including but not restricted to correct HSN/SAC code, applicable rate of taxes of GST or otherwise on which his liability has to be paid and discharged. NPCC shall have no liability or responsibility for any penalty or proceedings or any other liability levied or leviable on the contractor because of lower deduction or any other such non compliance of the contractor.

10.9 Bidders will examine the various provisions of the central Goods and Service Tax Act, 2017 (CGST)/ Goods and Service tax Act (IGST)/Union

Territory Goods and Service Tax Act,2017(UTGST)/respective state's State Goods and Service tax Act(SGST) also, as notified by Central/State Government and as amended from time to time and applicable taxes before bidding. Bidders will ensure that full benefit of input tax Credit (ITC) likely to be availed by them is duly considered while quoting rates.

10.10 Anti-Profiteering Clause upon implementation of GST any reduction in tax on account of anti profiteering on supply of goods or services, the benefit of input tax credit shall be passed on to NPCC by way of commensurate reduction in prices.

10.11 In case of any law requires NPCC to pay tax on the contract price on reverse charge basis, the amount of tax deposited by NPCC would be considered as per Income tax act, GST Laws or any other law as applicable

10.12 Stamp duty and registration charges, if any, payable on the executed contract document, shall be borne by the contractor.

10.13 Turnover Tax, Work Contract Tax, Construction cess or similar, if any, in respect of contract shall be payable by the contractor and NPCC will not entertain any claim whatsoever, on such grounds. However the labourcess shall be deducted @1% of Gross bill & rates quoted should be inclusive of this labourcess. In the event of nonpayment/default in payment of any octroi, royalty, cess, turnover tax, sales tax, including the purchase tax, consignment tax, work contract tax or any labour dues and E.P.F. etc. by contractor/supplier, the NPCC reserves the right to with-hold the dues/payments of contractor and make payment to local / state/ Central Government authorities or to labours as may be applicable. The contractor should submit along with the tender, the Registration Certificates with sales tax on works contract authority and EPF Authorities otherwise appropriate recovery shall be made from his bills.

10.14 The tenderer shall be deemed to have gone through the various conditions and clauses of the tender and visited the site before quoting their rates, once they make an offer for this work. No claim shall be entertained on this account.

**11. Tenderer should quote all prices, including the liability of taxes etc or any other levy as applicable in the respective state.**

**12. The tenderer shall be deemed to have gone through the various conditions and clauses of the tender and visited the site before quoting their rates, once they make an offer for this work. No claim shall be entertained on this account.**

**13. Details of documents to be submitted: Following documents are to be submitted with Technical bid (Envelop No. 1).**

S.No.	Details	Proforma No.	To be executed on
-------	---------	--------------	-------------------

1.	Acceptance of Tender Conditions	PROFORMA- I	Tenderer's letter head
2.	Form of Tender	PROFORMA- II	Tenderer's letter head
3.	General Information	PROFORMA – III	
4	List of Major Plant and machinery in possession of the firm	<u>PROFORMA-IV</u>	
5	Annual Turn over for the last five years	<u>PROFORMA-V</u>	
6	Details of the similar Works completed in Last Five years	<u>PROFORMA-VI</u>	
7	Details of on-going/ existing works	<u>PROFORMA-VII</u>	
8.	Past contractual performance	<u>PROFORMA – VIII</u>	On Non-judicial stamp paper of value not less than Rs. 10/-
9.	Bank Account Particulars for refund of EMD through Electronic mode	<u>PROFORMA – IX</u>	For E-Payment
10	Certificate of Credit Facility	<u>PROFORMA-X</u>	
11	Format for litigation	<u>PROFORMA-XI</u>	Banker's letter head
12.	GST Registration Details	<u>PROFORMA-XII</u>	
13	Solvency Certificate	<u>PROFORMA – XIII</u>	
14	Undertaking for local content.	<u>PROFORMA – XIV</u>	

#### 14 **GUIDELINE FOR BANK GUARANTEE**

Bidder can get the BG for PBG issued from any Bank, however all the bidders are directed to issue BG in favor of National Projects Construction Corporation (NPCC) Limited and to capture the below mentioned unique reference in 7037 field of IFN760COV (for issuance) / IFN767COV ( for amendment)

**Beneficiary Name: National Projects Construction Corporation Limited**

**Unique Ref. Id (Cust ID) : NPCCBBSR572468527**

**Bank: ICICI Bank, Kailash Colony Market, New Delhi**

**IFSC Code : ICIC0006627**

Paper BG will be operative only on receipt of advice message by issuing Bank through SFMS to NPCC Bank (i.e ICICI Bank). Bidder may submit Original Bank Guarantee and copy of advice message to NPCC Ltd. However issuing bank shall send second copy of BG along with advice message to NPCC directly through post.

## 15 Additional Condition

- a) **Fraudulent Act:** The Contractor shall submit all genuine documents w.r.t its credential such as work experience, Bank Guarantee and other documents to NPCC to qualify in the tender. The Contractor agree that the contractor shall not indulge in any fraudulent activity and in any point of time including after being successful bidder, if any fraudulent act shall have been committed by the contractor then NPCC shall have full rights to forfeit the EMD, security deposit, performance Guarantee, whatsoever without any notice to the contractor.
- b) **Performance Guarantee clause:** The contractor shall submit genuine and valid Bank Guarantee to NPCC. The Contractor agrees that the contractor shall not indulge in any fraudulent activity and in any point of time including after being successful bidder, if any fraudulent act shall have been committed by the contractor the NPCC shall have full rights to forfeit the EMD, Security Deposit, Performance Guarantee, whatsoever without any notice to the contractor apart from taking action as deemed fit under terms and condition of contract including termination of the awarded work.
- c) **Cancellation/Determination of Contract in full or part:** If the contractor submits non-genuine and invalid or fraudulent/ forge documents, Bank Guarantee etc. to NPCC, NPCC without prejudice to any other right or remedy which shall have accrued or shall accrue hereafter to NPCC, by notice in writing, cancel the contract as whole or only such items of work in default from the contract.

PROFORMA- I

(On the letter head of the Tenderer)

To,  
Zonal Manager,  
Phase-VII, Hig-59, Sailashree Vihar,  
Bhubaneswar- 751021,  
Odisha State.

Sir

**ACCEPTANCE OF TENDER CONDITIONS**

The tender documents for the “Construction of NDA motivational hall at Sainik School, Kalikiri, Dist: Chittoor , Andhra Pradesh” been issued to me/us by National Project Construction Corporation Limited and I/We hereby unconditionally accept the tender conditions and tender documents in its entirety for the above work.

1. The contents of the Tender documents (Instructions to Tenderer) have been noted wherein it is clarified that after unconditionally accepting the tender condition in its entirety, it is not permissible to put any remark(s)/conditions(s) (except unconditional rebate on price, if any) in the tender enclosed in “Envelope-2 and the same has been followed in the present case. In case this provision of the tender is found violated at any time after opening of the Envelope 2 , I/we agree that the tender shall be summarily rejected and NPCC shall, without prejudice to any other right or remedy be at liberty to forfeit the full said earnest money absolutely.
2. I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements. In case this provision of the tender is found violated at any time before or after opening of the Price bid/Award, I/we agree that the tender/Award shall be summarily rejected and NPCC shall, without prejudice to any other right or remedy be at liberty to forfeit the full said earnest money/any other amount payable under this contract absolutely.
3. The required earnest money for this work is enclosed herewith.
4. If I/we will not fulfill the minimum qualifying criteria of the tender I/we not lodge any claim for opening of envelope 2 of the tender.

Yours faithfully,  
(Signature of the tenderer)  
With rubber stamp

Dated : \_\_\_\_\_

## PROFORMA- II

### FORM OF TENDER

(On the letterhead of the Tenderer)

To  
Zonal Manager,  
Phase-VII, Hig-59, Sailashree Vihar,  
Bhubaneswar- 751021,  
Odisha State.

1. I/We, \_\_\_\_\_ [*Name and address of the Bidder*]\_\_\_\_\_ have read the various terms and conditions of the Bid documents together with Addendum no(s)/Errata no(s) attached here with duly signed by me/us and agree to abide by the same.
2. I/We hereby declare that we are aware of the site of work and have made ourselves fully conversant of the conditions therein and including the topography of area, soil strata at site of \_\_\_\_\_ work, sources and availability of construction materials, rates of construction materials, water, electricity, all local taxes, royalties, octrois etc., availability of local labour (both skilled and unskilled), relevant labour rates and labour laws, the existing road and approaches to the site of work, requirements for further service roads / approaches to be constructed by me / us, the availability and rates of private land etc. that may be required by me / us for various purposes, climatic conditions, law and order situation and availability of working days.
3. I/We hereby tender for execution of work “Construction of NDA motivational hall at Sainik School, Kalikiri, Dist: Chittoor , Andhra Pradesh” as per tender documents within the time schedule of completion of work as per separately signed and accepted rates in the bill of quantities quoted by me/us for the whole work in the accordance with the Notice Inviting Tenders, conditions of Contract. Specifications of materials and workmanship, bill of quantities. Drawings, time schedule of completion of jobs and other documents and papers, all as in tender documents.
4. It has been explained to me/ us that the time stipulated for jobs and completion of works in all respects and in different stages mentioned in the “Time schedule” for Completion of jobs and signed and accepted by me/us is the essence of the contract. I/We agree that in case of failure on my/our part to strictly observe the time of completion mentioned for jobs or any of them and the final completion of works in all respects according to the schedule set out in the said “Time Schedule for completion of stipulations contained in the contract the recovery being made as specified therein. In exceptional circumstances extensions of time which shall always being in writing way, however be granted by the NPCC at its entire discretion for some items and I/we agree that such extension of time will not be counted for the final completion of work as stipulated in the said “Time Schedule of Completion of jobs.”

5. I/we agree to pay the earnest Money deposit, performance guarantee and Security Deposit and accept the terms and condition as laid down in the memorandum below in this respect.

#### MEMORANDUM

S.No.	Description	GCC Clause No.	Values/Description to be applicable for relevant clause(s)
1.	Name of Work		Construction of NDA motivational hall at Sainik School, Kalikiri, Dist: Chittoor , Andhra Pradesh
2.	Client/Owner		<b>“Principal, Sainik School Kalikiri,Chittoor, Andhra Pradesh”</b>
3.	Type of Tender		Percentage Rate Tender
4.	Estimated Cost (Including GST)	As per NIT	Rs. 91,82,512.00 (Rupees Ninety One Lakh Eighty Two Thousand Five Hundred Twelve only)
5.	Earnest Money deposit	As per NIT	Rs. 1,83,650.00 (Rupees One Lakh Eighty Three Thousand Six Hundred Fifty) Valid for 150 days from last day of submission of tender.
6.	Time for completion	As per NIT	Total work is to be completed within 12 months (including rainy season)
7.	Mobilization Advance	8.0	Mobilization advance is payable maximum up to 10 (Ten) % of contract value subject to conditions stipulated in clause no. 8 of GCC.
8.	Interest rate on Mobilization Advance	8.0	Simple interest Rate of 12% (Twelve percent only) per annum.
9.	Schedule of Rates applicable	46.0	Refer clause No. 46 of GCC in conjunctions with BOQ
10.	Validity of Tender	4.0	120 (One Hundred Twenty) days
11.	Performance Guarantee	9.0	3% of contract value to be submitted within 15 days from the date of issue of LOI.
12.	Security deposit/ Retention Money	10.0	To be deducted @ 10% of each RA bill and will be restricted upto 5% of the contract value.
13.	Time allowed for starting the work	43.0	Date of start of contract shall be reckoned 10 days after the date of issue of letter/FAX/E-mail of intent/acceptance of tender.
14.	Defect liability period	74.0	(Twenty Four Months from the date of handing over of works to Owner/NPCC).
15.	Recovery rate of work force supplied by NPCC to Contractor	28.5	Rs. 20000/- (Rupees Twenty Thousand only) each man power per month.

6. Should this tender be accepted, I/We agree to abide by and fulfill all terms and conditions Referred to above and in default thereof, to forfeit, and pay NPCC or its successors or its authorized nominees such sums of money as are stipulated in the notice inviting tender documents.



7. If I/We fail to commence the work immediately on issue of LOI, or I/We fail to submit the Performance guarantee as per Clause 09 of General conditions of contract I/We agree that NPCC shall, without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money deposited with NPCC besides any other action as per terms of registration with NPCC. The NPCC shall also be at liberty to cancel the notice of acceptance of tender if we fail to deposit the performance guarantee as contained elsewhere in the tender documents.
8. I/We are also enclosing herewith the Acceptance letter on the prescribed pro-forma as referred to in condition of NIT.

Dated the \_\_\_\_\_ day of \_\_\_\_\_

SIGNATURE OF TENDERER

NAME IN CAPITAL LETTERS \_\_\_\_\_

ADDRESS \_\_\_\_\_

TELEPHONE & FAX NO. \_\_\_\_\_

E-mail ID \_\_\_\_\_

SEAL OF TENDERER

WITNESS

OCCUPATION. \_\_\_\_\_



PROFORMA - III

GENERAL INFORMATION

All individual firms participating in this Bid are requested to complete the information in this form.

1	Name of Bidder	
2	Head Office Address	
	Tel. No	
	Mobile no.	
	Fax No	
	E-mail address	
3	Address on which Correspondence should be done	
	Tel. No	
	Mobile no.	
	Fax No	
	E-mail address	
4	Place of incorporation / registration	
5	Legal status of the applicant (attach copies of original documents defining the legal status)	
i)	Specify, if the bidder is	
	a) An individual	
	b) A proprietary firm	
	c) A firm in partnership	
	d) A Limited Company or Corporation	
	e) A group of firms / joint venture (if yes, give complete information in respect of each member)	Not Applicable
ii)	Attach a copy of Proprietorship or Partnership Deed or Article of Association or Incorporation of Company or JV Agreement as the case may be	
6	Name of Proprietor / Partners / Directors with their addresses, Mobile & Telephone numbers, Fax no., E-mail address.	
7	Designation of individuals authorized to act for the organization with the address, Mobile & Telephone numbers, Fax, E-mail address. <b>(Enclose legal Power of Attorney along with Board resolution in case of Companies).</b>	
8	Was the applicant ever required to suspend any construction for a period of more than six months continuously after commencement of the construction? If so, give the name of the project & reasons of suspension of work.	
9	Has the applicant of any constituent partner in case of partnership firm, ever abandoned the awarded work before its completion? If so, give name of the project and reasons for abandonment.	
10	Has the applicant, or any constituent partner in case of partnership firm ever	

	been debarred / black listed for tendering in any organization at any time? If so, give details.		
11	Has the applicant or any constituent partner in case of partnership firm, ever been convicted by a court of Law? If so, give details.		
12	Bank solvency		
13	Turn Over / Net Profit for the years given below:	Turn Over in Lakhs	Profit in Lakhs
	2015-16		
	2016-17		
	2017-18		
	2018-19		
	2019-20		
14	Other details:		
	a) EPF No. valid up to:		
	b) Sales Tax No. valid up to		
	c) Clearance of sales Tax up to		
	d) PAN No.		
	e) Goods & Service tax registration No.		
15	Give particulars of registration with Govt./Semi Govt./Public Sector Undertakings/Local Bodies.		
16	Give particulars of registration with Govt./Semi Govt./Public Sector Undertakings/Local Bodies		

Note: Use separate sheets for providing more information if any.

**Date & Place**

**Signature & seal of the applicant**

**PROFORMA – IV**

**List of major Plant and Machinery in possession of the firm**

S.No.	Name of Plant & Machinery/equipment	Minimum no required	Available Owned	*Other than col. No. C
A	B	C	D	E
1.	Crawler Excavator	1 NO		
2.	Wheeled Excavator	1 NO		
3.	Steel Shuttering Materials	4000 Sqm		
4.	Dumper	3 NO		
5.	Tractor with trolley	2 NO		
6.	Water Tanker	2 NO		
7.	Water Pump	2 NO		
8.	Survey Equipments with Calibration Certificates	1 No Total Station		
9.	Mixer Machine	2 NO		
10.	Mobile Batching Plants	1 NO		
11.	Breaker	2 NO		

**Date & Place**

**Signature & seal of the applicant**

Note:\* In case of any arrangement for getting the equipment on lease, etc., authenticated proof of the same is to be submitted.

\*\* Use separate sheets for providing more information.

**PROFORMA-V**

**Date:** \_\_\_\_\_

ANNUAL TURN OVER FOR THE LAST FIVE YEARS				
S. No.	YEAR	Turnover from Engineering construction works ( Rs in lacs )	Net Profit (In Rslacs )	Remarks (if any)
1	2015-16			
2	2016-17			
3	2017-18			
4	2018-19			
5	2019-20			

Note:

- 1 The bidder **shall submit the attested copies of the audited balance sheets** along with Profit and loss statements and Auditors report and schedules duly certified by the bidder and Chartered Accountant. Certificate from the Chartered Accountant, wherever the Annual Turnover is Certified for the relevant financial year in which the minimum criteria of Annual Turnover is satisfied should also be submitted.

**PROFORMA-VI**

**DETAILS OF THE SIMILAR WORKS COMPLETED IN LAST SEVEN YEARS**

S. No.	Description of the Work with Contract No.	Name and address of the Employer with Contact No.	Date of award	Stipulated date of completion	Date of actual completion	Value of completed work (In Rs.lacs)	Reasons for delays, penalty if any	Any other relevant information
1								
2								
3								
4								
5								
6								

**Note:**

1. The Bidder shall submit the attested Copies of the Completion Certificates from the Client.
2. The value of work executed should be inclusive of the value of free supply items.

**PROFORMA-VII**

**DETAILS OF ON-GOING/EXISTING WORKS**

S. No.	Description of the Work with Contract No.	Name and address of the Employer	Date of award	Stipulated date of completion	Value of work as per order (In Rs. lacs )	Value of work completed so far (In Rs. lacs )	Anticipated date of completion of work	Any other relevant information
1								
2								
3								
4								
5								
6								
7								
8								
9								

**Note:-**

The copies of certificates of ongoing-awarded works issued by the owner shall be attached.  
Only those works shall be considered for evaluation for which copies of the certificates issued by the owner are attached.

PROFORMA- VIII

PAST CONTRACTUAL PERFORMANCE

(Affidavit on non-judicial stamp paper of Rs 10/- duly attested by Notary/Magistrate)

This is to certify that We, M/s \_\_\_\_\_ *[Name of the Bidder with address],*  
in submission of the Bid, \_\_\_\_\_ *[Name of Bid with Bid no.]*

- i) have not made any misleading or false representation in the forms, Statements and attachments in proof of the qualification requirements;
- ii) do not have records of poor performance such as abandoning the Work, not properly completing the contract, inordinate delays in completion, litigation history or financial failures etc.;
- iii) Have never been banned by any Central/State Govt. Departments/Public Sector Undertakings or Enterprises of Central/State Govt. ;
- iv) have submitted all the supporting documents and furnished the Relevant details as per the prescribed format.; and
- v) have submitted all the information and the requisite documents with the Bid and further certify that we are fully responsible for the correctness of the information and documents submitted by us.

SIGNATURE OF THE BIDDER

SEAL

**Note:**

Exceptions of the above, if any, shall be clearly mentioned with details by the bidder for evaluation/consideration if any.

**PROFORMA – IX**

**BANK ACCOUNT PARTICULARS FOR REFUND OF EMD  
THROUGH ELECTRONIC MODE**

S. No.	Description	Particulars
1	Name of the Beneficiary	
2	Bank Name	
3	Bank Address	
4	Bank Branch code	
5	Account No.	
6	IFSC Code	
7	MICR No.	

Note: Bidders are advised to attach a copy of cancelled cheque for ensuring correctness of above details.

**Date & Place**

**Signature & seal of the applicant**



**PROFORMA - X**

**Certificate of Credit Facility**

(On Banker's letter Head)

This is to certify that M/s \_\_\_\_\_, is a reputed firm/company with a good financial standing.

The firm/company is enjoying a fund/non-fund based credit facility of Rs \_\_\_\_\_ to meet its working capital requirements.

The firm/company is having un-utilized fund/non-fund based credit facility of Rs \_\_\_\_\_ as on *dd/mm/year*.

**Signature**

**Name**

**Designation**

**Address of Bank**

**BANK'S SEAL**

**NOTE:** The above certificate shall be from the RBI Scheduled Bank.

**PROFORMA – XI**

**LITIGATION HISTORY  
(ON THE LETTER HEAD OF APPLICANT)**

S. No.	Name of Work	Client	Type of case (Court case/Arbitration Case)	Date of registering of case	Name & Address of Court / Arbitrator	Amount involved	Present Status	Remarks (if any)
1	2	3	4	5	6	7	8	9

Signature of Applicant  
With seal

Note:

Applicant has to submit the details of last 5 years in respect of Court cases / Arbitration cases.

**PROFORMA – XII**

**GST REGISTRATION DETAILS**

S.NO	Contractor/Vendor Details	
1	Name	
	Address(As per registration with GST)	
	City	
	Postal Code Region/State(Complete State Name)	
3	GSTIN ID/Provisional ID No.(Copy of Acknowledgement required)	
4	Type of Business(As per Registration with GST)	
5	Service Accounting Code/HSN Code	
6	Contact person	
	Phone Number and Mobile Number	
	Email id	
	Compliance rating(if undated by GSTN)	

**Date & Place**

**Signature & seal of the applicant**

**PROFORMA – XIII**

Dispatch number of bank / date

**SOLVENCY CERTIFICATE ON LETTER HEAD OF BANK**

This is to state that to the best of our knowledge and information that  
M/s..... having ...../registered ..... office  
address..... is customer of bank and has  
been maintaining his accounts with our branch since..... As per records available  
with the bank, M/s..... can be treated as solvent up to  
a limit of Rs..... (Rupees in words.....).

It is clarified that the above information is issued / furnished to NPCC Ltd at Customer's request  
for their PQ participation in various tenders.

**Name, Designation, Signature with Seal**

**Notes:**

1. In case of Partnership firm, Certificate should include names of all partners as recorded with the bank.
2. Copy of certificate is to be submitted along with the bid documents.

**PROFORMA – XIV****UNDERTAKING**

We certify that the works/services offered by us against the tender for the work “Construction of NDA Motivational Hall at Sainik School, Kalikiri, Dist: Chittoor , Andhra Pradesh ”, meet the minimum local content requirement and has local content:

- Equal to or more than 50% (Select this in case of Class-I Local suppliers) i.e .....% (indicating the percentage of local content)
- More than 20% but less than 50% (Select this in case of Class-II Local suppliers) i.e .....% (indicating the percentage of local content)
- **Delete whichever is not applicable.**

**Note: If the estimated of procurement is more than Rs. 10 Crores, all the bidders shall submit along with its bid a certificate (with UDIN) from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost accountant or practicing chartered account (in respect of suppliers other than companies) giving the percentage of local content.**

## VOLUME - 01



## SECTION-III

### GENERAL CONDITIONS OF CONTRACT (GCC)

**National Projects Construction Corporation Limited**  
(A Govt. of India Enterprise)

## GENERAL CONDITIONS OF CONTRACT

### 1.0 GENERAL

The Contract means the documents forming the tender and acceptance thereof and the agreement executed between the competent person on behalf of NPCC and the contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.

1.1 National Projects Construction Corporation Limited, hereinafter called 'NPCC' proposes to get the works executed as mentioned in the Contract on behalf of Owner/ Client.

1.2 The work will be executed as per drawings "GOOD FOR CONSTRUCTION" to be released by NPCC unless otherwise specified elsewhere in the tender documents.

1.3 In the contract, the following expressions shall, unless the context otherwise requires, have the meaning, hereby respectively assigned to them.

### 1.4 DEFINITIONS

- a) **ENGINEER-IN-CHARGE** means the PROJECT MANAGER or an officer nominated by Zonal Manager of NPCC who shall supervise and be in-charge of the work from time to time.
- b) **WORKS OR WORK:** The expression works or work shall unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.
- c) **CONTRACTOR** means the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company.
- d) **DRAWINGS** mean the drawings referred to in the Bill of Quantities, specifications and any modifications of such drawings or such other drawings as may from time to time be furnished or approved by NPCC.
- e) **SITE** means the lands and other places on, under, in or through which the works are to be executed or carried out and any other lands or places provided by NPCC or used for the purpose of the agreement.

- f) **APPROVAL** means approved in writing including subsequent written confirmation of previous verbal approval.
- g) **WRITING** means any manuscript typed, written or printed statement under or over signature and/or seal as the case may be.
- h) **MONTH** means English Calendar month 'Day' means a Calendar day of 24 Hrs each.
- i) **CONTRACT VALUE** means the sum for which the tender is accepted as per the letter of intent.
- j) **LANGUAGE:** All documents and correspondence in respect of this contract shall be in English Language.
- k) **BILL OF QUANTITIES** or **SCHEDULE OF QUANTITIES** means the priced and completed Bill of Quantities or Schedule of Quantities forming part of the tender.
- l) **OWNER** means Principal, Sainik School Kalikiri, Chittoor, Andhra Pradesh
- m) **IMPLEMENTING/ EXECUTING AGENCY** means National Projects Construction Corporation Limited (A Govt. of India Enterprise) referred as NPCC who has been retained as implementing agency by Principal, Sainik School Kalikiri, Chittoor, Andhra Pradesh
- n) **TENDER** means the Contractor's priced offer to NPCC for the execution and completion of the work and the remedying of any defects therein in accordance with the provisions of the Contract, as accepted by the Letter of Intent or Award letter. The word TENDER is synonymous with Bid and the word TENDER DOCUMENTS with "Bidding Documents" or "offer documents".

The headings in the clauses/ conditions of tender documents is for convenience only and shall not be used for interpretation of the clause/ condition.

Words imparting the singular meaning only also include the plurals and vice versa where the context requires. Words imparting persons or parties shall include firms, companies and other organizations having legal capacities.

## 2.0 SITE VISIT AND COLLECTING LOCAL INFORMATION

Before tendering, the tenderer is advised to visit the site, its surroundings to assess and satisfy themselves about the local conditions such as the working and other constraints at site, approach to the site, availability of water & power supply, application of taxes, cess duties and levies as applicable, nature of ground, soil and sub-soil condition, underground water table level, accommodations they may require etc. river regime, river water levels, other



details of river, streams & any other relevant information required by them to execute complete scope of work.

The tenderer may obtain all necessary information as to risks, weather conditions, contingencies & other circumstances (insurgencies etc.), which may influence or affect their tender prices. Tenderer shall be deemed to have considered site conditions whether he has inspected it or not and to have satisfied himself in all respect before quoting his rate and no claim or extra charges whatsoever in this regard shall be entertained / payable by the NPCC at a later date.

## **2.1 ACCESS BY ROAD**

Contractor, if necessary, shall build temporary access roads to the actual site of construction for the works at his own cost to make the site accessible. The Contractor shall maintain the same in motorable condition at all the times as directed by Engineer-in-Charge at his own cost. The contractor shall be required to permit the use of any roads so constructed by him for vehicles of NPCC or any other agencies/ contractors who may be engaged on the project site, free of cost.

Non-availability of access roads or approach to site, for the use of the contractor shall in no case condone any delay in the execution of work nor be the cause for any claim for compensation.

## **2.2 HANDING OVER & CLEARING OF SITE**

- 2.2.1 The Contractor should note that area for construction may be made available in phases as per availability and in conjunction with pace of actual progress of work at site. The work may be required to be carried out in constrained situations. The work is to be carried out in such a way that the traffic, people movement, if any, is kept operative and nothing extra shall be payable to the contractor due to this phasing / sequencing of the work. The contractor is required to arrange the resources to complete the entire project within total stipulated time. Traffic diversion, if required, is to be done and maintained as per specification by the contractor at his own cost and the contractor shall not be entitled for any extra payment, whatsoever, in this regard.
- 2.2.2 The efforts will be made by the NPCC to handover the site to the Contractor free of encumbrances. However, in case of any delay in handing over of the site to the Contractor, the NPCC shall only consider suitable extension of time for the execution of the work. It should be clearly understood that NPCC shall not consider any revision in contract price or any other compensation whatsoever viz. towards idleness of Contractor's labour, equipment etc.
- 2.2.3 The Contractor shall be responsible for removal of all over-ground and under-ground structures (permanent, semi-permanent and temporary) and constructions from the site. The cost to be incurred in this regard shall be deemed to be included in the quoted rate of Bill of Quantities items and contractor shall not be entitled for any extra payment whatsoever, in this regard. The contractor, if required, shall demolish old structures on the

- proposed site, properly. The useful material obtained from demolition of structures & services shall be— the property of the owner/NPCC and these materials shall be stacked in workmanship like at the place specified by the Engineer- in-charge.
- 2.2.4 If required, the contractor has to do site clearance, enabling work, barricading, diversion of Roads, shifting/ realignment of existing utility services, drains, nallahs etc. at his own cost as per direction of Engineer-in-charge and the contractor shall not be entitled for any extra payment whatsoever in this regard.
- 2.2.5 Necessary arrangements including its maintenance are to be made by the contractor for temporary diversion of flow of existing drain and road, as the case may be. The existing drain, road would be demolished, wherever required, with the progress of work under the scope of proposed project. The existing Road and Drain, which are not in the alignment of the said project but are affected and/ or need to be demolished during execution for smooth progress of the project, shall be rehabilitated to its original status and condition (including black topping) by the contractor at his own cost. The cost to be incurred by contractor in these regards shall be deemed to be included in the quoted rates of the Bill of Quantities items and contractor shall not be entitled for any extra payment whatsoever, in these regards.
- 2.2.6 The Contractor shall be responsible to co-ordinate with service provider/ concerned authorities for cutting of trees, shifting of utilities and removal of encroachments etc. and making the site un-encumbered from the project construction area required for completion of work. This shall include initial and frequent follow up meetings/ actions/ discussions with each involved service provider/ concerned authorities. The contractor shall not be entitled for any additional compensation for delay in cutting of trees, shifting of utilities and removal of encroachments by the service provider/ concerned authorities.
- 2.2.7 The information about the public utilities (whether over ground or underground) like electrical/ telephone/ water supply lines, OFC Cables, open drain etc. is the responsibility of contractor to ascertain the utilities that are to be affected by the works through the site investigation and collection of information from the concerned utility owners.
- 2.2.8 The contractor shall be responsible to obtain necessary approval from the respective authorities for shifting/ re-alignment of existing public utilities. NPCC shall only assist the contractor for liasoning in obtaining the approval from the concerned authorities.  
Take all measures reasonably required by the various bodies to protect their services and property during the progress of works. It shall be deemed to be the part of the contract and no extra payment shall be made to the contractor for the same. Shifting/ re-alignment of public utilities should be done without disturbing the existing one. New service lines should be laid and connected before dismantling the existing one.

2.2.9 Shifting re-alignment of existing public utilities shall be done by the contractor as per technical requirement of respective bodies or as per direction of Engineer-in-Charge. Shifting/ re-alignment of public utilities includes all materials, labours, tools and plants and any other expenses whatsoever for the same. The cost to be incurred in this regard shall be deemed to be included in his quoted rates of BOQ items and the contractor shall not be entitled for any extra payment, whatsoever, in this regard. In case any of these services are shifted by the State Govt/ local authorities themselves for which deposit as per their estimates is to be made to them, the contractor shall deposit the same and the contractor shall be paid only at the rates quoted by them in BOQ for quantity specified in the BOQ, if such items are included in the BOQ irrespective of amount paid by him to the State Govt./ local authorities for execution of these works. In case such provision is not made in the BOQ or the quantity exceeds those specified in the BOQ, the same is deemed to be included in the rates quoted by him for other items in BOQ and nothing extra shall be payable to contractor on this account.

### 3.0 SCOPE OF WORK

3.1 The scope of work covered in this tender shall be as per the Bill of Quantities, specifications, drawings, instructions, orders issued to the contractor from time to time during the work. The drawings for this work, which may be referred for tendering, provide general idea only about the work to be performed under the scope of this contract. These may not be the final drawings and may not indicate the full range of the work under the scope of this contract. Drawings released as “GOOD FOR CONSTRUCTION” from time to time by the Engineer-in-charge of NPCC and according be executed according to any additions/ modifications/ alterations/ deletions made from time to time, as required by any other drawings that would be issued to the contractor progressively during execution of work. It shall be the responsibility of the contractor to incorporate the changes that may be in this scope of work, envisaged at the time of tendering and as actually required to be executed.

3.2 The quantities of various items as entered in the “BILL OF QUANTITIES” are indicative only and may vary depending upon the actual requirement. The contractor shall be bound to carry out and complete the stipulated work irrespective of the variation in individual items specified in the bill of quantities.

### 4.0 VALIDITY OF TENDER

The e-tender for the works shall remain open for acceptance for a period of **one hundred twenty** days from the date of opening of Price Bid of tenders. The earnest money will be forfeited without prejudice to any right or remedy, in case the contractor withdraws his tender during the validity period or in case he changes his offer to his benefits, which are not acceptable to NPCC. The validity period may be extended on mutual consent.

### 5.0 ACCEPTANCE OF TENDER

5.1 The NPCC reserves to itself the authority to reject any or all the tenders received without assigning any reason. The acceptance of a tender shall be effective w.e.f. the date on which the telegram/ letter of intent of acceptance of the tender is put in the communication by the NPCC. NPCC also reserves the right to split the work among two or more parties at lowest negotiated rate without assigning any reason thereof. The contractor is bound to accept the portion of work as offered by NPCC after split up at the quoted/-negotiated rates.

5.2 The employer reserve the rights to restrict the bidder{s} for opening the price bid in case there are number of packages in the vicinity and the employer does not want to award more than its specified number of packages as matter of strategy to one bidder, the bid in such case will be returned unopened as mentioned in the “ Tender document” in such case. Order of opening of bids shall be in order of decreasing value of packages.

## 6.0 SET OF CONTRACT DOCUMENTS

1. Notice Inviting e-Tender
2. Corrigendum(s) and Addendum (s).
3. Pre-Qualification Documents
4. General Conditions of Contract
5. Special Conditions and Formats
6. BOQ/Schedule of Rates
7. Technical Specifications
8. Tender Drawings

## 7.0 EARNEST MONEY DEPOSIT

7.1 Earnest Money Deposit of amount as mentioned in “Memorandum to Form of Tender” required to be submitted along with the tender shall be in the form as mentioned in “NIT/ Instructions to Bidders” in favour of NPCC Ltd. payable at Bhubaneswar from any Nationalized Bank/Scheduled Bank. The EMD shall be valid for minimum period of 120 days (One hundred Twenty days) from last day of submission of Tender.

7.2 EMD shall accompany the offer and placed in the sealed envelope cover of the offer as detailed in the Instructions to Bidders. Any tender not accompanied with the requisite Earnest Money Deposit along with Letter of Acceptance shall be rejected and such tenderer(s) will not be allowed to attend the opening of bids. Conditional tenders will be summarily rejected.

7.3 Deleted

7.4 Deleted

7.4 Deleted

7.6 EMD will be returned to all unsuccessful or technically unqualified tenderers after opening of price bid and to the technically qualified tenderers other than lowest (L-1) within ten (10) days of the Award of the Contract to successful bidder. EMD of successful tenderer shall be refunded after submission of Performance Guarantee/ initial security deposit duly confirmed from issuing bank.

- 7.7 Once the tenderer has given an unconditional acceptance to the tender conditions in its entirety, he is not permitted to put any remark(s)/conditions(s)(except unconditional rebate on price, if any) in/ along-with the tender.
- 7.8 In case the condition 7.8 mentioned above is found violated at any time after opening of tender, the tender shall be summarily rejected and NPCC shall, without prejudice to any other right or remedy, be at liberty to forfeit the full said Earnest Money absolutely.
- 7.9 No interest shall be payable by the NPCC on the said amount covered under EMD/Other security deposits.

## 8.0 MOBILISATION ADVANCE

- 8.1 Mobilization Advance up to maximum of amount as mentioned in the “Memorandum to the Form of Tender” shall be paid to the contractor on submission of non-revocable Bank Guarantee for an amount of 110% (One hundred ten percent) of an amount of Mobilization Advance demanded, from a nationalized / Scheduled Bank as per list annexed in enclosed Performa. The Mobilization Advance shall be at the **interest rate of 12% simple interest** as mentioned in the “Memorandum to the Form of Tender”.

This advance shall be paid in two installments as follows-

- i. First Installment of 50 (Fifty) percent of total mobilization advance against Bank Guarantee shall be paid after the agreement is signed and upon submission of performance guarantee and its confirmation from issuing bank.
  - ii. 2<sup>nd</sup> Instalment of balance 50 (Fifty) percent of total mobilization advances against Bank Guarantee will be paid after the setting up of site office and facilities to NPCC as per contract, completion of mobilization of Plant and machinery, scaffolding & shuttering materials etc. to the satisfaction of Engineer-in-charge nominated by Project Manager / Zonal Manager and on completion of 10 (Ten) percent of work in terms of cost.
- 8.2 The mobilization advance bear simple interest at the rate as mentioned in the MEMORANDUM and shall be calculated from the date of payment to the date of recovery (365 days in a year) both days inclusive, on the outstanding amount of advance. Recovery of such sums advanced shall be made by the deduction from the contractor's bills commencing after first 10 (ten) percent of the gross value of the work is executed and paid, on pro-rata percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered by the time 80 (eighty) percent of the gross value of the contract is executed and paid, together with interest due on the entire outstanding amount up to the date of recovery of the installment.

The Mobilization Advance bank guarantee shall essentially be made atleast for the 110% (One hundred ten percent) of total mobilization advance payable and valid for the contract period, and be kept renewed from time to time to cover the balance amount and likely period of complete recovery together with interest. However, the contractor can submit part bank guarantees against the mobilization advance in as many numbers as the proposed recovery installments equivalent to the amount of each installment.



- 8.3 Notwithstanding what is contained in clause No. 8.1 & 8.2, no mobilization advance whatsoever shall be payable, if payment of mobilization advance is not mentioned in the memorandum to the form of tender.
- 8.4.1 Mobilization advance will be paid to the contractor if received from client

## 9.0 PERFORMANCE GUARANTEE

Within 15 days from the date of issue of LOA / LOI, the tenderer shall submit Performance Guarantee amounting to 3% (Three percent) of the awarded value of work in the form of Demand Draft/fixed deposit in favour of NPCC Ltd. or Bank Guarantee from the Nationalized/Scheduled Bank (as per list enclosed) of equivalent value. No interest will be paid under any circumstances. The Performance Bank Guarantee shall remain valid till completion of project/taking over by client whichever is later. **This Performance Guarantee initially be submitted with the validity till scheduled completion period as per tender document but in case of extension of completion due to any reason, it is the responsibility of the agency to get it extended one month prior to its expiry without any claim on it, in case of failure, NPCC may get it en-cashed without giving any notice.** An amount is to be deposited equivalent to 0.01% per day of the amount of Performance Guarantee for extended /delayed period of submission of Performance Guarantee. In no case the extension will be granted for more than 15 days. In case of non-submission of Performance Guarantee within stipulated / extended period, it will be presumed that agency is not interested in the work and EMD submitted will be forfeited without any notice.

If the bid of the successful bidder is seriously unbalanced in relation to the Engineer'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. After evaluation of the price analysis, the Employer may require that the amount of the Performance Security set forth in ITB 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. The amount of the increased Performance Security shall be decided at the sole discretion of the Employer, which shall be final, binding and conclusive on the bidder. The detailed price analysis produced by bidder if not found satisfactory, the bid will be rejected.

On receipt of the Performance Guarantee in the form of DD/FDR/BG & duly confirmed from issuing branch, the EMD will be refunded. EMD deposited in the form of Banker's Cheque /Demand draft will be refunded directly to bidder's bank account through Electronic mode.

## 10.0 SECURITY DEPOSIT

The security deposit will be deducted from the successful contractor at the rate of 10% from the Gross value of each R/A bills till it reaches **5 % of the contract value**. No interest will be paid on the Security Deposit under any circumstances. The total security deposit will be refunded only after expiry of defect liability period. However after successful completion of work 50% of the security deposit can be released against bank guarantee from any Nationalized/Scheduled Bank as per approved format.

## 11.0 MOBILISATION OF MEN, MATERIALS AND MACHINERY:

- 11.1 All expenses towards mobilization at site and de-mobilization including bringing in equipment, work force, materials, dismantling the equipment, clearing the site etc.

shall be deemed to be included in prices quoted and no separate payment on account of such expenses shall be entertained.

- 11.2 It shall be the responsibility of the Contractor to provide, operate and maintain all necessary construction equipments, scaffoldings and safety, gadget, lifting tackles, tools and appliances to perform the work in a workman like and efficient manner and complete all jobs as per the specifications and within the schedule time of completion of work. Further, contractor shall also be responsible for obtaining temporary electric and water connection for all purposes. The contractor shall also make standby arrangement for water & electricity to ensure un-interrupted supply.
- 11.3 It shall be the responsibility of the contractor to obtain the approval for any revision and/ or modification of work desired by him from NPCC before implementation. Also such revisions and/or modifications if accepted / approved by the NPCC shall be carried at no extra cost to NPCC.
- 11.4 The procurement and supply in sequence and at the appropriate time of all materials and consumable shall be entirely the contractor's responsibilities and his rates for execution of work shall be inclusive of supply of all these items.
- 11.5 It is mandatory for the contractor to provide safety equipments and gadgets to its all workers, supervisory and Technical staff engaged in the execution of the work while working. The cost of the above equipments/ gadgets are deemed to be included in the rates quoted by the contractor for the items & works as per Bill of Quantities and contractor shall not be entitled for any extra cost in these regard. The above norm is to be strictly complied with at site. In case the contractor is found to be deficient in providing Safety Equipments/ Gadgets in the opinion of Engineer-in-charge, the Engineer-in-charge at his option can procure the same at the risk & cost of contractor and provide the same for the use of worksite and shall make the recoveries from the bills of the contractor for the same. The decision of the Engineer-in-charge shall be final and binding on contractor in this regard.
- 11.6 All designs, drawings, bill of quantities, etc. shall be supplied to the contractor for works by NPCC in phased manner as the works progress. However it shall be the duty and responsibility of the contractor to bring to the notice of the NPCC in writing as to any variation, discrepancy or any other changes required and to obtain revised drawings and designs and / or approval of the NPCC in writing for the same.
- 11.7 One copy of contract documents including drawings furnished to the contractor shall be kept at the site and the same shall at all reasonable times be available for inspection.
- 11.8 All materials, construction plants and equipments etc. once brought by the contractor within the project area, will not be allowed to be removed from the premises without the written permission of the NPCC. Similarly, all enabling works built by the contractor for the main construction undertaken by him, shall not be dismantled and removed without the written authority of the NPCC.

## **12.0 INCOME TAX DEDUCTION**

Income tax deductions shall be made from all payments made to the contractor including advances against work done, as per the rules and regulations in force, in accordance with the Income Tax Act prevailing from time to time.

## **13.0 TAXES AND DUTIES**

- 13.1 The contract price is inclusive of all taxes, duties, cess and statutory levies payable under any law including but not restricted to Goods and Service Tax (GST) levied by Union and State Governments (CGST, SGST, UTGST, IGST), labourcess, Custom Duty, Royalty, Toll Tax and any other such taxes and duties leviable by Local/State/Union Government from time to time on all such articles, materials which may be used for this work or any other tax (duty etc.) paid by the contractor.
- 13.2 In case of any change in rate of tax or any provision relating levy of tax resulting in increase in burden of tax on the contractor, the contractor shall not be entitled to receive any compensation for such increase in quantum of tax on the contractor. Similarly, no recovery shall be made from the contractor on account of decrease of rate of tax or any provision relating to levy of tax.
- 13.3 Contractor must be registered under Goods and Service Tax (GST) laws, and copy of the registration certificate of the same shall be submitted to NPCC.
- 13.4 Apart from the registration as mentioned at 13.3 above contractors shall also obtain all other necessary registrations required under any other Local/State/Union Government Statute, for the execution of this contract, if any.
- 13.5 Contractor must submit as a compliance of GST Laws, Tax Invoice, as per applicable rules and regulations under the GST Act(s), failing which GST amount will be recovered by NPCC without any recourse or prior notice from the next invoices/Security Deposit/Bank Guarantees and/or available dues with NPCC.
- 13.6 The contractor/service provider shall be responsible for issuing of Tax Invoices, filing of statutory return and deposit of statutory taxes within the time limit as prescribed in law. Any interest/Penalty/taxes (non availment of Input Tax Credit due to mismatch to GSTR2) which is required to be paid by NPCC due to default by the contractor/service provider to comply with the above-mentioned activity/provisions as prescribed in laws, rules and regulations shall be recovered from the contractor/Service provider and adjustment shall be made when mismatch is attended and solved and credit is extended to NPCC.
- 13.7 Apart from compliance mentioned at 13.6 above, in the event of nonpayment/default in payment of taxes and duties and any other statutory compliances, under any other Local/State/Union Government Statute, NPCC reserves the right to withhold the dues/payment of contractor and make payment to Local/State/Union Government authorities or to Labourers, as may be applicable.
- 13.8 It is clearly understood that the contractor is fully aware of all GST Laws and his Liabilities and responsibilities under the said laws including but not restricted to correct HSN/SAC code, applicable rate of taxes of GST or otherwise on which his liability has to be paid and discharged. NPCC shall have no liability or responsibility for any penalty or proceedings or any other liability levied or leviable on the contractor because of lower deduction or any other such non-compliance of the contractor.
- 13.9 Bidders will examine the various provisions of the Central Goods and Service Tax Act.,2017 (CGST)/ Goods and Service Tax Act (IGST)/Union Territory Goods and Service Tax Act,2017 (UTGST)/respective state's State Goods and Service Tax Act (SGST) also, as notified by Central/State Government and as amended from time to time and applicable taxes before bidding. Bidders will ensure that full benefit of Input Tax Credit (ITC) likely to be availed by them is duly considered while quoting rates.



- 13.10 Anti-Profiteering Clause upon implementation of GST any reduction in tax on account of anti-profiteering on supply of goods or services, the benefit of input tax credit shall be passed on to NPCC by way of commensurate reduction in prices.
- 13.11 In case of any law requires NPCC to pay tax on the contract price on reverse charge basis, the amount of tax deposited by NPCC would be considered as per Income Tax Act, GST Laws or any other law as applicable.
- 13.12 Stamp duty and registration charges, if any, payable on the executed contract document, shall be borne by the contractor.
- 13.13 All notice / bills raised by agency has to compulsory mention NPCC GSTIN no. **21AAACR6117Q1ZA**

#### **14.0 ROYALTY ON MATERIALS**

The contractor shall deposit royalty and obtain necessary permit for supply of bajri, stone, kankar, sand etc. from the local authorities and quoted rates shall be inclusive of royalty on any account whatsoever.

#### **15.0 RATES TO BE FIRM**

- 15.1 The Percentage rates quoted by the tenderer shall be firm and fixed for the entire period of completion and till handing over of the work. No revision to Percentage rates or any escalation shall be allowed on account of any increase in prices of materials, labour, POL and Overheads etc. or any other statutory increase during the entire contract period or extended contract period.
- 15.2 The contractor shall be deemed to have inspected the site, it's surrounding and acquainted with the nature of the ground, accessibility of the site and full extent and nature of all operations necessary for the full and proper execution of the contract, space for storage of materials, constructional plant, temporary works, restrictions on the plying of heavy vehicles in area, supply and use of labour, materials, plant, equipment and laws, rules and regulations, if any, imposed by the local authorities.
- 15.3 The rates and prices given in the bill of quantities are for completed and finished items of works and complete in all respects. It will be deemed to include all constructional plant, labour, supervision, materials, transport, all temporary works, erection, maintenance, contractor's profit and establishment/ overheads, together with preparation of designs & drawings pertaining to casting yard, shop drawing, fabrication drawing (if required), staging form work, stacking yard, etc. all general risk, taxes, royalty, duties, cess, octroi and other levies, insurance liabilities and obligations set out or implied in the tender documents and contract.
- 15.4 Unless otherwise specified in the Bill of Quantities (BOQ), the contractor has to make his own arrangement for dewatering/ bailing out of water, effluent including strutting, shoring etc. at every stage of work wherever required including working under foul condition as per direction of Engineer-in-Charge at his own cost and the contractor shall not be entitled for any extra payment, whatsoever, in this regard.
- 15.5 If required to make work site suitable for execution, contractor shall have to clear jungle including of rank vegetation, grass, trees etc., clear & clean existing drains/ canals (including strutting, shoring and packing cavities) and dispose them out of the site up to any lead and lift as per direction of Engineer-in-charge. The contractor should inspect the site of work from this point of view. Unless otherwise specified in

the Bill of Quantities, the cost to be incurred in this regard shall be deemed to be included in his quoted rates of BOQ items and the contractor shall not be entitled for any extra payment in this regard.

- 15.6 If any temporary/ permanent structure is encountered or safety of such structure in the vicinity is endangered due to execution of the project, the contractor has to protect the structures by any means as per the directions of the Engineer - in - Charge. If any damage caused to any temporary or permanent structure(s) in the vicinity is caused due to execution of the project, the contractor has to make good the same by any means as per directions of the Engineer - in - Charge. The contractor should inspect the site of work from this point of view. The cost to be incurred in this regard shall be deemed to be included in his quoted rates of BOQ items and the contractor shall not be entitled for any extra payment in this regard.

#### **16.0 ESCALATION/ PRICE VARIATION**

No claim on account of any price variation / Escalation on whatsoever ground shall be entertained at any stage of works. All Percentage rates as per Bill of Quantities (BOQ) quoted by Contractor shall be firm and fixed for entire contract period as well as extended period for completion of the works. No escalation/price variation clause shall be applicable on this contract.

#### **17.0 INSURANCE OF WORKS ETC.**

Contractor is required to take **contractor's all risk policy** or erection all risk policy (as the case may be) from an approved insurance company in the joint name with NPCC and bear all costs towards the same for the full period of execution of works including the defect liability period for the full amount of contract against all loss of damage from whatever cause arising other than excepted risks for which he is responsible under the terms of the contract and in such manner that the NPCC and the contractor are covered during the period of construction of works and/or also covered during the period of defect liability for loss or damage:

- a. The work and the temporary works to the full value of such works.
- b. The materials, constructional plant, centering, shuttering and scaffolding materials and other things brought to the site for their full value.

Whenever required by NPCC, the contractor shall produce the policy or the policies of insurance and the receipts for payment of the current premiums.

#### **18.0 INSURANCE UNDER WORKMEN COMPENSATION ACT**

Contractor is required to take insurance cover under the Workman Compensation Act, 1923 amended from time to time from an approved insurance company and pay premium charges thereof. Wherever required by NPCC the contractor shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums.

#### **19.0 THIRD PARTY INSURANCE**

Contractor is required to take third party insurance cover for an amount of 5% (five percent) of contract value from an approved insurance company for insurance against any damage, injury or loss which may occur to any person or property including that of NPCC, arising out of the execution of the works or temporary works. Wherever required by NPCC the contractor shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums. In case of failure of the contractor to obtain contractors all risk policy, insurance under

workman compensation act and third-party insurance as described above within one month from the date of commencement of work, running account payments of the contractor shall be withheld till such time the contractor obtains the aforesaid insurance covers.

If the Contractor could not effect a comprehensive insurance cover against risks which he may be required to effect under the terms of the contract, then he shall give his attention to get the best insurance cover available and even in case of effecting a wider insurance cover than the one which the subsidiary of the General Insurance Company could offer, such an insurance is ought to be done after the NPCC's approval, by or through the subsidiary of the General Insurance Company.

## **20.0 INDEMNITY AGAINST PATENT RIGHTS**

The contractor shall fully indemnify the NPCC from and against all claims and proceedings for or on account of any infringement of any patent rights, design, trademark or name or other protected rights in respect of any construction plant, machine, work or material used for in connection with the works or temporary works.

## **21.0 LABOUR LAWS TO BE COMPLIED BY THE CONTRACTOR**

The contractor shall obtain a valid license under the contract labour (R & A) Act 1970 and the contract labour Act (R&A) Central Rules 1971 and amended from time to time, and continue to have a valid license until the completion of the work including defect liability period. The contractor shall also abide by the provision of the child labour (Prohibition and Regulation) Act. 1986 and amended from time to time. Any failure to fulfill this requirement shall attract the penal provisions of this contract arising out the resultant for non-execution of the work before the commencement of work.

21.1 No labour below the age of 18 years shall be employed on the work.

## **22.0 LABOUR SAFETY PROVISION**

The contractor shall be fully responsible to observe the labour safety provisions.

## **23.0 OBSERVANCE OF LABOUR LAWS**

23.1 The contractor shall be fully responsible for observance of all labour laws applicable including local laws and other laws applicable in this matter and shall indemnify and keep indemnified NPCC against effect or non-observance of any such laws. The contractor shall be liable to make payment to all its employees, workers and sub-contractors and make compliance with labour laws. If NPCC or the client/ owner is held liable as "Principal Employer" to pay contributions etc. under legislation of Govt. or Court decision in respect of the employees of the contractor, then the contractor would reimburse the amount of such payments, contribution etc. to NPCC and/ or same shall be deducted from the payments, security deposit etc. of the contractor.

23.2 The Contractor shall submit proof of having valid EPF registration certificate. In absence of the said certificate payment to the extent of 4.70% (four point seventy percent) of the value of the Running Account bill may be withheld by NPCC and shall be released only after the production of the EPF registration certificate from the concerned authorities. If it is incumbent upon NPCC to deposit withhold amount with EPF authorities, the withhold amount shall be deposited by NPCC with EPF

authorities. In such a case NPCC shall not refund this withheld amount to the contractor even after the production of EPF registration certificate.

- 23.3 The contractor shall be liable to pay cess levied under the Building and other Construction Workers Welfare Cess Act, 1996, at such rates as may be notified by the Government from time to time. The NPCC shall deduct at source from every Running Account Bill of the Contractor, the said cess, at such rates for the time being prevailing, which shall not exceed 2% (two percent) but not be less than 1% (one percent) of the cost of construction incurred by the NPCC.

#### **24.0 LAW GOVERNING THE CONTRACT**

The Indian Laws shall govern this contract for the time being in force.

#### **25.0 LAWS, BY LAWS RELATING TO THE WORK**

The contractor shall strictly abide by the provisions, for the time being in force, of law relating to works or any regulations and bylaws made by any local authority or any water & lighting agencies or any undertakings within the limits of the jurisdiction of which the work is proposed to be executed. The contractor shall be bound to give to the authorities concerned such notices and take all approvals as may be provided in the law, regulations or bylaws as aforesaid, and to pay all fees and taxes payable to such authorities in respect thereof.

#### **26.0 EMPLOYMENT OF PERSONNEL**

- 26.1 The contractor shall employ only Indian Nationals as his representatives, servants and workmen after verifying their antecedents and loyalty. He shall ensure that no personnel of doubtful antecedents and any other nationality in any way are associated with the works.
- 26.2 The NPCC shall have full power and without giving any reason to the contractor, immediately to get removed any representative, agent, servant and workmen or employees on account of misconduct negligence or incompetence or whose continued employment may in his opinion be undesirable. The contractor shall not be allowed any compensation on this account.

#### **27.0 TECHNICAL STAFF FOR WORK**

- 27.1 The contractor shall employ at his cost the adequate number of technical staff during the execution of this work depending upon the requirement of work. For this purpose the numbers to be deployed, their qualification, experience as decided by NPCC shall be final and binding on contractor. The contractor shall not be entitled for any extra payment in this regard. The technical staff should be available at site, whenever required by NPCC to take instructions.
- 27.2 Within 15 days of letter of intent, the contractor shall submit a site organizational chart and resume including details of experience of the Project-in-Charge and other staff proposed by him and shall depute them on the Project after getting approval from Engineer-in-Charge. If desired by the contractor at a later date, the Project-in-Charge and other staff whose resume is approved by NPCC can be replaced with prior written approval of NPCC and replacement shall be with equivalent or superior candidate only. Decision of Engineer-in-Charge shall be final and binding on the contractor.

Even after approving the site organizational chart, the Engineer-in-Charge, due to nature and exigency of work, can direct the contractor to depute additional staff as per the requirement.

The removal of such additional staff from the site shall only be with the prior written approval of Engineer-in-Charge. The contractor shall not be paid anything extra whatsoever on account of deployment of additional staff and decision of the Engineer-in-Charge shall be final and binding on the contractor.

The desired numbers of personnel for the project are as follows:

Sl.No.	Contract Value	Graduate Engineers		Diploma Engineers	
		Civil	Mechanical/ Electrical	Civil	Mechanical/ Electrical
1.	Up to 5.00 Crores	-	-	02	01
2.	More than 5.00 & Up to 10.00 Crores	01	-	02	01
3.	More than 10.00 & Up to 25.00 Crores	02	01	02	01
4.	More than 25.00 & Up to 50.00 Crores	03	01	03	01
5.	More than 50.00 & Up to 75.00 Crores	04	02	04	02
6.	More than 75.00 & Up to 100.00	05	02	06	03
7.	More than 100.00	06	03	08	04

- 27.3 In case the contractor fails to employ the staff as aforesaid he shall be liable to pay a reasonable amount not exceeding a sum of Rs. 40,000/- (Rupees forty thousand only) for each month of default in the case of each Graduate Engineer and Rs.25,000/- (Rupees twenty-five thousand only) in the case of each Diploma Engineer. The decision of the Engineer-in-charge as to the number of Technical Staff to be adequate for the project and the period for which the required technical staff was not employed by the contractor and as to the reasonableness of the amount to be deducted on this account shall be final and binding on the contractor.

## **28.0 LAND FOR LABOUR HUTS/ SITE OFFICE AND STORAGE ACCOMMODATION**

- 28.1 The contractor shall arrange the land for temporary office, storage accommodation and labour huts at his own cost and get the clearance of local authorities for setting up of labour camp and same is deemed to be included in the rates quoted by the contractor for the works. The contractor shall ensure that the area of labour huts is kept clean and sanitary conditions are maintained as laid down by the local authorities controlling the area. The labour huts shall be so placed that it does not hinder the progress of work or access to the worksite. Contractor shall give the vacant possession of the land utilized for this purpose back after completion of the work. The security deposit of the contractor shall be released only after contractor demolishes all structures including foundations and gives back clear vacant possession of this land.
- 28.2 In the event the contractor has to shift his labour campus at any time during execution of the work on the instructions of local authorities or as per the requirement of the work progress or as may be required by NPCC, he shall comply with such instructions at his cost and risk and no claim whatsoever shall be entertained on this account.

### 28.3 FURNISHED OFFICE ACCOMMODATION & MOBILITY AND COMMUNICATION TO BE PROVIDED BY CONTRACTOR TO NPCC

On account of furnished Project office equipped with all facilities such as telephone, fax, internet, photocopier, computer/ laptop & printer along with operator, regular electric & purified drinking water supply and inspection vehicle etc. as per the requirement of the project an amount equal to 1.0 % (One Percent) of gross bill from all running account & final bill will be recovered.

The contractor shall also make sufficient arrangement for Photography/ Videography preferably by maintaining a camera/video camera at site so that video photographs can be taken of a specific activity at any point of time. The contractor shall also provide software like MS Project etc. for the purpose of preparing progress report etc .

- 28.4 The contractor shall make all arrangements for ground breaking ceremony / inaugural function etc. for the project as required and the cost towards it deemed to be included in his rates/offer.

### 28.5 UTILISATION OF WORK FORCE OF NPCC BY THE CONTRACTOR

NPCC may supply skilled/semiskilled work force if available in surplus and required by the contractor, like work supervisors, masons, wireman, plumber etc. or any other category to assist the contractor in execution of the works at the fixed recovery rate of Rs. 20,000/- per month for each number of workforce (Rupees twenty thousand only per month) or any higher rate mentioned in the “Memorandum to the Form of Tender” against each work force, till handing over of the whole project.

Recoveries, as stated above will be made by NPCC from the monthly running account bills. The contractor shall deploy such work force on the execution of the works as per their trades and deployment shall be for the entire contract period till completion and handing over of works.

Further, the monthly rate per person is for the purpose of recovery only and in no way shall be construed to be the rate applicable for working out analysis, justification of rates, extra items, claims etc.

Sl. No.	Value of the Project as per agreement (Rs.in crores)	Number of work force of various categories
1.	From Rs.1 crore to 2.5 crore	1
2.	Above Rs.2.5 crore to 5 crore	3
3.	Above Rs.5 crore to 7.5 crore	4
4.	Above Rs.7.5 crore to 10 crore	6
5.	Above Rs.10 crore to 15 crore	8
6.	Above Rs.15 crore to 20 crore	10
7.	Above Rs.20 crore to 30 crore	12
8.	Above Rs.30 crore to 50 crore	15
9.	Above Rs.50 crore to 75 crore	20
10	Above Rs.75 crore up to any value.	25

### 29.0 WATCHING AND LIGHTING

The contractor shall at his own cost take all precautions to ensure safety of life and property by providing necessary barriers, lights, watchmen etc. during the progress of work as directed by Engineer-in-Charge.

### 30.0 HEALTH & SANITARY ARRANGEMENTS



In case of all labour directly or indirectly employed in work for the performance on the contractor's part of this contract, the contractor shall comply with all rules framed by Govt. from time to time for the protection of health and sanitary arrangements for workers.

### **31.0 WORKMEN'S COMPENSATION ACT**

The contractor shall at all times indemnify NPCC and Owner against all claims for compensation under the provision of workmen's compensation Act or any other law in force, for any workmen employed by the contractor or his sub-contractor in carrying out the contract and against all costs and expenses incurred by the NPCC therewith.

### **32.0 MINIMUM WAGES ACT**

The contractor shall comply with all the provisions of the minimum wages Act, 1948, contract labour Act (R&A) 1970, and rules framed there under and other labour laws/local laws affecting contract labour that may be brought into force from time to time.

### **33.0 LABOUR RECORDS**

The contractor shall submit by the 4th & 19th of every month to the Engineer-in-Charge of NPCC a true statement, showing in respect of the second half of the preceding month and the first half of the current month, respectively, of the following data:

- a) The number of the labour employed by him (category-wise).
- b) Their working hours.
- c) The wages paid to them.
- d) The accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused.
- e) The number of female workers who have been allowed Maternity Benefits and the amount paid to them.
- f) Any other information required by Engineer-in-Charge.

### **34.0 RELEASE OF SECURITY DEPOSIT AFTER LABOUR CLEARANCE**

Security Deposit of the work shall not be refunded till the contractor produces a clearance certificate from the Labour Officer. As soon as the work is virtually complete, the contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge. The Engineer-in-Charge, on receipt of the said communication, shall write to the Labour Officer to intimate if any complaint is pending against the contractor in respect of the work. If no complaint is pending, on record till after 3 months after completion of the work and/or no communication is received from the Labour Officer to this effect till six months after the date of completion, it will be deemed to have received the clearance certificate and the Security deposit will be released if otherwise due.

### **35.0 SECURED ADVANCE AGAINST NON-PERISHABLE MATERIALS**

Interest free secured advance up-to a maximum of 75 % (seventy five percent) of the Market Value of the Materials or the cost of materials as derived from the tendered item rate of the contractor, whichever is less, required for incorporation in the permanent works and brought to site and duly certified by NPCC Site Engineer shall be paid to the Contractor for all non-perishable items as per CPWD norms. The advance will be paid only on submission of Indemnity Bond in the prescribed pro-

forma. The advance shall be recovered in full from next Running Account bill and fresh advance paid for the balance quantities of materials. The contractor shall construct suitable godown at the site of work for safe storing the materials against any possible damages due to sun, rain, dampness, fire, theft etc. at his own cost. He shall also employ necessary watch & ward establishment for the purpose at his costs and risks.

- 35.1 Payment of such advance shall be processed by NPCC with a certificate from an Officer not below the rank of Executive Engineer as under:
- a) The quantities of material for which advance is to be made are required being claimed have actually been brought to site.
  - b) Full quantity of the material for which advance is to be made are required by the contractor for use on items of work for which rates for finished work have been agreed up on.
  - c) The quality of materials is as per desired specifications and having the desired test certificates from the approved laboratories.

### 36.0 MEASUREMENTS OF WORKS

Unless otherwise mentioned in the bill of quantities the measurements of works shall be done as per CPWD specifications (as specified in Technical Specification of the Tender) and if the same is not given in the CPWD Specifications, the same shall be measured as per latest relevant BIS codes in force. The quantity of steel reinforcement and the structural steel sections incorporated in the work shall be measured & paid on the basis of standard coefficients of sections as per BIS Codes of practice.

### 37.0 PAYMENTS

- 37.1 The bill shall be submitted by contractor each month on or before the date fixed by the Engineer-in-Charge for all works executed in previous months. The contractor shall prepare computerized bills using the program as approved by Engineer-in-Charge as per prescribed format/ pro-forma. The Contractor shall submit 3 numbers of hard copies and one soft copy for all bills, subject to clause 37.3 herein below, the payment due to the contractor shall be made within fifteen days of getting the measurements verified from the Engineer-in-Charge or his subordinate/ representative and certification of bill by the Engineer-in-Charge.
- 37.2 All running payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed and / or accepted by NPCC and shall not preclude the recovery for bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed or re-erected or be considered as an admission of the due performance of the Contract, or any part thereof, in this respect, or the accruing of any claim, nor shall it conclude, determine or affect in any way the powers of the NPCC under these conditions or any of them as to the final settlement and adjustments of the accounts or otherwise, or in any other way vary/ affect the contract. The contractor shall submit the final bill within three months of the completion of work, otherwise NPCC's certificate of the measurement and of the total amount payable for the work accordingly shall be final and binding on contractor.

Each Running Bills should be accompanied by two sets of photographs as per direction of Engineer-in-charge taken from various points depicting status of work as on Report/ Bill date along with Monthly Progress Report for the concerned month in



the pro-forma to be given/ approved by Engineer-in-Charge. Intermittent progress Photographs as and when required shall also be provided by the Contractor at his own cost as per direction of Engineer-in-Charge. No payment of running account bill shall be released unless it is accompanied by progress photographs and Monthly Progress Report as above.

37.3 It is clearly agreed and understood by the Contractor that notwithstanding anything to the contrary that may be stated in the agreement between NPCC and the contractor, the contractor shall become entitled to payment only after NPCC has received the corresponding payment(s) from the client/ Owner for the work done by the contractor. Any delay in the release of payment by the client/ Owner to NPCC leading to a delay in the release of the corresponding payment by NPCC to the contractor shall not entitle the contractor to any compensation/ interest from NPCC.

37.4 All payments shall be released by NPCC by Payee's Account cheque from any of its offices in India directly at the address notified by the Contractor (Postage charges shall be charged to the contractor's account). In case of payments is made by Demand Draft at the request of the Contractor, Bank Commission charges shall be debited to the account of contractor.

37.5 **Back to Back Payment Clause:** The Associates/Sub-consultant/Sub-Contractor acknowledges that under the present Contract/Agreement/Work Order/Arrangement, NPCC is only working as intermediary between ST and SC Development Department odisha being Principal Employer/Client and associates/Sub-consultant/Sub-Contractor unconditionally acknowledges that the payment under the present contract/Agreement/Work Order/Arrangement shall be made proportionately by NPCC only on back to back basis i.e., after 21 days subject to receipt of payment from ST and SC Development Department odisha being Principal employer/Client. The associates/Sub-consultant/sub-Contractor also unconditionally agree that in the event of the payment or part thereof, under the present Contract/Agreement/Work Order/Arrangement is not received from ST and SC Development Department odisha (Principal employer/Client), then NPCC &/or any of its Employee/Officer shall not be responsible to pay any amount to Associates/Sub-consultant/sub-Contractor. The said condition shall supersede any and all other conditions of Contract/Agreement/Work Order/Arrangement between the parties.

#### 38.0 WORK ON SUNDAYS, HOLIDAYS AND DURING NIGHT

For carrying out work on Sunday and Holidays or during night, the contractor will approach the Engineer-in-Charge or his representative at least two days in advance and obtain his permission.

The Engineer-in-Charge at his discretion can refuse such permission. The contractor shall have no claim on this account whatsoever. If work demand, the contractor shall make arrangements to carry out the work on Sundays, Holidays and in two, three shifts with the approval of Engineer-in-Charge at no extra cost to NPCC.

#### 39.0 NO IDLE CHARGES TOWARDS LABOUR OR P&M ETC.

No idle charges or compensation shall be paid for idling of the contractor's labour, staff or P&M etc. on any ground or due to any reason whatsoever. NPCC will not entertain any claim in this respect.

#### 40.0 WORK TO BE EXECUTED IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS AND ORDERS ETC.

The contractor shall execute the whole and every part of the work in the most substantial and workman like manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work assigned by the Engineer-in-Charge and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings.

The contractor shall comply with the provisions of the contract and execute the works with care and diligence and maintain the works and provide all labor and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these is specified or is reasonably inferred from the contract. The contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

#### **41.0 DIRECTION FOR WORKS**

- 41.1 All works to be executed under the contract shall be executed under the directions and subject to approval in all respects of the Engineer-in-Charge of NPCC who shall be entitled to direct at what point or points and in what manner the works are to be commenced and executed.
- 41.2 The Engineer-in-Charge and his representative shall communicate or confirm their instructions to the contractor in respect of the execution of work during their site inspection in a 'Works Site Order Book' maintained at the site office of Engineer-in-Charge. The contractor or his authorized representative shall confirm receipt of such instructions by signing against the relevant orders in the book.

#### **42.0 ORDER OF PRECEDENCE OF DOCUMENTS**

In case of difference, contradiction, discrepancy, dispute with regard to Conditions of Contract, specifications, Drawings, Bill of quantities and rates quoted by the Contractor and other documents forming part of the contract, the following shall prevail in order of precedence.

- i) Letter of Intent, Letter of Award, Work Order, Agreement along with statement of agreed variations and its enclosures.
- ii) Bill of Quantity / Schedule of Quantities.
- iii) Special Condition of Contract.
- iv) Technical specifications (General, Additional and Technical Specification) as give in Tender documents.
- v) General Conditions of Contract.
- vi) Drawings.
- vii) CPWD specifications (as specified in Technical Specification of the Tender) update with correction slips issued up to last date of receipt of tenders.
- viii) Relevant B.I.S. Codes.

#### **43.0 TIME SCHEDULE & PROGRESS**

- 43.1 Time allowed for carrying out all the works as entered in the tender shall be as mentioned in the Tender conditions. The Date of start of contract shall be reckoned 10 days after the date of issue of letter/Fax/E-mail of intent/acceptance of tender

whichever is later. Time shall be the essence of the contract and contractor shall ensure the completion of the entire work within the stipulated time of completion.

- 43.2 The contractor shall also furnish within 10 days of date of receipt of letter of Intent, a CPM network/ PERT chart/ Bar Chart for completion of work within stipulated time. This will be duly got approved from NPCC. This approved Network/ PERT Chart shall form a part of the agreement. Achievement of milestones as well as total completion has to be within the time period allowed.
- 43.3 Contractor shall mobilize and employ sufficient resources for completion of all the works as indicated in the agreed BAR CHART/Network. No additional payment will be made to the contractor for any multiple shift work or other incentive methods contemplated by him in his work schedule even though the time schedule is approved by the Engineer-in-Charge.
- 43.4 During the currency of the work the contractor is expected to adhere to the time schedule on miles stone and total completion and this adherence will be a part of Contractor's performance under the contract. During the execution of the work contractor is expected to participate in the review and updating of the Network/ BAR CHART undertaken by the NPCC. These reviews may be undertaken at the discretion of NPCC either as a periodical appraisal measure or when the quantum of work order on the contractor is substantially changed through deviation orders or amendments. The review shall be held at site or any of the offices of NPCC/ owner / consultant at the sole discretion of NPCC. The contractor will adhere to the revised schedule thereafter. The approval to the revised schedule resulting in a completion date beyond the stipulated date of completion shall not automatically amount to a grant of extension of time to the contractor.
- 43.5 Contractor shall submit fortnightly/ Monthly (as directed by Engineer-in-Charge) progress reports (5 copies) on a computer based program (program and software to be (approved by Engineer-in-Charge) highlighting status of various activities and physical completion of work.
- 43.6 The contractor shall send completion report with as built drawings and maintenance schedule to the office of Engineer-in-Charge, of NPCC in writing within a period of 30 days of completion of work.

#### **44.0 WATER AND ELECTRICITY**

The contractor shall make his own arrangement for Water & Electrical power for construction and other purposes at his own cost and pay requisite electricity and water charges. The contractor shall also make standby arrangement for water & electricity to ensure un-interrupted supply.

#### **45.0 MATERIALS TO BE PROVIDED BY THE CONTRACTOR**

The contractor shall, at his own expense, provide all materials, required including Cement & Steel & other construction Materials for the works.

The contractor shall at his own expense and without delay, supply to the Engineer-in-Charge samples of materials to be used on the work and shall get the same approved in advance. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if required by the Engineer-in- Charge furnish proof, to the satisfaction of the Engineer-in-Charge that the materials so comply.

The contractor shall at his risk and cost submit the samples of materials to be tested or analyzed and bear all charges and cost of testing unless specifically provided or otherwise elsewhere in the contract or specifications. The Engineer-in-Charge or his authorized representative shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance and cost in obtaining the right and visit to such access.

The Engineer-in-Charge shall have full powers to require the removal from the premises of all materials, which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge shall also have full power to require other proper materials to be substituted thereof and in case of default, the Engineer-in-Charge may cause the same to the supplies and all costs which may require such removal and substitution shall be borne by the contractor.

#### **45.1 CEMENT AND CEMENT GODOWN**

Cement shall be procured by Contractor confirming to BIS: 8112 Specification latest edition or higher Grade as directed by the Engineer-in-Charge. The cement shall be procured directly from the reputed manufacturers/ stockiest, which will have to be got approved from NPCC in advance. Relevant vouchers and test certificates will be produced as and when required. The cement shall be stored by the contractor in such suitable covered and lockable stores, well protected from climate and atmospheric affect. The cement godown shall be constructed by the contractor as per CPWD specifications at his own cost. The cement in bags shall be stored in godowns in easy countable position. Cement bags shall be used on first in first out basis. Cement stored for beyond 90 days will be required to be tested at contractors cost, before use in works.

#### **45.2 STEEL & STEEL STOCKYARD**

Steel confirming to BIS specifications (latest edition) shall be procured by the contractor directly from reputed manufacturers/producers as per approved list of NPCC. The manufacturer has to give a certificate that the material supplied is not a re-rolled product. The contractor will produce relevant vouchers & test certificates. Re-rolled sections will not be allowed.

Reinforcement steel, structural steel shall be stored and stacked in such manner so as to facilitate easy identification, removal etc. The contractor shall take proper care to prevent direct contact between the steel and the ground/ water for which he shall provide necessary arrangement at his own cost including ensuring proper drainage of area to prevent water logging as per directions of the Engineer-in-Charge. Steel shall also be protected, by applying a coat of neat cement slurry over the bars for which no extra payment shall be made.

Test certificates for each consignment of steel shall be furnished and tests to be got carried out from the authorized laboratory as per the directions of Engineer-in-Charge, before incorporating the materials in the work.

#### **46.0 SCHEDULE OF QUANTITIES / BILL OF QUANTITIES/ QUANTITY VARIATION**

- 46.1 The work under this contract shall be carried out as per BOQ cum rate schedule. In case the description /specification as per BOQ are found to be incomplete CPWD specifications shall be followed. Quantities mentioned in the rate schedule are approx. only and liable for variation due to change of scope of work/variation in schedule of quantities, changes in design etc. The tenderers shall under take to execute actual quantities as per advice of NPCC engineer and accordingly the final contract price shall be worked out on the basis of quantities actually executed at site in payments will also be regulated for the same. The quantities indicated against each item may vary to any extent and no compensation will be payable in variation of individual quantity to the extent sanction is available.
- 46.2 All items of work in the bill of quantities/ schedule of quantities shall be carried out as per the CPWD specifications, drawings and instructions of the Engineer-in-Charge of NPCC and the rates shall include for supply of required materials including proper storage, consumables, skilled & unskilled labour, supervision and tools, tackles, plant & machinery complete as called for in the detailed specifications and conditions of the contract. The Contractor without the approval of the NPCC shall execute no item, which is not covered in the bill of quantities. In case any Extra/Substituted item is carried out without specific-approval, the same will not be paid.

#### **47.0 ANTI-TERMITE TREATMENT & WATER PROOF TREATMENT**

- 47.1 Pre-construction treatment shall be carried out in co-ordination with the building work and shall be executed in such a manner that the civil works are not hampered or delayed by the anti-termite treatment. The treatment shall be carried out as detailed in BIS:6313 (Part-II) latest revision. The waterproof treatment shall be of type and specifications as given in the schedule of quantities.
- 47.2 The treatment against water-proofing of basement, roofs, water retaining areas and termite infestation shall be and remain fully effective for a period of not less than 10(Ten) years to be reckoned from the date of expiring of the Defect Liability period, prescribed in the contract. At any time during the said guarantee period if NPCC finds any defects in the said treatment or any evidence of re-infestation, dampness, leakage in any part of buildings or structure and notifies the contractor of the same, the contractor shall be liable to rectify the defect or give re-treatment and shall commence the work or such rectification or re-treatment within seven days from the date of issue of such letter to him. If the contractor fails to commence such work within the stipulated period, the NPCC may get the same done by another agency at the Contractor's cost and risk and the decision of the Engineer-in-Charge of NPCC for the cost payable by the contractor shall be final and binding upon him.
- 47.3 Re-treatment if required shall be attended to and carried out by the Contractor within seven days of the notice from Engineer-in-Charge of NPCC.
- 47.4 The NPCC reserves the right to get the quality of treatment checked in accordance with recognized test methods and in case it is found that the chemicals with the required concentration and rate of application have not been applied, or the water proof treatment is not done as per specifications, the contractor will be required to do the re-treatment in accordance with the required concentration & specifications at no extra cost failing which no payment for such work will be made. The extent of work thus rejected shall be determined by NPCC.
- 47.5 Water proofing and anti-termite treatment shall be got done through approved / specialized agencies only with prior approval of Engineer-in-Charge.



- 47.5a. The contractor shall make such arrangement as may be necessary to safe guard the workers and residents of the building against any poisonous effect of the chemicals used during the execution of the work.
- 47.6 During the execution of work, if any damage shall occur to the treatment already done, either due to rain or any other circumstances, the same shall be rectified and made good to the entire satisfaction of Engineer-In-Charge by the contractor at his costs and risks.
- 47.7 The contractor shall make his own arrangement for all equipments required for the execution of the job.
- 47.8 The contractor whose tender is accepted shall execute Guarantee Bond in the prescribed form as appended for guaranteeing the anti-termite treatment and water proof treatment.

#### **48.0 INDIAN STANDARDS**

Wherever any reference is made to any IS in any particular specifications, drawings or bill of quantities, it means the Indian Standards editions with the amendments current at the last date of receipt of tender documents.

#### **49.0 CENTERING & SHUTTERING**

Marine plywood only or steel plates of minimum thickness as approved by Engineer-in-Charge shall be used for formwork. The shuttering plates shall be cleaned and oiled after every repetition and shall be used only after obtaining approval of NPCC's Engineers at site. The number of repetitions allowed for plywood and steel shuttering shall be at the discretion of Engineer-in-Charge of NPCC depending upon the condition of shutteringsurface after each use and the decision of Engineer-in-Charge in this regard shall be final and binding on the contractor. No claim whatsoever on this account shall be admissible.

#### **50.0 PROPRIETARY MATERIALS**

- 50.1 The following proprietary materials shall be brought to site after the approval of NPCC.
- a) Water Proofing Compound
  - b) Cement
  - c) Steel
  - d) Bitumen
  - e) Primer/Paints/Varnish etc.
  - f) Chemical for anti-termite treatment
  - g) Any other materials as per discretion of the NPCC.
- 50.2 The quantity of proprietary materials shall be measured and recorded in the Measurement books and signed by the Contractor and the Engineer-in-Charge as a check to ensure that the required quantities as required for execution of works as per specifications have to be brought to site for incorporation in the work.
- 50.3 Proprietary materials brought at site shall be stored as directed by NPCC and those already recorded in Measurement book, shall be suitably marked for identification.
- 50.4 The contractor shall ensure that the proprietary materials are brought to site in original sealed containers or packing bearing manufacturer's markings and brands (except where the quantity required is a fraction of the smallest packing). Materials

not complying with this requirement shall be rejected. The empty containers of such proprietary materials shall not be destroyed/ disposed-off without the permission of NPCC.

- 50.5 The contractor shall produce receipted vouchers showing quantities of the materials to satisfy Engineer-in-Charge that the materials comply with the specifications. These vouchers shall be endorsed, dated and initialed by Engineer-in-Charge giving the contract number and name of work and a certified copy of each such voucher signed both by NPCC and the Contractor shall be kept on record.

## 51.0 RECORDS OF CONSUMPTION OF MATERIALS

- 51.1 For the purpose of keeping a record of materials (Steel & Cement) received at site and consumed in works, the contractor shall maintain a properly bound register in the form approved by the NPCC, showing columns like quantity received and used in work and balance in hand etc. This register shall be signed daily by the contractor's representative and NPCC's representative.
- 51.2 The register of material shall be kept at site in the safe custody of NPCC's Engineer during progress of the work. This provision will not, however, absolve the contractor from the quality of the final product.
- 51.3 In case cement or steel quantity consumed is lesser as compared to the theoretical requirement of the same as per CPWD (as the case may be) specifications/ norms, the work will be devalued and/ or a penal rate (i.e. double the rate at which cement/ steel purchased last) recovery for lesser consumption of cement/ steel shall be made in the rates of the work done subject to the condition that the tests results fall within the acceptable criteria as per CPWD (as the case may be) specifications otherwise the work shall have to be dismantled and redone by the contractor at no extra cost.

In case of cement, if actual consumption is less than 98% of the theoretical consumption, a recovery shall be effected from the contractor's dues at the penal rate(Prescribed under relevant clauses of I.S. Code) for the actual quantity, which is lower than 98% of theoretical consumption.

## 52.0 MATERIALS AND SAMPLES

- 52.1 The materials/ products used on the works shall be one of the approved make/ brands out of list of manufacturers/ brands/ makes given in the tender documents. The contractor shall submit samples/ specimens out of approved makes of materials/ products to the Engineer-in-Charge for prior approval. In exceptional circumstances Engineer-in-Charge may allow alternate equivalent makes/ brands of products/ materials at his sole discretion. The final choice of brand/ make shall remain with the Engineer-in-Charge, whose decision in this matter shall be final and binding and nothing extra on this account shall be payable to the Contractor.

In case no make or brand of any materials, articles, fittings and accessories etc. is specified, the same shall comply with the relevant Indian Standard Specifications and shall bear the ISI/BIS mark. The Engineer of NPCC and the owner shall have the discretion to check quality of materials and equipments to be incorporated in the work, at source of supply or site of work and even after incorporation in the work. They shall also have the discretion to check the workmanship of various items of work to be executed in this work. The contractor shall provide the necessary facilities and assistance for this purpose.

- 52.2 The above provisions shall not absolve the contractor from the quality of final product and in getting the material and workmanship quality checked and approved from the Engineer-in-Charge of NPCC.
- 52.3 The contractor shall well in advance, produce samples of all materials, articles, fittings, accessories etc. that he proposes to use and get them approved in writing by NPCC. The materials articles etc. as approved shall be labeled as such and shall be signed by NPCC and the Contractor's representative.
- 52.4 The approved samples shall be kept in the custody of the Engineer-in-Charge of NPCC till completion of the work. Thereafter the samples except those destroyed during testing shall be returned to the contractor. No payment will be made to the contractor for the samples or samples destroyed in testing.
- 52.5 The brands of all materials, articles fittings etc. approved together with the names of the manufacturers and firms from which supplies have been arranged shall be recorded in the site order book.
- 52.6 The contractor shall set up and maintain at his cost, a field-testing laboratory for all day-to-day tests at his own cost to the satisfaction of the Engineer-in-Charge. This field-testing laboratory shall be provided with equipment and facilities to carry out all mandatory field tests as per CPWD (as the case may be) specifications. The laboratory building shall be constructed and installed with the appropriate facilities; Temperature and humidity controls shall be available wherever necessary during testing of samples.

All equipments shall be provided by the Contractor so as to be compatible with the testing requirements specified. The Contractor shall maintain all the equipments in good working condition for the duration of the contract.

The Contractor shall provide approved qualified personnel to run the laboratory for the duration of the Contract. The number of staff and equipment available must at all times be sufficient to keep pace with the sampling and testing programme as required by the Engineer-in-charge.

The Contractor shall fully service the site laboratory and shall supply everything necessary for its proper functioning, including all transport needed to move equipment and samples to and from sampling points on the site, etc. The Contractor shall re-calibrate all measuring devices whenever so required by the Engineer-in-charge and shall submit the results of such measurements without delay. All field tests shall be carried out in the presence of NPCC representative. All costs towards samples, materials, collection, transport, manpower, testing etc. shall be borne by the Contractor and are deemed to be included in the rates quoted by him in the bill of quantities.

### **53.0 TESTS AND INSPECTION**

- 53.1 The contractor shall carry out the various mandatory tests as per specifications and the technical documents that will be furnished to him during the performance of the work.

All the tests on materials, as recommended by CPWD and relevant Indian Standard Codes or other standard specifications (including all amendments current at the last date of submission of tender documents) shall be got carried out by the contractor at



the field testing laboratory or any other recognized institution/ laboratory, at the direction of the NPCC. All testing charges, expenses etc. shall be borne by the contractor.

All the tests, either on the field or outside laboratories concerning the execution of the work and supply of materials shall be got carried out by the contractor or NPCC at the cost of the Contractor.

### **53.2 WORKS TO BE OPEN TO INSPECTION**

All works executed or under the course of execution in pursuance of this contract shall at all times be open to inspection and supervision of the NPCC. The work during its progress or after its completion may also be inspected, by Chief Technical Examiner of Government of India (CTE) and/ or an inspecting authority of State Government of State in which work is executed and/or by third party checks by owner/ clients. The compliance of observations/ improvements as suggested by the inspecting officers of NPCC/CTE/State Authorities/ Owners shall be obligatory on the part of the Contractor at the cost of contractor.

### **54.0 BORROW AREAS**

The contractor shall make his own arrangements for borrow pits and borrow disposal areas including their approaches and space for movement of man, machinery, other equipments as required for carrying out the works. The contractor shall be responsible for taking all safety measures, getting approval, making payment of royalties, charges etc. and nothing extra shall be paid to the contractor on this account and rates quoted by the contractor for various items of bill of quantities shall deemed to include the same.

### **55.0 BITUMEN WORK**

55.1 The contractor shall collect the total quantity of tar or bitumen required for the work as per standard formula, before the process of painting started and shall hypothecate it to the Engineer-in-Charge. Although the materials are hypothecated to NPCC the Contractor undertakes the responsibility for their proper watch, safe custody and protection against all risks. The materials shall not be removed from site of work without the consent of the Engineer-in-charge in writing.

### **56.0 CARE OF WORKS**

From the commencement to the completion of works and handing over, the contractor shall take full responsibility for care thereof all the works and in case of any damage/loss to the works or to any part thereof or to any temporary works due to lack of Precautions or due to negligence on part of Contractor, the same shall be made good by the Contractor.

### **57.0 WORK IN MONSOON AND DEWATERING**

The execution of the work may entail working in the monsoon also. The contractor must maintain labour force as may be required for the job and plan and execute the construction and erection according to the prescribed schedule. No special/ extra rate will be considered for such work in monsoon. The contractor's rate shall be considered inclusive of cost of dewatering required if any and no extra rate shall be payable on this account.

### **58.0 NO COMPENSATION FOR CANCELLATION/ REDUCTION OF WORKS**

If at any time after the commencement of the work the NPCC shall for any reason whatsoever is required to abandon the work or is not require the whole work thereof as specified in the tender to be carried out, the Engineer-in-Charge shall give notice in writing of the fact to the contractor, who shall have no claim to any payment of compensation whatsoever on account of any profit or advantage which he might have derived from the execution of the work in full, but which he did not derive in consequence of the full amount of the work not having been carried out or foreclosure, neither shall he have any claim for compensation by reason of any alterations having been made in the original specifications, drawings, designs and instructions which shall involve any curtailment of the work as originally contemplated. Provided that the contractor shall be paid the charges on the cartage only of materials actually and bonafide brought to the site of the work by the contractor and rendered surplus as a result of the abandonment or curtailment of the work or any portion thereof and then taken back by the contractor, provided however, that the Engineer-in-Charge shall have in all such cases the option of taking over all or any such materials at their purchase price or at local current rates whichever may be less. In the case of such stores having been issued by NPCC and returned by the Contractor to NPCC, credit will be given to him by the Engineer-in-Charge at rates not exceeding those at which they were originally issued to him after taking into consideration any deduction for claims on account of any deterioration or damage while in the custody of the contractor and in this respect the decision of the Engineer-in-Charge shall be final.

#### **59.0 RESTRICTION ON SUBLETTING**

- 59.1 The contractor shall not sublet or assign the whole or part of the works except where otherwise provided, by the contract and even then only with the prior written consent of the NPCC and such consent if given shall not relieve the contractor from any liability or obligation under the contract and he shall be responsible for the acts, defaults or neglects of any sub-contractor, his agents, servants or workman as full as if they were the acts, defaults or neglects of the contractor, his agent, servants or workman provided always that the provision of labour on piece work basis shall not be deemed to be a subletting under this clause.
- 59.2 The contractor may entrust specialized items of works to the agencies specialized in the specific trade. The contractor shall give the names and details of such firm whom it is going to employ for approval of NPCC. These details shall include the expertise, financial status, technical manpower, equipment, and resources and list of works executed and on hand of the specialist agency.

#### **60.0 PROHIBITION OF UNAUTHORISED CONSTRUCTION & OCCUPATION**

No unauthorized buildings, construction of structures should be put up by the contractor anywhere on the project site, neither any building built by him shall be un-authorisedly occupied by him or his staff.

#### **61.0 CO-ORDINATION WITH OTHER AGENCIES**

Work shall be carried out in such a manner that the work of other Agencies operating at the site is not hampered due to any action of the Contractor. Proper Co-ordination with other Agencies will be Contractor's responsibility. In case of any dispute the decision of NPCC shall be final and binding on the contractor. No claim whatsoever shall be admissible on this account.

#### **62.0 SETTING OUT OF THE WORKS**

The contractor shall be responsible for the true and proper setting out of the works and for the correctness of the position, levels, dimensions and alignment of all parts of the works. If at any time during the progress of works, shall any error appear or arise in the position, levels, dimensions or alignment of any part of the works, the contractor shall at his own expenses rectify such error to the satisfaction of Engineer-in-charge. The checking of any setting out or of any line or level by the engineers of NPCC shall not in any way relieve the contractor of his responsibility for the correctness.

### **63.0 NOTICE BEFORE COVERING UP THE WORK**

The contractor shall give not less than seven days' notice before covering up or otherwise placing beyond the reach of measurement any work, to the Engineer-in-charge in order that the same may be inspected and measured. If any work is covered up or placed beyond the reach of Inspection/ measurement without such notice or his consent being obtained the same shall be uncovered at the contractors' expenses and he shall have to make it good at his own expenses.

### **64.0 SITE CLEARANCE**

64.1 The contractor shall ensure that the working site is kept clean and free of obstructions for easy access to job site and also from safety point of view. Before handing over the work to the NPCC the contractor shall remove all temporary structures like the site offices, cement godown, stores, labour hutments etc., scaffolding rubbish, left over materials tools and plants, equipments etc., clean and grade the site to the entire satisfaction of the Engineer-in-charge. If this is not done the same will be got done by NPCC at his risk and cost.

64.2 The contractor shall clean all floors, remove cement/ lime/ paint drops and deposits, clean joinery, glass panes etc., touching all painter's works and carry out all other necessary items of works to make the premises clean and tidy before handing over the building, and the percentage rates quoted by the contractor shall be deemed to have included the same.

### **65.0 VALUABLE ARTICLES FOUND AT SITE**

All gold, silver and other minerals of any description and all precious stones, coins, treasure, relics, antiques and all other similar things which shall be found in, under or upon the site, shall be the property of the owner/ Government and the contractor shall duly preserve the same to the satisfaction of Engineer-in-charge and shall from time to time deliver the same to such person or persons indicated by the NPCC.

### **66.0 MATERIALS OBTAINED FROM DISMANTLEMENT TO BE OWNER'S PROPERTY**

All materials like stone, boulders and other materials obtained in the work of dismantling, excavation etc. will be considered owner/ government property and may be issued to the contractor by the owner/ NPCC, if required for use in this work at rates approved by NPCC or the contractor may be asked to dispose these items at his cost.

### **67.0 SET-OFF OF CONTRACTOR'S LIABILITIES**

NPCC shall have the right to deduct or set off the expenses incurred or likely to be incurred by it in rectifying the defects and/or any claim under this agreement against the Contractor from any or against any amount payable to the contractor

under this agreement including security deposit and proceeds of Performance Guarantee.

#### **68.0 MATERIALS PROCURED WITH THE ASSISTANCE OF NPCC**

If any material for the execution of this contract is procured with the assistance of NPCC either by issue from its stores or purchase made under orders or permits or licenses obtained by NPCC, the contractor shall hold and use the said materials economically and solely for the purpose of this contract and shall not dispose them without the permission of Engineer-in-charge. The contractor, if required by the NPCC, shall return all such surplus or unserviceable materials that may be left with him after the completion of the contract or at its termination on whatsoever reason, on being paid or credited such price as the NPCC shall determine having due regard to the conditions of materials.

#### **69.0 ALTERATION IN SPECIFICATION, DESIGN & DRAWING**

69.1 The Engineer-in-Charge shall have power to make any alterations in, omissions from, additions to or substitutions for, the original specifications, drawings, designs and instructions that may appear to him to be necessary during the progress of the work, and the contractor shall carry out the work in accordance with any instructions which may be given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions, or substitutions shall not invalidate the contract and any altered, additional or substituted work which the contractor may be directed to do in the manner above specified as part of the work shall be carried out by the contractor on the same conditions in all respects on which he agreed to do the main work. The time for the completion of the work shall be extended in the proportion that the altered, additional or substituted work bears to the original contract work, and the certificate of the Engineer-in-Charge shall be conclusive as to such proportion. Over and above this, a further period to the extent of 25 percent of such extension shall be allowed to the contractor. The rates for such additional, altered or substituted work under this clause shall be worked out in accordance with the following provisions in their respective order:

i) The rates for the additional, altered or substituted work are specified in the contract for the work, the contractor is bound to carry out the additional, altered or substituted work at the same rates as are specified in the contract for the work.

ii) If the rates for the additional, altered or substituted work are not specifically provided in the contract for the work, the rates will be derived from the rates for a nearest similar item of work as are specified in the contract for the work. In case of composite tenders where two or more schedule of quantities/ bill of quantities form part of the contract, the rates shall be derived from the nearest similar item in the schedule of quantities / bill of quantities of the particular part of work in which the deviation is involved failing that from the lowest of the nearest similar item in other schedule of quantity. The opinion of the Engineer-in-Charge as to whether or not the rate can be reasonably so derived from the item in this contract will be final and binding on the contractor.

iii) If the altered, additional or substituted work includes any work for which no rate is specified in the contract for the work and which cannot be derived in the manner specified in sub para (i) and (ii) from the similar class of work in the contract then such work shall be carried out at the rates entered in the Schedule of Rates (DSR-2018) plus the percentage above or below to the quoted rates.

iv) If the rates for the altered, additional or substituted work cannot be determined in the manner specified in sub-clauses (i) to (iii) above, then the contractor shall,

within 7 days of the date of receipt of order to carry out the work, inform the Engineer-in-Charge of the rate which it is his intention to charge for such class of work, supported by analysis of the rate or rates claimed, and the Engineer-in-Charge shall determine the rate or rates on the basis of prevailing market rates of the material, Labour, T&P etc. plus 15% (Fifteen percent) to cover the contractors supervision, overheads and profit and pay the contractor accordingly. The opinion of the Engineer-in-Charge as to the current market rates of materials and quantum of labour involved per unit of measurements will be final and binding on the contractor.

However, the Engineer-in-Charge, by notice in writing, will be at liberty to cancel his order to carry out such class of work and arrange to carry it out in such manner as he may consider advisable. But under no circumstances, the contractor shall suspend the work on the plea of non-settlement of rates of items falling under the clause.

#### **70.0 ACTION AND COMPENSATION PAYABLE IN CASE OF BAD WORK**

If it shall appear to the Engineer-in-Charge or his authorized subordinate in charge of the work or to the Chief Technical Examiner or to any other inspecting agency of Government/ State Government/ Owner where the work is being executed, that any work has been executed with unsound, imperfect, or unskillful workmanship or with materials of any inferior description, or that any materials or articles provided by him for the execution of the work are unsound or of a quality inferior to that contracted for or otherwise not in accordance with the contract, the contractor shall on demand in writing which shall be made within six months of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, Certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own proper charge and cost, and in the event of his failing to do so within a period to be specified by the Engineer-in-Charge in his demand aforesaid, then the Contractor shall be liable to pay compensation at the rate of one percent of the estimated amount put to tender for every day not exceeding ten days, while his failure to do so shall continue and in the case of any such failure, the Engineer-in-Charge may rectify or remove and re-execute the work or remove and replace with others, the material or articles complained of as the case may be at the risk and expense in all respects of the contractor.

#### **71.0 POSSESSION PRIOR TO COMPLETION**

71.1 NPCC shall have the right to take possession of or use any completed or partially completed work or part of the work. Such possession or use shall not be deemed to be any acceptance of any work not completed in accordance with the contract agreement. If such prior possession or use by NPCC delays the progress of work an equitable adjustment in the time of completion will be made and the contract agreement shall be deemed to be modified accordingly. The decision of NPCC in this case shall be final binding and conclusive.

71.2 When the whole of the works or the items or the groups of items of work for which separate periods of completion have been specified have been completed the contractor will give a notice to that effect to the Engineer-in-Charge in writing. The Engineer in-Charge shall within 7 days of the date of receipt of such notice inspect the works and either the Engineer-in-Charge issues to the contractor a completion certificate stating the date on which in his opinion the works were completed in accordance with the contract or gives instructions in writing to the contractor specifying the balance items of work which are required to be done by the contractor



before completion certificate could be issued. The Engineer-in-Charge shall also notify the contractor of any defect in the works affecting completion.

- 71.3 The contractor shall during the course of execution prepare and keep updated a complete set of 'as built' drawings to show each and every change from the contract drawings, changes recorded shall be countersigned by the Engineer-in-Charge and the contractor. Four copies of 'as built' drawings shall be supplied to NPCC by the contractor within 30 days of the completion. All costs incurred in this respect shall be borne by the contractor only.

## **72.0 COMPENSATION FOR DELAY AND REMEDIES**

- 72.1 If the contractor fails to maintain the required progress in terms of relevant clause of Special Conditions of Contract, to complete the work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the NPCC on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below or such smaller amount as the Engineer in charge (whose decision in writing shall be final and binding) may decide on the amount of tendered value of the work for every completed day / week (as applicable) that the progress remains below that specified in the relevant clause in Special Conditions of Contract or that the work remains incomplete. This will also apply to items or group of items for which a separate period of completion has been specified.

- i) Completion period (as originally stipulated) not exceeding 3 month @ 1% per day
- ii) Completion period (as originally stipulated) exceeding 3 months @ 1% per week

Provided always that the total amount of compensation for delay to be paid under this Condition shall not exceed 10% of the Tendered Value of work or of the Tendered Value of the item or group of items of work for which a separate period of completion is originally given. The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with NPCC.

## **72.2 CANCELLATION / TERMINATION OF CONTRACT IN FULL OR PART**

Subject to other provisions contained in this clause the Engineer-in-Charge may, without prejudice to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and / or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases:

- i) If the contractor having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or un-workmanlike manner shall omit to comply with the requirement of such notice for a period of seven days thereafter; or
- ii) If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-Charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continues to do so after a notice in writing of seven days from the Engineer-in-Charge; or

- iii) If the contractor fails to complete the work within the stipulated date or items of work with individual date of completion, if any stipulated, on or before such date(s) of completion and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-Charge; or
- iv) If the contractor persistently neglects to carry out his obligations under the contract and / or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge; or
- v) If the contractor shall offer or give or agree to give to any person in NPCC service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any action in relation to the obtaining or execution of this or any other contract from NPCC; or
- vi) If the contractor shall obtain a contract with NPCC as a result of wrong tendering or other non-bona-fide methods of competitive tendering; or
- vii) If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administrative of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors; or
- viii) If the contractor being a company, shall pass a resolution or the Court shall make an order for the winding up of the company, or a receiver or manager on behalf of the debenture holders or otherwise shall be appointed or circumstances shall arise which entitle the Court or debenture holders to appoint a receiver or manager; or
- ix) If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days; or
- x) If the contractor assigns, transfers, sublets (engagement of labour on a piece-work basis or of the labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without and prior written approval of the Engineer-in-Charge.

When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge may without prejudice to any other right or remedy which shall have accrued or shall accrue hereafter to NPCC, by a notice in writing, cancel the contract as a whole or only such items of work in default from the Contract.

The Engineer-in-Charge shall on such cancellation by the NPCC have powers to:

- a) Take possession of site and any materials, constructional plant, implements, stores, etc. thereon; and/ or
- b) Carry out the incomplete work by any means at the risk and cost of the contractor; and/ or

c) To determine or rescind the contract as aforesaid (of which termination or rescission notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination or rescission, the full security deposit recoverable under the contract shall be liable to be forfeited and unused materials, construction plants, implements, temporary buildings, etc. shall be taken over and shall be absolutely at the disposal of the NPCC. If any portion of the Security Deposit has not been paid or received it would be called for and forfeited; and/ or

d) To employ labour paid by the Department and to supply materials to carry out the work or any part of the work debiting the contractor with the cost of the labour and the price of the materials (of the amount of which cost and price certified by the Engineer-in-Charge shall be final and conclusive) against the contractor and crediting him with the value of the work done in all respects in the same manner and at the same rates as if it had been carried out by the contractor under the terms of his contract. The certificate of the Engineer-in-Charge as to the value of the work done shall be final and conclusive against the contractor provided always that action under the sub-clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the department are less than the amount payable to the contractor at his agreement rates, the difference shall not be paid to the contractor; and/ or

e) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof as shall be un-executed or delayed with reference to the General Conditions of Contract clause / relevant clause of Special Conditions of Contract, out of his hands and to give it to another contractor to complete in which case any expenses which may be incurred in excess of the sum which would have been paid to the original contractor if the whole work had been executed by him (of the amount of which excess the certificate in writing of the Engineer-in-Charge shall be final and conclusive) shall be borne and paid by the original contractor and may be deducted from any money due to him by NPCC under his contract or on any other account whatsoever or from his security deposit or the proceeds of sales of unused materials, construction plants, implements temporary buildings etc. thereof or a sufficient part thereof as the case may be. If the expenses incurred by the NPCC are less than the amount payable to the contractor at his agreement rates, the difference shall not be paid to the contractor; and/ or

f) By a notice in writing to withdraw from the contractor any items or items of work as the Engineer-in-charge may determine in his absolute discretion and get the same executed at the risk and cost of the contractor.

Any excess expenditure incurred or to be incurred by NPCC in completing the works or part of the works or the excess loss or damages suffered or may be suffered by NPCC as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to NPCC in law be recovered from any moneys due to the contractor on any account, and if such moneys are not sufficient the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the contractor shall fail to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the contractor's unused materials, constructional plant, implements, temporary buildings, etc. and apply the proceeds of sale thereof towards the satisfaction of any sums due from the contractor under the contract and if thereafter there be any balance outstanding from the contractor, it shall be recovered in accordance with the provisions of the contract and law.

Any sums in excess of the amounts due to NPCC and unsold materials, constructional plant etc. shall be returned to the contractor, provided always that if cost or anticipated cost of completion by NPCC of the works or part of the works is



less than the amount which the contractor would have been paid had he completed the works or part of the works, such benefit shall not accrue to the contractor.

In the event of anyone or more of the above courses being adopted by the Engineer-in-Charge the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

Provided further that if any of the recoveries to be made, while taking action as per (d) and/or (e) above, are in excess of the security deposit forfeited, these shall be limited to the amount by which the excess cost incurred by the Department exceeds the security deposit so forfeited.

#### **72.3 CONTRACTOR LIABLE TO PAY COMPENSATION EVEN IF ACTION IS NOT TAKEN**

In any case in which any of the powers conferred upon the Engineer-in-Charge by relevant clause thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work / or any part thereof, paying or allowing for the same in account at the contract rates, or in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final, and binding on the contractor and/or direct the contractor or his authorized agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice) in the event of the contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

#### **72.4 TIME ESSENCE OF CONTRACT & EXTENSION FOR DELAY**

The time allowed for execution of the Works as specified in the terms of contract or the extended time in accordance with these conditions shall be the essence of the contract. The execution of the works shall commence from the 10th Day or such time period as mentioned in letter of Intent/ award after the date on which the Engineer-in-Charge issues written orders to commence the work. If the Contractor commits default in commencing the execution of the work as aforesaid, the Executing Agency shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the earnest money absolutely.

72.4.1 Within 10 (Ten) days of Letter of Intent, the Contractor shall submit a Time and Progress Chart (CPM/ PERT/ Quantified Bar Chart) and get it approved by the Engineer-in-Charge. The Chart shall be prepared in direct relation to the time stated in the contract documents for completion of items of the works. It shall indicate the forecast (mile-stones) of the dates of commencement and completion of various items, trades, sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time stipulated in the Contract documents, and further to ensure good progress during the execution of the work.

The compensation for delay as per Clause 50.1 and 50.1 shall be leviable at intermediate stages also, in case the required progress is not achieved to meet the above time deadlines of the completion period and/ or milestones of time and progress chart, provided always that the total amount of Compensation for delay to be paid under this condition shall not exceed 10% of the tendered value of work”.

72.4.2 If the work(s) be delayed by:

- i) force-majeure or
- ii) abnormally bad weather, or
- iii) serious loss or damage by fire, or
- iv) civil commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- v) delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the Contract, or
- vi) non-availability of stores, which are responsibility of the NPCC or,
- vii) non-availability or break down of tools and plant to be supplied or supplied by NPCC or,
- viii) any other cause which, in the absolute discretion of the NPCC, is beyond the Contractor's control, then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer-in-Charge but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works.

72.4.3 Request for extension of time, to be eligible for consideration, shall be made by the Contractor in writing with in fourteen days of the happening of the event causing delay on the prescribed form.

The Contractor will indicate in such a request the period for which extension is desired.

In any such case NPCC may give a fair and reasonable extension of time for completion of work. Such extension shall be communicated to the Contractor by the Engineer-in-Charge in writing, within 3 months of the date of receipt of such request.

### **73.0 WITHHOLDING AND LIEN IN RESPECT OF SUMS DUE FROM CONTRACTOR**

73.1 Whenever any claim or claims for payment of a sum of money arises out of or under the contract against the contractor, NPCC shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any, deposited by the contractor and for the purpose aforesaid, NPCC shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, NPCC shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to

above, from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with NPCC pending finalization or adjudication of any such claim.

- 73.2 It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or NPCC will be kept withheld or retained as such by the Engineer-in-Charge or NPCC till the claim arising out of or under the contract is determined by the competent court and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-Charge or the NPCC shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company, as the case may be whether in his individual capacity or otherwise.

NPCC shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc, to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over-payment and it shall be lawful for NPCC to recover the same from him in the manner prescribed in Clause 51.1 above or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by NPCC to the contractor, without any interest thereon whatsoever.

### **73.3 LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS**

Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or by NPCC against any claim of the Engineer-in-Charge or NPCC in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Engineer-in-Charge or the NPCC. It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the NPCC will be kept withheld or retained as such by the Engineer-in-Charge or the NPCC or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be, and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

### **74.0 DEFECTS LIABILITY PERIOD**

The contractor shall be responsible for the rectification of defects in the works for a period of **(24) twenty four month** from the date of taking over of the works by the Owner/ Client. Any defects discovered and brought to the notice of the contractor forthwith shall be attended to and rectified by him at his own cost and expense. In case the contractor fails to carry out these rectifications, the same may without prejudice to any other right or remedy available, be got rectified by NPCC at the cost and expense of the contractor.

**75.0 FORCE MAJEURE**

Any delay in or failure of the performance of either party hereto shall not constitute default hereunder to give rise to any claims for damages, if any to the Extent such delay or failure of performance is caused by occurrences such as acts of God or the public enemy, expropriation, compliance with any order or request of Government authorities, acts of war, rebellions, sabotage fire, floods, strikes, or riots (other than contractor's employees). Only extension of time shall be considered for Force Majeure conditions as accepted by NPCC. No adjustment in contract price shall be allowed for reasons of force majeure.

**76.0 ARBITRATION-**

1. Firstly, the aggrieved party shall write a letter to the other party detailing its grievances and calling upon the other party to amicably resolve the dispute by convening a joint meeting. Accordingly, the parties as per their convenience shall jointly convene the said meeting(s), wherein minutes of the said meeting(s) shall be prepared and countersigned by all the parties. It is mandatory to prepare minutes of meeting(s) and to be countersigned by all the parties, irrespective of the outcome of the said meeting(s).

2. In the event the parties are unable to reach on any settlement in the said meeting(s), then the aggrieved party shall mandatory resort to pre-litigation mediation mechanism with Delhi High Court Mediation Cell, New Delhi/ Odisha High Court Mediation Cell, Cuttack.

3. It is only upon failure of the pre-litigation mediation mechanism with Delhi High Court Mediation Cell/ Odisha High Court Mediation Cell, Cuttack, than the aggrieved party shall resort to resolution of disputes through arbitration of a Sole Arbitrator. The appointing authority of Sole Arbitrator is CMD, NPCC Ltd., to which neither of the parties have any objection nor they shall ever object.

4. Subject to the parties agreeing otherwise, the Arbitration proceedings shall be conducted in accordance with the provisions of the Indian Arbitration and Conciliation Act, 1996 (amended as on date).

5. It is also acknowledged and accepted that NPCC is only working as Intermediary between the Sub-Contractor/Sub-Consultant and the Principal Employer/Client, thus in the event, any dispute arises under the present agreement and referred to Arbitration for adjudication, then subject to corresponding clause in the Contract/Agreement/Work Order/Arrangement between Principal Employer/Client & NPCC, Principal Employer/Client shall also be made party to the said Arbitration proceedings. Also the award including costs if any passed against NPCC & costs incurred in the proceedings shall be the sole responsibility of Principal Employer/Client. The said clause if found inapplicable, even then the other terms of the Arbitration Clause shall survive and shall be acted upon.

6. The place/seat of arbitration shall be Delhi/Cuttack and any award whether interim or final, shall be made, and shall be deemed for all purposes between the parties to be made, in Delhi/Cuttack. The arbitral procedure shall be conducted in English language and any award or awards shall be rendered in English. The procedural law of the arbitration shall be Indian law. The award of the arbitrator shall be final and conclusive and binding upon the Parties.

7. The Contract and any dispute or claim arising out of or in connection with it or

its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the laws of India and the Parties submit to sole & exclusive jurisdiction of courts at New Delhi/Cuttack.

#### **76.1 JURIDICITION**

The agreement shall be executed at Bhubaneswar on non-judicial stamp paper and the Courts at Bhubaneswar alone will have jurisdiction to deal with matters arising there from, to the exclusion of all other courts.

#### **77.0 SUSPENSION OF WORKS**

(a) The contractor shall, on receipt of the order in writing of the Engineer-in-charge, suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-charge may consider necessary for any of the following reasons:

- i) On account of any default on part of the contractor, or
- ii) for proper execution of the works or part thereof for reason other than the default of the contractor, or
- iii) for safety of the works or part thereof.

The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-charge.

(b) If the suspension is ordered for reasons (ii) and (iii) in sub-para (a) above.

- i) The contractor shall be entitled to an extension of the time equal to the period of every such suspension plus 25%. No adjustment of contract price will be allowed for reasons of such suspension.
- ii) In the event of the Contractor treating the suspension as an abandonment of the Contract by NPCC, he shall have no claim to payment of any compensation on account of any profit or advantage which he may have derived from the execution of the work in full.

#### **78.0 TERMINATION OF CONTRACT ON DEATH OF CONTRACTOR**

Without prejudice to any of the right or remedies under this contract if the contractor dies, the Engineer-in-charge shall have the option of terminating the contract without compensation to the contractor.

#### **79.0 CLARIFICATION AFTER TENDER SUBMISSION**

Tenderer's attention is drawn to the fact that during the period, the bids are under consideration, the bidders are advised to refrain from contacting by any means, the NPCC and/or his employees/ representatives on matters related to the bid under consideration and that if necessary, NPCC will obtain clarifications in writing or as may be necessary. Duly authorized Tender Scrutiny Committee does the tender evaluation and process of award of works and this committee is authorized to discuss and get clarification from the tenderers.

#### **80.0 ADDENDA/ CORRIGENDA**

Addenda/Corrigenda to the tender documents may be issued prior to the date of opening of the tender to clarify or effect modification in specification and/or contract terms included in various tender documents. The tenderer shall suitably take into consideration such Addenda/Corrigenda while submitting his tender. The tenderer shall return such Addenda/ Corrigenda duly signed and stamped as confirmation of



its receipt and submit along with the tender document. All addenda/ Corrigenda shall be signed and stamped on each page by the tenderer and shall become part of the tender and contract documents.

#### **81.0 QUALITY ASSURANCE PROGRAMME**

To ensure that the services under the scope of this contract are in accordance with the specifications, the Contractor shall adopt Quality Assurance Programme to control such activities at the necessary points. The contractor shall prepare and finalize such Quality Assurance Programme within 15 days from letter of intent. NPCC shall also carryout quality audit and quality surveillance of systems and procedures of Contractor's quality control activities. A Quality Assurance Programme of Contractor shall generally cover the following:

- a) His organization structure for the management and implementation of the proposed Quality Assurance Program.
- b) Documentation control system.
- c) The procedure for purpose of materials and source inspection.
- d) System for site controls including process controls.
- e) Control of non-conforming items and systems for corrective actions.
- f) Inspection and test procedure for site activities.
- g) System for indication and appraisal of inspection status.
- h) System for maintenance of records.
- i) System for handling, storage and delivery.
- j) A quality plan detailing out quality practices and procedures, relevant standards and acceptance levels for all types of work under the scope of this contract.

The Contractors in the formats appended hereto shall submit all the quality reports. Checklist enclosed here in this document shall be followed while carrying out Construction activities (items). If any item is not covered by the Checklist/ Formats appended hereto, the Format for the same may be developed and submitted to Engineer-in-Charge for approval and the same shall be adopted. These filled in formats shall be prepared in two copies and duly signed by representatives of contractor and NPCC. All the costs associate with Printing of Formats and testing of materials required as per technical specifications or by Engineer-in-charge shall be included in the Contractor's quoted rates in the Schedule/ Bill of quantities.

#### **82.0 APPROVAL OF TEMPORARY / ENABLING WORKS**

The setting and nature of all offices, huts, access road to the work areas, and all other temporary works as may be required for the proper execution of the works shall be subject to the approval of the Engineer-in-charge.

All the equipments, labour, material including cement, reinforcement and the structural steel required for the enabling/ temporary works associated with the entire Contract shall have to be arranged by the Contractor only. Nothing extra shall be paid to the Contractor on this account and the percentage rates quoted by the Contractor for various items in the Bill of Quantities shall be deemed to include the cost of enabling works.

#### **83.0 CONTRACT COORDINATION PROCEDURES, COORDINATION MEETINGS AND PROGRESS REPORTING**

The Contractor shall prepare and finalize in consultation with NPCC, a detailed contract coordination procedure within 15 days from the date of issue of Letter of Intent for the purpose of execution of the Contract.

The Contractor shall have to attend all the meetings at any place in India at his own cost with NPCC, Owners/ Clients or Consultants of NPCC/ Owner/ Client during the currency of the Contract, as and when required and fully cooperate with such persona and agencies involved during these discussions. The Contractor shall not deal in any way directly with the Clients/ Owners or Consultants of NPCC/ Owner/ Clients and any dealing/ correspondence if required at any time with Clients/ Owners/ Consultants shall be through NPCC only.

During the execution of the work, Contractor shall submit at his own cost a detailed Monthly progress report to the Engineer-in-charge of NPCC by 5th of every month. The format of monthly progress report shall be as approved by Engineer-in-Charge of NPCC.

#### **84.0 CONTRACT AGREEMENT**

The Contractor shall enter into a Contract Agreement with the NPCC within 20 days from the date of receipt of Letter of Intent or within such extended time, as may be granted by the NPCC. The cost of stamp papers, stamp duty, registration, if applicable on the contract, shall be borne by the Contractor. In case, the contractor does not sign the agreement as above or start the work within 10 days of the receipt of letter of intent, his earnest money is liable to be forfeited and letter of intent consequently will stand withdrawn.

#### **85.0 MANNER OF EXECUTION OF AGREEMENT**

i. The agreement as per prescribed Proforma as enclosed to the Special Conditions of Contract shall be signed at the office of the NPCC within 20 days from the date of receipt of Letter of Intent. The Contractor shall produce for signing of the Contract, appropriate Power of Attorney and the requisite documents/materials. Unless and until a formal contract is prepared and executed, the Letter of Intent read in conjunction with the Bidding Documents will constitute a binding contract.

ii. The agreement will be signed in four originals and the Contractor shall be provided with one signed original and the other signed original will be retained by the NPCC. The Contractor has to provide four numbers of non-judicial stamp paper of requisite value purchased from Bhubaneswar.

iii. The Contractor shall deposit the amount in the form of demand draft in favour of NPCC Ltd. payable at Bhubaneswar within seven days of issuance of LOI/LOA equal to the twice of the tender cost in lieu to the preparation of contract agreement.

#### **86.0 PURCHASE PREFERENCE TO PUBLIC SECTOR ENTERPRISES**

NPCC reserves its right to extend Purchase Preference to Central Public Sector Enterprises (CPSEs) as per policy of Government of India, if any, as applicable on this work. The tenderers are requested to go through latest instructions of Government of India on its preference policy for CPSU s before quoting for the tender.

#### **87.0 CHANGE IN FIRM'S CONSTITUTION TO BE INTIMATED**

Where the contractor is a partnership firm, the previous approval in writing of the Engineer-in-Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an individual or a Hindu undivided family business concern such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have



been assigned in contravention of Clause 59.1 hereof and NPCC shall be entitled to take action under Clause 72.2 (xi).

## **LABOUR SAFETY PROVISION**

**The contractor shall be fully responsible to observe the labour safety provisions as per prevailing act and amended from time to time.**

- 1.0 Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than 1/4 to 1 (1/4 horizontal and 1 vertical).
- 2.0 Scaffolding or staging more than 3.6m (12 feet) above the ground or floor, swung or suspended from an overhead support or erected with stationery support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3 feet) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
- 3.0 Working platforms, gangways, and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6m (12 feet) above ground level or floor level, they should be closely boarded, should have adequate width & should be suitable fastened as described in (2.0) above.
- 4.0 Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 90 cm (3 feet).
- 5.0 Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30 feet) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. for ladder up to and including 3m (10 feet) in length. For longer ladders this width should be increased at least 1/4" for each additional 30 cm (1 ft.) of length. Uniform step spacing shall not exceed 30 cm (12"). Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites of the work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident, and shall be bound to bear the expenses of defense of every suit, action or other proceeding at law that may be brought by a person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceedings to any such person or which may, with the consent of the Contractor, be paid to compensate any claim by any such person.
- 6.0 **EXCAVATION AND TRENCHING**  
All trenches, 1.2mts.(four feet) or more in depth, shall at all times be supplied with at least one ladder for each 30m. (100 feet) in length or fraction thereof, Ladder shall be extended from bottom of the trench to at least 90 cm (3 feet) above the surface of the ground. The side of the trenches, which are 1.5m. (5feet) or more in depth shall

be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides to collapsing. The excavated materials shall not be placed within 1.5m (5 feet) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done.

- 7.0 Demolition - Before any demolition work is commenced and also during the progress of the work:
- 7.1 All roads and open areas adjacent to the work site shall either be closed or suitably protected.
- 7.2 No electric cable or apparatus that is likely to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.
- 7.3 All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be overloaded with debris or materials as to render it unsafe.
- 8.0 All necessary personal safety equipments as considered adequate by the Engineer-in-charge should be kept available for the use of persons employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate step to ensure proper use of equipment by those concerned. The following safety equipment shall be invariably provided.
- 8.1 Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
- 8.2 Those engaged in white washing and mixing or stacking of cement bags or any materials that are injurious to the eye shall be provided with protective goggles.
- 8.3 Those engaged in welding works shall be provided with welders protective eye shields.
- 8.4 Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe interval.
- 8.5 When workers are employed in sewers and manholes, which are in active use, the Contractors shall ensure that the manhole covers are opened and ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measures are adhered to:
  - a. Entry for workers into the line shall not be allowed except under supervision of the JE or any other higher officer
  - b. At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manholes for working inside.
  - c. Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper, which changes colour in the presence of such gases and gives indication of their presence.
  - d. Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.

- e. Safety belt with rope should be provided to the workers. While working inside the manholes such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
  - f. The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
  - g. No smoking or open flames shall be allowed near the blocked manhole being cleaned.
  - h. The malba obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the malba.
  - i. Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer In-charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.
  - j. Gas masks with Oxygen Cylinder should be kept at site for use in emergency.
  - k. Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air-blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non sparking gas engines also could be used but they should be placed at-least 2 meters away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.
  - l. The workers engaged for cleaning the manholes/ sewers should be properly trained before allowing working in the manhole.
  - m. The workers shall be provided with Gumboots or non-sparking shoes, bump helmets and gloves non-sparking tools, safety lights and gas masks and portable air blowers (whennecessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.
  - n. Workmen descending a manhole shall try each ladder step or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.
  - o. If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.
  - p. The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer In charge regarding the steps to be taken in this regard in an individual case will be final.
- 8.6 The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form wherever men above the age of 18 are employed on the work of lead painting the following precautions should be taken.
    - 8.6.1 No paint containing lead or lead products shall be used except in the form of paste or readymade paint.
    - 8.6.2 Suitable facemasks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.
    - 8.6.3 Overalls shall be supplied by the Contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of work.

8.6.4.1

- a. White lead, sulphate or lead work products containing those pigments shall not be used in painting operation except in the form of paste or of paints ready for use.
- b. Measures shall be taken whenever required in order to prevent danger arising from the application of paint in the form of spray.
- c. Measures shall be taken, whenever practicable to prevent danger arising out of dust caused by dry rubbing down and scrapping.

8.6.4.2

- a. Adequate facilities shall be provided to enable working painter to wash during and on cessation of work.
- b. Suitable arrangements shall be made to prevent clothing put off during working hours being spoiled by painting materials.

8.6.4.3

- a. Cases of lead poisoning and of suspected lead poisoning shall be notified and shall be subsequently verified by a medical man appointed by the competent authorities of the Consultant.
- b. The NPCC may require when necessary a medical examination of workers.
- c. Instructions with regard to the special hygienic precautions to be taken in the painting trade shall be distributed to working painters.

9.0 When the work is done near any place where there is risk of drowning, all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provisions should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.

10.0 Use of hoisting machines and tackle including their attachment encourage and supports shall conform to the following standard of conditions.

10.1

- a. These shall be of good mechanical construction, sound material and adequate strength and free from patent, defects and shall be kept required in good working order.
- b. Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.

10.2 Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in-charge of any hoisting machine including any Scaffolding, winch or giving signals to operator.

10.3 In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load, each safe working load and the

- conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
- 10.4 In case of NPCC machines, the safe working load shall be notified by the Engineer-in-Charge. As regards Contractor's machines the Contractor shall notify the safe working load of the machine to the Engineer-in-charge whenever he brings any machinery to site of work and get verified by the Engineer-in-Charge.
- 11.0 Motors gearing, transmission electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguard, hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already energized, insulating mats, wearing apparel, such as gloves sleeves and boots as may be necessary be provided. The worker should not wear any rings, watches and carry keys or other materials, which are good conductors of electricity.
- 12.0 All scaffolding, ladders, and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
- 13.0 These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place of work spot. The person responsible for compliance of the safety codes shall be named therein by the contractor.
- 14.0 To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the Contractor shall be open to inspection by them or their representatives.
- 15.0 Notwithstanding the above Clauses from (i) to (xiv) there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force in the Republic of India.

## **MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS**

### **1.0 APPLICATION**

These rules shall apply to all building and construction works in which 20 (twenty) or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contractor work is in progress.

### **2.0 DEFINITION**

Work place means a place where twenty or more workers are ordinarily employed or are proposed to be employed in connection with construction work on any day during the period during which the contractor work is in progress.

### **3.0 FIRST-AID FACILITIES**

- 3.1 At every work place first aid facilities shall be provided and maintained, so as to be easily accessible during working hours, First-Aid boxes at the rate of not less than one box per 150 contract labour or part thereof ordinarily employed.

- 3.2 The First-Aid box shall be distinctly marked with a red cross on white ground and shall contain the following equipments:
  - 3.2.1 a) For work places in which number of contract labour employed does not exceed 50, each First-Aid box shall contain the following equipments:
    - i) 6 small sterilized dressings.
    - ii) 3 medium size sterilized dressings.
    - iii) large size sterilized dressings.
    - iv) 3 large sterilized burn dressings.
    - v) 1 (30 ml) bottle containing a two percent alcoholic solution of iodine.
    - vi) 1(30 ml) bottle containing Sal volatile having the dose and mode of administration indicated on the label.
    - vii) 1 snakebite lancet.
    - viii) (30 gms) bottle of potassium permanganate crystals.
    - ix) 1 pair of scissors.
    - x) 1 copy of the First-Aid leaf-let issued by the Director General, Factory Advice Service & Labour Institutes, Government of India.
    - xi) 1 bottle containing 100 tablets (each of 5 grams) of aspirin.
    - xii) Ointment for burns.
    - xiii) A bottle of suitable surgical antiseptic solution.
  - 3.2.2 For work places in which the number of contract labour exceed 50. Each First-Aid box shall contain the following equipments:
    - i) 12 small sterilized dressings.
    - ii) 6 medium size sterilized dressings.
    - iii) 6 large size sterilized dressings.
    - iv) 6 large size sterilized burn dressings.
    - v) 6 (15 gms) packet sterilized cotton wool.
    - vi) 1 (60 ml.) bottle containing a two percent iodine alcoholic solution.
    - vii) 1 (60 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
    - viii) 1 roll of adhesive plaster.
    - ix) 1 snake – bite lancet.
    - x) 1 (30 gms.) bottle of potassium permanganate crystals.
    - xi) 1 pair of scissors.
    - xii) 1 copy of the First-Aid leaf-let issued by the Director General, Factory Advice Service and Labour Institutes, Government of India.
    - xiii) A bottle containing 100 tablets (each of 5 grams) of aspirin.
    - xiv) Ointment for burns.
    - xv) A bottle of suitable surgical antiseptic solution.
- 3.3 Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.
- 3.4 Nothing except the prescribed contents shall be kept in the First Aid box.
- 3.5 The First Aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.



- 3.6 A person in charge of the First-Aid box shall be a person trained in First-Aid treatment, in work places where the number of labour employed is 150 or more.
- 3.7 In work places where the number of labour employed is 500 or more and hospital facilities are not available within easy distance of the works, first-Aid Posts shall be established and run by a trained Compounder. The Compounder shall be on duty and shall be available at all hours when the workers are at work.
- 3.8 Where work places are situated in places, which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or persons suddenly taken ill to the nearest hospital.

#### **4.0 DRINKING WATER**

- 4.1 In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.
- 4.2 Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
- 4.3 Every water supply of storage shall be at a distance of not less than 50 feet from any latrines drain or other source of pollution, Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap-door which shall be dust and water-proof.
- 4.4 A reliable pump shall be fitted to each covered well, trap-door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

#### **5.0 WASHING FACILITIES**

- 5.1 In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of labour employed herein.
- 5.2 Separate and adequate screening facilities shall be provided for the use of male and female workers.
- 5.3 Such facilities shall be conveniently accessible and shall be kept clean and hygienic condition.

#### **6.0 LATRINES AND URINALS**

- 6.1 Latrines shall be provided in every work place on the following scale, namely:
  - a) Where females are employed there shall be at least one latrine for every 25 females.
  - b) Where males are employed, there shall be at least one latrine for every 25 males. Provided that where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females, as the case may be, up to the first 100, and one for every 50 thereafter.
- 6.2 Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.



- 6.3 Construction of Latrines: The inside walls shall be constructed of masonry or some suitable heat resisting non-absorbent materials and shall be cement washed inside and outside at least once a year. Latrine shall not be a standard lower than borehole system.
- 6.4
- (a) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers “For Men only” or “For Women only” as the case may be.
- (b) The notice shall also bear the figure of man or of women, as the case may be.
- 6.5 There shall be at least one urinal for male workers up to 50 and one for female workers up to 50 employed at a time. Provided that where the number of male or female workmen, as the case may be, exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females up to the first 500 and one for every 100 or part thereof, thereafter.
- 6.6
- a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.
- b) Latrines and urinals other than those connected with a flush sewerage system shall comply with the requirements of the Public Health Authorities.
- 6.7 Water shall be provided by means of a tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.
- 6.8 Disposal of Excreta**

Unless otherwise arranged for by the local sanitary authority arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternatively excreta may be disposed off by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm layer of waste or for refuse and then covering it with a layer of earth for fortnight (when it will turn into manure).

- 6.9 The Contractor shall, at his own expense, carry out all instruction issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the Contractor’s workmen or employees on the site. The Contractor shall be responsible for payment of any charges, which may be levied by Municipal or Cantonment Authority for execution of such work on his behalf.

## **7.0 PROVISION OF SHELTER DURING REST**

At every place there shall be provided, free of cost four suitable sheds, and two for males and the other two for rest separately for the use of man and women labour. The height of each shelter shall not be less than 3 meters from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sqm. Per head, provided that the Engineer-in-Charges may permit, subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

## **8.0 CRECHES**

- 8.1 At every work place, at which 20 or more women workers are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a playroom for the children and the other as their bedrooms.  
The rooms shall be constructed on standard not lower than the following:
  - i) Thatched roof
  - ii) Mud floor and walls
  - iii) Planks spread over the mud floor and covered with matting
- 8.2 The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.
- 8.3 The Contractor shall supply adequate number of toys and games in the playroom and sufficient number of cots and beddings in the bedroom.
- 8.4 The Contractor shall provide one Ayah to look after the children in the crèche when the number of women workers does not exceed 50 and two when the number of women workers exceeds 50.
- 8.5 The use of the rooms/earmarked as crèche shall be restricted to children, their attendant and mother of the children.

## 9.0 CANTEENS

- 9.1 In every work place where the work regarding the employment of contract labour is likely to continue for six months and wherein contract labour numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the Contractor for the use of such labour.
- 9.2 The canteen shall be maintained by the Contractor in an efficient manner.
- 9.3 The canteen shall consist of at least a dining hall, kitchen, storeroom, pantry and washing places separately for workers and utensils.
- 9.4 The canteen shall be sufficiently lighted at all times when any person has access to it.
- 9.5 The floor shall be made of smooth and impervious material and inside walls shall be lime washed or colour washed at least once in each year provided that the inside walls of the kitchen shall be lime-washed every four months.
- 9.6 The premises of the canteen shall be maintained in a clean and sanitary condition.
- 9.7 Waste Water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.
- 9.8 Suitable arrangements shall be made for the collection and disposal of garbage.
- 9.9 The dining hall shall accommodate at a time 30 persons of the labour working at time.
- 9.10 The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chair shall not be less than one square meter per dinner to be accommodated.
- 9.11
  - a) A portion of the dining hall, and service counter shall be partitioned off and reserved for women workers in proportion to their number.
  - b) Washing places for women shall be separate and screened to secure privacy.
- 9.12 Sufficient tables, stool, chairs or benches shall be available for the number of dinners to be accommodated.
- 9.13.1

- a) There shall be provided and maintained sufficient utensils, crockery, furniture and any other equipment necessary for the efficient running of the canteen.
- b) The furniture, utensils and other equipment shall be maintained in a clean and hygienic condition.

9.13.2

- a) Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.
- b) A service counter, if provided, shall have top of smooth and impervious material.
- c) Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipment.

9.14 The foodstuffs and other items to be served in the canteen shall be in conformity with the normal habits of the labour.

9.15 The charge for foodstuffs, beverages and any other items served in the canteen shall be based on 'No profit No loss' and shall be conspicuously displayed in the canteen.

9.16 In arriving at price of foodstuffs, and other articles served in the canteen, the following items shall not be taken into consideration as expenditure, namely:

- a) The rent of land building.
- b) The depreciation and maintenance charges for the building and equipment provided for the canteen.
- c) The cost of purchase, repair and replacement of equipment including furniture, crockery, cutlery and utensils:
- d) The water charges and other charges incurred for lighting and ventilation:
- e) The interest and amounts spent on the provision and maintenance and equipment provided for in the canteen.

9.17 The accounts pertaining to the canteen shall be audited once in every 12 months by registered accountants and auditors.

## 10.0 ANTI MALARIAL PRECAUTIONS

The Contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrows pits which may have been dug by him.

## 11.0 AMENDMENTS

NPCC may from time to time, add to or amend these rules and issue such directions as it may consider necessary for the purpose of removing any difficulty which may arise in the administration hereof.

## CONTRACTOR'S LABOUR REGULATIONS

### 1.0 SHORT TITLE

These regulations may be called the Contractor "Labour Regulations".

### 2.0 Definitions

2.1 "Workman" means any person employed by the NPCC or its Contractor directly or indirectly through a sub-contractor, with or without the knowledge, of the NPCC to do any skilled, semi-skilled, un-skilled, manual, supervisory, technical or clerical work for hire or reward, whether, the terms of employment are expressed or implied but does not include any person-

- a) Who is employed mainly in a managerial or administrative capacity; or
- b) Who being employed in a supervisory capacity draws wages exceeding Rupees Two thousand Five hundred per person or exercises either by the nature of the duties attached to the office or by reason of powers vested to him, functions mainly of managerial nature.
- c) Who is an outworker, that is to say, a person to whom any articles or materials are given out by or on behalf of the principal employer to be made up cleaned, washed, altered, ornamental finished, repaired, adopted or otherwise processed for sale for the purpose of the trade or business of the principal employer and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer.

2.2 "**Fair Wages**" means wages whether for time or piecework fixed and notified under the provisions of the minimum Wages Act from time to time.

2.3 "Contractor" shall include every person who undertake to produce a given result other than a mere supply of goods or articles of manufacture through labour or who supplies labour for any work and includes a sub-contractor.

2.4 "Wages" shall have the same meaning as defined in the Payment of Wages Act.

2.4.1 Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.

2.4.2 When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week he shall be paid overtime for the extra hours put in by him at double the ordinary rate of wages.

2.4.3.1 Every worker shall be given a weekly holiday on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules 1960 as amended from time to time, irrespective of whether such worker is governed by the Minimum Wages Act or not.

2.4.3.2 Whether the Minimum Wages prescribed by the Government under the Minimum Wages Act are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.

2.4.3.3 Here a contractor is permitted by the Engineer-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substitute holiday to him for the whole day on one of the five days immediately before or after the normal weekly holidays and pay wages to such worker for the work performed on the normal weekly holiday at overtime rate.

### **3.0 DISPLAY OF NOTICE REGARDING-WAGES, ETC.**

The contractor shall before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clean and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers, giving the minimum rates of wages fixed under the Minimum Wages Act, the actual wages being paid, the hours of work for which such wages are earned, wage period, dates of payment of wages and other relevant information as per Appendix 'A'.

### **4.0 PAYMENT OF WAGES**

4.1 The contractor shall fix wage periods in respect of which wages shall be payable.

4.2 No wage period shall exceed one month.

4.3 The wages of every person employed as labour in an establishment or by a contractor where less than one thousand, such persons are employed shall be paid before the expiry of the seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.

4.4 Where the employment of any worker is terminated by or on behalf of the contractor the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.

4.5 All payments of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.

4.6 Wages due to every worker shall be paid to him direct or to other person authorized by him in this behalf.

4.7 All wages shall be paid in current coin or currency or in both.

4.8 Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act 1956.

4.9 A notice showing the wage period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Charge under acknowledgment.

4.10 It shall be the duty of the contractor to ensure the disbursement of wages in the presence of the Engineer or any other authorized representatives of the Engineer-in-Charge who will be required to be present at the place and time of disbursement of wages by the contractor to workmen.

- 4.11 The contractor shall obtain from the Engineer or any other authorized representative of the Engineer-in-Charge as the case may be, a certificate under his signature at the end of the entries in the “Register of Wages” or the “Wage-cum-Muster Roll” as the case may be in the following form:

“Certified that the amount shown in column No..... has been paid to the workmen concerned in my presence on..... at .....

## 5.0 FINES AND DEDUCTIONS, WHICH MAY BE MADE FROM WAGES

- 5.1 The wages of a worker shall be paid to him without any deduction of any kind except the following—

- a) Fines
- b) Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.
- c) Deduction for damage to or loss of goods expressly entrusted to the employed persons for custody, or from loss of money or any other deduction which he is required to account where such damage or loss is directly attributable to his neglect or default.
- d) Deduction for recovery of advances or for adjustment of over payment of wages, advances granted shall be entered in a register.
- e) Any other deduction, which the Central Government may from time to time allow.

- 5.2 No fines should be imposed on any workers in respect of such acts and omissions on his part as have been approved by the Chief Labour Commissioner.

NOTE: An approved list of Acts and Omissions for which fines can be imposed is enclosed at Appendix-I.

- 5.3 No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.
- 5.4 The total amount of fine, which may be imposed in any one-wage period on a worker, shall not exceed an amount equal to three paise in Rupees of the total wages, payable to him in respect of that wage period.
- 5.5 No fine imposed on any worker shall be recovered from him in installment, or after the expiry of sixty days from the date on which it was imposed.
- 5.6 Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

## 6.0 LABOUR RECORDS

- 6.1 The contractor shall maintain a “Register of persons employed” on work on contract in form XIII of the CL (R&A) Central Rules 1971 (Appendix-B).

- 6.2 The contractor shall maintain a “Muster Roll” register in respect of all workmen employed by him on the work under contract in from XVI of the CL (R&A) Rules 1971 (Appendix-C).
- 6.3 The contractor shall maintain a “Wage Register” in respect of all workmen employed by him on the work in form (Appendix-D).
- 6.4 Register of accidents – The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars:
- Full particulars of the labourers who met with accident.
  - Rate of wages
  - Sex
  - Age
  - Nature of accident and cause of accident.
  - Time and date of accident.
  - Date and time when he/she admitted in Hospital
  - Date of discharge from the Hospital
  - Period of treatment and result of treatment
  - Percentage of loss of earning capacity and disability as assessed by Medical Officer.
  - Claim required to be paid under Workmen’s Compensation Act.
  - Date of payment of compensation.
  - Amount paid with details of the person to whom the same was paid.
  - Authority by whom the compensation was assessed.
  - Remarks.
- 6.5 Register of Fines – The contractor shall maintain a “Register of Fines” in the form (Appendix-H).
- The contractor shall display in a good condition and in a conspicuous place of work the approved list of Acts and Omission for which fines can be imposed (Appendix-I).
- 6.6 Register of Deductions-The contractor shall maintain a “Register of Deductions” for damage or loss in form (Appendix-J).
- 6.7 Register of Advances-The contractor shall maintain a “Register of Advances” in form (Appendix-K).
- 6.8 Register of Overtime-The contractor shall maintain a “Register of Overtime” in form (Appendix-L).



## **7.0 ATTENDANCE CARD-CUM WAGE SLIP:**

- 7.1 The contractor shall issue an attendance card-cum-wage slip to each workman employed by him in the specimen form at (Appendix-E).
- 7.2 The card shall be valid for each wage period.
- 7.3 The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.
- 7.4 The card shall remain in possession of the worker during the wage period under reference.
- 7.5 The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
- 7.6 The contractor shall obtain the signature or thump impression of the worker on the wage slip at the time of disbursement of wages and retain the card with himself.

## **8.0 EMPLOYMENT CARD**

The contractor shall issue an Employment Card in form to each worker within three days of the employment of the worker (Appendix-F).

## **9.0 SERVICE CERTIFICATE**

On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a service certificate in form Appendix-G.

## **10.0 PRESERVATION OF LABOUR RECORDS**

All records required to be maintained under Regulations Nos. 6 and 7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge, Labour Officer.

## **11.0 POWER OF LABOUR OFFICERS TO MAKE INVESTIGATIONS INQUIRY**

The Labour Officer or any other person authorized by NPCC on its behalf shall have power to make inquiries with a view to ascertaining and enforcing due and proper observance of the Fair Wage Clauses and the Provisions of Regulations. He shall investigate into any complaint regarding the default made by the contractor or sub-contractor in regard to such provision.

## **12.0 Inspection of Book and slips**

The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour officer or any other person, authorized by the Central Government on his behalf.

## **13.0 Submission of Returns**

The contractor shall submit periodical returns as may be specified from time to time.

#### **14.0 Amendments**

NPCC may from to time, add or amend the regulations and on any question as to the application, interpretation or effect of these regulations the decision of the Zonal Manager concerned shall be final.

- 15.0 Contractor has to follow all the rules & regulations as per Labour Act and maintain all the records in the proper formats by obtaining from concerned labour department/office which are to be produced before the Owner / NPCC / labour officers for inspection as & when asked.

## VOLUME - 1



## SECTION-IV

### SPECIAL CONDITIONS OF CONTRACT (SCC)

## **SPECIAL CONDITIONS OF CONTRACT (SCC)**

### **GENERAL**

The following special conditions shall be read in conjunction with General Conditions of contract, if there are any provisions in these Special Conditions, which are at variance with the provisions of General Conditions of Contract, the provisions in these special Conditions shall prevail.

- (1) The work in general shall be carried out as per CPWD/MOST specification updated with correction slips issued upto last date of submission of e-tender.
- (2) For items not covered under CPWD/MOST Specification, as above, the work shall be done as per latest relevant ISI /BIS Codes of practice.

### **1.0 INTRODUCTION**

#### **1.1 APPROACH TO SITE**

The proposed site is in Kalikiri, District Chittir, Andhra Pradesh.

### **2.0 LETTER OF UNDERTAKING**

The tender shall be accompanied by Letter of acceptance of tender conditions as per proforma given in this tender document.

- 3.0 Any tender not accompanied by Letter of acceptance in accordance with aforesaid provision of Notice Inviting Tender and Instructions to Tenderer shall be rejected.

- 4.0 Once the Tenderer has given an unconditional acceptance to the tender conditions in its entirety, he is not permitted to put any remark(s)/conditions(s)(except unconditional rebate on price,if any)in/along with the tender.

### **5.0 SITE VISIT AND COLLECTING LOCAL INFORMATION**

Before tendering, the tenderer is advised to visit the site, its surrounding, access and satisfy themselves about the local conditions such as approach roads to the site, availability of water & power supply, application of taxes, duties and levies as applicable, nature of ground, soil and sub-soil condition, underground water table level, accommodations they may require etc., The tenderer may obtain all necessary information as to risks, contingencies & other circumstances (insurgencies etc.) which may influence or affect their tender. Tenderer shall be deemed to have considered site conditions whether he has inspected it or not and to have satisfied himself in all respect before quoting his rates and no claim or extra charges whatsoever in this regard shall be entertained / payable by the NPCC at a later date.

### **6.0 GST& TURNOVER TAX ETC.**

As per GCC conditions

### **7.0 TRANSFER OF BID DOCUMENTS**

Transfer of bid documents purchased by one intending bidder to another is not permissible.

- 8.0 The NPCC reserves the right to award the work to a single party or to split the work amongst two or more parties as deemed necessary without assigning any reason whatsoever.

#### 9.0 NO ESCALATION PAYMENT / PRICE VARIATION ADJUSTMENT

The rates quoted by the contractor shall be firm and fixed for entire contract period as well as extended period for completion of works. All rates as per bill of quantities (BOQ) shall be firm & fixed for entire contract period as well as for extended period for completion of the project. No claim on account of any price variation / Escalation on whatsoever ground shall be entertained at any stage of works.

- 10 The rates and prices to be tendered in the bill of quantities are for completed and finished items of works and complete in all respects. It will be deemed to include all constructional plant, labour, supervision, materials, transport, all temporary works, erection, maintenance, contractor's profit and establishment / overheads, together with preparation of designs drawings pertaining to casting yard (if required). Staging from work, stacking yard, etc, all general risk, taxes, royalty, duties, cess, octroi and other levies, insurance liabilities and obligations set out or implied in the tender documents and contract.

- 11.0 The materials products used on the works shall be one of the **approved makes/brands** out of list of manufacturers / brands /makes given in the tender documents. The contractor shall submit samples /specimens out of approved makes of materials /products to the engineer in charge for prior approval. In exceptional circumstances engineer in charge may allow alternate equivalent makes /brand s of products /materials at his sole discretion .The final choice of brand / make shall remain with the engineer in charge, whose decision in the matter shall be final and binding and nothing extra on this account shall be payable to the contractor.

Incase single brand / make are mentioned, other equivalent makes brands may be considered by the engineer in charge with prior approval .Incase of variance in CPWD's specification from approved products makes specification the specification of approved products make shall prevail for which nothing shall be paid extra to the contractor

- 12.0 Within 10 (Ten) days of issuance of Letter of Intent, the Contractor shall submit a Time and Progress Chart (CPM/ PERT/ Quantified Bar Chart) along with quarterly milestones and resources plan for man, material & machinery to achieve the milestones and get it approved by the Engineer-inCharge. The Chart shall be prepared in direct relation to the time stated in the contract documents for completion of item of the works. It shall indicate the forecast (mile-stones) of the dates of commencement and completion of various items, trades, sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time stipulated in the Contract documents, and further to ensure good progress during the execution of the work

#### 13.0 AMENITIES TO BE PROVIDED BY CONTRACTOR TO NPCC

On account of furnished Unit office equipped with all facilities such as telephone, fax, internet, photocopier, computer/ laptop & printer along with operator, regular electric & purified drinking water supply etc. as per the requirement of the project an amount equal to **1.00 %** of gross bill from all running account & final bill will be recovered.

- 14.0 The contractor if required shall demolish old structures on the proposed site properly. The useful material shall be the property of the owner /NPCC and these materials shall be stacked in workmanship like at the place specified by the Engineer-in-Charge.
- 15.0 The contractor shall provide safety equipment and gadgets to all their workers, supervisors and technical staff engaged in the execution of the work while working. The equipment and gadgets shall also be provided to NPCC by the contractor at his own cost for use of NPCC officials and /or workforce.

The cost of the above equipments /gadgets shall be included in the rates quoted by the contractor for the items & works as per bill of Quantities and contractor shall not be entitled for any extra cost in this regard. The above norm is to be strictly complied with at site .In case the contractor is found to be deficient in providing safety equipment/ gadgets in opinion of engineer in - charge, the engineer in charge at his option can procure the same at the risk & cost of contractor and provide the same for the use at work site and shall make the recoveries from the bills of the contractor for the same. The decision of the engineer in -charge shall be final and binding on contractor in this regard.

- 16.0 The tenderer shall quote his rates inclusive of GST, turnover tax/ sales tax on works and Labour Cess payable to Central/State Government along with other taxes, duties, levies etc. in conjunction with other terms and conditions.
- 17.0 If required, the contractor has to do site clearance, enabling work, barricading, shifting / realignment of existing utility services etc. at his own cost and the contractor shall not be entitled for any extra payment whatsoever in this regard.
- 18.0 In case of any sort of anomalies and/or typing error in the nomenclature, rates, & Description etc. of the items indicated in the Price bid / BOQ of scheduled items must be read as per respective schedule such as DSR-2018.
- 19.0 Deleted
- 20.0 Contractor has to submit a Construction Programme within 10 days of issue of LOA/LOI.
- 21.0 Unless otherwise provided in the schedule of quantity, rates tendered by the contractor shall be all inclusive and shall apply to all heights, lifts, leads, & depths of the building and nothing extra shall be paid to him on this account.
- 22.0 All drawings shall at all times be properly correlated before executing any work. However, in case of any discrepancy in the item given in the schedule of the quantities appended with the tender and architectural drawings relating to relevant item, the former shall prevail unless and otherwise given in writing by the engineer in charge.
- 23.0 The contractor shall be required to produce samples of all building materials and fittings sufficiently in advance to obtain approval of the Engineer-in charge.
- 24.0 The contractor shall comply with proper and legal orders and directions of the local or public authority or municipality and abide by their rules and regulations and pay all fees and charges which he may be liable.
- 25.0 The rate of all items in which use of cement is involved inclusive of all charges for curing.

26.0 **MODE OF PAYMENT:** As per GCC Condition.

27.0 The rate quoted by the contractor shall be deemed to be inclusive of GST, Turnover Tax on works contract, Labourcess or any other similar tax as per the laws applicable in the State as per GCC.

27.0 The stamp duty if any on the contract agreement levied by the Government or any other statutory body shall be paid by the contractor.

29.0 Contractor will be responsible for obtaining connections of water, sewerage and electricity from the concerned authority to ensure their proper commissioning so that no defects in operation of connections exist, by carrying out necessary tests etc.

30.0 **Confidentiality Clause**

In order to maintain confidentiality of the assignment, NPCC shall not share details of projects including agreement conditions with any agency/organization/individual other than the Clients



## VOLUME - 1



## SECTION-V

### FORMS

Appendix – ‘A’

## LABOUR BOARD

S. No.	Description	
1.	Name of work	
2.	Name of Contractor	
3.	Address of Contractor	
4.	Name and Address of Unit	
5.	Name of Labour Enforcement Officer	
6.	Address of Labour Enforcement Officer	
7.	Date:	

S. No	Category	Minimum Wages fixed	Actual Wages fixed	Numbers present	Remarks

Weekly Holiday	
Wage Period	
Date of Payment of wages	
Working hours	
Rest interval	

Appendix – ‘B’

FORM 13

(See Rule 75)

**REGISTER OF WORKMEN EMPLOYED BY CONTRACTOR**

S.No.	Description	
	Name and Address of Contractor	
	Name and Address of Establishment in/ under which contract is carried on	
	Nature and location of work	
	Name & Address of Principal Employer	
1.	Sl. No.	
2.	Name and surname of workman	
3.	Age & sex	
4.	Father's/ Husbands Name	
5.	Nature of employment / designation	
6.	Permanent home address of the workman (village and Taluk and District)	
7.	Local address	
8.	Date of commencement of employment	
9.	Signature or thumb impressions of the workman	
10.	Date of termination of employment	
11.	Reasons for termination	
12.	Remarks	

Appendix – ‘C’

FORM XVI

[See Rule 78(2) (193)]

**MUSTER ROLL**

S.No.	Description	
	Name and address of contractor	
	Name and address of establishment in/under	
	which contract is carried on	
	Nature and location of work	
	Name and Address of Principal Employer	
	For the month / fortnight	
1.	S. No.	
2.	Name of the workman	
3.	Sex	
4.	Father's/Husband's Name	
5.	Dates (1, 2, 3, 4, 5, -----12, 13, 14, 15)	
6.	Remarks	

Appendix – ‘D’

FORM XVII

[See Rule 78(2) (03)]

**REGISTER OF WAGES**

	Name and address of contractor	
	Name and address of establishment in/under which contract is carried on	
	Nature and location of work	
	Name and Address of Principal Employer	
	Wage period: per month/ fortnightly	
1	Sl. No.	
2	Name of Workman	
3	Serial No. in the register of workman	
4	Designation /nature of work done	
5	Nos. of days worked	
6	Units of work done	
7	Daily rate of wages/ piece rate	
8	Basic rate of Wages	
9	Dearness allowance	
10	Overtime	
11	Other cash payments (Nature of payments to be indicated)	
12	Total	
13	Deduction if any (indicate nature)	
14	Net amount paid	
15	Signature thumb impression of the workman	
16	Initials of contractor or his representatives	

Appendix – ‘E’

FORM XIX

[SEE RULE 78 (2) (B)]

W A G E S L I P

	Name and address of contractor	
	Name and Father's/Husband's Name of workman	
	Nature and location of work	
	For the Week/Fortnight/Month ending	
1	No. of days worked	
2	No. of Units worked in case of piece rate works	
3	Rate of daily wages/piece rate	
4	Amount of overtime wages	
5	Gross wages payable	
6	Deductions if any	
7	Net amount of wages paid	
	Sign of the Contractor	
	Received the sum of Rs.-----	
	towards my wages for the above period.	

Sign. of workman: -----

Appendix – ‘E’

**WAGE CARD**

Wage Card No. &	Date of Issue
	Month/Fortnight
Name and address of Contractor	
Nature of work with location	Designation
Name of workman	

**Rate of Wages**

Dates	Morning	Evening	Rate	Amount	Initials
1	2	3	4	5	6

Received from the sum of Rs. .... on account of my wagon.

Signature

The wage card is valid for one month from the date of issue.



Appendix – ‘F’

FORM XIV

(See Rule 76)

**EMPLOYMENT CARD**

S. No.	Description	
	Name and address of contractor	
	Name and address of establishment under which the contract is carried out	
	Nature and location of work	
	Name and address of Principal Employer	
1	Name of the workman	
2	Sl.No in the register of workman employed	
3	Nature of Employment/Designation	
4	Wage rate (with particulars of unit in case of piece work)	
5	Wage Period	
6	Tenure of employment	
7	Remarks	

Signature of Contractor

Appendix – ‘G’

Form XV

(See Rule 77)

## SERVICE CERTIFICATE

Name and address of contractor

Nature and location of work	
Name and address of workman	
Age or date of birth	
Identification Marks	
Father's/Husband's Name	
Name and address of establishment in/under which	
contract is carried on	
Name and address of Principal Employer	
Total period of which employed	

S. No.	From	To	Nature of work	Rate of wages	Remarks

with particulars of unit  
(in case of piece work)

Signature

Form XII

[See Rule 78 (2) (D)]

### REGISTER OF FINES

Name and address of contractor	
Name and address of establishment in/ under which contract is carried on	
Nature and location of work	
Name and address of workman	
Name and address of Principal Employer	

SNo.	Name of	Father's /	Designation/ nature	Act/Omission	Date of offence
	Workman	Husband Name	of employment		for which fine imposed
1	2	3	4	5	7

8	Whether workman showed causes against fine	
9	Name of person in whose presence employees explanation was heard	
10	Wages period and wages payable	
11	Amount of fine imposed	
12	Date on which fine realized	
13	Remarks	

Appendix – ‘T’

**LIST OF ACTS AND OMISSIONS FOR WHICH FINES CAN BE IMPOSED**

In accordance with rule of Labour Regulations, to be displayed prominently at the site of work both in English and local language.

1	Willful insubordination or disobedience, whether alone or in combination with other.
2	Theft, fraud or dishonestly in connection with contractors beside a business or property.
3	Taking or giving bribes or any illegal gratifications.
4	Habitual of Late attendance.
5	Drunkenness fighting riotous or disorderly or indifferent behaviors.
6	Habitual negligence.
7	Smoking near or around the area where combustible or other materials are locked.
8	Habitual indiscipline.
9	Causing damage to work in the progress or to property of the NPCC or of the contractor.
10	Sleeping on duty.
11	Malingering or slowing down work.
12	Giving the false information regarding name, age, fathers name etc.
13	Habitual loss of wage cards supplied by the employer.
14	Unauthorized use of employers property or manufacturing or making of unauthorized articles at the work place.
15	Bad workmanship in construction and maintenance by skilled workers, which is not approved by the NPCC for which the contractors are compelled to undertake rectifications.
16	Making false complaints and/or misleading statements.
17	Engaging on trade within the premises of the establishment.
18	Any unauthorized divulgence of business affairs of the employees.

19	Collection or canvassing for the collection of any money within the premises of an establishment unless authorized by the employer.
20	Holding meeting inside the premises without previous sanction of the employers.
21	Threatening or intimidating any workman or employee during the working hours. .

Appendix – ‘J’

Form XX  
[See Rule 78 (2) (D)]

**REGISTER OF DEDUCTIONS FOR DAMAGES OR LOSS**

	Name and address of contractor	
	Name and address of establishment in/ under which	
	contract is carried on	
	Nature and location of work	
	Name and address of Principal Employer	
1	S. No.	
2	Name of workman	
3	Father's/Husband's Name	
4	Designation/nature of employment	
5	Particulars of damage or loss	
6	Date of damage/loss	
7	Date of recovery	
8	Whether workman showed cause against deductions	
9	Name of person in whose presence employees explanation was heard	
10	Amount of deduction Imposed	
11	No. of installment	
12	First Installment Last Installment	
13	Remarks	

Appendix – ‘K’

Form XXII  
[See Rule 78(2)]

## REGISTER OF ADVANCES

	Name and address of contractor	
	Name and address of establishment in/ under which contract is carried on	
	Nature and location of work	
	Name and address of Principal Employer	
1	S. No.	
2	Name of workman	
3	Father's/Husband's Name	
4	Designation/nature of employment	
5	Wages period and wages payable	
6	Date and amount of advance given	
7	Purpose / for which advance made	
8	No. of installments by which advance is to be paid	
9	Date and amount of each installment repaid	
10	Date on which last installment was repaid	
11	Remarks	



Appendix – 'L'

Form XXIII  
[See Rule 78(2) (E)]

**REGISTER OF OVERTIME**

	Name and address of contractor	
	Name and address of establishment in/ under which contract is carried on	
	Nature and location of work	
	Name and address of Principal Employer	
1	S. No.	
2	Name of workman	
3	Father's/Husband's	
4	Sex	
5	Designation/nature of employment	
6	Date on which overtime worked	
7	Total overtime worked or production in case of piece rated	
8	Normal rate of wages	
9	Overtime rate of wages	
10	Overtime earning	
11	Rate on which overtime wages paid	
12	Remarks	

Appendix – ‘M’

**LIST OF APPROVED BANKS**

**Nationalized Banks:**

The BGs shall be accepted from all Nationalizes Banks, and in addition, these can also be accepted from the Scheduled Private as detailed below:

**Scheduled Private Sector Banks:**

- ING Vysya Bank Ltd
- Axis Bank Ltd
- ICICI Bank Ltd
- HDFC Bank Ltd

## APPLICATION FOR EXTENSION OF TIME

(To be completed by the Contractor)

### P A R T –I

1. Name of Contractor
2. Name of the work as given in the Agreement
3. Agreement No.
4. Estimated amount put to tender
5. Date of commencement work as per agreement
6. Period allowed for completion of work as per agreement
7. Date of completion stipulated as per agreement
8. Period for which extension of time has been given previously

Extension granted

- a) First extension vide Engineer-in- charge letter No... .....date Months Days
- b) 2nd extension vide Engineer-in- charge letter No..... date Months Days
- c) 3rd extension vide Engineer-in- charge letter No..... date Months Days
- d) 4th extension vide engineer-in- charge letter No..... date Months Days

Total extension previously given

9. Reasons for which extension have been previously given (copies of the previous application should be attached)
10. Period for which extension is applied for:
11. Hindrances on account of which extension is applied for with dates on which hindrances occurred, and the period for which these are likely to last.
  - a) Serial No.
  - b) Nature of hindrance
  - c) Date of Occurrence
  - d) Period for which it is likely to last
  - e) Period for which extension required for this particular hindrance.
  - f) Over lapping period, if any, with reference to item
  - g) Net extension applied for

h) Remarks, if any

Total period for which extension is now applied for on account of hindrances mentioned above .....Month/ days.

12. Extension of time required for extra work.

13. Details of extra work and on the amount involved:

a) Total value of extra work

b) Proportionate period of extension of time based on estimated amount put to tender on account of extra work.

14. Total extension of time required for 11 & 12

Submitted to the Engineer-in-Charges office.

SIGNATURE OF CONTRACTOR

DATE

## APPLICATION FOR EXTENSION OF TIME

### PART – II

1. Date of receipt of application from the Contractor in the Engineer-in-charge's office.
2. Acknowledgement issued by Engineer-in-charge vide his letter No dated
3. Engineer-in-charge remarks regarding hindrances mentioned by the Contractor.
  - i) Serial No.
  - ii) Nature of hindrance
  - iii) Date of occurrence of hindrance
  - iv) Period for which hindrance, is likely to last
  - v) Extension of time period applied for by the contractor
  - vi) Over lapping period, if any, giving reference to items which over lap
  - vii) Net period for which extension is recommended.
  - viii) Remarks as to why the hindrance occurred and justification for extension recommended.
4. Engineer-in-charge recommendations.

(The present progress of the work should be stated and whether the work is likely to be completed by the date up to which extension has been applied for. If extension of time is not recommended, what compensation is proposed to be levied under the agreement?)

SIGNATURE OF ENGINEER-IN-CHARGE

APPROVAL OF ZONAL MANAGER

## PROFORMA FOR EXTENSION OF TIME

P A R T –III

To

NAME

ADDRESS OF THE CONTRACTOR

SUBJECT:

Dear Sir(s)

Reference your letter No \_\_\_\_\_ dated \_\_\_\_\_, in connection with the grant of extension of time for completion of the work.....

The date of completion for the above mentioned work, is ..... as stipulated in the agreement, dated .....

Extension of time for completion of the above-mentioned work is granted up to \_\_\_\_\_, without prejudice to the right of the NPCC to recover compensation for delay in accordance with the provision made in the relevant Clause (s) of the said agreement dated the \_\_\_/ \_\_\_/ \_\_\_. It is also clearly understood that the NPCC shall not consider any revision in contract price or any other compensation whatsoever due to grant of this extension.

Provided that notwithstanding the extension hereby granted, time is and shall still continue to be the essence of the said agreement.

Yours faithfully,

FOR NPCCLTD.

**NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED  
(A GOVERNMENT OF INDIA ENTERPRISE)**

**PROFORMA OF BANK GUARANTEE IN LIEU OF E M D (BID BOND)**

DELETED



**NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED  
( A GOVERNMENT OF INDIA ENTERPRISE )**

**PROFORMA OF BANK GUARANTEE (FOR PERFORMANCE GUARANTEE)**

NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED,

(Address as mentioned in Notice Inviting Tender)

Whereas the National Projects Construction Corporation Limited (hereinafter called “NPCC” which expression shall include its successors and assigns) having awarded a work order/contract / supply order No..... Dated .....(hereinafter called the contract) to M/s. .... (Hereinafter called the contractor / supplier) at a total price of Rs..... subject to the terms and conditions contained in the contract.

WHEREAS, the terms and conditions of the contract require the contractor to furnish a bank guarantee for Rs..... (Rupees.....) being .....% of the total value of the contract for proper execution and due fulfillment of the terms and conditions contained in the contract.

We, the Bank, (hereinafter called the “Bank”) do hereby unconditionally and irrevocably undertake to pay to NPCC immediately on demand in writing and without protest/or demur all moneys payable by the contractor/supplier to NPCC in connection with the execution/ supply of and performance of the works/equipment, inclusive of any loss, damages, charges, expenses and costs caused to or suffered by or which would be caused to or suffered by NPCC by reason of any breach by the contractor/supplier of any of the terms and conditions contained in the contract as specified in the notice of demand made

by NPCC to the bank. Any such demand made by NPCC on the bank shall be conclusive evidence of the amount due and payable by the bank under this guarantee. However, the Bank’s liability under this guarantee, shall be limited to Rs.....in the aggregate and the bank hereby agrees to the following terms and conditions:-

- (i) This guarantee shall be a continuing guarantee and irrevocable for all claims of NPCC as specified above and shall be valid during the period specified for the performance of the contract including the period of maintenance/warranty i.e. up to.....
- (ii) We, the said bank further agree with NPCC that NPCC shall have the fullest liberty without our consent and without affecting in any manner our obligations and liabilities hereunder to vary any of the terms and conditions of the said contract or to extend time for performance of contract by the contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by NPCC against the contractor/supplier under the contract and forbear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variations or extension being granted to the contractor or for any forbearance, act or omission on the part of NPCC or any indulgence by NPCC to the contractor or by any such matter or thing whatsoever, which under the law relating to the sureties would, but for this provision, have effect of so relieving us.
- (iii) This guarantee/undertaking shall be in addition to any other guarantee or security whatsoever NPCC may now or at any time have in relation to the performance of the works/equipment and the company shall have full re-course to or enforce this security in

performance to any other security or guarantee which the NPCC may have or obtained and there shall be no forbearance on the part of the company in enforcing or requiring enforcement of any other security which shall have the effect of releasing the Bank from its full liability. It shall not be necessary for NPCC to proceed against the said contractor/supplier before proceeding against the Bank.

- (iv) This guarantee/ undertaking shall not be determined or affected by the liquidation or winding up, dissolution or change of constitution or insolvency of the supplier/contractor, but shall in all respects and for all purposes be binding and operative until payment of all moneys payable to NPCC in terms thereof are paid by the Bank.
- (v) The Bank hereby waives all rights at any time inconsistent with the terms of this Guarantee and the obligations of the bank in terms hereof, shall not be otherwise effected or suspended by reasons of any dispute or disputes having been raised by the supplier/contractor (whether or not pending before any Arbitrator, Tribunal or Court) or any denial of liability by the supplier/contractor stopping or preventing or purporting to stop or prevent any payment by the Bank to NPCC in terms hereof.

We, the said Bank, lastly undertake not to revoke this guarantee during its currency except with the previous consent of NPCC in writing. Unless a claim is made in writing within three months from the date of expiry of this guarantee i.e..... (Three months after the date of expiry) we shall be relieved from all liabilities under this guarantee thereafter.

Signed this ..... day of ..... at.....

For and on behalf of Bank

WITNESS.

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

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

**NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED  
(A GOVERNMENT OF INDIA ENTERPRISE)****PROFORMA OF BANK GUARANTEE (FOR MOBILIZATION ADVANCE)**NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED,  
  
\_\_\_\_\_  
  
\_\_\_\_\_

1. In consideration of the NPCC.....(hereinafter called “the Corporation” which expression shall unless repugnant to the subject or context include his successor and assigns) having agreed under the terms and conditions of Contract dated... made between... .....and the Corporation in connection with... (Hereinafter called “the said contract”) to make at the request of the Contractor a Mobilization Advance of Rs... for utilizing it for the purpose of the Contract on his furnishing a guarantee acceptable to the Corporation, we the..... Bank (hereinafter referred to the “the said Bank”) and having our registered office at..... do hereby guarantee the due recovery by the Corporation of the said advance as provided according to the terms and conditions of the Contract. We..... do hereby undertake to pay the amount due and payable under this Guarantee without any demur, merely on a demand from the Corporation stating that the amount claimed is due to the Corporation under the said Agreement. Any such demand made on the.....shall be conclusive as regards the amount due and payable by the.....  
. under this guarantee and..... agree that the liability of the .....to pay the Corporation the amount so demanded shall be absolute and unconditional notwithstanding any dispute or disputes raised by the Contractor and notwithstanding any legal proceeding pending in any court or Tribunal relating thereto. However, our liability under this Guarantee shall be restricted to an amount not exceeding Rs.....
2. We ..... Bank further agree that the Corporation shall be the sole judge of and as to whether the amount claimed has fallen due to the corporation under the said agreement or whether the said Contractor has not utilized the said advance or any part thereof for the purpose of the Contract and the extent of loss or damage caused to or suffered by the Corporation on account of the said advance together with interest not being recovered in full and the decision of the Corporation that the amount has fallen due from contractor or the said Contractor has not utilized the said advance or any part thereto for the purpose of the contract and as to the amount or amounts of loss or damage caused to or suffered by the Corporation shall be final and binding on us.
3. We, the said Bank, further agree that the Guarantee herein contained shall remain in full force and effect till the said advance has been fully recovered and its claims satisfied or discharged and till NPCC certify that the said advance has been fully recovered from the said Contractor, and accordingly discharges this Guarantee subject, however, that the Corporation shall have no claims under this Guarantee after the said advance has been fully recovered, unless a notice of the claims under this Guarantee has been served on the Bank before the expiry of the said Bank Guarantee in which case the same shall be enforceable against the Bank.

4. The Corporation shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee or indemnity from time to time to vary any of the terms and conditions of the said Contract or the advance or to extend time of performance by the said Contractor or to postpone for any time and from time to time of the powers exercisable by it against the said Contractor and either to enforce or forbear from enforcing any of terms and conditions governing the said Contract or the advance or securities available to the Corporation and the said Bank shall not be released from its liability under these presents by any exercise by the Corporation of the liberty with reference to the matters aforesaid or by reasons of time being given to the said Contractor or any other forbearance, act or omission on the part of the Corporation or any indulgence by the Corporation to the said Contractor or of any other matter or thing whatsoever which under the law relating to sureties would but for this provision have the effect of so releasing the bank from its such liability.
5. It shall not be necessary for the Corporation to proceed against the Contractor before proceeding against the Bank and the Guarantee herein contained shall be enforceable against the Bank notwithstanding any security which the Corporation may have obtained or obtain from the Contractor or shall at the time when proceedings are taken against the Bank hereunder be outstanding or unrealized.
6. We, the said Bank, lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the Corporation in writing and agree that any change in the constitution of the said Contractor or the said Bank shall not discharge our liability hereunder.

Dated this .....day of.....

For and on behalf of Bank

(NAME AND DESIGNATION)

Dated:

**NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED  
(A GOVERNMENT OF INDIA ENTERPRISE)****PROFORMA OF BANK GUARANTEE (IN LIEU OF SECURITY DEPOSIT)**

National Projects Construction Corporation Ltd.

\_\_\_\_\_

\_\_\_\_\_

In consideration of the National Projects Construction Corporation Ltd., (hereinafter called “the NPCC”) which expression shall include its successors and assigns having awarded to M/s.....

(hereinafter called “the Supplier/Contractor”) which expression shall wherever the subject or context so permits includes its successors and assigns) a Contract in terms inter-alia of the company’s letter No.....dated.....and the Contract/Purchase Conditions of the Company and upon the condition of the Supplier/Contractor furnishing Security for the performance of the Supplier’s obligations and /or discharge of the contractor’s/supplier’s liability under and/or in connection with the said supply contract up to a sum of Rs..... (Rupees..... only) We,..... ((Hereinafter called “The Bank”)

which expression shall include its successors and assigns) hereby undertake and guarantee payment to NPCC forthwith on the same day on demand in writing and without protest or demur of any and all moneys payable by the supplier/contractor to the Company under, in respect or in connection with the said contract inclusive of all the losses, damages, costs , charges and expenses and other moneys payable in respect of the above as specified in any notice of demand made by the Company to the Bank with reference to this guarantee up to and aggregate limit of Rs.....(Rupees.....only) and the bank hereby agree with the company that:

1. This Guarantee shall be continuing guarantee and shall remain valid and irrevocable for all claims of the Company and liabilities of Supplier/Contractor arising upto and until midnight of.....
2. That Guarantee shall be in addition to any other Guarantee or Security whatsoever that the Company now or at any time have in relation to the Supplier’s obligations/liabilities under and/ or in connection with the said supply/contract, and the company shall have full authority to take recourse or to enforce this Security in preference to any other Guarantee or Security which the Company may have or obtain and no forbearance on the part of the Company in enforcing or requiring enforcement of any other Security shall have the effect of releasing the Bank from its liability hereunder.
3. The Company shall be at liberty without reference to the Bank and without affecting the full liability of the Bank hereunder to take any other security in respect of the Supplier’s/Contractor’s obligations and/ or liabilities under or in connection with the said supply/contract or to grant time and / or indulgence to the supplier / contractor or to increase or otherwise vary the prices or the total contract value or to release or to forbear from enforcement of all or any of the conditions under the said supply / contract and / or the remedies of the Company under any other security/securities now or hereafter held by the Company and no such dealings, increase(s) or other indulgence(s) or arrangement(s) with the supplier / contractor or releasing or forbearance whatsoever shall have the effect

of releasing the Bank from its full liability to the Company hereunder or prejudicing rights of the company against the Bank.

4. This Guarantee shall not be determined or affected by the liquidation or winding up, dissolution or change of constitution or insolvency of the supplier / contractor but shall in all respects and for all purposes be binding and operative until payment of all moneys payable to the company in terms thereof.
5. The Bank hereby waives all rights at any time inconsistent with the terms of this Guarantee and the obligations of the Bank in terms hereof shall not be otherwise affected or suspended by reason of any dispute or disputes having been raised by the supplier / contractor (whether or not pending before any Arbitrator, Tribunal or Court) or any denial or liability by the supplier/ contractor stopping/ preventing or purporting to stop or prevent any payment by the Bank to the Company in terms thereof.
6. The amount stated in any notice of demand addressed by the company to the Guarantor as liable to be paid to the Company by the supplier/contractor or as suffered or incurred by the Company on account of any losses or damages, costs, charges and / or expenses shall as between the Bank and the Company be conclusive of the amount so liable to be paid to the company or suffered or incurred by the company as the case may be and payable by the Guarantor to the Company in terms hereof subject to a maximum of Rs .....(Rupees .....only),
7. Unless demand or claim under this Guarantee is made on the Guarantor in writing within three months form the date of expiry of the Guarantee i.e. up to .....  
The Guarantor shall be discharged from all liabilities under this Guarantee there under.

Notwithstanding anything contained herein before our liability under this guarantee is restricted to Rs. .... (Rupees.....only).

This guarantee will expire on.....

Any claim under this Guarantee must be received by us within three months from the date of expiry i.e. .... (This Date is, three months after the expiry date) and if no such claim has been received by us by that date all your rights under this guarantee will cease.

For and on behalf of the Bank

Place

Date

WITNESS:

- 1.
- 2.

**GUARANTEE TO BE EXECUTED BY CONTRACTOR FOR ANTI-TERMITETREATMENT**

THIS AGREEMENT made this \_\_\_\_ day of Two thousand \_\_\_\_ between M/s \_\_\_\_\_ (hereinafter called the guarantor of the one part) and M/s National Projects Construction Corporation Limited, (hereinafter called the NPCC) the OWNER of the other part.

Whereas this agreement is supplementary to the contract hereinafter called the contract dated \_\_\_\_\_ made between the guarantor of the one part and National Projects Construction Corporation Ltd., of the other part whereby the contractor inter-alia, understood to render the buildings and structures in the said contract recited, completed, termite proof. And whereas the guarantor agreed to give a guarantee to the effect that the said structure will remain termite proof for TEN YEARS to be so reckoned from the date after the maintenance period prescribed in the contract expires.

During this period of guarantee the guarantor shall make good all defects and for that matter shall replace at his risk and cost such wooden member as may be damaged by termite and in case of any other defect being found, he shall render the building termite proof at his cost to the satisfaction of the Engineer-in-charge and shall commence the works of such rectification within seven days from date of issuing notice from the Engineer-in-Charge calling upon him to rectify the defects falling which the work shall be got done by

NPCC/ OWNER by some other contractor at the guarantor's cost and risk and in the later case the decision of the Engineer-in-charge as to the cost recoverable from the guarantor shall be final and binding.

That if the Guarantor fails to execute the Anti-Termite treatment or commits breaches hereunder then the Guarantor will indemnify NPCC against all losses damages, cost expenses or otherwise which may be incurred by him by reasons of any default on the part of the guarantor in performance and observance of this supplemental Agreement. As to the amount of loss and or damage and/or cost incurred by NPCC/ OWNER decision of the Engineer-in-charge will be final and binding on the parties.

In witness where of these presents have been executed by the guarantor \_\_\_\_\_ and by \_\_\_\_\_ for and on behalf of NPCC on the day of month and year first above written.

Signed sealed and delivered by (Guarantor)

IN THE PRESENCE OF:

1.

2.

Signed for and on behalf of NPCC by/ in presence of:

1.

2.



## **GUARANTEE TO BE EXECUTED BY CONTRACTOR FOR REMOVAL OF DEFECTS AFTER COMPLETION IN RESPECT OF WATER PROOFING WORKS**

The agreement made this ..... Day of..... Two thousand eight between ..... (Hereinafter called Guarantor of the one part) and the NPCC (hereinafter called the Execution Agency of the other part).

WHEREAS this agreement is supplementary to a contract (hereinafter called the Contract), dated ..... and made between the GUARANTOR OF THE ONE part and the NPCC of the other part, whereby the Contractor, inter-alia, undertook to render the buildings and structures in the said contract recited completely water and leak proof.

AND WHEREAS the Guarantor agreed to give a guarantee to the effect that the said structures will remain water and leak proof for ten years from the date of handing over of the structure of water proofing treatment

NOW THE GUARANTOR hereby guarantees that water proofing treatment given by him will render the structures completely leak proof and the minimum life of such water proofing treatment shall be ten years to be reckoned from the date after the maintenance period prescribed in the contract provided that the Guarantor will not be responsible for leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose.

- a) Misuse of roof shall mean any operation, which will damage proofing treatment, like chopping of firewood and things of the same nature, which might cause damage to the roof.
- b) Alternation shall mean construction of an additional storey or a part of the roof or construction adjoining to existing roof whereby proofing treatment is removed in parts
- c) The decision of the Engineer-in-Charge with regard to cause of leakage shall be final

During this period of guarantee, the Guarantor shall make good all defects and in case of any defect being found render the building water proof to the satisfaction of the Engineer-in-Charge at his cost and shall commence the work for such rectification within seven days from the date of issue of notice from the Engineer-in-Charge calling upon him to rectify the defects failing which the work shall be got done by the NPCC by some other Contractor at the guarantor's cost and risk. The decision of Engineer-in-Charge as to the cost, payable by the Guarantor shall be final and binding.

That if the Guarantor fails to execute the waterproofing or commits breach thereunder, then the Guarantor will indemnify the principal and his successors against all laws damage, cost, expense or otherwise which he may incur by reason of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and / or damage and/ or cost incurred by the NPCC, the decision of the Engineer-in-Charge will final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the Obligator, and by ..... for and on behalf of the NPCC on the day, month and year first above written.

Signed, sealed and delivered by Obligator in the presence of-

- 1.
- 2.

Signed for and on behalf of the NPCC by \_\_\_\_\_

In presence of:

- 1.
- 2.



## **AGREEMENT FORM**

This agreement made this day of (Month) (Year), between the National Projects Construction Corporation Limited (NPCC), a company incorporated under the Companies Act, 1956 having its Registered Office at 30-31, Raja House, Nehru place New Delhi – 110 019 (hereinafter referred to as the “NPCC” which expression shall include its administrators, successors, executors and assigns) of the one part and M/s (NAME OF CONTRACTOR) (hereinafter referred to as the ‘Contractor’ which expression shall unless the context requires otherwise include its administrators, successors, executors and permitted assigns) of the other part.

WHEREAS, NPCC, has desirous of construction of (NAME OF WORK) (hereinafter referred to as the “PROJECT”) on behalf of the (NAME OF OWNER/MINISTRY) (hereinafter referred to as “OWNER”), had invited tenders as per Tender documents vide NIT No. \_\_\_\_\_.

AND WHEREAS (NAME OF CONTRACTOR) had participated in the above-referred tender vide their tender dated \_\_\_\_\_ and NPCC has accepted their aforesaid tender and award the contract for (NAME OF PROJECT) on the terms and conditions contained in its Letter of Intent No. \_\_\_\_\_ and the documents referred to therein, which have been unequivocally accepted by (NAME OF CONTRACTOR) vide their acceptance letter dated \_\_\_\_\_ resulting into a contract.

NOW THEREFORE THIS DEED WITNESSETH AS UNDER:

### **ARTICLE 1.0 – AWARD OF CONTRACT**

#### **1.1 SCOPE OF WORK**

NPCC has awarded the contract to (NAME OF CONTRACTOR) for the work of (NAME OF WORK) on the terms and conditions in its letter of intent No. \_\_\_\_\_ dated \_\_\_\_\_ and the documents referred to therein. The award has taken effect from (DATE) i.e. the date of issue of aforesaid letter of intent. The terms and expressions used in this agreement shall have the same meanings as are assigned to them in the “Contract Documents” referred to in the succeeding Article.

### **ARTICLE 2.0 – CONTRACT DOCUMENTS**

2.1 The contract shall be performed strictly as per the terms and conditions stipulated herein and in the following documents attached herewith (hereinafter referred to as “Contract Documents”).

a) NPCC Notice Inviting Tender vide No. \_\_\_\_\_ date \_\_\_\_\_ and NPCC’ s tender documents consisting of:

i) General Conditions of Contract (GCC) & Special Conditions of Contract (SCC) including Appendices & Annexure along with amendment(s) / errata (if any) issued (Volume-I).

ii) Bill of Quantities along with amendment(s)/corrigendum(s), if any, (Volume-II).

- iii) Technical Specifications along with amendment(s) / corrigendum(s), if any, (Volume-III).
- iv) Tender drawings along with amendment(s) / corrigendum(s), if any, (Volume-IV).
- v) \_\_\_\_\_
- vi) \_\_\_\_\_
- b) (NAME OF CONTRACTOR) letter proposal dated \_\_\_\_\_ and their subsequent Communication:
- i) Letter of Acceptance of Tender Conditions dated \_\_\_\_\_
- ii) \_\_\_\_\_
- iii) \_\_\_\_\_
- 2.2 NPCC 's detailed Letter of Intent No. \_\_\_\_\_ dated \_\_\_\_ including Bill of Quantities. Agreed time schedule, Contractor's Organisation Chart and list of Plant and Equipments submitted by Contractor.
- 2.3 All the aforesaid contract documents referred to in Para 2.1 and 2.2 above shall form an integral part of this Agreement, in so far as the same or any part thereof column, to the tender documents and what has been specifically agreed to by NPCC in its Letter of Intent. Any matter inconsistent therewith, contrary or repugnant thereto or deviations taken by the Contractor in its "TENDER" but not agreed to specifically by NPCC in its Letter of Intent, shall be deemed to have been withdrawn by the Contractor without any cost implication to NPCC. For the sake of brevity, this Agreement along with its aforesaid contract documents and Letter of Intent shall be referred to as the "Contract".

### ARTICLE 3.0 – CONDITIONS & CONVENANTS

- 3.1 The scope of Contract, Consideration, terms of payments, advance, security deposits, taxes wherever applicable, insurance, agreed time schedule, compensation for delay and all other terms and conditions contained in NPCC 's Letter of Intent No. \_\_\_\_\_ dated \_\_\_\_ are to be read in conjunction with other aforesaid contract documents. The contractor shall duly perform the contract strictly and faithfully in accordance with the terms of this contract.
- 3.2 The scope of work shall also include all such items which are not specifically mentioned in the Contract Documents but which are reasonably implied for the satisfactory completion of the entire scope of work envisaged under this contract unless otherwise specifically excluded from the scope of work in the Letter of Intent.
- 3.3 Contractor shall adhere to all requirements stipulated in the Contract documents.
- 3.4 Time is the essence of the Contract and it shall be strictly adhered to. The progress of work shall conform to agreed works schedule/contract documents and Letter of Intent.
- 3.5 This agreement constitutes full and complete understanding between the parties and terms of the presents. It shall supersede all prior correspondence to the extent of inconsistency

or repugnancy to the terms and conditions contained in Agreement. Any modification of the Agreement shall be effected only by a written instrument signed by the authorized representative of both the parties.

- 3.6 The total contract price for the entire scope of this contract as detailed in Letter of Intent is Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only), which shall be governed by the stipulations of the contract documents.

#### **ARTICLE 4.0 – NO WAIVER OF RIGHTS**

- 4.1 Neither the inspection by NPCC or the Engineer-in-Charge or Owner or any of their officials, employees or agents nor order by NPCC or the Engineer-in-Charge for payment of money or any payment for or acceptance of, the whole or any part of the work by NPCC or the Engineer-in-Charge nor any extension of time nor any possession taken by the Engineer-in-Charge shall operate as waiver of any provisions of the contract, or of any power herein reserved to NPCC, or any right to damage herein provided, nor shall any waiver of any breach in the contract be held to be a waiver or any other or subsequent breach.

#### **ARTICLE 5.0 – GOVERNING LAW AND JURISDICTION**

- 5.1 The Laws applicable to this contract shall be the laws in force in India and jurisdiction of Bhubaneswar Court (s) only.
- 5.2 Notice of Default

Notice of default given by either party to the other party under the Agreement shall be in writing and shall be deemed to have been duly and properly served upon the parties hereto, if delivered against acknowledgment due or by FAX or by registered mail duly addressed to the signatories at the address mentioned herein above.

IN WITNESS WHEREOF, the parties through their duly authorized representatives have executed these presents (execution whereof has been approved by the Competent Authorities of both the parties) on the day, month and year first above mentioned at Bhubaneswar.

For and on behalf of:

For and on behalf of:

(NAME OF CONTRACTOR)

M/S NATIONAL PROJECTS CONSTRUCTION  
CORPORATION LIMITED

WITNESS:

WITNESS:

1.

1.

2.

2.

# VOLUME – 01

## SECTION-VI

Technical Specifications, Quality Assurance process  
And Approved list of makes

## CIVIL SPECIFICATIONS

ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH LATEST OPWD SPECIFICATIONS AND NPCC GUIDELINES WITH UP TO DATE CORRECTION SLIPS WHEREVER APPLICABLE UNLESS AND OTHER WISE SPECIFIED.

Jungle clearance item will be operated with permission of Engineer - in charge for the other area than where the work is to be done.
Making of groove at the junction of birck wall and slab inside the room shall not be paid
Work shall be carried out as per latest OPWD specifications and NPCC guidelines.
Skirting is 10 cm high.
Nothing extra shall be paid for making drip course in projected slab.
Green Building Compliance
Low VOC paints shall be used.

1. **CIVIL NOTES:**

1.1 These notes are applicable to all specification of the items of work as mentioned on schedule of quantity and required during process of works.

1.2 The work shall be carried out according to OPWD detailed specification 2009 with up to date corrections unless otherwise specified in these specifications whether specifically mentioned in the Schedule of quantities or not. No extra in any form will be paid unless it is definitely stated as an item in the Schedule of Quantities

1.3 All mandatory tests specified in OPWD specifications 2009 with up to date correction slips shall be tested from the approved laboratories as desired by the Engineer-in-charge-in-charge and expenses viz. testing charges, including cartage, conveyance etc. what so ever shall be borne by the Contractor. If after any such test and in the opinion of the Engineer-in-charge-in-charge any work or portion or work is found to be defective and unsound the contractor shall pull down and re-execute the same at his own cost. Defective materials shall be removed from the site.

1.4 The work shall be carried out simultaneously with the electrical, sanitary and other services and in cooperation with other contractor for the above services. The work shall be carried out till it is completely satisfactory along with the completion of essential portions of the other services. The building contractor shall keep the other contractors informed well in advance of the proposed Programme of the work and shall give adequate notice to enable them to carry out their part of the work so that the building work is not hindered. The contractor shall further cooperate with the other contractors in respect of any facilities required by them e.g. holes in shuttering for sanitary pipes, electric conduits, fan hooks etc. etc. However, nothing extra shall be admissible to him for such reasonable assistance and facilities afforded to other contractors and the building contractor shall be deemed to have taken these factors into consideration while quoting his rates.

1.5 The work shall be related to the drawings which the contractor is presumed to have studied. Nothing extra will be paid for any item on account of its shapes, size, location or other difficult circumstances, even if the schedule makes no distinction in its description provided the item is shown in the drawings.

1.6 The sources of materials stated in the specifications are those from which materials are generally available. However, materials not conforming to specification shall be rejected even if they come from the stated sources. The contractor should satisfy himself that sufficient quantity of materials of acceptable specification is available from the stated or other sources and should tender accordingly,

1.7 Definition of work as related in the specifications specified means specified in OPWD specifications or in specifications of any standard code, similar documents mentioned herein and forming part of tender documents.

I.S – Shall mean a standard specification issued by the Indian Standard Institution with up to date correction as on date.

**Schedule** – Shall mean the schedule of quantities / items for execution of work.

**Engineer-in-charge** – The Project Manager of NPCC who shall supervise and be in-charge of the work from time to time.

**Approved, accepted, allowed** – shall mean approved in writing by the Engineer-in-charge.

**Structural Consultant** – shall mean the firm or person(s) appointed by the Engineer-in-charge to prepare structural drawings.

**Instructed, directed or required** – means as instructed by the Engineer-in-charge.

1.8 The requirement of these specifications shall be fulfilled by the contractor without extra charge i.e. The item/percentage rates quoted shall be deemed to have taken these specifications in to account.

1.9 In addition to above, following specifications are also to be complied.

2.0 Mix Design for RCC work in Foundation, Plinth and Superstructure

2.1 The contractor shall have to submit mix design / aggregate proportioning from IIT/ NIT/ Govt. Institute/ Govt. affiliated laboratories, 8 days before concreting with minimum cement contents criteria for all concrete mixes having strength M-20 and above as specified in design and strength as per the relevant IS code. Minimum Cement Content / Consumption.

2.2 Minimum cement content/ consumption per cubic meter of concrete for the different grades of concrete shall be as per the provisions contained in IS 456-2000.

2.3 The contractor shall have to purchase/arrange cement with ISI mark PPC confirming IS code 1489 of approved make.

2.4 The steel reinforcement to be used for the work shall be only tested TMT bars and the contractor will have to procure steel from the approved manufactures and of approved make only.

2.5 The water cement ratio shall be strictly adhered to as per the approved mix design.

2.6 The small quantity of concrete can be done using conventional method instead of ready mix concrete with approval from the Engineer-In-Charge.

2.7 Controlled concrete with proper concrete mix design to be placed in situ, using standard formwork as per OPWD specifications to produce form finished reinforced concrete walls and slabs, loft, chajja, waist slab, steps, parapet simultaneously. The concrete should be placed using concrete pumping system.

2.8 Providing and fixing in position TMT steel bar reinforcement as per the approved make of various diameters for RCC foundation, other foundations, RCC slabs, beams, staircase, chajjas, lintels, copings, fins, arches etc. as per detailed designs, drawings and schedules as approved by the engineer in charge including

cutting, bending, hooking the bars binding with wires or tack welding and supporting as required complete.

### 3. CONCRETING

- 3.1 The concreting shall be from Batching Plant installed at site. The contractor may opt to use Ready Mixed Concrete of repute after obtaining prior written approval from the Engineer-in-charge.
- 3.2 The contractor shall provide construction joints only at the specified positions and as per BIS codes and the concreting for columns shall be floor to beam height in one lift, and in case the concreting is to be done in two lifts the minimum height of first lift of columns shall be 2.4 meters.
- 3.3 The stone aggregate and sand of required zone shall be from the quarries as approved by Engineer-in-charge. The samples of the materials shall be got approved along with the Mix design. Where ever mentioned in BOQ/SOR, Jamuna Sand is replaced with River sand of required Zone approved by Engineer-in-charge.
- 3.4 Plasticizers of the required specification and make shall only be permitted as per approved mix design

### 4. FORMWORK

- 4.1 Form work shall be so designed and constructed that it can be removed without damage to the concrete. Formwork shall be set to the profiles and pre-cambers shown on the drawings and due allowance shall be made in setting the levels of the formwork to compensate for any deflection or deformation due to the weight of the concrete. Formwork shall be designed and constructed to withstand the vibration required during placing of the concrete.
- 4.2 Where concrete is poured in more than one operation the contractor shall take all necessary precautions to hold the formwork tight against the previous pour to avoid any discontinuities in the finished off-form surface.
- 4.3 Forms shall be built true to line and level and braced in a substantial and unyielding manner to maintain correct position and shape at any stage.
- 4.4 On all exposed concrete surfaces the joints and splices in formwork panels shall be arranged in a manner suitable to the shape and area being formed. Wherever possible, joints in adjoining panels shall be positioned to be either staggered by half panel lengths or placed in line.
- 4.5 Forms shall be mortar tight and the edges of all joints shall be sealed with a suitable type of sealant. Forms subject to external water pressure shall be watertight.



- 4.6 Form shall be held in correct alignment and spacing by bolt and rod assemblies designed so that when the forms are removed no metal shall be closer to the surface of the concrete.
- 4.7 The use of wires and/or bolts extending to the surface of the concrete shall not be permitted except where shown on the drawings. Wires or bolts or fastenings for forms or fixing reinforcement shall have the same concrete cover as specified for reinforcement.
- 4.8 All other fittings shall be accurately located. Bolts, pipes and bars used to form holes in the structure shall be well greased and arranged so that they may be removed from the concrete without excessive jarring or hammering before removal of forms.
- 4.9 Form lubricants shall be of the non-staining type which does not adversely affect the surface of the concrete. Lubricants shall be used after the fabrication of forms and prior to the placing of any reinforcing steel or other embedded item. The lubricant shall be uniformly applied in a thin film and any surplus shall be removed prior to placing concrete. Care shall be taken that such coatings do not soil the surface of reinforcement.
- 4.10 Prior to concreting all forms shall be clean and free from sand and shavings and tie wire ends and other debris. Surplus water shall be drained and any temporary openings should be closed in a proper manner.
- 4.11 Formwork shall be removed in such a manner to ensure that no damage to the concrete occurs.
- 4.12 Based on average conditions in accordance with IS456, formwork support and formwork to reinforced concrete deck soffits and pier cap beams shall not be removed until the concrete has achieved a cubed strength as per IS.

## 5. TOLERANCES FOR CONCRETE CONSTRUCTION-

The materials for forms and form arrangements shall be such as to result in finished concrete work complying with the tolerances shown in Walls, Columns and Column Cap Beams.

Variation from vertical or specified batter The lesser of 1:300 or + 5mm in full height

Variation in cross sectional dimensions - 5mm

Misplacement or eccentricity of centerline + 5mm

Variations from specified level of surfaces other than bearing surfaces + 5mm

Departure from specified alignment of centerline and edges + 5mm

Departure from specified profile + 5mm

Variation in cross-sectional dimensions - 3mm

Variation from specified level of all bearing surfaces + 3mm

## 6. FILLING BENEATH FLOOR AND FOUNDATION

- 6.1 All the footings shall be excavated to an depth of 150mm and an additional 200mm or as indicated in the drawings. The excavated portion shall be filled with clean sand of FM 10 or as directed by the Engineer in charge.
- 6.2 Filling up to plinth level shall comprise of 300 mm thick layer of compacted bed of clean sand of FM 10, 100mm thick layer of Cement Concrete 1:4:8 followed by 75mm thick RCC Slab M-25 grade. The thickness and composition of each layer defined above shall be confirmed with the Structural Drawings.

## 7. CEMENT BONDED PARTICLE BOARD

- 7.1 The cement bonded particle boards proposed to be used for ceiling and cladding works shall confirm to IS 14276-1995.
- 7.2 Boards shall be fire resistant when tested in accordance to BS 476 and shall satisfy the criteria of ISO 834-1975 and IS 3809-1979 of ½ hour to 4 hours fire rating.
- 7.3 The swelling in thickness after 2 hours of immersion in water should not be greater than 1.5% after 24 hours.
- 7.4 On the site the boards should be store in dry conditions near the area of application for a minimum of 24 hours.
- 7.5 Strapped pallets should preferably be handled by fork lifts. If a crane is used, board plastic or fabric slings may be used but not chains.
- 7.6 The boards should be carried one at a time in vertical position and should not be laid on their edges but laid flat on a leveled surface.
- 7.7 To allow for dimensional changes a gap of 2-3mm should be made in the joints while fixing the boards.
- 7.8 Painting on the surface of the boards should commence only in dry conditions and is not recommended if the moisture content of the board is greater than 12%.
- 7.9 For the column cladding 12mm thick boards are to be supported on MS Angle frames, whereas for the ceiling 4mm thick boards shall be supported on concealed GI framework. The thickness of the boards shall be confirmed from the Architectural drawings.
- 7.10 Measurement for Payment:-
  - a) For Cladding works, the surface area (in Sq Meters) of the board shall be measured for payment which shall include compensation for all materials, labour, tools, plants, equipment, hardware, necessary provisions for electrical and plumbing works and fixing the boards as indicated in the drawings all complete except mild steel frame work which shall be measured and paid under separate heads of the schedule of quantities.
  - b) For ceiling works, the surface area (in Sq Meters) of the board shall be measured for payment which shall include compensation of all materials, labour, tools, plants, equipment, hardware necessary provisions for electrical and plumbing works and fixing the boards as indicated in the drawings all complete including GI framework as per manufacturers recommendations and as approved by the Engineer in charge.

## 8. GLAZED TERRACOTTA ROOF TILES

- 8.1 The roof tiles shall be interlocking, double grooved first quality ceramic glazed, double fired clay tiles.
- 8.2 The tiles surface shall be free from effervescence.
- 8.3 The colour and size of the tiles shall be approved by the Architect / Engineer in charge.
- 8.4 The slope angle shall be maintained between 18 degrees to 45 degrees and shall in no case be less than 17 degrees.
- 8.5 The overlaps should be between 56mm to 86mm as per manufacturer's recommendations.
- 8.6 The batten space shall be between 320mm to 350mm as per manufacturer's recommendations.
- 8.7 The tiles should be fixed in proper grade and slope using cement mortar of mix as per manufacturer's recommendations.
- 8.8 The ridge tiles shall be fixed in proper grade and slope as indicated in the drawings using cement mortar. All the joints shall be completely water tight to prevent any leakages.
- 8.9 The measurement for payment shall be on surface area (in Square meters) for roof tiles and in meters for ridge tiles and shall include compensation of all materials, labour, tools, plants, equipment, hardware, scaffolding as indicated in the drawings and as per manufacturer's recommendations all complete.

## 9. TERRACOTTA WALL TILES

- 9.1 The clay wall shall have a minimum compressive strength of 520 kg / Sq cm
- 9.2 The tiles surface shall be free from effervescence.
- 9.3 The colour and size of the tiles shall be approved by the Architect / Engineer in charge.
- 9.4 The area of applications should be completely dry before application.
- 9.5 The wall area should be cleaned with a wire brush to remove all loose particles, dust and impurities
- 9.6 The tiles should be fixed in using cement mortar of mix as per manufacturer's recommendations.
- 9.7 After fixing the tiles, all the excess mortar should be cleaned from the joints and the tile surface be cleaned with a brush to give a neat finish as per manufacturer's recommendations
- 9.8 The measurement for payment shall be on surface area (in Square meters) for wall tiles and shall include compensation of all materials, labour, tools, plants, equipment, hardware, scaffolding as indicated in the drawings and as per manufacturer's recommendations all complete.

## 10. STRUCTURAL DECKING

- 10.1. The Decking sheets to be used shall be hot dipped zinc coated high strength Steel sheets of 1mm thickness.
- 10.2. The sheets shall have an economical W Profile.
- 10.3. The self weight of the sheet shall not be less than 10.34 Kg per Sqm with a Zinc coating not less than 275 gms per Sqm, and Steel grade 550 MPA.
- 10.4. The sheets shall be provided with accessories such as Shear studs, teel brackets, Edge forms as per design and manufacturer's recommendations.

10.5. The measurement for payment shall be on surface area (in Square meters) for decking sheets and shall include compensation of all materials, labour, tools, plants, equipment, hardware, scaffolding, accessories as indicated in the drawings and as per manufacturer's recommendations all complete.

#### 11. STRUCTURAL STEEL FOR BUILT UP SECTIONS-

- 11.1 All steel beam, columns, column heads shall be made with built up plates which are High Tensile Steel confirming to IS 2062, Grade Fe 410 W and Yield Stress of 240 MPa.
- 11.2 All plates used shall be High Tensile Steel plates confirming to IS 2062 of Grade Fe 410 W and Yield stress of 240 MPa
- 11.3 All structural steel works shall be carried out in accordance with IS 800.
- 11.4 All bolt holes shall be drilled. The drilling shall be made to the diameter specified in the drawings. No enlarging of holes by filling, by man drilling or oxy-acetylene flame shall be allowed.
- 11.5 All Holes and edges shall be free from Loose pockets, scaling and burrs.
- 11.6 The structural steel member shall be cut mechanically or by oxy-acetylene flame. All edges cut by oxy-acetylene process shall be cleaned of all slag materials prior to assembly. Edge preparation for welding of members more than 10mm thick shall be done by edge cleaning machine only.
- 11.7 Tolerance of various elements shall be as per relevant BIS specifications.
- 11.8 All fillet and butt welding shall be 6mm thickness.
- 11.9 Diameter of Electrode rod used shall be 5mm for up to 10mm thick Gusset plate and 8mm for thickness greater than 10mm as per IS: 814-1974.
- 11.10 Length of electrode shall be 450mm +/- 6mm.
- 11.11 The contact end of electrode shall be bare end clean to a length of 20-30mm
- 11.12 The flux covering shall be uniform in outside diameter and thickness.
- 11.13 The covering shall burn or fuse evenly.
- 11.14 Deep penetration electrode shall provide a minimum penetration of 4mm beyond the root where the electrode is continuously deposited in a close square Tee joint between two plates, each of thickness equal to twice the core diameter of the electrode.
- 11.15 All welding shall be as per IS 820.
- 11.16 All steel sections shall be shop primed with approved industrial primer having minimum zinc content of 8%. The primer shall be of grey colour and the minimum thickness of the primer coat shall be 45 microns. If felt necessary the contractor shall paint further coat of primer after erection and placing the structural steel in position.
- 11.17 All painting works shall confirm to IS 1479 Part I & II and IS 8629.
- 11.18 All the shop drawings for fabrication of steel sections shall be prepared by the Contractor and submitted for approval to the Architect / Engineer in charge prior to the execution of works on site.
- 11.19 All field assembly and welding shall be executed in accordance with the requirement of the relevant fabrication drawings. The bolted joints shall be tightened so that the entire surface of the bolt heads and nuts shall rest on the members. For parts with sloping surfaces tapered washers shall be used.
- 11.20 Any faulty erection done by the contractor shall be made good at his own cost. The contractor shall satisfy himself about the levels, alignment, etc., before starting the erection work.

- 11.21 All structural steel works shall be measured in metric tones, on the basis of the actual quantities executed at site as per the 'good for construction' drawings, irrespective of the geometry/section/thickness of the respective structural members/components, such as (but not limiting to) column, beam, joist, purlin, cleats, stiffeners, bolts, foundation bolts etc.,

## 12. DRAWINGS

The drawings issued along with the tender document are only for the purpose of guidance of the contractor. The works shall be carried out on the basis of the Good for Construction Drawings which shall be issued by the Architects office along with the various stages of construction.

Broad Schedule of Finishes

Ser No		
1	Flooring	As per drawings. Toilet-glazed ceramic, AS Flooring, Virified
2.		
	Putty	All Areas Except Where Dado Specified
4	Door Frames/Window Frames	MS/Aluminium
		Door Shutters (I) Flush Door Solid Core, non Decorative, Factory Made, ISI Marked (IS 2202 Part-I-1999)
4(a)	Plinth protection	All around the building 750mm wide as spec
5	Rain water pipes	
	(a)	110mm diauPVC pipe ISI marked (IS:4985) of 6 kg per sqcm pressure rating.
	(b)	PVC holder bat clamp shall be embded in PCC 1:2:4 block of size 100x100x190mm. The clamps shall be provided at all joints and shall be tightly fitted on the socket of the pipe.
6	Skirting	
	(a)	100mm high All areas to match flooring
8.	Plastering	
	(a)	Internal-12mm thick in CM 1:6 in one coat.
	(b)	Hole for cooking gas pipe shall be provided in kitchen counter.
10	Grills/ Guard bars/railings	
		Shall be provided to all windows / vents as per detailed drawings. Stainless steel railings with glass infill panels for the railings wherever used in the projection/balconies.
11	Ironmongery (Hardware fittings)	
	(a)	Butt Hinges Shall be cold rolled mild steel medium weight ISI marked (IS-1341)
	(b)	Single action Spring Hinges Mild steel with

**Construction of NDA motivational hall at Sainik School, Kalikiri, Dist: Chittoor , Andhra Pradesh**

		steel wire spring stove enameled black japanned of size 110mm shall be provided to wire gauged shutters (IS:452)
	(c)	Continuous Piano Hinges Size 30mm with bright finishes shall be provided in cupboard and kitchen cabinet (IS:3818).
	(d)	Door Handle Brass type 4, ISI marked (IS-208)
	(e)	Tower bolt Brass barrel tower bolt ISI marked (IS-204 Part-II-1992).
	(f)	Sliding door bolt Brass sliding door bolt (Aldrop) type 2, bolt of Extruded section of brass 16mm dia, ISI marked (IS-2681)
	(g)	Double action Spring Hinges Mild steel with steel wire spring stove enameled, ISI marked (IS-453).
	(h)	Cup-board pipe 19mm dia Stainless Steel pipe of wall thickness 1.6mm.
	(j)	Door stopper Aluminium rubber stopper double legged shall be fixed to bottom rail of door shutter.
	(k)	Ball catcher Brass heavy duty confirming to IS-8756
	(l)	Hook & eye Aluminium anodized, 150mm size.
	(m)	Magic eye Brass body with both sides lenses, best quality.
	(n)	Mortice lock Brass vertical type, size 100mm, 4 levers of approved make confirming to IS-5930.
	(o)	Haspe& staple Brass.
12	External finish/cladding	
		Refer drawings of elevations
12(a)	Painting	All internal walls to be painted in OBD of approved colour( as/approval) All ceilings to be painted white in colour with OBD as approval
13	Synthetic Enamel Paint	
	(a)	Wooden surfaces: Two coats of synthetic enamel paint over one coat of pink primer.
	(b)	Steel surfaces Two coats of synthetic enamel paint over one coat of red oxide primer.
14	Glazing	
	(a)	5mm thick float glass for panes
	(b)	4mm thick frosted glass in windows / vents of toilets, bath and WC.



17	HDPE WATER STORAGE TANK	
		As plumbing drawings and spec
18	PLUMBING WORK	
	(a)	As plumbing drawings and spec
19	SANITARY FITTINGS	
	(a)	Water closet European type: Vitreous china wash down European water closet pan (Pedestal type), 1st quality white colour with 'p' trap.as/approval
	(b)	Flushing cistern Low level PVC flushing cistern 3/6 ltr capacity dual flush, feather touch operated, white/ coloured, as approval ISI marked (IS-7231).
	(c)	Plastic seat cover Shall be solid of PVC / fibre, ISI marked (IS-2543 Part-I-1983) as/approval
	(e)	Water closet Anglo Indian type Vitreous china UNIVERSAL with 'P' trap catalogue No 2061 white or catalogue No 200120 of Hindware make or equivalent approved makes.
	(f)	Wash hand basin as/approval
	(g)	Stainless Steel Kitchen Sink Supply and fix IS marked (IS: 13983) single bowl kitchen sink with drainage board in regular range, glossy finish; made of stainless steel grade 304AISI 18/8 & 1mm thick with overall size as available with side border as specified in IS code. SAIL logo to be embossed on kitchen sink.
	(h)	Wall mixer CP brass wall mixer non telephonic/telephonic with fancy knob confirming to IS-8931-1993.
	(j)	
	(k)	Towel rail Aluminium chromium plated 20mm dia tubular towel rail 60 cm long including brackets.
	(l)	Looking Mirror 5mm thick polished float glass mirror, size as specified
	(m)	Glass shelves 8mm thick float glass corner shelves two Nos of 300mm radius shall be provided in each toilet.



20	COCKROACH TRAP	
		Stainless steel cockroach trap of approved make.
21	GULLY TRAP	
		Gully trap shall be salt glazed stone ware with rebated top and 100mm dia (bore) outlet with grating of size 15cmx15cm it shall be set in cement concrete foundation of size 53cmx53cm with overall depth of equal to depth gully trap and 10cm (below gully gap) with PCC 1:3:6 type C-1. PCC kerb 1:2:4 type B-1 on top of PCC foundation block shall be provided kerb around CI grating of size 32.5 cm x 32.5 cm.

TENDER FOR CONSTRUCTION  
PLUMBING TECHNICAL SPECIFICATIONS

A) PLUMBING/SANITARY WORKS:

1.0 GENERAL:

- 1.1 The work shall be carried out in the accordance with the drawings and design as would be issued to the Contractor by the Design Consultant duly signed and stamped by him. The Contractor shall not take cognizance of any drawings, designs, specifications etc. not bearing Design Consultant signature and stamp. Similarly the Contractor shall not take cognizance of instructions given by any other Authority except the instructions given by the Client's Representative in writing.
- 1.2 The work shall be executed and measured as per metric dimensions given in the Bill of Quantities, drawings etc.
- 1.3 The Contractor shall acquaint himself fully with the partial provisions for supports that may or may not be available in the structure and if are available then utilize them to the extent possible. In any case the Contractor shall provide all the supports regardless of provisions that they have been already made. Nothing extra shall be payable for situations where insert plates (for supports) are not available or are not useful.
- 1.4 Shop coats of paint that may be damaged during shipment or erection shall be cleaned off with mineral spirits, wire brushed and spot primed over the affected areas, then coated with paint to match the finish over the adjoining shop painted surface.
- 1.5 The Contractor shall protect / handle the material carefully and if any damage occur while handling by the Contractor then the sole responsibility shall be of the Contractor. Such damages shall be rectified/recovered by the Contractor at no extra cost whatsoever.
- 1.6 The Contractor shall, within twenty one (21) days of receipt of the Notice of Award for the Project, where applicable, complete the submission of shop drawings to the Client's Representative for approval by the Design Consultants in order to conform to the contract schedule.
- 1.7 Measurements:

All measurements shall be taken in accordance with relevant IS codes, unless otherwise specified.

B) APPLICABLE CODES AND STANDARDS:

All equipment, supply, erection, testing and commissioning shall comply with the requirements of Indian Standards and code of practice given below as amended

upto the date of submission of Tender. All equipment and material being supplied shall meet the requirements of BIS and other relevant standard and codes.

**Plumbing Works:**

Vitreous Chinaware	- IS:2556 - 1974 (Part - I)
	- IS:2556 - 1981 (Part - II)
	- IS:2556- 2556 (Part - III)
Ball Valve	- IS:1703 - 1977
Cistern Brackets	- IS: 775 - 1970
Toilet Seat Cover	- IS:2548 - 1983
Vitreous China Cistern	- IS:2326 - 1987
Sand Cast Iron Pipes and Fittings	- IS:1729 - 1979
Spun Cast Iron Pipes and Fittings	- IS:3989 - 1984
GI Pipes	- IS:1239 - 1979
Galvanising for GI Pipes	- IS:4736 - 1986
Pipe Threads	- IS: 554 - 1985
Malleable Iron Fittings	- IS:1879 - 1987
Cast Iron Sluice Valves	- IS: 780 - 1984
Full Way Valves	- IS: 778 - 1984
Brass Ferrule	- IS:2692 - 1978
Stone Ware Gully Trap	- IS: 651 - 1980
RCC Pipes	- IS: 458 - 1971
Cast (Spun) Iron Fittings	- IS:1538 - 1976
Pig Lead	- IS: 782 - 1966
Induction Motors	- IS:4691
Code for Measurements	- IS:1200
uPVC Pipes and Fittings	- IS:4984
Specification for Caulking Lead	- IS:782
Code of Practice for laying of concrete	- IS:783

C) SANITARY FIXTURES & C.P. FITTINGS:

◆ SCOPE:

- ◆ Work under this section shall consist of transportation, furnishing, installation, testing and commissioning and all labour as necessary as required to completely install all sanitary fixtures, brass and chromium plated fittings and accessories as required by the drawings and specified hereinafter or given in the Bill of Quantities.

◆ General Requirements

- ◆ All fixtures and fittings shall be fixed with all such accessories as are required to complete the item in working condition whether specifically mentioned or not in the Bill of Quantities, specifications, drawings.
- ◆ All fixtures and accessories shall be fixed in accordance with a set pattern matching the tiles or interior finish as per architectural design requirements. Wherever necessary the fittings shall be centered to dimensions and pattern desired.
- ◆ Fixing screws shall be half round head chromium plated brass with C.P. washers wherever required as per directions of Client's Representative.
- ◆ All fittings and fixtures shall be fixed in a neat workmanlike manner true to levels and heights shown on the drawings and in accordance with the manufacturers recommendations. Care shall be taken to fix all inlet and outlet pipes at correct positions. Faulty locations shall be made good and any damage to the finished floor, wall or ceiling surfaces shall be made good at Contractors cost.
- ◆ All fixtures of the similar materials shall be by the same manufacturers.
- ◆ All fittings shall be of the chromium plated materials.
- ◆ Without restricting to the generally of the foregoing the sanitary fixtures shall include all sanitary fixtures, C.P. fittings and accessories etc. necessary and required for the building.
- ◆ Whether specifically mentioned or not all fixtures and appliances shall be provided with approved fixing devices, nuts, bolts, screws, hangers as required. These supports shall have the necessary adjustment to allow for irregularities in the building area construction.
- ◆ For the installation of the CP fittings, teflon tape shall be used.

1 Twin coat hooks

- ◆ Contractor shall install all chromium plated and porcelain accessories as shown

on the drawings or directed by the Project Manager.

- ◆ Twin coat hooks shall be fixed with C.P. brass half round head screws and cup washers in wall with rawl plugs or nylon sleeves and shall include cutting and making good as required or directed by Project Manager.
  - ◆ Recessed porcelain accessories shall be fixed in walls and set in cement mortar 1:2 (1 cement: 2 coarse sand) and fixed in relation to the tiling work as per Interior Designer's drawings.
- 2 Glass mirror
- ◆ The mirrors shall be of size specified in the material schedule with or without bevelled edges. The mirrors glass shall be free from all defects & shall give clean undisturbed image at any distance & angle. The mirror shall be mounted on Asbestos sheets or 6mm plywood with brass counter sunk screws with washers and detachable G.P. caps.
- 3 Sink mixer
- ◆ Sink mixer complete, including cutting and making good the walls wherever required.
- 4 Cockroach trap
- ◆ Stainless steel cockroach trap consisting of 0.45 mm thick inner and outer cup and 1.00 mm thick top grating (Jali) with ring to be fixed inside 'P' traps with cement concrete.
- 5 MEASUREMENT:
- ◆ Sanitary fixtures shall be measured by numbers.
  - ◆ Rates for all items mentioned above shall be inclusive of cutting holes and chases and making good the same, stainless steel screws, nuts, bolts and any fixing arrangements required and recommended by manufacturers, testing and commissioning.
  - ◆ Project Manager's decision with respect to the correct interpretation regarding mode of measurement shall be final and binding on the contractor.

#### D) SOIL, WASTE PIPES & FITTINGS

##### 1 Scope of work

- ◆ Work under this section shall consist of furnishing all labour, materials, equipment and appliances necessary and required to completely install all soil,

waste, vent and rainwater pipes and fittings as required by the drawings, and given in the Schedule of Quantities.

- ◆ Without restricting to the generality of the foregoing, the soil, waste, vent pipes system shall include the following:-
- ◆ Vertical and horizontal soil, waste, vent pipes, and fittings, joints, clamps, connections to fixtures.
- ◆ Connection of all pipes to sewer lines as shown on the drawings at ground floor levels.
- ◆ Drainage, channels, gratings & floor drains.
- ◆ Floor and urinal traps, cleanout plugs, inlet fittings and rainwater heads/Khurra
- ◆ Testing of all pipe lines

## 2 General requirements

- ◆ All materials shall be new of the best quality conforming to specifications and subject to the approval of Project Manager.
- ◆ Pipes and fittings shall be fixed truly vertical, horizontal or in slopes as required in a neat workmanlike manner.
- ◆ Pipes shall be fixed in a manner as to provide easy accessibility for repair and maintenance and shall not cause obstruction in shafts, passages etc.
- ◆ Pipes shall be securely fixed to walls and ceilings by suitable clamps intervals specified.
- ◆ Access doors for fittings and clean outs shall be so located that they are easily accessible for repair and maintenance. Any access panel required in the civil structure, false ceiling or marble cladding etc. shall be clearly reported to the DPL in the form of shop drawing so that other agencies are instructed to provide the same.

## 3 Piping System

- ◆ Schedule of Pipes Use
- ◆ uPVC pipes 75,110,160mm OD      Vt. stacks for Soil, Waste., Vent & RWP
- ◆ uPVC pipes 40,50 & 63 mm dia  
pvc pipes      Horizontal.For Soil, Waste. Vent  
pipes(welded joints) 6 kg/sqcm class III

## 4 Soil & Waste Pipes

- ◆ The Soil & Waste Pipe System above ground has been planned as a "two pipe system" as defined in IS : 5329 having separate pipes for waste for kitchen sinks,

showers, washbasins AHU's condensate drains and floor drains and is approved by Project Manager.

- ◆ Toilet layouts have been so arranged that the W.C. outlets shall be with "P" trap above ground.

## 5 uPVC Pipes & Fittings

- ◆ Soil, Waste and Anti-siphonage pipes and fittings shall be uPVC. All pipes shall be straight and smooth conforming to IS: 13592 or as specified in Schedule of Quantities.
- ◆ Pipes and fittings for main vertical stacks & branches 110 mm, & 75 mm dia shall be Soil, Waste & Rainwater System known in the short form as SWR drainage system with injection moulded fittings with approved type of socket & 'O' rubber ring joints.
- ◆ Joints shall be done as per the manufacturer's recommendations. The pipes and fittings must have matching dimension for perfect joints in the system. 'O' ring fittings must have sufficient gap (approx. 10 mm) for thermal expansion of pipes.
- ◆ uPVC pipes shall be clamped to the wall with approved type uPVC saddle clamps/U clamps and G.I. rod fixed to the angle iron support system within the shaft.
- ◆ Use proper uPVC pipe adapters for connections between traps & uPVC pipes where necessary. Such joints shall be made of an approved type of 'Putty'.

## 6 Clamps

- ◆ For uPVC pipes standard uPVC clamps shall be used. For other pipes M.S. clamps, supports and hangers provided shall be galvanised. Factory made Pre fabricated clamps shall be preferred. Contractor may fabricate the clamps of special nature and galvanise them after fabrication but before installation. (Clamps shall be fabricated from mild steel sections) All nuts, bolts, washers and other fasteners shall be factory galvanised.
- ◆ Clamps shall be of approved designs and fabricated from M.S. flats and other sections of thickness and sizes as per drawings or contractor's shop drawings. Clamps shall be fixed in accordance to manufacturer's details/shop drawings to be submitted by the contractors.
- ◆ When required to be fixed on RCC columns, walls or beam they shall be fixed with approved type of galvanised expansion anchor fasteners (Dash fasteners) of approved design and size according to load.
- ◆ Structural clamps e.g. trapeze or cluster hangers shall be fabricated by electro-welding from M.S. structural members e.g. rods, angles, channels flats as per Contractors shop drawing shall be galvanised after fabrication. All nuts, bolts and washers shall be galvanised.

- ◆ Galvanised slotted angle/channel supports on walls shall be provided wherever shown on drawings. Angles/channels shall be of sizes shown on drawings or specified in schedule of quantities. Angles/channels shall be fixed to brick walls with bolts embedded in cement concrete blocks and to RCC walls with anchor fasteners mentioned above. The spacing of support bolts on support members fixed horizontally shall not exceed 1 m.
- 7 Clean out plug
  - ◆ Clean out plug for Soil, Waste or Rainwater pipes laid under floors shall be provided near pipe junctions bends, tees, “Ys” and on straight runs at such intervals as required as per site conditions. Cleanout plugs shall terminate flush with the floor levels. They shall be threaded and provided with key holes for opening. Cleanout plugs shall be Cast Brass screwed to a G.I. socket. The socket shall be lead caulked to the drain pipes.
- 8 P Trap
  - ◆ P traps where specified shall be of multi inlet uPVC traps (SWR) having a minimum 50 mm deep seal. The trap and waste pipes when buried below ground shall be set and encased in cement concrete blocks firmly supported on firm ground or when installed on a sunken RCC structural slab. The blocks shall be in 1:2:4 mix (1 cement: 2 coarse sand: 4 stone aggregate 20 mm nominal size).
  - ◆ Contractor shall provide all necessary shuttering and centring for the blocks. Size of the block shall be 30x30 cms of the required depth.
- 9 Floor Drain
  - ◆ Floor drain where specified shall be of multi inlet uPVC traps (SWR) having a minimum 50 mm deep seal. The drain and waste pipes when buried below ground shall be set and encased in cement concrete blocks firmly supported on firm ground or when installed on a sunken RCC structural slab. The blocks shall be in 1:2:4 mix (1 cement: 2 coarse sand: 4 stone aggregate 20 mm nominal size).
  - ◆ Contractor shall provide all necessary shuttering and centring for the blocks. Size of the block shall be 30x30 cms of the required depth.
- 10 Waste pipe from appliances
  - ◆ Waste pipe from appliances e.g. washbasins, sinks and urinals shall be uPVC in all toilets, kitchen, pantries and service areas where so required, and as given in the Schedule of Quantities or shown on the drawings.
  - ◆ All pipes shall be fixed in gradient towards the connection to stack ,trap or drain. Pipes inside all toilets shall be in chase unless otherwise shown on drawings where so required and shown on drawings or directed by the Project Manager.



## 11 Encasing in Cement Concrete

- ◆ Encasing of pipes is required to provide stability to the line and prevent its damage during construction.

uPVC soil and waste pipes under floor

Pipes laid in sunken slabs and in wall chases (when cut specially for the pipe) shall be encased in cement concrete 1:2:4 mix (1 cement: 2 coarse sand: 4 stone aggregate 12 mm size) 75 mm in bed and all round. When pipes are running well above the structural slab, the encased pipes shall be supported with suitable cement concrete pillars of required height at intervals of 1.8 m.

Cutting and making good

- ◆ Contractor shall provide all holes cut outs and chases in structural members necessary and required for the pipe work as building work proceeds. Wherever cut outs , holes are left in the original construction , they shall be made good with cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 stone aggregate 20 mm nominal size) or cement mortar 1:2 (1 cement: 2 coarse sand) and the surface restored as in original condition.

## 12 Testing

- ◆ Testing procedure specified below apply to all soil, waste and vent pipes above ground including laid in ceiling.
- ◆ Entire drainage system shall be tested for water tightness and smoke tightness during and after completion of the installation. No portion of the system shall remain untested. Contractor must have adequate number of expandable rubber bellow plugs, manometers, smoke testing machines, pipe and fitting work test benches and any other equipment necessary and required to conduct the tests.
- ◆ All materials obtained and used on site must have manufacturer's hydraulic test certificate for each batch of materials used on the site.

## 13 Measurements

General

- ◆ Rates quoted for all items shall be inclusive of all work and items given in the Specifications and Schedule of Quantities.
- ◆ Rates are applicable for the work in ground, in shafts ,at ceiling level area and for all depths and heights of buildings.
- ◆ Rates are inclusive of cutting holes and chases in RCC and masonry work where no sleeves or cut outs have been provided during construction and making good the same.

- ◆ Rates are inclusive of pre testing on site, testing of the installations, materials and commissioning of the works.
  - ◆ Pipes (unit of measurement linear meter to the nearest centimetre).
  - ◆ uPVC soil, waste, vent, anti siphonage, rain water pipes, drainage pipes shall be measured net when fixed correct to a centimetre including all fittings along its finished length.
  - ◆ Cement concrete around pipes shall be measured along the centre of the pipe line measured per linear metre and include any masonry supports, shuttering and centring cutting complete as described in the relevant specifications.
  - ◆ Slotted angles/channels shall be measured per linear metre of finished length and shall include support bolts and nuts embedded in masonry walls with cement concrete blocks and nothing extra will be paid for making good the same.
  - ◆ Fittings (excluding pipe fittings) (Unit of measurement by numbers)
- Urinal traps, trap gratings, hoppers, cleanout plugs shall be measured by number per piece and shall include all items described in the relevant Specifications and Schedule of Quantities.

## E) WATER SUPPLY:

### 1 Scope

- ◆ Work under this section consists of furnishing all labour, materials equipment and appliances necessary and required to completely install the water supply system as required by the drawings, specified hereinafter and given in the bill of quantities.
- ◆ Without restricting to the generality of the foregoing, the water supply system shall include the following:-
  - i. Pipe protection & painting.
  - ii. Connections to all plumbing fixtures, tanks, pumps etc.
  - iii. Providing hot water pipe lines and supply point with isolation valves, wherever required.
  - iv. Control valves, masonry chambers and other appurtenances.
  - v. Connections to all plumbing fixtures, tanks and appliances.
  - vi. Excavation and refilling of pipe trenches, wherever necessary.
  - vii. Internal galvanized water supply piping inside the toilets shaft/plant

room/terrace.

viii. Testing all line and fixtures as specified.

## 2 General Requirements

- ◆ All materials shall be new of the best quality and shall be furnished, delivered, erected, connected and finished in every detail conforming to specifications and subject to the approval of Client's Representative/Architect.
- ◆ Pipes and fittings shall be fixed truly vertical, horizontal or in slopes as required in a neat workmanlike manner.
- ◆ Short or long bends shall be used on all main pipe lines as far as possible. Use of elbows shall be restricted for short connections.

As far as possible all bends shall be formed by means of hydraulic pipe bending machine for pipes upto 65mm dia.

- ◆ Pipes shall be fixed in a manner as to provide easy accessibility for repair and maintenance and shall not cause obstruction in shafts, passages etc. and shall be selected and arranged so as to fit properly into the allocated building space.
- ◆ Pipes shall be securely fixed to walls by suitable clamps at intervals specified.
- ◆ Valves and other appurtenances shall be located to provide easy accessibility for operation, maintenance and repairs.
- ◆ Connection between dissimilar materials.
- ◆ Drawings illustrating block out and penetration of pipes in the wall/floor/slab.
- ◆ Unions: Contractor shall provide adequate no. of unions on all pipes to enable dismantling later and for servicing. Union shall be provided near each gunmetal valves.

## 3 (CPVC) G.I. pipes, fittings & valves

- ◆ All pipes inside the buildings for domestic hot and cold water supply shall be CPVC conforming to CTs SDR-13.5 at a working pressure of 320 PSI at 23 deg.C. and 80 PSI at 82 deg. C.
- ◆ Solvent welded CPVC fittings etc. tees, elbows, couplers, unions, reducers, brushing etc. including transition fittings (connection between CPVC and metal pipes/G.I. ie. Brass adapters conforming to ASTM D-2846) shall be provided.
- ◆ All pipes shall be fixed in accordance with layout and alignment shown on the drawings. Care shall be taken to avoid air pockets. G.I. pipes inside toilets shall run above false ceiling with vertical drop in wall chases for all fixtures. No pipes to run inside sunken floor as far as possible. Pipes may run under the ceiling or

floors and other areas as shown on drawings.

#### 4 Joining Pipes & Fittings

##### Cutting

- ◆ Pipes shall be cut either with a wheel type plastic pipe cutting or hacksaw blade and care shall be taken to make a square cut. All burrs should be removed for proper contact between pipe and fittings during jointing.

##### Solvent Cement Application

- ◆ Only CPVC solvent cement conforming to ASTM-F-493 should be used for joining pipe with fittings. An even coat of solvent cement should be applied on the pipe end and a thin coat inside the fitting socket.

##### Assembly

- ◆ After applying the solvent cement on both pipe and fitting socket, pipe should be inserted into the fitting socket within 30 seconds, and rotating the pipe  $\frac{1}{4}$  to  $\frac{1}{2}$  turn while inserting so as to ensure even distribution of solvent cement with the joint. The assembled system should be held for 10 seconds (approximately) in order to allow the joint to set up.

##### Testing

- ◆ The system should be hydrostatically pressure tested at 150 psi (10 Bar) for one hour. During pressure testing, the system should be fitted with water and if a leak is found, the joint should be cut out the replaced with new one.

- ◆ Transition of Flow guard CPVC in metals

- ◆ When making a transition connection to metal threads, special brass/plastic transition fitting (Male and female adapters) should be used. Plastic threaded connections should not be over torque.

- ◆ Threaded sealants

- ◆ Teflon tape shall be used to make threaded connections leak proof.

- ◆ Solvent Cement

- ◆ Only CPVC solvent cement conforming to ASTM F 493 should be used for joining pipe with fittings and valves.

##### Hangers and supports

- ◆ For Horizontal runs, support should be given at 3 feet (90 cms) intervals for diameters of one inch and below and at 4 feet (1.2 m) intervals for larger sizes.

- ◆ Supports should be as per the below mentioned table:

Size of pipe	20°C	49°C	71°C	82°C
Inch	Ft.	Ft.	Ft.	Ft.
½"	5.5	4.5	3.0	2.5
¾"	5.5	5.0	3.0	2.5
1"	6.0	5.5	3.5	3.0
1¼"	6.5	6.0	3.5	3.5
1½"	7.0	6.0	3.5	3.5
2"	7.0	6.5	4.0	3.5

#### Anchor Fasteners

- ◆ All pipe supports, hangers and clamps to be fixed on RCC walls, beams, columns, slabs and masonry walls 230mm thick and above by means of galvanised expandable anchor fasteners in drilled holes of correct size and model to carry the weight of pipes. Drilling shall be made only by approved type of power drill as recommend and approved by manufacturer of the anchor fasteners. Failure of any fastening devices shall be the entire responsibility and contractor shall redo or provide additional supports at his own cost. He shall also compensate the DPL for any damage that may be caused by such failures.

#### Unions

- ◆ Contractor shall provide adequate number of unions on all pipes to enable easy dismantling later when required. Unions shall be provided near each gunmetal valve, stop cock, or check valve and on straight runs as necessary at appropriate locations as required and/or directed by Project Manager.

#### Flanges

- ◆ Flanged connections shall be provided on pipes as required or where shown on the drawings, all equipment connections as necessary and required or as directed by the Project Manager. Connections shall be made by correct number and size of GI nuts, bolts & washers with 3 mm thick gasket. Where hot water connections are made insertion gasket shall be of suitable high temperature grade and quality approved by the Project Manager. Bolt hole dia for flanges shall conform to match the specification for C.I. sluice valve to I.S. 780. and C.I. butterfly valve to IS: 13095.

#### Trenches

- ◆ All water supply pipes below ground shall be laid in trenches with a minimum cover of 60 cms. The width and depth of the trenches shall be as follows:-

Dia of pipe	Width of trench	Depth of trench
-----	-----	-----
15 mm to 50 mm	30 cms	75 cms
65 mm to 150 mm	45 cms	100 cms

### Sand filling

- ◆ G.I. pipes in trenches shall be protected with fine sand 15 cms all round before filling in the trenches.
- ◆ Painting (Painting for CPVC pipes not required)
- ◆ All pipes above ground shall be painted with one coat of red lead and two coats of synthetic enamel paint of approved shade and quality. Pipes shall be painted to standard colour code given in this documents or specified by Project Manager.
- ◆ Pipe protection (Protection for CPVC pipes not required)
- ◆ All G.I. pipes in wall chase /below floors or laid under ground shall be protected against corrosion by the application of two coats of bitumen paint covered with polythene tape and a final coat of bitumen paint.
- ◆ G.I. waste pipes buried in ground or sunken slab shall be protected with multilayer bitumen membrane tape 3mm thick with a final coat of hot or cold applied bitumen. Pypkote or equivalent.

### Painting (Painting for CPVC pipes not required)

- ◆ All pipes above ground shall be painted with one coat of red lead and two coats of synthetic enamel paint of approved shade and quality. Pipes shall be painted to standard colour code given in this documents or specified by Project Manager.

### Pipe protection (Protection for CPVC pipes not required)

- ◆ All G.I. pipes in wall chase /below floors or laid under ground shall be protected against corrosion by the application of two coats of bitumen paint covered with polythene tape and a final coat of bitumen paint.
- ◆ G.I. waste pipes buried in ground or sunken slab shall be protected with multilayer bitumen membrane tape 3mm thick with a final coat of hot or cold applied bitumen. Pypkote or equivalent.

### STP-(anaerobic technology):

Setting up the STP implies supply & installation of electro mechanical equipment for Anaerobic STPs and anaerobic treatment of sewage using probiotic microbial culture. Anaerobic treatment means sewage treatment in covered STP using probiotic microbial culture. However the cost of construction of RCC sludge holding tank shall be paid extra.

The shop drawing of the tank shall be submitted for the approval of the agency/consultant.

1. The bidder shall need to submit the distributorship agreement/authorisation certificate issued to them by the manufacturers of OS1/Envirosense/Ecolog bacterial culture duly signed and stamped by the manufacturer.

2. Mother Culture Specifications required
  - a. Strains: Lactobacillus, Yeast, Photosynthetic Bacteria
  - b. Total Microbial Count: Not less than  $10^6$  (test report to be attached)
  - c. pH: For both Mother Culture and Activated Culture should be 4 or less than 4
  - d. Appearance & Odor: Brown Liquid, Sweet fermented smell
3. The cost of setting up the 50 kld also includes operation and maintenance of the STP for a period of 12 months under which following shall be included.

Sewage treatment charges includes:

  - a. Min. dosage of total 300 litres of activated bacterial culture per day.
  - b. Supply of min. 150 kg of micronutrients (Jaggery) per month
  - c. Operation of STP by 1 nos. technician as required for successful and proper dosing of the plant.
4. All the electro-mechanical equipments shall be of reputed make and shall be got approved by the consultant/NPCC before procurement

## INTERNAL ELECTRICAL WORKS TECHNICAL SPECIFICATIONS

### TECHNICAL SPECIFICATIONS OF LIGHT FIXTURE & ACCESSARIES

The light fixtures and fittings shall be assembled and installed in position complete and ready for service, in accordance with details, drawings, manufacturer's instructions and to the satisfaction of the Project Manager.

#### SCOPE

Scope of work under this section shall include inspection at suppliers/manufacturer's premises at site, receiving at site, safe storage, transportation from point of storage to point of erection, erection and commissioning of light fittings, fixtures and accessories including all necessary supports, brackets, down rods and painting etc. as required.

#### 1 STANDARDS

The lighting and their associated accessories such as lamps, reflectors, housings, ballasts etc., shall comply with the latest applicable standards, more specifically the following:

General and safety requirements for Luminaires :			
Part-1 Tubular fluorescent lamps	-	IS – 1913 (Part-1)	
Industrial lighting fittings with metal reflectors	-	IS - 1777	
Decorative lighting outfits	-	IS - 5077	
Bayonet lamp holders	-	IS - 1258	
Bi-pin lamp holders for tubular fluorescent lamps	-	IS - 3323	
Electronic Ballasts for fluorescent lamps –			
General & Safety requirement	-	IS – 13021 (Part-1)	
Electronic Ballasts for fluorescent lamps –			
Performance requirement	-	IS – 13021 (Part-2)	
Ballast for HP MV lamps	-	IS - 6616	
Tubular Fluorescent lamps	-	IS - 2418 (Part-1 to 4)	
Luminaries – General requirement	-	IS – 10322 (Part-1)	
Luminaries – Constructional requirement	-	IS – 10322 (Part-2)	
Luminaries – Screw and Screw less termination	-	IS – 10322 (Part-3)	



Luminaries – Methods of Tests	-	IS – 10322 (Part-4)
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Particular requirement – General purpose Luminaries - IS-10322 (Part-5/Sec-1)

Particular requirement – Recessed Luminaries		-	IS-10322 (Part-5/Sec-
2)			
Particular requirement – Luminaries for Road and			
Street lighting	-		IS-10322 (Part-5/Sec-3)
Particular requirement – Portable General purpose Luminaries		-	IS-10322 (Part-5/Sec-
4)			
Particular requirement – Flood Lighting	-		IS-0322 (Part-5/Sec-5)
High pressure mercury vapour lamps	-		IS-9900 (Part-1)
Tungsten filament general electric lamps		-	IS - 418

## 2 LIGHT FITTINGS GENERAL REQUIREMENTS:

- Fittings shall be designed for continuous trouble free operation under atmospheric conditions without reduction in lamp life or without deterioration of materials and internal wiring. Degree of protection of enclosure shall be IP-65 for outdoor fittings except bulkhead fitting. Bulkhead fitting shall be provided with IP-54 protection.
- Fittings shall be so designed as to facilitate easy maintenance including cleaning, replacement of lamps/ ballasts.
- All fittings shall be supplied complete with lamps. All mercury vapour and sodium vapour lamp fittings shall be complete with accessories like ballasts, power factor improvement capacitors, starters, etc. Outdoor type fittings shall be provided with weather proof junction boxes (IP-55) and IP-54 Control gear boxes.
- Each fitting shall have a terminal block suitable for loop-out connection by 1100 V PVC insulated copper conductor wires up to 4 sq.mm. the internal wiring should be completed by the manufacturer by means of standard copper wire and terminated on the terminal block.
- All hardware used in the fitting shall be suitably plated or anodized and passivated.
- Earthing: Each lighting fitting shall be provided with an earthing terminal. All metal or metal enclosed parts of the housing shall be bonded and connected to the earthing terminal so as to ensure satisfactory earthing

continuity throughout the fixture.

- g) Painting/Finish: All surfaces of the fittings shall be thoroughly cleaned and degreased and the fittings shall be free from scale, rust, sharp-edges, and burns.
- h) The housing shall be powder coated/stove-enameled or anodized as required. The surface shall be scratch resistant and shall show no sign of cracking or flaking when bent through 90 deg. over 12 mm dia. mandrel.

Metal used in BODY of lighting fixtures shall be not less than 22 SWG or heavier if so required to comply with specification of standards. Sheet steel reflectors shall have a thickness of not less than 20 SWG. The metal parts of the fixtures shall be completely free from burns and tool marks. Solder shall not be used as mechanical fastening device on any part of the fixture.

#### (MEDIUM VOLTAGE SWITCHGEAR)

#### 1. GENERAL

This section covers specification of Medium Voltage Switchboards incorporating items of switchgear like Circuit Breakers, SFUs, metering and protection

#### 2 STANDARDS AND CODES

The following Indian Standard Specifications and Codes of Practice will apply to the equipment and the work covered by the scope of this contract. In addition the relevant clauses of the Indian Electricity Act 1910 and Indian Electricity Rules 1956 as amended upto date shall also apply. Wherever appropriate Indian Standards are not available, relevant British and/or IEC Standards shall be applicable.

BIS certified equipment shall be used as a part of the Contract in line with Government regulations. Necessary test certificates in support of the certification shall be submitted prior to supply of the equipment.

It is to be noted that updated and current Standards shall be applicable irrespective of those listed below.

Low Voltage switchgear & control gear IS 13947 : 1993

Part I : General rules

Part II : Circuit Breakers

Part III Switches, disconnectors, switch disconnectors and fuse combination units

Part IV : Contactors & Motor starters

Part V : Control circuit devices and switching elements

Marking of Switchgear busbars IS 11203 : 1985

Degree of Protection of Enclosures for low voltage switchgear.

IS 2147 : 1962

Electrical relays for power system protection IS 3231 : 1986

Code of Practice for selection, installation and Maintenance of switchgear  
& control gear IS 10118 : 1982

Low voltage switchgear & control gear assemblies IS 8623 : 1993

### 3. SWITCHGEAR

#### 3.1 Medium Voltage Air Circuit Breakers

##### 3.1.1 Technical Parameters

- The circuit breaker shall be of the air break type, robust and compact design suitable for indoor mounting and shall comply with the requirement of IS: 13947 : 1993. Rupturing capacity shall be 31 MVA at 415 Volts or as per schedule of quantities.

##### 3.1.2 Constructional Features

- The Circuit Breaker shall be flush front, metal clad, horizontal draw-out pattern, three/four pole as required and fully interlocked. Each Circuit Breaker shall be housed in a separate compartment enclosed on all sides.
- The Circuit Breaker cradle shall be designed and constructed to permit smooth withdrawal and insertion. The movement shall be free of jerks, easy to operate and positive.
- All current carrying parts in the breaker shall be silver plated and suitable arcing contacts shall be provided to protect the main contacts which shall be separate from the main contacts and easily replaceable. In addition, Arc chutes shall be provided for each pole, and these shall be suitable for being lifted out for the inspection of the main and the arcing contacts.
- Self aligning cluster type isolating contacts shall be provided for the Circuit Breaker, with automatically operated shutters to screen live cluster contacts when the Breaker is withdrawn from the cubicle. Sliding connections including those for the auxiliary contacts and control wiring shall also be of the self aligning type. The fixed portion of the sliding connections shall have easy access for maintenance purposes.
- The cubicle for housing the Breaker shall be free standing dead front pattern, fabricated from the best quality sheet steel.

##### 3.1.3 Operating Mechanism

- The Circuit Breaker shall be trip free with independent manual spring operated or motor wound spring operated mechanism as specified and with mechanical ON/OFF indication. The operating mechanism shall be such that the circuit breaker is at all times free to open immediately the trip coil is energised.

- The operating handle and mechanical trip push button shall be at the front of and integral with the Circuit Breaker.
- The Circuit Breaker shall have the following four distinct and separate positions which shall be indicated on the face of the panel.  
 "Service" -- Both main and secondary isolating contacts closed  
 "Test" -- Main isolating contacts open and secondary isolating contacts closed  
 "Isolated" -- Both main and secondary isolating contacts open  
 "Maintenance" -- Circuit Breaker fully outside the panel ready for maintenance
- The tests shall be carried out with a breaking performance during operation (Ics) and admissible short time withstand (Icw) equal to the ultimate breaking capacity (Icu). i.e.  $I_{cu} = I_{cs} = I_{cw}$  for 3 Sec.
- All Air circuit breakers can be reverse fed without reduction in performance

#### 3.1.4 Circuit Breaker Interlocking

- Sequence type strain free interlocks shall be provided to ensure the following:
- It shall not be possible for the Breaker to be withdrawn from the cubicle when in the "ON" position. To achieve this, suitable mechanism shall be provided to lock the Breaker in the tripped position before the Breaker is isolated.
- It shall not be possible for the Breaker to be switched "ON" until it is either in the fully inserted position or, for testing purposes, it is in the fully isolated position.
- It shall not be possible for the Circuit Breaker to be plugged in unless it is in the OFF position.
- A safety latch shall be provided to ensure that the movement of the Breaker, as it is withdrawn, is checked before it is completely out of the cubicle, thus preventing its accidental fall due its weight.
- Mechanical and electrical antipumping devices shall be incorporated in the ACB's as required.

#### 3.1.5 Circuit Breaker Auxiliary Contacts

The Circuit Breaker shall have minimum 6 NO/NC auxiliary contacts rated at 16 amps 415 volts 50 Hz. These contacts shall be approachable from the front. They shall close before the main contacts when the Circuit Breaker is plugged in and vice versa when the Circuit Breaker is Drawn Out of the cubicle.

### 3. 1.6 Protective Devices

- The Circuit Breaker shall have protective devices as specified in the Schedule of Quantities. These will in general be:
- C.T. operated thermal overload releases with magnetic instantaneous short circuit release. The overload releases shall be such that each phase can be individually set depending on the phase unbalanced currents. The releases shall have inverse time current characteristics and the magnetic release shall be time delayed with a minimum setting of 25 ms varying upto 300 ms for discrimination without effecting the breaking current capacity of the ACB.
- Over voltage relay.
- Under/no voltage trip coil or Relay as required.
- Over current and earth fault IDMT relays with shunt/series trip coil operation as specified.
- The Circuit Breakers shall be suitable to accommodate one or more types of protection as specified.

### 3. 1.7 Instrument Transformers

The Circuit Breaker shall have the required Current Transformers as specified for metering and protection mounted outside the Circuit Breaker compartment but within the free standing cubicle. The transformers shall comply to the relevant Indian Standards and the Class of Accuracy required for metering and protection. Separate sets of Current transformers shall be provided.

### 3. 1.8 Metering

The metering required to be provided for each Circuit Breaker shall be as per the Schedule of Quantities. Such metering shall not be provided on the front panel of the Circuit Breaker compartment. A separate compartment shall be provided for the metering and Protective relays as required.

Square pattern flush mounting meters complying with the requirements of the relevant Indian Standards shall only be used.

Selector switches of the three way and OFF pattern complying to the relevant Indian Standards shall be used.

### 3. 1.9 Indicating Lamps

Neon type indicating lamps shall be provided for indication of phases and Breaker position as required in the Schedule of Quantities.

### 3. 1.10 Control Wiring

All wiring for relays and meters shall be of copper conductor PVC insulated and shall be colour coded and labelled with appropriate plastic ferrules for identification. The minimum size of control wires to be used shall be 1.5 sq mm.

All control circuits shall be provided with protective MCB. Instrument testing plugs shall be provided for testing the meters.

### 3. 1.11 Earthing

The frame of the Circuit Breaker shall be positively earthed when the Circuit Breaker is racked into the cubicle.

### 3. 1.12 Type Test Certificates

The Contractor shall submit type test certificates from a recognised test house for the Circuit Breakers offered.

### 3.2. Moulded Case Circuit Breakers

Moulded case circuit breakers (MCCB) or fuse free breakers, incorporated in switchboards wherever required, shall conform to IS 13947 : 1993 in all respects. MCCBs shall be suitable either for single phase 240 Volts or 3 Phase 415 Volts AC 50 HZ supply.

MCCB cover and case shall be made of high strength heat resisting and flame retardant thermosetting insulating material. Operating handle shall be quick make/break, trip - free type. Operating handle shall have suitable ON, OFF and TRIPPED indicators. Three phase MCCBs shall have a common handle for simultaneous operation and tripping of all the three phases. Suitable arc extinguishing device shall be provided for each contact. Tripping unit shall be of thermal/magnetic type provided on each pole and connected by a common tripe bar such that tripping of any one pole causes three poles to open simultaneously. Thermal/magnetic tripping device shall have IDMT characteristics for sustained over loads and short circuits.

Contact trips shall be made of suitable arc resistant sintered alloy. Terminals shall be of liberal design with adequate clearances.

MCCBs shall be provided with following accessories, if specified in drawings/schedule of quantities

- Under voltage trip
- Shunt trip
- Alarm switch
- Auxiliary switch

MCCBs shall be provided with following interlocking devices for interlocking the door a switch board.

- Handle interlock to prevent unnecessary manipulations of the breaker.
- Door interlock to prevent door being opened when the breaker is in ON position
- Deinterlocking device to open the door even if the breaker is in ON position.

MCCBs shall have rupturing capacity as specified in drawings/schedule of quantities.

MCCBs shall be designed to prevent access to live parts when the cover is removed, means main current path of the circuit breaker should be isolated from auxiliary section i.e MCCB shall offer class– II front face.

### 3.3. Metering, Instrumentation And Protection.

Ratings, type and quantity of meters, instruments and protective devices shall be as per drawings and schedule of quantities.

#### Current Transformers

CTs shall conform to IS 2705 (part -I, II and III) in all respects. All CTs used for medium voltage application shall be rated for 1 kV. CTs shall have rated primary current, rated burden and class of accuracy as specified in schedule of quantities/drawings. Rated secondary current shall be 5A unless otherwise stated. Minimum acceptable class for measurement shall be class 0.5 to 1 and for protection class 10. CTs shall be capable of withstanding magnetic and thermal stresses due to short circuit faults of 31 MVA on medium voltage. Terminals of CTs shall be paired permanently for easy identification of poles. CTs shall be provided with earthing terminals for earthing chassis, frame work and fixed part of metal casing (if any). Each CT shall be provided with rating plate indicating :

- Name and make
- Serial number
- Transformation ratio
- Rated burden
- Rated voltage
- Accuracy class

CTs shall be mounted such that they are easily accessible for inspection, maintenance and replacement. Wiring for CT shall be with copper conductor PVC insulated wires with proper termination works and wiring shall be bunched with cable straps and fixed to the panel structure in a neat manner.

#### Potential Transformer

PTs shall conform to IS 3156 (Part-I,II and III) in all respects.

#### Measuring Instruments

Direct reading electrical instruments shall conform to IS 1248 or in all respects. Accuracy of direct reading shall be 1.0 of voltmeter and 1.5 for ammeters. Other instruments shall have accuracy of 1.5. Meters shall be suitable for continuous operation between -10o C and +50oC. Meters shall be flush mounting and shall be enclosed in dust tight housing. The housing shall be of steel or phenolic mould . Design and manufacture of meters shall ensure prevention of fogging of instrument glass. Pointer shall be black in colour and shall have Zero position adjustment device operable from outside. Direction of deflection shall be from left



to right. Selector switches shall be provided for ammeters and volt meters used in three phase system.

#### Ammeters

Ammeters shall be of moving iron type. Moving part assembly shall be with jewel bearings. Jewel bearings shall be mounted on a spring to prevent damage to pivot due to vibrations and shocks. Ammeters shall be manufacture and calibrated as per IS 1248

Ammeters shall normally be suitable for 5 A secondary of current transformers.

Ammeters shall be capable of carrying substantial over loads during fault conditions.

#### Voltmeters

Voltmeters shall be moving iron type range of 3 phase 415 volt voltmeters shall be 0-500. Volt meters shall be provided with protection MCB.

#### Watt meter

Wattmeter shall be of 3 phase electro dynamic type and shall be provided with a maximum demand indicator if required.

#### Power factor meters

3 phase power factor meters shall be of electro dynamic type with current and potential coils suitable for operation with current and potential transformers provided in the panel. Scale shall be calibrated for 50% lag - 100% - 50% readings. Phase angle accuracy shall be +40.

#### Energy and reactive power meters

Trivector meters shall be two element, integrating type, KWH, KVA, KVA hour reactive meters. Meters shall confirm to IEC 170 in all respects. Energy meters, KVA, and KVARH meters shall be provided with integrating registers. The registers shall be able to record energy conception of 500 hours corresponding to maximum current at rated voltage and unity power factor. Meters shall be suitable for operation with current and potential transformers available in the panel.

#### Relays

Protection relays shall be provided with flag type indicators to indicate cause of tripping. Flag indicators shall remain in position till they are reset by hand reset. Relays shall be designed to make or break the normal circuit current with which they are associated. Relay contacts shall be of silver or platinum alloy and shall be designed to withstand repeated operation without damage. Relays shall be of draw out type to facilitate testing and maintenance. Draw out case shall be dust

tight. Relays shall be capable of disconnecting faulty section of network without causing interruption to remaining sections. Analysis of setting shall be made considering relay errors, pickup and overshoot errors and shall be submitted to Project Manager for approval.

#### Over current relays

Over current relays shall be induction type with inverse definite minimum time lag characteristics. Relays shall be provided with adjustable current and time settings. Setting for current shall be 50 to 200 % insteps of 25%. The IDMT relay shall have time lag (delay) of 0 to 3 seconds. The time setting multiplier shall be adjustable from 0.1 to unity. Over current relays shall be fitted with suitable tripping device with trip coil being suitable for operation on 5 Amps.

#### Earth fault relay

Same as over current relay excepting the current setting shall be 10% to 40% in steps of 10%.

#### Under voltage relay

Under voltage relays shall be of induction type and shall have inverse limit operation characteristics with pickup voltage range of 50 to 90% of the rated voltage.

### 4. MEDIUM VOLTAGE SWITCH BOARDS

#### 4.1 General

- All medium voltage switchboards shall be suitable for operation at three phase/three phase 4 wire, 415 volt, 50 Hz, neutral grounded at transformer system with a short circuit level withstand of 31 MVA at 415 volts or as per schedule of quantities.
- The Switch Boards shall comply with the latest edition with upto date amendments of relevant Indian Standards and Indian Electricity Rules and Regulations.

#### 4.2 Switch Board Configuration

- The Switch Board shall be configured with Air Circuit Breakers, MCCB's, and other equipment as called for in the Schedule of Quantities.
- The MCCB's shall be arranged in multi-tier formation whereas the Air Circuit Breakers shall be arranged in Single or Double tier formation only to facilitate operation and maintenance.
- The Switch Boards shall be of adequate size with a provision of 10% spare space to accommodate possible future additional switch gear.

#### 4.3 Equipment Specifications

All equipment used to configure the Switch Board shall comply to the relevant Standards and Codes of the Bureau of Indian Standards and to the detailed technical Specifications as included in this tender document.

#### 4.4 Constructional Features

- The Switch Boards shall be metal enclosed, sheet steel cubicle pattern, extensible, dead front, floor mounting type and suitable for indoor mounting.
- The Switch Boards shall be totally enclosed, completely dust and vermin proof. Synthetic rubber gaskets between all adjacent units and beneath all covers shall be provided to render the joints dust and vermin proof to provide a degree of protection of IP 42/IP 54 as specified. All doors and covers shall also be fully gasketed with synthetic rubber and shall be lockable.
- The Switch Board shall be fabricated with CRCA Sheet Steel of thickness not less than 1.6 mm and shall be folded and braced as necessary to provide a rigid support for all components. The doors and covers shall be constructed from CRCA sheet steel of thickness not less than 1.6 mm. Joints of any kind in sheet metal shall be seam welded and all welding slag ground off and welding pits wiped smooth with plumber metal.
- All panels and covers shall be properly fitted and square with the frame. The holes in the panel shall be correctly positioned.
- Fixing screws shall enter holes tapped into an adequate thickness of metal or provided with hank nuts. Self threading screws shall not be used in the construction of the Switch Boards.

#### 4.5 Switchboard Dimensional Limitations

- A base channel 100 x 50 x 6 mm thick shall be provided at the bottom.
- A minimum of 200 mm blank space between the floor of switch board and bottom most unit shall be provided.
- The overall height of the Switch Board shall be limited to 2300 mm
- The height of the operating handle, push buttons etc shall be restricted between 300 mm and 2000 mm from finished floor level.

#### 4.6 Switch Board Compartmentalisation

The Switch Board shall be divided into distinct separate compartments comprising

- A completely enclosed ventilated dust and vermin proof bus bar compartment for the horizontal and vertical busbars.

- Each circuit breaker, and MCCB shall be housed in separate compartments enclosed on all sides.
- Sheet steel hinged lockable doors for each separate compartment shall be provided and duly interlocked with the breaker in "on" and "off" position.
- For all Circuit Breakers separate and adequate compartments shall be provided for accommodating instruments, indicating lamps, control contactors and control MCB etc. These shall be accessible for testing and maintenance without any danger of accidental contact with live parts of the circuit breaker, busbars and connections.
- A horizontal wire way with screwed cover shall be provided at the top to take interconnecting control wiring between vertical sections.
- Separate cable compartments running the height of the Switch Board in the case of front access Boards shall be provided for incoming and outgoing cables.
- Cable compartments shall be of adequate size for easy termination of all incoming and outgoing cables entering from bottom or top.
- Adequate and proper support shall be provided in cable compartments to support cables.

#### 4.7 Switch Board Bus Bars

- The Bus Bar and interconnections shall be of electrolytic Copper/Aluminium and of rectangular cross sections suitable for full load current for phase bus bars and half rated current for neutral bus bar. The maximum current density for copper shall be 1.6 amps per sq. mm. and for Aluminium shall be 1 amp per Sq. mm. and suitable to withstand the stresses of a 31 MVA fault level or at 415 volts for 1 second or as per schedule of quantities. .
- The bus bars and interconnections shall be insulated with insulation tape/ fiber glass.
- The bus bars shall be extensible on either side of the Switch Board.
- The bus bars shall be supported on non-breakable, non-hygroscopic insulated supports at regular intervals, to withstand the forces arising from a fault level of 31 MVA at 415 volts for 1 second.
- All bus bars shall be colour coded.
- All bus bar connections in Switch Boards shall be bolted with brass bolts and nuts. Additional cross section of bus bars shall be provided wherever holes are drilled in the bus bars.
- All TRIP/CLOSE/INDICATION circuit shall be compatible on 24V DC. Accordingly all relay & CTs etc shall be 24 V DC.

#### 4.8 Switch Board Interconnections

- All connections between the bus bars/Breakers/cable terminations shall be through solid tinned copper strips of adequate size to carry full rated current and PVC/fibre glass insulated.
- For unit ratings upto 100 amps PVC insulated copper conductor wires of adequate size to carry full load current shall be used. The terminations of all such interconnections shall be crimped and aluminium lugs shall be used.

#### 4.9 Drawout Features

Air Circuit Breakers shall be provided in fully drawout cubicles. These cubicles shall be such that drawout is possible without disconnection of the wires and cables. The power and control circuits shall have self aligning and self isolating contacts. The fixed and moving contacts shall be easily accessible for operation and maintenance. Mechanical interlocks shall be provided on the drawout cubicles to ensure safety and compliance to relevant Standards. The MCCB's shall be provided in fixed type cubicles.

#### 4.10 Instrument Accomodation

- Instruments and indicating lamps shall not be mounted on the Circuit Breaker Compartment door for which a separate and adequate compartment shall be provided and the instrumentation shall be accessible for testing and maintenance without danger of accidental contact with live parts of the Switch Board.
- For MCCB's instruments and indicating lamps can be provided on the compartment doors.
- The current transformers for metering and for protection shall be mounted on the solid copper/aluminium busbars with proper supports.

#### 4.11 Wiring

All wiring for relays and meters shall be with PVC insulated copper conductor wires. The wiring shall be coded and labelled with approved ferrules for identification. The minimum size of copper conductor control wires shall be 1.5 sq. mm.

#### 4.12 Cable Terminations

- Knockout holes of appropriate size and number shall be provided in the Switch Board in conformity with the location of incoming and outgoing conduits/cables.
- The cable terminations of the Circuit Breakers shall be brought out to terminal cable sockets suitably located at the rear of the panel.

- The cable terminations for the MCCB's shall be brought out to the rear in the case of rear access switchboards or in the cable compartment in the case of front access Switch Boards.
- The Switch Boards shall be complete with tinned brass cable sockets, tinned brass compression glands, gland plates, supporting clamps and brackets etc for termination of 1100 volt grade aluminium conductor PVC/PVCA cables.

#### 4.13 Space Heaters

The Switch Board shall have in each panel thermostatically controlled space heaters with a controlling 15 amp 230 volt switch socket outlet to eliminate condensation.

#### 4.14 Ventilation Fans

The Switch Board shall be provided with panel mounting type ventilation fans in each panel with switchgear rated for 2500 amp and above. The fan shall be interlocked with switchgear operation.

#### 4.15 Earthing

A main earth bar of G.I./copper as required shall be provided throughout the full length of the Switch Board with a provision to make connections to the sub-station earths on both sides.

#### 4.16 Sheet Steel Treatment and Painting

- Sheet Steel materials used in the construction of these units should have undergone a rigorous rust proofing process comprising of alkaline degreasing, descaling in dilute sulphuric acid and a recognised phosphating process. The steel work shall then receive two coats of oxide filler primer before final painting. Castings shall be scrupulously cleaned and fettled before receiving a similar oxide primer coat.
- All sheet steel shall after metal treatment be spray or powder painted with two coats of shade 692 to IS 5 on the outside and white on the inside. Each coat of paint shall be properly stoved and the paint thickness shall not be less than 50 microns.

### 5. OUTDOOR TYPE DISTRIBUTION FEEDER PILLARS

The feeder pillar shall be of the floor mounting type, totally enclosed, and weather proof, conforming to ISI IP 54. The feeder pillar shall be suitable for 440 volts 3 phase 4 wires, 50 cycles AC supply.

The cubicle should be fabricated out of heavy gauge sheet steel of thickness not less than 2 mm thick with suitable side frame and stiffeners. Hinged doors of not less than 1.6 mm thick should be provided at the front and rear of the cubicle to provide access for installation, operation, tests and inspection. The rear door is provided to facilitate cable termination and the front door for inspection of breaker, to switch 'ON' and 'OFF' the switch as and when required. All doors should be fitted with dust excluding neoprene gaskets. The doors should also be fitted with suitable locking arrangement with lock to prevent unauthorized opening. The cubicle should be designed for mounting over cement concrete plinths by the roadside, and should be of substantial construction capable of withstanding the vibrations normally experienced due to vehicular traffic. The top of the feeder pillar is of slanting construction in all directions to prevent any collection of water due to rain. A gland plate is provided at the bottom of the feeder pillar (removable) for mounting the cable glands. The feeder pillar shall be fitted on an angle iron pedestal at the bottom covered with sheet metal from all the four sides which facilitates cable bending etc specially with aluminium cables. Two lifting hooks shall be provided at the top. A door switch shall be provided in the feeder pillar so as to switch 'ON' and 'OFF' the lamp fixed in the brass batten holder below the top sheet of the pillar.

The sheet steel materials used in the construction of the cubicle should have undergone a rigorous rust proofing process comprising alkaline degreasing, descaling in dilute sulfuric acid solution and recognised phosphating process. After metal treatment, the interior of the cubicle should be painted with two coats of air-drying red lead primer followed by two coats of air drying anti-condensation paint. The exterior of the cubicle should be painted with two coats of staving red oxide primer followed by one coats of epoxy finishing paint. One final spray of epoxy paint shall be applied at the time of handing over the installation.

All the nuts, bolts shall be cadmium plated with spring washers. A minimum spacing from cable connection to the bottom of gland plate shall be 300mm.

The bus bars should be of electrical grade copper. They should be air insulated with adequate clearances between conductors and between conductors and earth. These should be colour coded to enable immediate identification of the phases and neutral. The current density for bus bars shall not be more than 1.0 amps per square mm. All bus bar joints and tapings should be of the clamped type as far as possible thereby avoiding drilling of holes on bus bars. The bus bars should be carried on supports made out of a suitable non-inflammable and non-hygroscopic material such as Hylam, Permali or Formics. Suitable insulating phase barriers should be provided to prevent accidental short-circuits during operation.

The neutral bus bar shall be rated at 100 % of the phase bus bars. The design should allow for neutral cable sockets to be fitted directly to the bus bars. A GI earth bar of size 40x5mm together with two cable eyes shall be provided for connections to earth pits. All the cables shall be terminated at ELEMEX terminal block and therefrom wiring shall be done with PVC insulated aluminium conductor cable to breaker units. The wiring shall be neatly bunched and shall be secured to wiring cradles.



A circuit cardholder to be made inside the front door and the card duly engraved / painted on aluminium / hylam sheet, Identification ferrules shall be used for incoming and out going cables.

## 6. TESTING AT WORKS

Copies of type test carried out at ACB/MCCB manufacturers works and routine tests carried out at the switchboard fabricators shop shall be furnished along with the delivery of the switchboards. Project Manager reserves the right to get the switchboard inspected by their representative at fabricators works prior to dispatch to site to witness the routine tests as per clause 7.7 of SCC

## 7. INSTALLATION

The foundations prepared as per the manufacturers drawings shall be leveled, checked for accuracy and the Switch Board installed. All bus bar connections shall be checked with a feeler gauge after installation. The cable end boxes shall be sealed to prevent entry of moisture. The main earth bar shall be connected to the sub-station earths.

A 15 mm thick rubber matting of approved make on a 100 mm high timber platform shall be provided in front of and along the full length of the Switch Board. The width of the matting shall be 1000 mm. The rubber mat shall withstand 15 KV for 1 minute and leakage current shall not exceed 160 mA/sq. metre.

After installation the Switch Board shall be tested as required prior to commissioning.

## 8. TESTING AT SITE

Pre-commissioning tests as required and as per manufacturers recommendations shall be carried out on each switchboards at site before energizing the switchboards including but not restricted to the following.

- Physical checking of the switchboards including checking alignment of panels, interconnection of Bus bars, tightness of bolts/connections and evidence of damage/cracks in any components.
- Physical checking and inspections of Inter panel wiring
- Checking free movement of ACBs/MCCBs/SFUs
- Checking of operation of breakers
- Insulation tests of bus bar supports and control wiring etc. with 1.1 kV megger.
- Primary & secondary injection tests of relays and CTs.
- Checking of Interlocking function.



(TECHNICAL SPECIFICATION OF ENERGY METER)

Connection Type	Direct connected
Wiring configuration	1 phase 2 wire
Mains frequency	50 Hz $\pm$ 5 %
Burden	As per relevant standards
Approvals	
Electrical IS 13779, CBIP 88, IEC 62052-11, IEC 62053- 21 Standard compliance	

Mechanical:-

Dimensions (WxHxD)	125x193x48 mm
Enclosure Engineering plastic	Engineering plastic
Sealing Sealing screw provision	Sealing screw provision

Environmental:-

Temp. (storage)	- 10 °C to +50 °C (operating)   - 25 °C to +70 °C
Humidity	Upto to 95 % non-condensing
Ingress protection	IP 51
Insulation Class	As per IS 13779
Impulse Withstand	As per IS 13779

Connection type	Direct Type
Wiring configuration	3 phase 4 wire
Voltage range	230/ 240 V (P-N), -30% to +30%
Current range	5(30)A, 10(60)A, 20(80)A
Mains frequency	50 Hz $\pm$ 5 %
Metrological accuracy	Class 1.0
Burden	As per relevant standards

Mechanical:-

Dimensions (WxHxD)	175 x 264 x 96 mm
Enclosure Engineering plastic	Engineering plastic
Sealing Sealing screw provision	Sealing screw provision

Environmental:-

Temp. (storage)	- 10 °C to +50 °C (operating)   - 25 °C to +70 °C
Humidity	Upto to 95 % non-condensing
Ingress protection	IP 51
Insulation Class	As per IS 13779
Impulse Withstand	As per IS 13779

TECHNICAL SPECIFICATION OF MEDIUM VOLTAGE CABLE

Medium voltage cables shall be aluminum conductor PVC insulated, PVC sheathed armoured conforming to IS 1554. Cables shall be rated for a 1100 Volts. The conductor of cables from 16 Sq. mm. to 50 Sq. mm. shall be stranded. Sector shaped stranded conductors shall be used for cables of 50 sq. mm and above. Conductors shall be made of electrical purity aluminium 3/4 H or H temper. Conductors shall be insulated with high quality PVC base compound. A common covering (bedding) shall be applied over the laid up cores by extruded sheath of unvulcanised compound. Armouring shall be applied over outer sheath of PVC sheathing. The outer sheath shall bear the manufacturer's name and trade mark at every meter length. Cores shall be provided with following colour scheme of PVC insulation.

1 Core	:	Red/Black/Yellow/Blue
2 Core	:	Red and Black
3 Core	:	Red, Yellow and Blue
3 1/2 /4 Core	:	Red, Yellow, Blue and Black

Current ratings shall be based on the following conditions.

- a) Maximum conductor temperature 70 0 C
- b) Ambient air temperature 450 C
- c) Ground temperature 300 C
- d) Depth of laying 1000 mm

Short circuit rating of cables shall be as specified in IS 1554 Part-I.

Cables have been selected considering conditions of maximum connected loads, ambient temperature, grouping of cables and allowable voltage drop. However, the contractor shall recheck the sizes before cables are fixed and connected to service.

TECHNICAL SPECIFICATION  
Quality Control Process  
QUALITY CONTROL PROCESS TO BE FOLLOWED

Quality Control is an essential part of any construction process for ensuring Quality. All materials to be used, all methods adopted and all works performed are strictly to be in accordance with the requirements of the specifications and approved drawings. Quality Control measures leads to construction of improved quality, conformity and ensures utilization of better quality of materials.

The main objective of Quality Control (QC) is to obtain independent & objective assessment of the technical quality of all the civil, structural, electrical and all ancillary miscellaneous construction works at different stages of construction and to ensure that the buildings and structures are constructed as per desired standards and in accordance to the specifications.

The Construction contractor is responsible for implementing and supplementing a quality control procedure to ensure that all aspects of work meet the standards set forth in the specifications and is of acceptable quality. The Construction contractor is totally responsible for quality throughout and is to take all necessary measures to ensure quality by adopting correct construction practices to produce the end products of acceptable quality.

Ensuring execution of quality work of durability and uniform performance by the Contractor is the most important aspect of the Quality Control.

The basic concept of this process is that the construction Contractor constructs & performs testing as per the following format and requirement as minimum at his risk and cost to ensure a quality product.

Type of check	Sr. No.	Name of Test	Testing Method	Frequency of Test	Specification Requirement	Remarks	Types of record
(A)	CONCRETE WORK						
A	1	Compressive Strength test (M20 to M55)	IS: 516 (Concrete cube compressive strength test)	Upto 5m <sup>3</sup> □ 1Set, >5-15m <sup>3</sup> □ 2 Sets, >15-30m <sup>3</sup> □ 3Sets >30-50m <sup>3</sup> □ 4Sets Above 50m <sup>3</sup> □ 4+one additional sample for each 50m <sup>3</sup> part thereof.	Acceptance criteria specified as per IS 456:2000.	Tests to be performed at site Laboratory or at the external laboratory	Register / log book to be maintained at site

B	2	Slump Test	IS 456: 2000, IS 1199: 1959	At start, end or intermittently for each pour card issued every day	As per design mix /IS code	Test to be performed at the Site.	Register / log book to be maintained at site
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(B)		BRICKS					
B	1	Water Absorption	IS: 3495 Part□2	As per IS (5454 :1978)	Max. 20%	Site test or External laboratory test	Register / log book to be maintained at site
A	2	Compressive Strength	IS: 3495 Part□1		As per PO specification		
A	3	Physical verification	IS: 3495 1992		For each lot of supply		
(C)		CEMENT					
A	1	Fineness %	IS 4031 Part-1, 2 & 15	1 test per 50 MT supplies of one Make/Grade/Ty &Test per change of Make/Grade/Ty pe	10% maximum	External lab/site lab test	MTC
A	2	Setting time	IS: 4031 Part□5		Initial 30min, Final 600min.	MTC must be obtained for each consignment	
A	3	Compressive strength	IS: 4031 Part□6		Min. 33 MPa		
A	4	Specific Gravity	IS: 4031 Part□11		3.10 □ 3.15		
A	5	Soundness test	IS: 1489 Part-1, IS: 4031 Part-3		Max.10mm/ 0.8 %		
(D)		WATER					
A	1	Chloride as CL	IS: 3025 Part□1&3, IS: 456	1 test per Source and every three months	500 mg/litre max.	Extern al lab test.	Reports

A	2	Inorganic matter	IS: 3025 Part 18, IS: 456		3000 mg/litre max.	External lab test.	Reports
A	3	Organic matter	IS: 3025 Part 18, IS: 456		200 mg/litre max.	External lab test.	Reports
A	4	Suspended solids	IS: 3025 Part 17, IS: 456		2000 mg/litre max.	External lab test.	Reports
A	5	PH value	IS: 3025 Part 11, IS 10500, IS: 456		6 to 8		

(E)		REINFORCEMENT STEEL (Fe500)						
B	1	Ultimate tensile strength	IS: 1786 Part-II	Per consignment/ per lot	Min. 8% more than actual 0.2% proof stress &> 545 N/mm2	MTC must be obtained.		
B	2	% Elongation	IS: 1786 Part-II		16.0% Min.			
B	3	Weight per meter	IS: 1786 Part-II		-			
B	4	Bend Test	IS: 1786 Part-II		No cracks			
B	5	Re-bend Test	IS: 1786 Part-II		No cracks			
(F)		COARSE AGGREGATE						
B	1	Sieve Analysis	IS: 2386 Part-I,IS: 383			Site test / External lab test	Register/ log book to be maintained at site	
A	2	Water Absorption	IS: 2386 Part-I,IS: 383		Max. 2%			
A	3	Specific Gravity	IS: 2386 Part-I,IS: 383		Min. 2.5			
A	4	Impact Value	IS: 2386 Part-I,IS: 383		Max. 45%			

A	5	Crushing Value	IS: 2386 Part 4, IS: 383: 2016	One test for each 20cum of concrete	Max. 30%. If it exceeds then test for ten percent fines should be conducted & min. load for ten percent fines should be 50kN	
A	6	Soundness	IS: 2386 Part 5, IS: 383: 2016		In IS:383 Max 12% by Na <sub>2</sub> SO <sub>4</sub> Max 18% by MgSO <sub>4</sub>	
A	7	Elongation & Flakiness Index	IS: 2386 Part 1, IS:383: 2016		Max. 40%	
B	8	Deleterious Contents	IS: 383, IS: 2386 Part 2	For each lot of supply	Should be Nil	
<b>(G) FINE AGGREGATE</b>						
B	1	Gradation (Fineness modulus)	IS: 2386 Part-1		As per IS: 383, FM=2.2-3.20	
B	2	Zone of sand	IS :383	One test for each 20cum of concrete	Grading should be fall within zone II, III	
B	3	Water absorption	IS: 2386 Part- 3			Site test /External lab test
A	4	Silt Content (% finer than 75 $\mu$ )	IS :383:2016, IS:2386 part1		Uncrushed sand-Max. 3%,	
A	5	Specific gravity	IS: 2386 Part- 3	1 test per Source	2.42 to 2.64	

<b>(H)</b>		<b>ROAD/PAVEMENT</b>				
<b>(1)</b>		<b>Aggregate</b>				
A	I	Impact Value	IS: 2386 (Part 4), IS: 383	1 test per 100 cum	Max. 30%	
A	II	Crushing Value	IS: 2386 (Part 4), IS: 383	1 test per source	Max. 30%	
A	III	Loss angles abrasion value	IS: 2386 (Part 4), IS: 383	1 test per source	Max. 30%	
A	IV	Flakiness Index & Elongation Index	IS: 2386 (Part 1) IS: 383	1 test per 100 cum	Max. 35%	

B	V	Water Absorption	IS: 2386 (Part 3), IS: 383	1 test per 100 cum	Max. 2%	
A	VI	Specific Gravity	IS: 2386 (Part 3), IS: 383	1 test per source	Min. 2.5	
A	VII	Stripping Value of aggregate for BM/AC	IS: 2386 (Part 3), IRC, IS: 383	1 test per source	Max 25%	
A	VII I	Soundness	IS: 2386 (Part 4), IS: 383	1 test per source	Max. 12%	
(2)		Bitumen				
A	I	Softening point	IS: 73, IS: 1205	1 test per batch of bitumen supplied in bulk/ drums or part thereof		External lab test. MTC must be obtained.
A	II	Penetration	IS: 73, IS: 1203			
A	III	Elongation	IS: 73			
A	IV	Wax Content	IS: 73			
A	V	Flash/Fire point test	IS:73, IS:1209			
B	VI	Ductility	IS: 73, IS: 1208			

Notes:- External laboratory means any government engineering college/Govt. approved laboratory or any other laboratory having National Accreditation Board for Testing and Calibration Laboratories (NABL) accreditation. Mix Design must be conducted in the above mentioned laboratories.

1. MTC: - Manufacturers Test Certificate.
2. ASTM-American Society for Testing and Materials.
3. Type of check:
  - A) Tests are to be conducted by contractor in presence of NPCC Engineer-In-Charge or representative of EIC.
  - B) Regular test to be conducted by contractor as per frequency directed by Engineer-In-Charge.

#### LIST OF APPROVED MAKES

Note:- The Contractor shall obtain prior approval from Engineer In-charge before placing order for any specific material or engaging any of specialized agencies the

contractor shall make a detail submittal with catalogues and highlighted proposed specifications as well as full details of the works executed by specialized agency as specified.

Wherever applicable the Engineer In-charge may approve any material equivalent to specified in tender subject to proof being offered by contractor for equivalence to his satisfaction.

The Contractor shall provide samples of all material in the list of make to Engineer-In-charge.

**A. CIVIL WORKS**

Sl.No.	Material	Make
1)	Cement	ACC/Ultratech/BIRLA/JK/Shri Ultra /Ambuja
2)	TMT Reinforced Steel	SAIL/TATA/Jindal
3)	Mild Steel	Mahavir / Swastik/Shyam Steel/SRMB
4)	Anti-Termite Chemical	Vam Organic/Hindustan Insecticide/Bayer/ICI
5)	Water Proofing Chemicals	Dr.Fixit/Pidilite/BASF/SIKA/MAPI
6)	Wall Putty	Birla/JK/Jhonson
7)	Aluminium Sections	Hindalco/Jindal/ OASIS
8)	Vitrified Tiles	Kajaria/Somany/Orient Bell/AGL/Varmora
9)	Ceramic Tiles	Kajaria/Somany/Orient Bell/AGL/Varmora
10)	Enamel paint	Dulux/ICI/Asian
11)	Texture Paint	Spectrum/Unistone/ Asian/ Berger
12)	Cement Paint	Snowcem/ICI/Asian/Berger
13)	Sanitary ware	Hindware/Parryware/Cera/Somany
14)	CP Fittings	Cera/Jaquar/Marc/Hindware/Somany
15)	UPVC SWR pipes & Fittings	Supreme/Finolex/Prince/Kissan/AKG
16)	SCI Pipes & Fittings	NECO/SRIF/RIF
17)	GI & MS Pipes	Jindal Hissar/Prakash Surya/Swastik
18)	CPVC Pipes	Astral/Ajay/Ashirwad/Prince/Supreme
19)	GI Fittings	UNIK/DRIP-M/ZOLOTO/"R"/ Jindal
20)	Ball Valves	Zoloto/DRP/Sant
21)	CI Valves(>65mm dia)	Kirloskar/Leader/Sant
22)	50mm dia and above	Audco/Veeson/KSB/Zoloto/Sant
23)	Ferrules/Ballcocks/Water level Fittings	DRP/Zoloto/Leader/Sant
24)	Pressure Regulating valves	DRP/Zoloto/Kartar/CIIm
25)	Garden Irrigation Sprinklers	Rainbird/Harvel/Premier/Jain
26)	Stoneware Pipes & Gully Traps	Perfect/Ananad
27)	RCC Pipes	Pragati/JSP
28)	SFRC Manholes Covers & Gratings	KK/RPMF
29)	CI-LA/DI Fittings	Kartar/Neer



30)	False Ceiling	USG Boral/Anutone/Armstrong
31)	Wall Paneling (wooden/Acoustical)	Anutone/ Armstrong
31)	Tensile Fabric	Royal Tensile Structure
32)	Metal Roofing System	Colortop
33)	Running Track/Badminton/Volleyball Court	Sports Surfacing Pro/ Quality Sports Surface
34)	Manhole C.I. cover and frame	NECO/BIC/RPMF
35)	CI pipes and fittings	NECO/BIC/RPMF
36)	Plywood/Block Board/Vineer	Legend/Archid ply/Green ply/Kanchan ply
37)	Flush Doors	Legend /Archid ply/Green ply/Kanchan ply
<b>FIRE FIGHTING WORKS</b>		
1)	MS Pipes	TATA/Jindal/Swastik
2)	Gunmetal Ball Valves	Leader/DRP/Sant/Zoloto/TBS
3)	CI Double Flanged Sluice valves & Check Valves	Kirloskar/Sant/Leader
4)	Slim Seal Butterfly Valve	Audco/Veeson/C&R/KSB/Advance/San t
5)	Dual Disk type Non Return Valve	Audco/Veeson/C&R/KSB/Advance/San t
6)	Fire Hydrant Valves/Branch Pipes & Fire Main Axe.	Minimax/Firex/Newage
7)	Fire Aid Fire Hose reels	Minimax/Firex/Newage
8)	CP Hose Pipes	Minimax/Firex/Newage
9)	Sprinkler Head	Tyco/Grinel/Viking
10)	Fire Pumps	Kirloskar/Mather-Plate
11)	Motors	Kirloskar/Seimens/Crompton
12)	Electric Switch Gear	L&T/Seimens
13)	Cables	RR Cable /Polycab/Paramount/Finolex/Havells
14)	Suction Stainer	Vaishno/Jaypee/Grandpit
15)	Vibration Eliminator Connector	Resistoflex/Kanwal
16)	Single Phasing Preventer	Siemens/Minilec/L&T
17)	Pipe Coat Material	PYPKOTE/Coaltek/STP
18)	Flow switch	Potter/System Sensor/Jhonson Control
19)	Diesel Engine	Ashok Leyland/Kirloskar/Cummins
20)	Main Control Panel	Tricolite/Vidyut Control
21)	Fire Brigade Inlet	Minimax/Newage
22)	Rubber Hose Pipe	Jyoti/Tiger/Padmini
23)	Hose Coupling Branch	Minimax/Newage

24)	Pressure Switch	Indfoss/Switzer
25)	Pressure Gauge	H/Guru/Fiebig
26)	Battery	Exide/Prestolite
27)	Fire Extinguisher	Minmax/Newage
28)	Enamel Paint	Asian/Nerolac/Berger
29)	Annunciation panel	Safeway/agni/Matter &Palet
30)	Contactor	L&T/Siemens
31)	Thimbles/Ferrules	Dowel
32)	Cable Gland	Commex/Power/Gripwell
33)	Power capacitor	L&T/Crompton/Asian/Ducati
34)	Measuring meter	L&T/Siemens/AE
35)	MS Conduit	BEC/AKG/steel craft

#### **ELECTRICAL WORKS**

1)	MCCB &MPCB	L&T/ABB/GE/SEIMENS VL
2)	MCB& ELMCB	M&G/HEGGAR/LEGRAND/HAVELL S
3)	Lugs, Thimbles	Dowells
4)	Capacitor	EPCOS/DUCATI/MEHER
5)	APCR relay	EPCOS/DUCATI/CONZERV
6)	Reactor	EPCOS/DUCATI/ELSPEC/SAIGON
7)	Indication Lights	Schnieder/L&T/Seimens
8)	Selector Switch	Sulzer/Kaycee
9)	Push Button	Schnieder/L&T/Seimens
10)	Terminal Strip	Connectwell/Elmex/Phoenix
11)	Digital Meter	Conzerv/Trinity
12)	Analogue Meter	Rishabh/AE/IMP
13)	Current transformer cast Resin	G&M/KAPPA/AE
14)	Compression Glands	HMI/Comet
15)	HRC Fuses	Siemens/L&T
16)	Lighting Fixtures	Philips/Wipro/ Bajaj/Artemide
17)	Power(PVC/XLPE 1.1KV gradecables)	POLYCAB/FINOLEX/PARAMOUNT
18)	Cable Tray	Slotco/SECO/Steel Ways/Indiana
19)	Ms Conduit & Accessories	BEC/AKG/Steel Craft
20)	PVC insulated copper conductor	Finolex/RR Kabel/KEI/Polycab/Anchor/Havells
21)	Switches&socket	Northwest/Legrand/Havells/anchor
22)	DB	Legrand/Havells/Indo Asian
23)	HT Cable	Unistar/Polycab/RPG/KEI/Rallison

24)	Telephone wire	Finolex/Polycab/RR Kabel/Havells/Anchor
25)	Fans & exhaust fans	Orient/Crompton/Bajaj/Havells
26)	Data Points	Awaya/Amp
27)	Pre-Fabricated MS Junction Box	Legrand/MK
28)	LED Display unit	Delite Or Equ.
29)	Lightning Protection	Alltec/LPI
30)	Conventional fire alarm system	Notifier/Edwards/Siemens/Simplex
31)	Transformer	Kirloskar/Crompton
32)	DG set	Cummins/Catterpillar/Sterling
33)	LT Panel& PDB's	AARVEE/Electro/IPC/vidyut/Milestone/Precision System Control Equivalent
34)	Lifts	KONE/OTIS/Shindler/Olympus/Jhons on
35)	Air-conditioning	Carrier/Hitachi/Daikin
36)	Furniture	Godrej/Bpergo/Featherlite/Geeken

Note:-

1.The contractor will use one of the approved makes with prior approval of the engineer in charge. For technical reason the engineer in charge can specify a particular make.

2. Order will be placed with the prior approval of engineer in charge relating to makes and quantities.

When certain makes of the items are missing in the above list/description of item, the make will be decided as per the approval of Engineer- in- charge.

## VOLUME – 02

### SECTION-I

#### PRICE BID SHEET & BOQ

Note: Enclosed in separate excel file

# VOLUME – 03

## SECTION-I

### DRAWINGS