



**NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED
(A GOVT. OF INDIA ENTERPRISE)
NER(IBBW)OFFICE**

**House No.-2, SONAI ROAD, APANJANPALLY
SILCHAR-788006(ASSAM)**

**☎-(03842)226995 Tele Fax-(03842)225089
www.npcc.gov.in**

**CONSTRUCTION OF BORDER FENCING ALONG
INDO-BANGLADESH BORDER IN THE STATE
OF TRIPURA**

Package No. – TR-20 to TR-23(R)

NIT NO.: 70064/IBBW/TR/WS/70

DATED: 17/08/2011

ISSUED TO:

**CORPORATE OFFICE
67-68, SECTOR-25
FARIDABAD-121004
HARYANA**

FOR PRESS PUBLICATION



NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED
(A GOVERNMENT OF INDIA ENTERPRISE)
H.No.-2, SONAI ROAD, APANJAN PALLY,
SILCHAR- 788006(Assam)

ISO 9001-2000

☎ (03842) 226995 Tele Fax- (03842) 225089

Ref.No. 70064/IBBW/TR/WS/71

DATED: 17/08/2011

TENDER NOTICE

Sealed tenders are invited from Registered Contractor of NPCC/ State PWD/CPWD/MES/RAILWAYS and also from other bonafide and resourceful Contractor for the work of "Construction of Border Fencing along Indo-Bangladesh Border in the state of Tripura":

Pkg. No.: TR-13 to TR-15(R), Estimated Cost: Rs.21,81,06,519/-, EMD:Rs.43,62,130/-

Pkg. No.: TR-16 to TR-17(R), Estimated Cost: Rs.17,01,60,997/-, EMD:Rs.34,03,220/-

Pkg. No.: TR-18 to TR-19(R), Estimated Cost: Rs.20,06,77,608/-, EMD:Rs.40,13,552/-

Pkg. No.: TR-20 to TR-23(R), Estimated Cost: Rs.37,32,70,255/-, EMD:Rs.74,65,405/-

Completion Period: 18(Eighteen) months for each package including monsoon period.

Last Date of Sale / Submission of Tender Document up to **12.09.2011 up to 5.00 PM /**

14.09.2011 up to 04.00PM. Date of Opening of Tech. Bids (Envl.-1): On **14.09.2011 at**

04.30 PM. Date of Opening of Price Bids (Envl.-2) (For Qualified Bidders only): On

19.09.2011 at 11.00 AM. Complete NIT & Tender Document vide Ref. No.

70064/IBBW/TR/WS/70, Dt.17/08/2011 will be available at Zonal Office, NER (IBBW),

Silchar-788006(Assam) and can also be seen on our website: www.npcc.gov.in.

Amendments/Corrigendum, if any would be hosted on the website only.

ZONAL MANAGER



ISO 9001:2000

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

NER (IBBW) OFFICE,
HOUSE No.-2, SONAI ROAD, APANJAN PALLY,
SILCHAR – 788006 (ASSAM)
Tele Fax- (03842)225089
Website: www.npcc.gov.in

TENDER NOTICE NO.: 70064/IBBW/TR/WS/70

DATED: 17/08/2011

SUB: CONSTRUCTION OF BORDER FENCING ALONG INDO-BANGLADESH BORDER IN THE STATE OF TRIPURA.

- 1.0 Sealed tenders are invited on behalf of Chairman-Cum-Managing Director (NPCC) from Registered Contractor of NPCC / State PWD / CPWD / MES / RAILWAYS and also from other bonafide and resourceful Contractor for the works as detailed below. A set of the tender documents along with a copy of the “Bill of Quantities” is enclosed herewith for submitting the tender.

Name of Work: - CONSTRUCTION OF BORDER FENCING ALONG INDO-BANGLADESH BORDER IN THE STATE OF TRIPURA.

Package No.	Description of work	Estimated Cost (Rs.)	Earnest Money(Rs.)
TRIPURA	Construction of Border Fencing Along Indo-Bangladesh Border in the State of Tripura		
TR-13 to TR-15(R)	Between BP No.2273 to BP No.2283 (Ch.0.000 to 15.990Km.)	21,81,06,519.00	43,62,130.00
TR-16 to TR- 17(R)	Between BP No.2273 to BP No.2283/30S (Ch.15.990 to 31.440Km.)	17,01,60,997.00	34,03,220.00
TR-18 to TR-19(R)	Between BP No.2273 to BP No.228330S (Ch.31.440 to 46.330Km.)	20,06,77,608.00	40,13,552.00
TR-20 to TR-23(R)	Between BP No.2273 to BP No.2270 (Ch.0.000 to 22.700Km.)	37,32,70,255.00	74,65,405.00

- i) **Earnest Money Deposit:-**
The EMD shall be in the shape of d'call/demand draft in favour of NPCC Ltd. payable at Silchar or in the form of BG in the prescribed format from any Nationalized/ Approved Scheduled Private Sector Bank.
- ii) **Cost of Tender Document: - Rs.10,000/- (Rs. Ten Thousand only)** for each Package (Non-refundable) to be Paid by DD/Pay Order in favour of NPCC Ltd. payable at Silchar.
- iii) **Sale of Tender Documents: -** On any working day from 22.08.2011 to 12.09.2011 between 10.00 AM to 05.00 PM from the office of Zonal Manager, NPCC Ltd., NER (IBBW), Silchar. Complete NIT/Tender Document can be seen in our web site www.npcc.gov.in. Down loaded Tender Document will not be accepted for opening.

- iv) **Last date of Receipt of filled up tender documents:-** On 14.09.2011 up to 04.00PM at the office of Zonal Manager, NPCC Ltd., NER (IBBW), House No.2, IInd Floor, Apanjan Pally, Sonai Road, Silchar – 788006 (Assam).
- v) **Opening of tenders :- Technical Bid (Envelope-1):-**On 14.09.2011 at 04.30 PM and **Price Bid (Envelope-2):** On 19.09.2011 at 11.00 AM (only for qualified bidders) at the Office of Zonal Manager, NPCC Ltd., NER (IBBW), Silchar-788006 (Assam).
- vi) **Completion Period :-** 18 (Eighteen) months (including monsoon period) which shall be reckoned from the 10th day after issue of the Letter/Telex/Telegram/Fax of Intent by the NPCC.

1.1 AGENCY MUST FULFILL THE REQUIREMENT FOR PARTICIPATION IN THE TENDER:-

- a) Tenderer must have completed CIVIL WORK at least one no. for a minimum value of 80% of the estimated value of work or two nos. each for a minimum value of 50% of the estimated value of work or three nos. each for a minimum value of 40% of the estimated value of work in the last 7years ending on 31/07/2011 under Govt./ semi Govt. or under any public sector undertaking or autonomous body.
- b) Average annual turn over for the last three years should be not less than 35% of the estimated cost as per the audited balance sheet.
- c) Bankers solvency certificate for an amount of Rs.One Crore from any bank registered with RBI.
- d) Sales Tax Clearance Certificate/ Sales Tax Registration Certificate.
- e) EPF Registration Certificate.
- f) Copy of Balance sheet including P & L a/c for the last 5 years of the organization.
- g) Copy of partnership deed / Memorandum & Articles of Association.
- h) List of plant & machineries available on hand (own) & proposed to be deployed in this work.
- i) List of personal/ manpower available on hand & proposed to be deployed in this work.
- j) List of works in hand indicating description of work, Contract Value, approx. value of balance work yet to be done etc..
- k) List of work completed in the last 5 years mentioning description of work, project authority, approx. value of contract, time of award, Value & date of completion etc.
- l) The documents in support of ownership/ lease for the following earth moving machineries.
 - a. Excavator – 4
 - b. Tipper -- 12
 - c. Vibratory roller – 2
 - d. Dozer – 4

- 5.0 The tenderer should quote in figures as well in words the rates and amounts tendered by them. The amount for each item should be worked out and the requisite totals and page totals given.
- 5.1 Special care should be taken to write the rates and amounts in figures as well in words in such a way that any alteration is not possible. The total amount should be written both in figures and in words. In case of figures; the word 'Rs.' Should be written before the figure of Rupees and word 'P' after the decimal figure e.g. Rs. 2.15p. Rs. 2.15 shall be written as Rupees two and fifteen paisa only. Unless the rate/amount is in whole Rupees it should invariably be up to two decimal places. While quoting the rates in Bill of quantities, the word "only" should be written closely following the amount and it should not be written in the next line.
- 5.2 In case of any discrepancy between the rates quoted in figures and words, the rate on which the amount has been worked out shall be taken as correct . If the amount of an item is not worked out by the contractor or it does not correspond with the rate written either in figure or in words, then the rate quoted by the contractor in words shall be taken as correct. Where the rates quoted by the contractor in figures and in words tally but the amount is not worked out correctly, the rates quoted by the contractor will be taken as correct and not the amount.
- 6.0 The tenders shall be strictly as per the conditions of contract. Tenders with any additional condition(s)/modifications shall be rejected.
- 7.0 The witnesses to the Tender/Contract Agreement shall be other than the tenderer/tenderer competing for this work and must indicate full name, address, status/occupation with dated signatures.
- 8.0 The tenders for works shall remain open for acceptance for a period of 90(Ninety) days from the date of opening of the tenders. If any tenderer withdraws his tender before the said period or makes any modification in terms and conditions of the tender to his benefit which are not acceptable to NPCC then NPCC shall without prejudice to any other right or remedy, be at liberty to forfeit the EMD.
- 9.0 The acceptance of tender will rest with the NPCC who does not bind itself to accept the lowest tender and reserves to itself the right to reject any or all the tenders received without assigning any reason thereof. Tenders in which any of the prescribed conditions are not fulfilled or found incomplete in any respect are liable to be rejected.
- 10.0 Canvassing whether directly or indirectly in connection with tenders is strictly prohibited and the tenders submitted by the contractors who resort to canvassing will be liable to rejection.
- 11.0 **INITIAL SECURITY DEPOSIT:-**
With in 15 days from issue of LOA / LOI, the tenderer shall submit Initial Security Deposit amounting to 5% of the awarded value of work including Earnest Money already deposited with the tender in the form of Demand Draft in favour of NPCC LTD., payable at Silchar or Bank Guarantee in the prescribed format from any Nationalized/Approved Scheduled Private Sector Bank of equivalent value. The Initial Security Deposit shall be refunded after completion and handing over of work and preparation of final bill.
- 12.0 **SECURITY DEPOSIT:-**
The security deposit will be deducted from the successful contractor at the rate of 5% from the Gross value of each R/A bills till it reaches 10% of the executed value including ISD. No interest will be paid on the Security Deposit/Initial 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/Approved Scheduled Private Sector Bank as per approved format.

- 13.0 On acceptance of tender, the name of the authorized representative(s) of the contractor who would be responsible for taking instructions from Zonal Manager/Engineer-in-charge or its authorized representative shall be intimated by the contractor within 07 days of issue date of telegram/letter/telex/fax of intents by NPCC.
- 14.0 The tenderer shall not be permitted to tender for works if his near relative is posted as an Accountant or an Assistant Manager 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.
- 15.0 Sales tax or any other tax on materials in respect of contract shall be payable by the contractor and NPCC will not entertain any claim whatsoever, on such grounds. In the event of non payment/default in payment of any octroi, royalty, cess, sales tax, including the purchase tax, consignment tax or any Labour dues and E.P.F., labour cess 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 Registration Certificates with sales tax Authority and EPF Authorities other wise appropriate recovery shall be made from his bills.
- 16.0 Tenderer should quote all prices, excluding the liability of turnover tax, sales tax on works contract/VAT as a whole or part thereof. But the agency has to pay Works contract Tax/VAT to the State Govt. It will be reimbursed by NPCC on submission of documentary proof of payment after assessment of each financial year subject to reimbursement of the same from MHA to NPCC. The agency has to submit Sales Tax Clearance Certificate for the total works executed under these packages before release of final payment as well as Security Deposit.
- 17.0 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 whatsoever shall be entertained on this account.
- 18.0 The drawings with the tender documents are TENDER DRAWINGS and are indicative only.
- 19.0 Tenderer can purchase the tender document and participate in the tender proceedings for the same. However the following norms will be followed during finalization and awarding the work as mentioned below :
Tenderer 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 = $AXNX2-B$, where

'N' = Number of years prescribed for completion of the subject contract.

'A' = Maximum value of works executed in any one year during last five years
(at current price level).

'B' = Value at current price level of existing commitment and on going works to be completed in the next 'N' years.

Note: The 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 listed should be submitted.

- 20.0 At present, there will be no escalation on account of any increase in price index in the price of POL's, materials or Labours, imposition of sales tax or enactment of any new law or imposition of levies etc. The matter will be taken up with MHA (GoI) at the time of submission of Revised Estimate; as the rates have been based on cost index of June, 2004 based on CSR'94 with cost index escalation @195% approved for Ambassa Tripura. In case MHA (GoI) agrees to the payment of further cost index escalation, the difference between cost index of June, 2004 and to the extent sanctioned; will be paid to the agency over and above the rate only. No further price escalation shall be applicable even during extended period for completing works. Areas for execution of the work may be handed over to the agencies in phases after completion of Land Acquisition. No extra claim in this regard will be entertained.
- 21.0 NPCC has engaged specialized agency for initial Topographical Survey for the work who will submit the drawing along with reference pillars. Cost towards the same will be recovered from the executing agency @ Rs.78,000/- per KM, if applicable. The cost toward the same will be recovered from the 1st RA Bill of the agency for his total stretch. However the contractor has to carry out the detail survey as per drawing for the execution of the work at his own cost as per his requirement.
- 22.0 Contractor shall provide furnished site office, transit camp at site, one no inspection vehicle (including fuel & driver) etc. as **per Clause no. 16 of Special Terms and Condition** exclusively for the inspection of the job by Zonal Manager/Engineer-in-charge and other staff of NPCC since inception to completion of the contract including defects liability period. Agency will not be paid any extra cost towards the same. However if the agency will not provide the same facilities to NPCC, recovery shall be made from the bills of the Contractor as per relevant tender clauses.

ZONAL MANAGER,
NPCC LIMITED,
IBBW, SILCHAR

ACCEPTANCE LETTER

TO BE ENCLOSED IN ENVELOPE – 1

The Zonal Manager,
NER(IBBW), NPCC Ltd.,
H.No.2, IInd Floor,
Apanjan Pally, Sonai Road,
Silchar – 788 006 (Assam)

Sir,

ACCEPTANCE OF NPCC's TENDER CONDITIONS

1. The tender documents for the work “CONSTRUCTION OF BORDER FENCING ALONG INDO-BANGLADESH BORDER IN THE STATE OF TRIPURA for Package No. _____ from BP No..... To” have been sold to me/us by National Projects Construction Corporation Limited and I/We hereby certified that I/We have inspected and read the entire terms and conditions of the Tender Document made available to me/us in the Office of Zonal Manager, NER(IBBW), NPCC Ltd., SILCHAR which shall form part of the contract agreement and I/We shall abide by the conditions/clauses contained therein.
2. I/We hereby unconditionally accept the tender conditions of the NPCC's Tender Documents in its entirety for the above work.
3. The contents of Para 4 (Four) of Special Conditions of the Tender documents 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)/condition(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.
4. The required earnest money for this work is enclosed herewith.
5. 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 : _____

**NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED
(A Govt. of India Enterprise)**

FORM OF TENDER

To,
Zonal Manager,
NER (IBBW)
NPCC Ltd,
Silchar (Assam)

1. I / We hereby tender for execution of CONSTRUCTION OF BORDER FENCING ALONG INDO-BANGLADESH BORDER IN THE STATE OF TRIPURA 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. Drawing time schedule of completion of jobs and other documents and papers, all as in tender documents.
2. 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."
3. I/we agree to pay the earnest Money, ISD, Security Deposit and accept the terms and condition as laid down in the memorandum below in this respect.

MEMORANDUM

- | | |
|--------------------------------|--|
| i) General Description of work | CONSTRUCTION OF BORDER FENCING ALONG INDO-BANGLADESH BORDER IN THE STATE OF TRIPURA |
| ii) Earnest Money Deposit | As mentioned in the NIT. |
| iii) Initial Security Deposit | 5%(Five) of contract value within 15 days after issue of LOI including EMD. |
| iv) Estimated Cost | As mentioned in the NIT. |
| v) Security Deposit | To be deducted @ 5% of gross value of each RA bill and will be restricted up to 10% of the executed value including ISD. |
| vi) Time allowed for starting | The date of start of contract shall be reckoned from 10th day after the date of issue of acceptance of letter. |

- vii) Time for completion of work Total work to be completed in accordance with the time schedule of completion of work in the tender documents.
- viii) Location of the work:- As mentioned in the NIT.
4. 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.
5. If I/We fail to commence the work within 10 days of the date of issue of LOI or I/We fail to submit 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 as specified above 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 bank guarantee as contained elsewhere in the tender documents.
6. I/We are also enclosing herewith the Acceptance letter on the prescribed proforma as referred to in condition of NIT.

Dated the _____ day of _____

SIGNATURE OF TENDERER

NAME IN CAPITAL LETTERS _____

ADDRESS _____

SEAL OF TENDERER

WITNESS

OCCUPATION. _____

GENERAL CONDITIONS OF CONTRACT

1.0 GENERAL

The contract means the documents forming the tender and acceptance and thereof and the formal agreement executed between the competent authority 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 /Zonal Manager and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.

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

1.2 EXECUTIVE AGENCY

Executive Agency means M/s N P C C Ltd. (A Govt. of India Enterprise) referred as NPCC who has been retained as agent by Ministry of Home Affairs (Govt. of India) for "CONSTRUCTION OF BORDER FENCING ALONG INDO-BANGLADESH BORDER IN THE STATE OF TRIPURA".

- 1.3 National Projects Construction Corporation Ltd. Herein after called NPCC propose to complete the CONSTRUCTION OF BORDER FENCING ALONG INDO-BANGLADESH BORDER IN THE STATE OF TRIPURA".

The work will be executed as per drawings "GOOD FOR CONSTRUCTION" to be released by NPCC

1.4 OTHER DEFINITIONS

- a) ENGINEER-IN-CHARGE/ZONAL MANAGER means the Engineer heading the Zone having Indo-Bangladesh Border Works.
- b) SITE-IN-CHARGE means the Engineer of NPCC who shall supervise and be in-charge of the work from time to time.
- c) 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.
- d) CONTRACTOR The contractor shall mean the individual firm or company whether in corporate or not undertaking the works and shall include the legal personal representative or 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.
- e) DRAWINGS mean the drawings referred to in the specifications and any modifications of such drawings or such other drawings as may from time to time be furnished or approved by NPCC.

- f) 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.
- g) APPROVAL means approved in writing including subsequent written confirmation of previous verbal approval.
- h) WRITING means any manuscript typed written or printed statement under or over signature and / or seal as the case may be.
- i) MONTH means English Calendar month 'Day' means a Calendar day or 24 Hrs. each.
- j) CONTRACT VALUE means the sum for which the tender is accepted as per the letter of intent.
- k) LANGUAGE All documents and correspondence in respect of this contract shall be in English Language.
- l) BILL OF QUANTITIES OR SCHEDULE OF QUANTITIES means the priced and completed Bill of Quantities or Schedule of Quantities forming part of the tender.
- m) 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".
- n) The headings in the clauses/ conditions of tender documents is for convenience only and shall not be used for interpretation of the clause / condition.
- o) Words imparting the singular only also include the final and vice versa where the context requires.

2.0 **INTRODUCTION TO WORK SITE**

- 2.1 The proposed site for fencing falls on Indo-Bangladesh International Border at different locations of Tripura. Contractor is advised to inspect the site and its surrounding thoroughly and satisfy himself before submitting tender as to the nature of the ground and the means of access to the site, the facilities available at site etc. In general contractor shall themselves obtain all required information as to the risks, contingencies & Pre-verify conditions in the area & all other circumstances which, according to them, may influence or affect the rates.

The tenderer shall be deemed to have visited the site and made themselves familiar with the working conditions and to have the knowledge of the site. Whether he actually inspect it or not NPCC shall not be liable for any extra charge/ claim consequent upon any misunderstanding or otherwise.

2.2 ACCESS BY ROAD

Contractor if necessary shall build temporary access roads to the actual site of construction for the works 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 to access roads, for the use of the contractor shall in no case condone any delay in the execution of work not be the cause for any claim for compensation.

3.0 SCOPE OF WORK

3.1 The scope of work covered in this tender shall be as per the specifications, drawings issued to the contractor from time to time during the pendency or 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 or indicate the full range of the work under the scope of this contract. The work will be executed according to the drawings to be released as “GOOD FOR CONSTRUCTION” from time to time by the Engineer-in-Charge / Zonal Manager of NPCC and 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. The variation of quantities will be as per General conditions of contract.

4.0 VALIDITY OF TENDER

The tender for the works shall remain open for acceptance for a period of 90(Ninety) days from the date of opening of tenders. The earnest money will be forfeited 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

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.

6.0 SET OF CONTRACT DOCUMENTS:

The following documents will complete a set of tender document.

1. Notice Inviting Tenders and Instructions to Tenderer
2. General Conditions of contract including special conditions of contract and prescribed formats.
3. Schedule of Rates/Bills of Quantities.
4. Technical Specifications (General, Additional & Technical specification)
5. Tender Drawings.

7.0 SIGNING OF AGREEMENT

Contractor shall purchase 4 Nos. agreement paper @ Rs.10,000/- (Rs. Ten Thousand only) i.e. same as cost of tender document, each and shall complete all the formalities and sign the agreement within 15 days of issue of letter of intent. In case, the contractor does not sign the agreement as above or start the work within 10 days of the issue of letter/telegram of intent, his earnest money deposited with NPCC as stipulated herein before is liable to be forfeited and letter of intent consequently will stand withdrawn.

7.1 The agreement shall be executed on non-judicial stamp paper of appropriate value and the cost of the stamp paper shall be borne by the contractor.

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

8.0 MOBILIZATION ADVANCE

No Mobilization Advance will be paid.

9.0 INITIAL SECURITY DEPOSIT:

With in 15 days from issue of LOA / LOI, the tenderer shall submit Initial Security Deposit amounting to 5% of the awarded value of work including Earnest Money already deposited with the tender in the form of Demand Draft in favour of NPCC LTD., payable at Silchar or Bank Guarantee in the prescribed format from any Nationalized/Approved Scheduled Private Sector Bank of equivalent value. The Initial Security Deposit shall be refunded after completion and handing over of work and preparation of final bill.

10.0 SECURITY DEPOSIT :

The security deposit will be deducted from the successful contractor at the rate of 5% from the Gross value of each R/A bills till it reaches 10% of the executed value including ISD. No interest will be paid on the Security Deposit/Initial 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/Approved Scheduled Private Sector Bank as per approved format.

11.0 MOBILIZATION 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 equipments, 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 entirely the Contractor's responsibility 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 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 All designs, drawings, bill of quantities, etc for all works shall be supplied to the contractor for all structures, services and development 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.
- 11.6 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.
- 11.7 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.
- 11.8 Contractor shall have to prepare the shop drawings free of cost if required for any of the items of work. Five copies of these shop drawings each including for revision will be submitted to NPCC for approval. Before executing the item shop drawings should be approved by NPCC.

11.9 UTILIZATION OF WORK FORCE OF NPCC

NPCC may supply workforce in the various category as per requirement of contractor for execution of the work on recoverable basis as per norms of the corporation.

12.0 INCOME TAX DEDUCTION

Income tax deduction 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 contractor shall be responsible for the payment wherever payable at his own cost of all taxes such as excise duty, custom duty, sales tax including the purchase tax, consignment tax, work contract tax, service tax over and above 10% of the contract amount or any other similar tax in the state concerned, turnover tax, toll tax, octroi charges, royalty, cess, levy and other tax or duty which may be specified by local/state/central government from time to time on all materials articles which may be used for this work. The rates quoted by him in the tender in bill of quantities shall be inclusive of all such taxes etc. in position. In case of any new and/ or increase in the aforesaid taxes, duties, levies that may arise during the currency of the contract shall be borne by contractor and shall not be paid to the contractor by NPCC.
- 13.2 The rates quoted by the contractor shall be deemed to be inclusive of all such taxes, and nothing extra shall be payable on this account.
- 13.3 The rate quoted by the contractor shall be deemed to be inclusive of Sales Tax, Turnover Tax on works contract , service tax over and above 10% of the Contract Value, Building & Construction Labour cess or any similar tax as per the Sales Tax Act applicable in the State.

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.

15.0 RATES TO BE FIRM

15.1 The 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 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 contract shall be deemed to have inspected the site, its surrounding and acquainted itself 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, plants, equipments and laws, rules and regulations, if any imposed by the local authorities.

16.0 ESCALATION PAYMENT

As mentioned at Clause No.20.0 in NIT.

17.0 INSURANCE OF WORKS ETC.

Contractor is required to take contractor's all risk policy from an approved insurance company in the joint name with NPCC and bear all costs towards the same 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.
- c. 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.

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 or NPCC arising out of the execution of the works or temporary works.

In case of failure of the contractor to obtain contractor's 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 aforesaid insurance covers are obtained by the contractor.

If the Contractor could not effect a comprehensive insurance cover against risks 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. 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 safely 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 and make compliance with labour laws . If NPCC or Ministry of Water Resources, Government of India, is held liable as "Principal Employer" to pay contributions etc. under legislation of Govt. 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.

24.0 LAW GOVERNING THE CONTRACT

This contract shall be governed by the Indian Laws 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 any 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 National 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 is 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 the adequate number of technical staff {ONE BE (CIVIL) and TWO DIPLOMA in (CIVIL)} for this work depending upon the requirement of work. For this purpose the requirement as decided by NPCC shall be final and binding on contractor.

The technical staff should be available at site, whenever required by NPCC to take instructions.

27.2 In case the contractor fails to employ the technical staff as aforesaid he shall be liable to pay a reasonable amount not exceeding a sum of Rs.25,000 (Rupees Twenty Five Thousand only) for each month of default in the case of each person. The decision of the Engineer-in-Charge / Zonal Manager as to 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 as to the amount and the contractor, s liability to pay the said amount.

28.0 LAND FOR LABOUR HUTS / SITEOFFICE AND STORAGE ACCOMMODATION.

28.1 The contractor shall arrange the land for office, storage accommodation and labour huts at his own cost 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, sanitary condition 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. The vacant possession of the land used, for contractor shall give the purpose back after completion of the work. The security deposit of the contractor shall be released only after contractor demolishes all structures including foundation 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 instruction of local authorities or as per the requirement of the work progress or as may be required by NPCC, he shall comply with such instruction at his cost and risk and no claim whatsoever shall be entertained on this account.

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, light, watchman etc. during the progress of work as directed by Engineer-in-Charge / Zonal Manager.

30.0 HEALTH & SANITARY ARRANGEMANTS

In case of all labour directly or indirectly employed in work for the performance on the contractors 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 WORKMENS COMPENSATION ACT

The contractor shall at all times indemnify NPCC and principal Employer against all claims for compensation under the provision of workmen compensation Act or any other law in force , for any workmen employed by the 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 provision 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 / Zonal Manager of NPCC a true statement showing in respect of the second half of the proceeding month and the first half of the current month, respectively, of the following data.

- 1) The number of the labour employed by him (category-wise)
- 2) The working hours.
- 3) The wages paid to them
- 4) The accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused.
- 5) The number of female workers who have been allowed Maternity Benefits and the amount paid to them.
- 6) Any other information required by Engineer-in-Charge / Zonal Manager.

34.0 CERTIFICATE OF LABOUR OFFICER

Security deposit of the contractor shall not be refunded till the clearance certificate from the labour officer is obtained by the contractor and submitted to NPCC.

35.0 SECURED ADVANCED AGAINST NON-PERISHABLE MATERIALS

Interest free secured advanced against cost of materials (restricted to 70% of the quoted price for that particular item 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 Structural steel, Reinforcement Steel, Concertina Coil, Barbed Wire etc. as per Corporation norms. The advance will be paid only on submission of Bank Guarantee from any Nationalized Bank / Approved Scheduled Private Sector Bank 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 go-down at the site of work for safe storing the materials against any possible damage 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. If required NPCC shall release direct payment to the supplier / manufacturer of the materials on request of agency against submission of BG to NPCC for the same amount.

36.0 MEASUREMENTS OF WORKS

Unless otherwise mentioned in the bill of quantities the measurements of works shall be done as per CPWD specifications and if the same is not given in the CPWD Specifications, the same shall be measured as per latest relevant ISI 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 IS Codes of practice. Before releasing any payments works are to be certified by representative of NPCC regarding quality of the works.

37.0 PAYMENTS

37.1 Contractor each month on or before the date fixed by the Engineer-in-Charge / Zonal Manager for all works executed in previous months shall submit the bill. The contractor shall prepare computerized bills using the program as approved by Engineer-in-Charge / Zonal Manager as per prescribed format/ pro-forma. The Contractor shall submit five numbers of hard copies and one soft copy of floppy/ CD for all bills. The payment due of the contractor shall be made within fifteen days of the submission of bill by the Contractor and getting the measurements verified from the Engineer-in-Charge / Zonal Manager or his subordinate/ representative.

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 not 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 final bill shall be submitted by the contractor 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.

The RA Bills should be accompanied by at-least 20 (twenty) photographs taken from various points depicting status of work as on Report/ Bill date and Monthly Progress Report for the concerned month in the pro-forma to be given / approved by Engineer-in-Charge / Zonal Manager.

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 / Zonal Manager or his representative at least two days in advance and obtain his permission. The Engineer-in-Charge / Zonal Manager 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 / Zonal Manager at no extra cost to NPCC.

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

Since the 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, 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 confirm exactly fully and faithfully to the design, drawings and instructions in writing in respect of the work assigned by the Engineer-in-Charge / Zonal Manager and the contractor shall be furnished free or 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 labour 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 reasonable inferred from the contract. The contractor shall take full responsibility for, 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 direction and subject to approval in all respect of the Engineer –In –Charge/ Zonal Manager of NPCC who shall be entitled to direct at what points or point and in what manner works are to be commenced and executed.

41.2 The Engineer-in-charge/ Zonal Manager and his representative shall communicate or confirm the 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 / Zonal Manager the contractor or his authorized representative shall confirm receipt of such instructions by signing against the relevant orders in the book.

41.3 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, the following shall prevail in order of precedence.

- i) Tele/fax Telegram or letter of intent, detailed letter of Work order along with statement of agreed variations and its enclosures.
- ii) Bill of Quantity /Schedule of Quantities.
- iii) Special conditions of Contract.
- iv) Technical specifications (General; Additional and Technical specification) as given in Tender documents.
- v) General Condition of Contract.
- vi) Drawing
- vii) CPWD specifications updated with correction slips issued up to date of submission.
- viii) Relevant I.S. Codes.

42.0 TIME SCHEDULE & PROGRESS.

- 42.1 Time allowed for carrying out all the works as entered in the tender shall be 18 (Eighteen) months for each package inclusive of monsoon period which shall be reckoned from the 10th day from the date on which the letter/ telegram of intent is issued to the Contractor. Time shall be deemed to be the essence of the contract and contractor shall ensure the completion of the entire work within the stipulated time of completion.
- 42.2 The contractor shall also furnish within 10 days of letter / telegram 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.
- 42.3 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 time schedule is approved by the Engineer-in charge.
- 42.4 During the currency of the work the contractor is expected to adhere to the time schedule on milestones 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 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 variation orders or amendments. The contractor will adhere to the 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.
- 42.5 Contractor shall submit monthly progress reports (5 copies) on a computer based program (program and software to be approved by Engineer-in-Charge / Zonal Manager) lengthening status of various activities and physical completion of work.

42.6 The contractor shall send completion report including maintenance schedule to the office of Engineer-in-Charge / Zonal Manager of NPCC in writing within a period of 30 days of completion of work.

43.0 **WATER AND ELECTRICITY**

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

44.0 **MATERIALS TO BE PROVIDED BY THE CONTRACTOR**

The contractor shall at his own expense and without delay; supply to the Engineer-in-Charge / Zonal Manager 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 requested by the Engineer-in-Charge / Zonal Manager furnish proof, to the satisfaction of the Engineer-in-Charge / Zonal Manager that the materials so comply.

The contractor shall at his risk and costs submit the samples of materials to be tested or analyzed and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer-in-Charge / Zonal Manager 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 is 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 / Zonal Manager 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 / Zonal Manager 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 / Zonal Manager shall also have full power to require other proper materials to be substituted thereof and in case of default, the Engineer-in-Charge / Zonal Manager may cause the same to the supplies and all costs which may require such removal and substitution shall be borne by the contractor.

44.1 **CEMENT AND CEMENT GODOWN**

Cement shall be procured by Contractor of 43 Grade confirming to IS:8112 Specification latest edition. The cement shall be procured directly from the reputed manufacturers/stockist, 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 will bags shall be stored in godowns in easy countable position. Cement bags will be required to be tested at contractors cost, before use in works.

45.0 STEEL & STEEL STOCKYARD

Steel conforming to IS specifications shall be procured by the Contractor directly from prime manufacturer/ stockist preferably from SAIL, TISCO, IISCO which has to be got approved from NPCC in advance.

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 for which he shall provide necessary arrangement at his own cost including ensuring proper drainage of area to prevent water logging as per direction of the Engineer-in-Charge / Zonal Manager. Steel shall also be protected, by applying a coat of neat cement slurry over the bars for which no extra payment shall be made.

Manufacturer 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 / Zonal Manager, before incorporating the materials in the work.

46.0 SCHEDULE OF RATES

46.1 The quantities shown against the various items of work are only approximate quantities which may vary as per the actual requirement at site up to any extent for which no extra claim will be entertained.

46.2 All items of work in the bill of quantities/schedule of quantities shall be carried out as per the CPWD/MOST specifications, drawings and instructions of the Engineer-in-Charge / Zonal Manager 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. No item, which is not covered in the bill of quantities, shall be executed by the Contractor without the approval of the NPCC. In case any Extra/Substituted item is carried out without specific-approval, the same will not be paid.

47.0 ANTI-TERMITE TREATMENT & WATER PROFF TREATMENT

47.1 Pre-construction soil 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 IS : 6313 (Part-II) latest revision. The water proof treatment shall be of type and specifications as given in the schedule of quantities. The anti-termite and waterproof treatment shall be got done through specialized agencies only.

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 maintenance 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 / Zonal Manager 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 / Zonal Manager 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 specification, the contractor will be required to do the pretreatment 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.
- 47.5a The contractor shall make such arrangement as may be necessary to safe guard the workers and residents of the building against any poisons 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 / Zonal Manager by the contractor at his costs and risks.
- 47.7 The contractor shall make his own arrangement for all equipment's 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 / Zonal Manager 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 / Zonal Manager of NPCC depending upon the condition of shuttering surface after each use and the decision of Engineer-in-Charge / Zonal Manager 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.
- i. Concertina Coil, Barbed wire.
 - ii. Cement
 - iii. Steel
 - iv. Primer/ Paints / Varnish etc.

- v. Bitumen
 - vi. Chemical for anti termite treatment
 - vii. Any other materials as per discretion of the NPCC.
- 50.2 The contractor shall submit documentary evidence e.g. challans, bills etc. against the proprietary materials brought to site as a check to ensure that the required quantities as required for execution of works as per specifications have been 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 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 / Zonal Manager that the materials comply with the specifications. These vouchers shall be endorsed, dated and initiated by Engineer-in-Charge / Zonal Manager 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.
- 50.6 When the cost of each category of materials is less than Rs.500/- production of vouchers may not be insisted upon if the NPCC is otherwise satisfied with the quantity of materials.

51.0 RECORDS OF CONSUMPTION OF CEMENT & STEEL

- 51.1 For the purpose of keeping a record of cement and steel 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 duly by the contractor's representative and NPCC's representative. In case agency fails to maintain the record; and NPCC keeps the record for same an amount of Rs.10,000/- per month will be recovered from the agency for keeping Manpower to maintain the same.
- 51.2 The register of cement & steel 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 specifications/ norms the work will be devalued and / or a penal (i.e. double the rate at which cement / steel purchased last) recovery for lesser consumption of cement/ steel shall be made in the item rates of the work done subject to the condition that the tests results fall within the acceptable criteria as per CPWD 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 affected from the contractor's dues at the penal rate as actual quantity is lower than 98% of theoretical consumption.

52.0 MATERIALS AND SAMPLES

- 52.1 All materials, articles, fittings and accessories etc. shall comply with the relevant Indian Standard Specifications and shall bear The ISI mark and wherever specified shall be of approved make. 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 / Zonal Manager of NPCC.
- 52.3 The contractor shall well in advance, produce samples of all materials, articles, fittings, accessories etc. that he purposes 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 / Zonal Manager 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 manufactures 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 / Zonal Manager. This field testing laboratory shall be provided with equipment and facilities to carry out all mandatory field tests as per CPWD/MOST 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.

The contractor shall provide all equipments 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 program as required by the Engineer-in-Charge / Zonal Manager.

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 Engineering-charge / Zonal Manager and shall submit the results of such measurements without delay.

All field tests shall be carried out in the presence of NPCC's representative. In case agency fails to establish a Laboratory an amount of Rs.1,00,000/- will be recovered for establishment of laboratory excluding testing charges.

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, 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 .If the test will be carried out at the laboratory of NPCC, the recoveries for the same will be deducted form the bill of the agency as per norms of corporation.

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) or 3rd party appointed by MHA or an Inspecting Authority of State Govt. of State in which work is executed. The compliance of observations/ improvements as suggested by the inspecting officers of NPCC/CTE/3rd Party/ State authorities shall be obligatory on the part of the contractor.

54.0 TESTING OF MATERIALS

All the tests on materials, as recommended by various relevant Indian Standard Codes or other standard specifications (including all amendments current at the last date of issue 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. This testing will be required in addition to manufacturer test certificate.

55.0 BITUMEN WORK

55.1 The contractor shall collect the total a quantity of tar or bitumen required for the work as per standard formula, before the process of painting started and shall hypothecate to NPCC the Contractor undertakes the responsibility for their proper eat, 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 / Zonal Manager in writing.

55.2 The contractor shall be responsible for rectifying defects noticed within a year from the date of completion of the work and the portion of the security deposit relating to asphaltic work shall be refunded after the expiry of this period

56.0 CARE OF WORKS

From the commencement to the completion of the works handing over to the NPCC and contractor shall take full responsibility for the care thereof and all temporary work sand in case any damage loss or injury shall happen to the works or to any part thereof or to any temporary works due to lack of precaution / negligence on part of contractor, the same shall be made good at his own cost.

57.0 WORK IN MONSOON AND DEWATERING

The execution of the work may entail working in the monsoon also. The contractor must maintain a minimum 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 therefore as specified in the tender to be carried out, the Engineer-in-Charge / Zonal Manager 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 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 fore-closure, 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 curtailment of the work as original contemplated.

59.0 PROHIBITION 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 or the NPCC and such contractor 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 work man as full as if they were the acts, defaults or neglects of the contractor, his agent, servants or work man 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 specialist 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, 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 unauthorized 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 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 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 be at his own expenses rectify such error to the satisfaction of Engineer-in charge. The checking of any setting out 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 / Zonal Manager in order 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 may be uncovered at the contractor's expenses and he shall have to make it good at his own expenses.

64.0 SITE CLEARING

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 hutment etc., clean and grade the site to the entire satisfaction of the Engineer-in-Charge / Zonal Manager. If this is not done NPCC will be done the same 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 rates quoted by the contractor shall be deemed to have include the same

65.0 ARTICLES OF VALUE FOUND

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 / Zonal Manager 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 CONTRACTORS LIABILITIES

NPCC shall have the right to deduct or set off expenses incurred or likely to be incurred b it in rectifying the defects as aforesaid 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 / Zonal Manager. 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 / Zonal Manager shall power to make any alterations in, omissions from, additions to or substitutions for, the original specifications, drawings 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 / Zonal Manager and such alterations, omissions, additions, or substitutions shall not invalidate the contract and any altered, additional or substituted work which the contract 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 / Zonal Manager 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) If 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 class of work as are specified in the contract for the work. The opinion of the Engineer-in-Charge / Zonal Manager 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 from the similar class of work in the contract then such work shall be carried out at the rates entered in Calcutta Schedule of Rates 1994 (**Updated by 195%above for Tripura**) minus/plus the percentage which the tendered amount of scheduled items bears with the estimated amount of schedule items shall be applicable in this clause.
- iv) If the rates for 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 / Zonal Manager shall determine the rate or rates on the basis of prevailing market rates of the material, Labour, T&P etc. plus 10% (Ten percent) to cover the contractors supervision overheads and profit and pay the contractor accordingly. The opinion of the Engineer-in-Charge / Zonal Manager 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 / Zonal Manager, 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 of the plea of non-settlement of rates of items falling under the clause.

- v) Except in case of items relating to earthwork, cross drainage, masonry work and foundations, provisions contained in sub-clause (i) to (iv) above shall not apply to contract or substituted items as individually exceed the percentage set out in the tender documents (referred to herein below as 'deviation limit' which is 25% for this project) subject to the following restrictions.
- a) The deviation limit referred to above is the net effect (algebraically sum) of all additions and deductions ordered.
- b) In no case shall the additions deductions (arithmetical sum) exceed twice the deviation limit.
- c) The deviations ordered on items of any individual trade include in the contract shall not exceed plus/ minus 50 percent of the value of that trade in the contract as a whole or half the deviation limit, whichever is less. In case of items related with earthwork, cross drainage, masonry work and foundation works, the deviation limit should be plus 100% in place of 50% as mentioned above.
- d) The value of additions of items of any individual trade not already included in the contract shall not exceed 20 percent of the deviation limit.

For the purpose of operation of clause 69.1 (vi) the following norms shall be treated as works relating to foundations

- a) For buildings, compound walls, plinth level or, 1.2 meters above ground level whichever is lower excluding items of flooring and D.P.C. but including base concrete below the floors.
- b) For abutments, piers, retaining walls of culverts and bridges, walls of water reservoirs, the bed of floor level.
- c) For retaining walls where floor level is not determined, 1.2 meters above the average ground level or bed level.
- d) For roads all items of excavation and filling including treatment of sub-base and soling work.
- e) For water supply lines, sewer lines, under-ground storm water drains and similar works. All items of work below ground level except items of pipe work masonry work.
- f) For open storm water drains, all items or work except lining of drains.

NOTE:- Individual trade means the trade section to which bill of quantities annexed to the agreement has been divided or in the absence of any such division the individual section of the MOST/ C.P.W.D. Scheduled of rates specified above, such as excavation and earthwork, Concrete, wood work and joinery etc.

The rate of any such work except the items including to foundations which is in excess of the deviation limit shall be determined in accordance with the provisions contained in Clause 69.2

69.2 In the case of contract of substituted items or additional items which result in exceeding the limits laid down in sub-clause (v) of clause 69.1 except the items relating to foundation work, which the contractor is required to do under Clause 69.1 above, the contractor shall within 7 days from the receipt of order, claim revision of the rate supported by proper analysis in respect of such items for quantities in excess of the above limit, not-with-standing the fact that the rates for such items exist in the tender for the main work or can be derived in accordance with the provisions of sub clause (ii) of Clause 69.1 and the Engineer-in-Charge / Zonal Manager may revise their rates, having regard to the prevailing market rate and the contractor shall be paid in accordance with the rates so fixed. The Engineer-in-Charge / Zonal Manager shall however, be at liberty to cancel his order to carry out such increased quantities of work by giving notice in writing to the contractor 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 item falling under this Clause.

All the provisions of the proceeding paragraph shall equally apply to the decrease in the rates of items for quantities in excess of the deviation limit. Not-with-standing the fact that the rates for such items exist in the tender for the main work or can be derived in accordance with the provisions of sub-clause (ii) of the proceeding Clause 69.1 and the Engineer-in-Charge / Zonal Manager may revise such rates having regard to the prevailing market rates.

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

If it shall appear to the Engineer-in-Charge / Zonal Manager or his authorized subordinate in charge of the work or to the Chief Technical Examiner (Govt. of India) or 3rd Party appointed by MHA or to any other inspecting agency of Government / State Government 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 / Zonal Manager 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 / Zonal Manager in his demand aforesaid, then the contractor shall be liable to pay compensation at the rate of one percent on 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 / Zonal Manager 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. 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 writing. The Engineer shall within 7 days of the date of receipt of such notice inspect the works and either the Engineer-in-Charge / Zonal Manager 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 / Zonal Manager shall also notify the contractor or any defect in the works affecting completion.

- 71.2 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 / Zonal Manager 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

The time allowed for carrying out the work as entered in the tender shall be strictly observed by the contractor and shall be deemed to be of the essence of the contract on the part of the contractor and shall be reckoned from the tenth day after the date on which the letter of intent is issued to the contractor . The work shall throughout the stipulated period of the contract be proceeded with all due diligence and the contractor shall pay as compensation an amount equal to two percent or such smaller amount as the Engineer-in-Charge / Zonal Manager, NPCC Ltd, (whose decision in writing shall be final) may decide on the amount of the estimated cost of the whole work remains un-commenced or unfinished after the stipulated dates. 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.

The amount of the compensation may be adjusted or set-off against any sum payable to the contractor under this or any other contract with NPCC.

- 72.1 The Engineer-in-Charge / Zonal Manager may without prejudice to his right against the contractor in respect of any delay, inferior workmanship, or otherwise or to any claims for damage in respect of any breaches of the contract and without prejudice to any right or remedies under any of the provision of this contract or otherwise, and whether the date for 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 / Zonal Manager 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-workman like manner shall omit to comply with the requirements of such notice for a period of seven days thereafter or if the contractor shall delay or suspend the execution of the work so that either in the judgment of the Engineer-in-Charge / Zonal Manager (which shall be final and binding he will be unable to secure completion of the work by the date for completion or he has already failed to complete the work by that date.
- II) If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be appointed or if circumstances shall arise which entitle the court of creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.
- III) If the contractor commits breach of any of the terms and condition of this contract.

IV) If the contractor commits any acts mentioned in Clause 59 hereof.

When the contractor has made himself liable for action under any of the cases aforesaid the Engineer-in-Charge / Zonal Manager on behalf of the NPCC shall have powers:

- a) To determine of rescind the contract as aforesaid (of which termination or rescission notice in writing to the contractor under the hand of the engineer- in –charge/ Zonal Manager shall be conclusive evidence) Upon such determination or rescission the security deposit and performance guarantee of the contractor shall be liable to be forfeited and shall be absolutely at the disposal of NPCC.
- b) To employ labour paid by the NPCC and to supply materials to carry out the price of the materials (of the amount of which cost and price certified by the engineer- in- charge/ Zonal Manager 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 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 NPCC are less than the amount payable to the contractor at his agreement rates, the difference shall not be paid to the contractor.
- c) After giving notice to the contractor to measure up the work of the contractor and to take such part thereof as shall be unexecuted 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 / Zonal Manager 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 this contract or on any other account whatsoever or from his security deposit, performance guarantee or the proceeds of sales there of NPCC are less than the amount payable to the contractor at his agreement rates, the difference shall not be paid to the contractor.

In the event of any one or more of the above courses being adopted by the Engineer-in-Charge / Zonal Manager the contractor shall have no claim to compensation for any loss sustained by him by reason 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 provisions 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 / Zonal Manager 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.

72.2 In any case in which any of the powers conferred upon the Engineer-in-Charge / Zonal Manager by Clause 72.1 hereof, shall have become exercisable and the same shall not be exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercise-able in the event of any further 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 / Zonal Manager 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 / Zonal Manager which shall be final) use as on hire(the amount of the hire money being also in the final determination of the Engineer-in-Charge / Zonal Manager 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 / Zonal Manager whose certificate thereof shall be final otherwise the Engineer-in-Charge / Zonal Manager by notice in writing may order the contractor or his clerk of the works foreman or other authorized agent to remove such tools, plant, materials or stores from the premises (within a time to be specified in such notice); and in the event of the contractor failing to comply with any such requisition the Engineer-in-Charge / Zonal Manager may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and at his risk in all respects and the certificate of the Engineer-in-Charge / Zonal Manager as to the expense of any such removal and the amount of the proceeds and expense of any such sale shall be final and conclusive against the contractor.

72.3 If the contractor shall desire an extension of time for completion of the work on the grounds of his having been unavoidable hindered in its execution or on any other ground he shall apply in writing to the Engineer-in-Charge / Zonal Manager within 30 days of the date of hindrance on account of which he desires such extension as aforesaid and the Zonal in charge NPCC shall, if in his opinion(which shall be final) reasonable grounds be shown therefore, authorize such extension of time if any he may, in his opinion, be necessary or proper. No adjustment of contract price shall be allowed for such extension, except as provided in tender documents.

72.4 **DELAY BY NPCC OR THEIR AUTHORISED AGENTS**

In case the contractor's performance is delayed due to any act or omission on the part of NPCC or his authorized agents, then the Contractor shall be given due extension of time for the completion of work, to the extent such omission on the part of the NPCC has caused delay in the contractor's performing of his work.

No adjustment in contract price shall be allowed for reasons of such delays and extensions granted except as provided in tender document, where in the NPCC reserves the right to seek indulgence of Contractor to maintain the agreed Time Schedule of Completion.

In such an event the Contractor shall be obliged to arrange for working by contractor's personal for additional time beyond stipulated working hours as also on Sundays and holidays and achieve the completion date/interim targets.

73.0 **WITHOLDING AND LIEN OF PAYMENTS**

Whether any claim or claims for payment of money arises out of or under the contract against the contractor, the Engineer-in-Charge / Zonal Manager of the NPCC shall be entitled to withhold and also to have a lien to retain in whole or in part, the security deposit, performance guarantee and or to withhold and have a lien to retain in part or full the payments due to the contractor or any claims of the contractor for any contract with NPCC LTD., so as to cover the claimed amount till the claim arising out of or under the contract is determined by the arbitrator / competent court/ competent authority.

74.0 **DEFECTS LIABILITY PERIOD**

The contractor shall be responsible for the rectification of defects in the work for a period of 12(Twelve) months from the date of handing over of the works to NPCC/BSF/CPWD. Any defects discovered and brought to the notice of the contractor for with shall be attended to and rectified by him at his own cost and expense, In case the contractor fails to carry out these rectification, the same may without prejudice to any other right or remedy available, be got rectified by NPCC at the cost and expenses of the contractor.

75.0 **FORCE MAJURE**

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 or performance is caused by occurrences such as acts of God or the public enemy, expropriation or confirmation of facilities by Govt. authorities, compliance with any order or request of Govt. authorities, acts of war rebellions, sabotage fire, floods, illegal strikes, or riots (otherwise than among the contractors employees). Only extension of time shall be considered for Force Majure conditions as accepted by NPCC. No adjustment in contract price shall be allowed for reasons of force Majure except as provided in tender documents.

76.0 **ARBITRATION**

Both the parties shall make efforts to settle the disputes or differences amicably. If amicable settlement is not possible, the same shall be referred to the sole arbitrator of Chairman & Managing Director of NPCC or the person appointed by CMD, NPCC and the decision of the arbitrator shall be final and binding on both the parties. Arbitration shall be accorded in Indian Arbitration and Conciliation Act, 1996. The Arbitrator shall give the speaking award.

76.1 **JURISDICTION**

The agreement will be executed at Silchar and the Courts in Guwahati alone will have jurisdiction to deal with matters arising there from.

77.0 **SUSPENSION OF WORKS**

- (a) The contractor shall, on receipt of the order in writing of the Engineer-in-Charge / Zonal Manager, suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge / Zonal Manager 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 / Zonal Manager.
- (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, except as provided in tender documents.
 - 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 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 / Zonal Manager shall have the option of terminating the contract without compensation to the contractor.

If the contractor will not execute the work as per the construction programme due to reasons attributable to him, NPCC reserves the right to terminate or reduce his contract at any stage of contract period and got executed the work at the risk and cost of the contractor.

79.0 CLARIFICATION AFTER TENDER SUBMISSION

Tender'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.

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 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 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 suitable Quality Assurance Program to control such activities at the necessary points. The contractor shall prepare and finalize such Quality Assurance Program within 15 days from 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 Program 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 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 entire cost associate with all testing of materials required, as per technical specifications or by Engineer-in-Charge / Zonal Manager shall be included in the Contractor's provision in his quoted rates in the Schedule of quantity.

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 / Zonal Manager.

All the equipment, labour, material including cement, reinforcement and the structural steel required for the enabling/ temporary works associated with the entire contract-

have to be arranged by the contractor only. Nothing extra shall be paid to the Contractor on this account and the unit rates quoted by the Contractor for various items in the Bill of Quantities shall be deemed to include the cost of enabling work.

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 Contractor.

The contractor shall have to attend all the meetings at any place in India at his own cost with NPCC or Consultants of NPCC during the currency of the Contractor, as and when required and fully cooperate with such persona and agencies involved during these discussions.

During the execution of the work, Contractor shall submit at his own cost a detailed Monthly progress report to the Engineer-in-Charge / Zonal Manager of NPCC by 5th of every month.

84.0 CONTRACT AGREEMENT

The Contractor shall enter into a Contract Agreement with the NPCC within 15 days from the date of Letter of intent or within such extended time, as may be granted by the NPCC. The cost of stamp papers, stamps duty, if applicable on the contract shall be borne by the Contractor.

85.0 MANNER OF EXECUTION OF AGREEMENT

- i. The successful contractor shall purchase 4 sets of Document at the same cost of each set as mentioned in the NIT for agreement. The agreement as per prescribed proforma shall be signed at the office of the NPCC within 15 days from the date of issue of Letter of intent. The Contractor shall provide 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 tender conditions shall be 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 three originals will be retained by the NPCC.

86.0 BORROW AREAS

The contractor shall make his own arrangements for borrow pits borrow disposal areas including their approaches and space for movement of man, machinery, other equipment's 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 unit rates quoted by the contractor for various items of bill of quantities shall deemed to include the same.

87.0 RECOVERIES AGAINST TOPOGRAPHICAL SURVEY & CONSULTANCY CHARGES.

NPCC has engaged specialized agency for initial Topographical Survey for the work who will submit the drawing along with reference pillars. Cost towards the same will be recovered from the executing agency @ Rs.78,000/- per KM, if applicable. The cost toward the same will be recovered from the 1st RA Bill of the agency for his total stretch. However the contractor has to carry out the detail survey as per drawing for the execution of the work at his own cost as per his requirement.

However the final alignment of the fencing will be fixed during execution of the work and the contractor has to carry out the detailed survey as per drawing for the execution of the work at his own cost as per his requirement.

88.0 In case agency do not maintain the records of MDD and FDD of the compaction as per guideline of CPWD a recovery at the rate of 5% from the Quantity measured for filling will be done as per CPWD guideline.

89.0 Tenderer can purchase the tender document and participate in the tender proceedings for the same. However the following norms will be followed during finalization and awarding the work as mentioned below :

Tenderer 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 = $AXNX^2-B$, where

'N' = Number of years prescribed for completion of the subject contract.

'A' = Maximum value of works executed in any one year during last five years (at current price level).

'B' = Value at current price level of existing commitment and on going works to be completed in the next 'N' years.

Note: The 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 listed should be submitted.

93.0 **LIST OF APPROVED BANKS**

Nationalized Banks:

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

Scheduled Private Sector banks:

1. Axis Bank Ltd.,
2. HDFC Bank Ltd.,
3. ICICI Bank Ltd.,
4. IDBI Bank Ltd.,
5. ING Vysya Bank Ltd.

LABOUR SAFETY PROVISIONS

- 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 carrying materials as well, suitable foot holds and hand holds shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 ($\frac{1}{4}$ 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 or 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 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 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. ($1\frac{1}{2}$) for ladder up to and including 3m (10 feet) in length. For longer ladders this width should be increased at least $\frac{1}{4}$ " for each additional 30 cm (1 ft.) or 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 (3feet) 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 or sides to collapsing. The excavated materials shall not be placed within 1.5m (5feet) 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, which 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 or 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 / Zonal Manager 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 footwear and protective goggles.
- 8.2 Those engaged in white washing and mixing or stacking of cement bags or any materials which is 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 or boards to prevent accident 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 down stream 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 flame shall be allowed near the block 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 to work 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 (when necessary). 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 face masks 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.
 - 8.6.2 Overalls shall be supplied by the Contractor to the workmen and adequate facilities
 - 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 equipment's 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, which 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 / Zonal Manager. As regards Contractor's machines the Contractor shall notify the safe working load of the machine to the Engineer-in-Charge / Zonal Manager whenever he brings any machinery to site of work and get verified by the Engineer-in-Charge / Zonal Manager.

- 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 scaffold, 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 the 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 on 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 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 which the contract work is in progress.

3.0 FIRST-AID FACILITIES

3.1 At every work place first aid facilities shall be provide 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: -

3.2.1a) 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) 3 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 salvolatile having the does and mode of administration indicated on the label.
- vii) 1 snake-bite lancet.
- viii) 1 (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 Advise 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 burn 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 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 has 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 bore-hole 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" For Women only" as the case may be

(b) The notice shall also bear the figure of man or of a 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 incineration. 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 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 / Zonal Manager 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 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, 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-Charge / Zonal Manager 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 or reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room 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 bed-room
- 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 exceed 50.
- 8.5 The use of the rooms/earmarked as crèches 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, and 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 and adequate supply of hot water shall be provided for the cleaning of utensils and equipment.
- 9.14 The food stuffs 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 food stuffs, 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 Good stuffs, 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 provide for in the canteen.
- 9.17 The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

10.0 **ANTIMALARIAL PRECAUTIONS**

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

11.0 **AMMENDMENTS**

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 out worker, 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 principals employer.

2.2 "Fair Wages" means wages whether for time or piece work 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 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 / Zonal Manager 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 wage period, 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 I 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 deduction 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 / Zonal Manager 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 / Zonal Manager 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 / Zonal Manager as the case may be, a certificate under his signature at the end of the entries in the “Register of Wages” or the “Wages-cum-Muster Roll” as the case may be in the following form.

“Certified that the amount show 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 -

FINES

- a) 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
- b) 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.
- c) Deduction for recovery of advances or for adjustment of over payment of wages, advances granted shall be entered in a register.
- d) Any other deduction, which the Central Government may from time to time allow.

- 5.2 No fines should be imposed on any worker save 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 and 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 there paisa in a 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 person employed” on work on contract in form XIII of the CL (R7A) 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 employment 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 :
- a) Full particulars of the laborers who met with accident.
 - b) Rate of wages
 - c) Sex
 - d) Age
 - e) Nature of accident and cause of accident.
 - f) Time and date of accident.
 - g) Date and time when he/she admitted in Hospital
 - h) Date of discharge from the Hospital
 - i) Period of treatment and result of treatment
 - j) Percentage of loss of earning capacity and disability as assessed by Medical Officer.
 - k) Claim required to be paid under Workmen’s Compensation Act.
 - l) Date of payment of compensation
 - m) Amount paid with details of the person to whom the same was paid
 - n) Authority by whom the compensation was assessed.
 - o) 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 WGE SLIP:**
- 7.1 The contractor should use a 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 which 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 thumb impression of the worker on the wage slip at the time of disbursement of wages and retain the card with him.

8.0 EMPLOYMENT CARD

The contractor shall issue and Employment Card in form to each worker within three days of the employment if 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 Regulation 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 / Zonal Manager, 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

The NPCC may from time 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 Chief concerned shall be final.

Appendix-‘A’

LABOUR BOARD

Name of work

Name of Contractor

Address of Contractor

Name and Address of Unit

Name of Labour enforcement Officer

Address of Labour Enforcement Officer

Date:

Sl.No.	Category	Minimum Fixed	Wage Actual paid	wage	Number present	Remarks
--------	----------	---------------	------------------	------	----------------	---------

Weekly Holiday

Wage Period

Date of Payment of wages

Working hours

Rest interval

FORM 13

See rule 75

Appendix-'B'

REGISTER OF WORKMEN EMPLOYED BY CONTRACTOR

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

Sl.No.	Name and Surname of workmen	Age & sex	Father's Husbands Name	Nature of employment / designation	Permanent home address of the workman(village and Tehsil Taluk and District)	Local address
1.	2.	3.	4.	5.	6.	7.

Date of Commencement Of employment	Signature or thumb impression of the Workman	Date termination of employment	of	Reasons termination	for Remarks
8.	9.	10.	11.	12.	

FORM XVI

Appendix-‘C’

(See Rule 78 (2) (193)

MUSTER ROLL

Name and address of contractor

Name and address of establishment in /number
Which contract is carried on

Nature and location of work

Name and Address of Principal Employer

For the month / fortnight

Sl. No	Name of Workman	the	Sex	Father's/ Husband's Name	Dates	Remarks
1	2		3	4	5	
					1 2 3 4 5	

FROM XVII

Appendix – ‘D’

(See Rule 78(2) (o3)

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

S. No.	Name of Workman	Serial No. in the Register of workman	Designation natureof work done	Nos. of days worked	Units of work done	Daily rate of piece rate	Basic wages/ wages/
1	2	3	4	5	6	7	8

Dearness Allowance	Overtime	Other cash Payments (Nature of payments to be indicated)	Total Deduction if any (indicate nature)	Amt paid (nature)	Net thumb impression of workman	Signature his of the representative	Initial contractor or
9	10	11	12	13	14	15	16

WAGE CARD

Wage Card No.

Name and address of Contractor

Date of Issue

Nature of work with location

Designation

Name of workman

Month/Fortnight

Rate of Wages

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25

26 27 28 29 30 31

Morning

Rate

Evening

Amount

Initial

Received from

the sum of Rs.

on account

of my wages.

Signature

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

FORM XIV

Appendix-'F'

(See Rule 76)

EMPLOYMENT CARD

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. S. Name 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’

From 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

Sl.No.	From	To	Nature of Work	Rate of wages (with remarks particulars of unit in case Of piece work)	
1.	2.	3.	4.	5.	6.

Signature

Appendix – ‘H’**FROM XV**

(See Rule 77)

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

Sl.No.	Name Date Workman offence	of of Father's/Husband's Name	Designation/nature of employment	Act/Omission for which fine imposed	
1.	2.	3.	4.	5.	6.

Whether Workman Showed Cause Against fine	Name of person Remarks in whose fine presence employees explanation was heard	Wage and payable	period wages	Amount fine Imposed	of realized	Date which	on
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LIST OF ACTS AND OMISSIONS FOR WHICH FINES CAN BE IMPOSED

In accordance with rule of Labour Regulation, 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 of property of NPCC
3. Taking or giving bribes or any illegal gratifications
4. Habitual late attendance.
5. Drunk-ness fighting riotous or disorderly or indifferent behavior
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 or 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 with out previous sanction of the employers.
21. Threatening or intimidating any workman or employee during the working hours within the premises.

FORM XX

[See Rule 78 (2) (d)]

REGISTER OF DEDUCTION FOR DAMAGES OF 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

Sl.No.	Name of Workman damage/loss	Father's/Husband's Name	Designation/ nature Employment	Particulars of of	Date of damage of loss
1	2	3	4	5	6

Whether Workman Showed Cause Against Deductions	Name of person Remarks in whose presence employees explanation was heard	Amount of deduction Imposed	Date of recovery		Last
			No. of installment	First insta- llment	
7.	8. 13.	9.	10.	11.	12.

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

Sl.No.	Name of Workman of	Father's/ and Husbands Name	Designation/ nature of employment	Wages and payable	period and wage advance given	Date amount
1.	2.	3.	4.	5.	6.	6.

Purpose / Which advance Made	for Remarks installments which advance is To be paid	No. of by amount or each installment repaid	Date and last installment was repaid	Date on which
7.	8.	9.	10.	11.

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

Sl.No.	Name of Workman overtime	Father's/ Husband's Name	Sex	Designation/ nature employment	Date of which of worked
1.	2.	3	4.	5,	6.

Total overtime Worked or Production in Case of piece Rated	Normal rate of wages	Overtime rate of wages	Over time earning wages paid	Rate on which overtime	Remarks
7.	8.	9.	10.	11.	12

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 give previously

	<u>Extension granted</u>	
	Months	Days
a) first extension vide Engineer-in-charge letter No.....date	Months	Days
b) 2 nd extension vide Engineer-in-charge letter No.....date	Months	Days
c) 3 rd extension vide Engineer-in-charge letter No.....date	Months	Days
d) 4 th 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 Site-in-Charge / Project Manager's office.

SIGNATURE OF CONTRACTOR

DATE

APPLICATION FOR EXTENSION OF TIME

(PART – II)

- 1 Date of receipt of application from Contractor
For the work in the Site-in-Charge / Project Manager's office
- 2 Acknowledgement issued by Site-in-Charge / Project Manager
vide his letter No. the
- 3 Site-in-Charge / Project Manager's 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 Site-in-Charge / Project Manager's 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 SITE-IN-CHARGE / PROJECT MANAGER

APPROVAL OF ZONAL HEAD

PROFORMA FOR EXTENSION OF TIME

P A R T - III

To

NAME

ADDRESS OF THE CONTRACTOR

SUBJECT

Dear Sir (s)

Reference your letter No. _____ date _____ in connection with the grant of extension of time for completion of the work.....

The date of completion for the above mentioned work, isas 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 Clause of the said agreement dated the _____20.....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 NPCC LTD

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

PROFORMA OF BANK GUARANTEE IN LIEU OF EARNEST MONEY

To,
NPCC Ltd.,
NER (IBBW)
Silchar (Assam)

In consideration of NPCC Ltd. having its Registered Office at 30-31 Raja House, Nehru Place, New Delhi-110019 , (herewith called "NPCC") which expression shall unless repugnant to the subject or context. Include its successors and assigns having issued Notice Inviting Tender No.....and

M/S..... having its Registered Head Office at..... (hereinafter called the "TENDERER") is to participate in the said tender for..... Whereas NPCC as a special case, has agree to accept an irrevocable and unconditional Bank Guarantee for an amount of..... to be made by the tenderer, as a condition precedent for participation in the said tender. We the.....(hereinafter called the "BANK")having its Registered, Office at..... And branch office at..... do hereby unconditionally and irrevocably undertake to pay an amount of Rs. to NPCC shall be conclusive and binding on us irrespective of any dispute or differences that may be raised by the tender by the tenderer.

Any change in the constitution of the tenderer or the Bank shall not discharge out liability under the guarantee

We, the.....Bank, lastly undertake not to revoke this guarantee during its currency without the prior consent of NPCC in writing and this guarantee shall remain valid up to..... Unless a claim is made within three months from the date of expiry i.e., we shall be relieved of our liability under this guarantee thereafter.

PLACE,
DATED:

FOR AND ON BEHALF OF BANK

WITNESS.

- 1.
- 2.

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

To,
NPCC Ltd.,
NER (IBBW),
Silchar (Assam)

“NPCC” which expression shall include its successors and assigns /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, theBank, (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 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/undertake 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 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 of 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 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.....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 Govt of India Enterprise)**

PROFORMA OF BANK GUARANTEE

(IN LEU 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 condition of the company and upon the condition of the Supplier/Contractor furnishing Security for the performance the supplier obligations and or discharge of the contractors suppliers liability under and and/or in connection with the said supply contract upto 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 forwith 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 the connection with the said contract inclusive of all the losse, 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 upto and aggregate limit of Rs. (Rupees only) and the Bank hereby agree with the company that.

1. This Guanrantee 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. This 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 relaesing 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/Conractor’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 of 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, increases or other indulgence(s) or arrangement(s) with the supplier / contractor or releasing of 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 or 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 time in consistent 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 the 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, changes 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.....).
7. Unless demand or claim under this Guarantee is made on the Guarantor in writing within three months from 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 onAny claim under this Guarantee must be received by us within three month from the date of expiryi.e.....(date) and if no such claim has been received by us that date all your rights under this Guarantee will cease.

Place

for and on behalf of the Bank

Date

WITNESS

1

2

FORM OF BANK GUARANTEE TO SECURE A LUMP-SUM ADVANCE

(On Non-Judicial Stamp Paper)

To,
NPCC Ltd.,
NER (IBBW)
Silchar (Assam)

In consideration of National Projects Construction Corporation Limited having its head office at 30-31, Raja House, Nehru Place, New Delhi (hereinafter called NPCC which expression shall unless repugnant to the subject or context include its administrators, successors and assigns) having agreed under the terms and conditions of the Contract agreement No. _____ dated _____ made between _____* _____ and NPCC in connection with the work of _____ (hereinafter called "the said Contract") to make at the request of the Contractor a lump-sum advance of Rs. _____ (Rupees _____ only) for utilizing it for the purpose of the Contract on his furnishing a guarantee acceptable to NPCC we, the _____ Bank (hereinafter referred to as "the said Bank") and having our registered office at _____ do here by guarantee the due recovery by NPCC of the said advance with interest thereon as provided according to the terms and conditions of the Contract. If the said Contractor fails to utilize the said advance for the purpose of the Contract and/ or the said advance together with interest thereon as aforesaid is not fully recovered by NPCC we, the _____ Bank hereby unconditionally and irrevocably undertake to pay to NPCC on demand and without demur to the extent of the said sum of Rs. _____ (Rs. _____ only) any claim made by NPCC on us for the loss or damage caused to or suffered by NPCC by reason of not being able to recover in full the said sum of Rs. _____ (Rs. _____ only) with interest as aforesaid.

2. We, the _____ Bank further agreed that NPCC shall be the sole judge of and as to whether the said contractor has not utilized the said advance or any part there of for the purpose of the Contract and the extent of loss or damage caused to or suffered by NPCC on account of the said advance together with interest not being recovered in full and the decision of NPCC that the said Contractor has not utilized the said advance or any part thereof for the purpose of the Contract and as to the amount or amounts loss or damage caused to or suffered by NPCC shall be final and binding on us.

3. We, the said Bank further agree that the Guarantee therein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and till the said advance with interest has been fully recovered and its claims satisfied or discharged and till the Accepting Authority of the Contract certifies that the said advance with interest has been fully recovered from the said Contractor, and accordingly discharges this Guarantee subject, however, that the NPCC shall have no claim under this Guarantee after 90 (ninety) days from the date of completion of the said Contract i.e. _____ (date) or from date of cancellation of the said Contract, as the case may be, unless a notice of the claim under this Guarantee has been served on the Bank before the expiry of the said period in which case the same shall be enforceable against the Bank notwithstanding the fact, that the same is enforced after the expiry of the said period.

4. NPCC shall have the fullest liberty without effecting in any way the liability of the Bank under this Guarantee or indemnify, 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 any of the powers exercisable by it against the said Contractor and either to enforce a forbear from enforcing any of the terms

and conditions governing the said Contract or the advance or securities available to NPCC and the said Bank shall not be released from its liability under this presents be any exercise by NPCC of the liberty with reference to the matters aforesaid or by reason of time being given to the said Contractor or any other forbearance, act or omission on the part of NPCC or any indulgence by NPCC 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 NPCC 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 NPCC may have obtained or obtain from the Contractor 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 NPCC in writing and agree that any change in the Constitution of the said Contractor or the said Bank shall not discharge our liability hereunder.

In presence of:

Dated this _____ day of _____ 200_

WITNESS

1.

For and on behalf of (The Bank)

Signature _____

2.

Name & Designation _____

Authorization No. _____

Name & Place _____

Bank's seal _____

The above Guarantee is accepted by NPCC.

For and on behalf of NPCC

Signature _____

Name & Designation _____

Dated _____

Note

*** For Proprietary Concerns**

Shri _____ son of _____ resident of _____
Carrying on business under the name and style of _____ at _____
(hereinafter called “the said Contractor” which expression shall unless the context requires otherwise include his heirs, executors, administrators and legal representatives).

For partnership Concerns

1. Shri _____ son of _____ resident of _____
2. Shri _____ son of _____ resident of _____ carrying on business in co-partnership under the name and style of _____ at _____ (hereinafter collectively called “the said Contractor” which expression shall unless the context requires otherwise include each of them and their respective heirs, executors, administrators and legal representatives).

For Companies

M/s _____ a company registered under the Companies Act, 1956 and having its registered office at _____ in the state of _____ (Hereinafter called “the said Contractor” which expression shall unless the context requires otherwise include its administrators, successors and assigns).

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

The agreement made this day of Two thousand One and 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 o 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 of 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 fire wood 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 incase of any defect being found render the building water proof to the satisfaction of an Engineer-in-Charge / Zonal Manager 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 / Zonal Manager 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 / Zonal Manager as to the cost, payable by the Guarantor shall be final and binding.

That if the Guarantor fails to execute the water proofing or commits breach there -under, Then the guarantors will indemnify the principle and his successors against all laws damage, cost, expense or otherwise which may be incurred by him 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 of the parties.

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

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.

**SPECIAL CONDITIONS OF CONTRACT (SCC) FOR
“CONSTRUCTION OF BORDER FENCING ALONG INDO-BANGLADESH BORDER
IN THE STATE OF TRIPURA”**

GENERAL

The following special conditions shall be read in conjunction with General 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 take precedence.

- (1) The work in general shall be carried out as per CPWD specification 1996 Vol. I To VI (Civil works)/ 1994 New Delhi for electrical works updated with correction slips issued up to last date of submission of tender.
- (2) For items not covered under CPWD Specification, 1996 Vol. 1 To VI (Civil works)/ CPWD Specification 1994 (Electrical works) as above, the work shall be done as per latest relevant ISI Codes of practice.

1.0 INTRODUCTION

- 1.1 Construction Of Border Fencing Along Indo-Bangladesh Border In the State Of Tripura is being funded by Government of India, Ministry of Home Affairs.

2.0 APPROACHES TO SITE

The proposed site for Fencing falls near Indo-Bangladesh Border under the State of Tripura.

3.0 SCOPE OF WORK

The Scope of work includes Construction of border fencing using M.S angles, Barbed Wire, Concertina Coil, Cement Concrete, Earthwork and Retaining Wall etc. as per design and drawing enclosed with the BOQ.

4.0 LETTER OF UNDERTAKING

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

- 4.1 Any tender not accompanied by Letter of undertaking in accordance with aforesaid provision of notice Inviting Tender and Instruction to Tenderer shall be rejected.
- 4.2 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.
- 4.3 In case the conditions 4.1 & 4.2 mentioned above are 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 consolidated Earnest Money submitted with the tender.

5.0 SITE VISIT AND COLLECTING LOCAL INFORMATION

Before tendering, the tendered 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 me require etc., river regime, river water levels , other details of river, steams & any other relevant information required by them to execute complete scope of work . 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 SALES TAX ON WORKS CONTRACT & TURNOVER TAX

The liability of payment of sales tax on works contract, Turnover Tax, Service Tax over and above 10% of Contract amount, Building & Construction Labour cess or similar any other tax including VAT shall be to the contractor's account and payment of VAT/Works Contract Tax shall be reimbursed by NPCC on submission of documentary proof of payment after assessment of each financial year subject to reimbursement of the same from MHA to NPCC. Tax deductions at source shall be made as per laws prevalent in the state. The agency has to submit Sales Tax Clearance Certificate for the total works executed under these packages before release of final payment as well as Security Deposit.

It will be incumbent upon the contractor to obtain a registration certificate as a dealer under the Local Sales Tax Act and the Central Sales Tax Act and the Contractor to NPCC shall furnish necessary evidence to this effect. Sales Tax On the transactions between the Contractor and his Sub -contractor /Vendors etc. shall not be reimbursed by NPCC.

7.0 TRANSFER OF BID DOCUMENTS

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

8.0 HANDING OVER OF SITE

The site of the work is located in border area part of which may be in accessible at times and is insurgency prone. The bidder is advice to visit the site and to ascertain by himself the working security logistics and other constraints at site. The contractor shall be responsible of all over ground and under ground structures hindrances and constructions for the site of worker

The contractor should note that area for construction shall be made available in phases as per availability the work is required to be carried out in constrained situations and nothing extra shall be payable to the contractor due to this phasing /complete the entire project within total stipulated time .

The efforts will be made by the NPCC to hand over the site to the contractor expeditiously on availability. However incase of any delay in handing over the site to the contractor due to any force majeure, security, inaccessibility problem, should be clearly understood that The NPCC shall not consider any revision in contract price or any other compensation whatsoever viz. Towards idleness of contractors labour equipment etc due any reason whatsoever and decision of NPCC engineer in charge shall be final and binding on the contractor.

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

10.0 UTILIZATION OF WORK FORCE OF NPCC

As per requirement of Contractor NPCC may supply work force in the following categories to assist the contractor in execution of the work at the fixed recovery rates mentioned against each category:

Attendant/Mechanic/Operator/Helper etc.: - Monthly rate of recovery per persons Rs.12,000/- (Rs. Twelve Thousand only) per month.

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 the works.

In case of any worker proceeding on Earned/Medical leave, NPCC will provide a substitute for deployment to the contractor, failing which no proportionate recovery shall be made.

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.

11.0 ESCALATION PAYMENT / PRICE VARIATION ADJUSTMENT

At present, there will be no escalation on account of any increase in price index in the price of POL's, materials or Labours, imposition of sales tax or enactment of any new law or imposition of levies etc. The matter will be taken up with MHA (GoI) at the time of submission of Revised Estimate; as the rates have been based on cost index of June, 2004 based on CSR'94 with cost index escalation @195% approved for Ambassa Tripura. In case MHA (GoI) agrees to the payment of further cost index escalation, the difference between cost index of June, 2004 and to the extent sanctioned; will be paid to the agency over and above the rate only. No further price escalation shall be applicable even during extended period for completing works. Areas for execution of the work may be handed over to the agencies in phases after completion of Land Acquisition. No extra claim in this regard will be entertained.

- 12.0 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

- 13.0 Price shall be entered against each item in bill of quantities where quantities or LS (lump-sum) has been mention. The cost of item against which the contractor has filled to entire a rate or price shall be deemed to be covered by rates and price of other items in the bill of quantities and no payment shall be made for the quantities executed for items against which rate has not been quoted by contractor. No rate is to be quoted against ITEMS FOR WHICH NO Quantity is given. However the contractor has to quote rate against "LS"(LUMP-SUMP) ITEMS.

- 14.0 The materials products used on the works shall be one of the approved makes/brands out of list of manufacture RS / 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 signal brand / make are mentioned other equivalent makes brands may be considered by the engineer in charge with prior approval .Incase of variance in CPWD/is specification from approved products makes specification the specification of approved products make shall prevail for which nothing shall be paid extra to the contractor.

- 15.0 As soon as possible after the contract is concluded the contractor should submit a time and progress charts and gets it approved by the NPCC. The chart shall be prepared in direct relation to the time stated in the contract documents for completion of items of works. it shall indicate the forecast of the dates of commencement and completion of various trades of section of the work and may be amended as necessary by agreement in the contract documents. To ensure good progress during execution of the work the contractor shall in all cases in which the time allowed for any work exceeds one month (for jobs for which a separate program as above has been agreed upon) has to complete 1/8 of the whole work before 1/4 of the whole time allowed in the contract has elapsed 3 /8 of the work before one half of such time has elapsed and 3/4 of the work before 3/4 of such time has elapsed .The physical before including photographs shall be submitted by the contractor on the prescribed format & The intervals as decided by the Engineer in-charge / Zonal manager .

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

On acceptance of the tender, the contractor at his cost will provide immediately furnished office / transit camp facilities etc. for mobility and communication exclusively for the effective inspection of their work by Engineer-in-Charge / Zonal Manager and other staff of NPCC who will be connected with the project. The details for the same mentioned below for each packages. The contractor shall not be entitled for any extra payment for the same:

Description	Unit	Estimated cost of each packages put to tender (Rs. in Crores)			
		Up-to Rs.1.0 Crore	Rs.1.0 to 5.0 Crores	Rs.5.0 to 10.0 Crores	Rs.10.0 to 20.0 Crores & Above
A) ACCOMMODATION					
Furnished office / transit camp at one or more locations as per direction of Engineer-in-Charge / Zonal Manager with basic amenities like Toilets, Drinking water arrangement lights etc. for NPCC, Engineer & Staff & maintenance of it till Defect liability period.	Sq. ft.	200	400	600	1000

TENDER FOR CONSTRUCTION OF BORDER FENCING IN THE STATE OF TRIPURA

Non compliance of ABOVE (A) clause recovery will be made from Bills.	-	@ Rs. 3000/- per month	@ Rs. 6000/- per month	@ Rs. 9000/- per month	@ Rs. 12000/- per month
FURNITURE					
(i)Office tables (half secretariat)	Nos	2	4	5	7
(ii)Chairs (steel armed)	Nos	4	8	10	14
(iii)Steel Almirah	Nos	1	2	3	4
Non compliance of ABOVE (B) clause recovery will be made from Bills.	-	@ Rs.1000/- per month	@ Rs.1500/- per month	@ Rs.2000/- per month	@ Rs.2500/- per month
C) OFFICE EQUIPMENT					
(i) Fax Machine	No	-	1	1	1
(ii) Computer (Pentium – IV, Office Edition) with minimum 40 GB HDD along with UPS and Latest Version of Software like Auto Cad, MS Project, Windows, MS Office etc.	No	-	$\frac{1}{2}$ (One no for two packages)	1	1
(iii) Laser or any other printer	No	-	$\frac{1}{2}$ (1 no for two packages)	1	1
(iv) Color Television with cable connection / Refrigerator (200Ltr.) or any other gadget of equivalent cost as decided by Engineer-in-Charge / Zonal Manager.	No	-	1	1	1
(v) Aqua Guard (drinking water) or any other gadget of equivalent cost as decided by Engineer-in-Charge / Zonal Manager.	No	-	1	1	1
(vi) Photocopy machine or any other gadget of equivalent cost as decided by Engineer-in-Charge / Zonal Manager.	No	-	-	$\frac{1}{2}$ (1 no for two packages)	1 (min output req. 15copy per min.)
Non compliance of ABOVE (C) clause recovery will be made from Bills.	-	-	@ Rs.3000/- per month	@ Rs.5000/- per month	@ Rs.6000/- per month

D) CONSUMABLES					
All consumables like Stationary, ink etc. shall be provided by contractor till end of defect liability period. Amount to be restricted to:	Rs. per month	1000/-	2000/-	3000/-	7000/-
E) TELEPHONE WITH STD FACILITY					
Monthly expenditure on account of this shall be restricted to	Rs. per month	1000/-	2000/-	3000/-	5000/-
F) VEHICLE (New)					
New Four wheel drive vehicle with fuel & Driver	No.	-	1	1	1
Monthly running shall be restricted to	KM	-	2500	4000	5000
Non compliance of ABOVE (F) clause recovery will be made from Bills.	-	-	@ Rs. 20000/- per month	@ Rs. 25000/- per month	@ Rs. 30000/- per month
The vehicles shall be new. The make and model of vehicle shall be selected by the Engineer-in-Charge / Zonal Manager. The vehicle shall be maintained in good condition.					

All the above facilities shall be provided and maintained properly (including payment of water and electricity bills etc.) by the contractor at site or any other offices related with the execution of the work till completion of the project and handing over the site at his own cost in all respect. The Contractor shall be responsible for watch and ward of vehicles and other facilities etc. In case of theft/damage, the contractor shall immediately replace the same within a maximum period of two days with the vehicle/ facility. However, if the works get delayed due to the reasons not attributable to the agency, expenditure towards Sl. No. (D) & (E) mentioned above will be restricted for the period of initial completion period of contract plus 3(three) months, but Sl. No. (F) i.e. vehicle are to be provided in the extended period of completion also till handing over of the site without any extra cost. In case, the above facilities are not provided by the contractor within ten days of the award of the work NPCC shall arrange the same at risk and cost of the contractor and make the recoveries from the bills proportionately. The decision of the Zonal Manager/Engineer-in-Charge shall be final and bindings on the contractors.

- 17.0 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 / Zonal Manager.
- 18.0 In a mandatory of the contractor provided safely equipment and gadgets to its all workers supervisor and technical staff engaged in the execution of the work while working specifications nos. of this equipment and gadgets shall also be provide to NPCC by the contractor at his won cost for use of NPCC officials and /or workforce.

While working /supervision at site, no staff/ worker shall be allowed to enter the site without these equipments/gadgets

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 these regard. The above norm is to be strictly complied with a site .In case the contractor is found to be deficient in providing safety equipment/ gadgets in opinion of engineer- in – charge / Zonal Manager, the engineer in charge at his opinion can procure the same at the risk & cost of contractor and provide the same for the use of work site and shall make the recoveries from the bills of the contractor for the same. The decision of the engineer -in –charge / Zonal Manager shall be final and binding on contractor in this regard.

- 19.0 The tender shall quote his rates inclusive of turnover tax/ sales tax on works and service tax over and above 10% of the contract amount, Building & Construction Labour Cess. Contract payable to state Government along with other taxes duties levies etc. in conjunction with other terms and conditions. In case the turnover tax sales tax on works contract and execution of works is waived off by the state government. At later stage for this project, the equivalent amount since inception of the project (as per prevailing rate of turnover tax /sales tax on works contract) shall be deducted from the amount payable to the contractor from subsequent RA bills and contract value will be reduced that extend .
- 20.0 The site (S) of the proposed shall be handed over in parts as per approved program in conjunction with pace of actual progress. The work is to be executed in such a manner that the traffic flow on the road (where work is carried out) is not disrupted Traffic diversion 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 on this regard.
- 21.0 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.
- 22.0 The contractor should note that this project falls in the forest area which is governed by Forest conservation Act 1980. The contractor shall be responsible for obtaining all the approvals and to meet the requirements of Forest conservation Act 1980 or any other applicable Act.
- 23.0 i) That the project has been specifically approved by the High Level Empowered committee set up for sanctioning such project in the MHA and intimation of the same has already been sent to the Ministry of Environment and Forest.
- That the state Forest Department will establish forest check posts along the roads wherever required in order to prevent illegal movements of forest produce along with international border.
- iii) The forest staff shall be included in the joint patrolling program by the BSF and other such agencies manning the border in order to protect the forests beyond the fencing point up to international border. For this purpose a Committee should be constituted at the level of Territorial Divisional Forest Officer to plan and monitor the forest protection activities.

The contractor should restrict its working movement of vehicles, manpower execution of works etc within the allowed area and should not damage forestry / trees beyond this allowable strip.

The project has already been approved by the High Level Empowered committee. However, the contractor will be responsible for co-coordinating for other requirements of above mentioned approval and also shall be responsible for payment of any penalty imposed by any authority and/ or aforesaid, if required to be done at the contractor's.

The contractor's rates should include for above provisions and nothing extra beyond the contract price shall be payable in this regard.

24.0 SECURITY

The site of work is located at international border wherein the movement of personnel submitted and may be regulated by security agencies from time to time and contractor should check before quoting for this job, the working hours, restrictions in working and has to organize all the resources so that entire works are completed within stipulated time. For this purpose, nothing extra shall be paid and agency shall have no claim on NPCC or any other DECREMENT due to loss of man hours, extra cost incurred etc. in this regard.

25.0 The contractor shall be responsible for obtaining necessary approvals for acquisition of and arrangement of security, shifting or re-alignment of public utility etc. NPCC will only assist the contractor for obtaining approvals from the concerned authorities. The cost of land payable to the land authorities out of acquisition process as per notification shall not be payable by the contractor and also the cost on security cover if any officially payable to paramilitary forces/ Army are also not payable by the contractor. However, non-payment of land acquisition cost or cost of security cover shall not relieve the contractor from his responsibilities of licensing with these agencies. In case of any delay in land acquisition or provision of security cover, the contractor shall not be entitled for any increase in contract prices or any other compensation, whatsoever, towards idleness of his labour, equipment etc.

26.0 MODE OF PAYMENT

All payments shall be released by NPCC into the bank account (to be intimated by the contractor) against all running bills to be submitted by the contractor and duly checked, passed and vetted by the unit-in-charge/Finance-in-charge and in accordance with clause No.37 of General Condition of Contract. In case of payments by DD (if desired by the contractor), Bank Commission charges/postage charges shall be debited to the account of contractor.

TERMS OF PAYMENT

1. 40% payment rate will be released after supplying & fabrication of the angle 90X90X6mm. & angle 65X65X6mm against providing & fixing relevant security fencing items.
2. 15% payment will be released after erection of the steel angle post against providing & fixing relevant security fencing items.
3. 20% payment will be released against after erection of barbed wire against providing & fixing relevant security fencing items.
4. 10% payment will be released after supplying & erection of spike plates. No payment will be released for supply of spike plates against providing & fixing relevant security fencing items.
5. 10% payment will be released after painting of angle 90X90X6mm and 65X65X6mm, barbed wire against providing & fixing relevant security fencing items.
6. 5% payment will be released after handing over of the fencing to BSF.

SECTION
TECHNICAL SPECIFICATIONS

SPECIFICATIONS

1.0 TECHNICAL SPECIFICATIONS

- 1.01 The technical specifications and mode of measurements for Civil works for items in the bill of quantities pertaining to MES SSR-1996 shall be in accordance with MES, SSR Part I – 1991 & MES SSR Part II – 1996; however, list of Indian Standards enclosed therewith shall stand replaced with the List of Indian Standards enclosed with these specifications at Annexure –I For the items of works in the bill of quantities pertaining to CPWD DSR-2002, the specifications & mode of measurements shall be in accordance with CPWD DSR-2002 and CPWD Specifications 2002 with up to date correction slips. For market rate items in the bill of quantities, the specifications and mode of measurement shall be as per these specifications hereinafter and as per the description of the item in the bill of quantities and as per directions of Engineer.
- 1.02 MES SSR Part-1 & Part-2/CPWD Specifications/IS Codes referred above shall stand modified in accordance with the stipulations/clarifications/modifications given in particular technical specifications hereinafter.
- 1.03 For the items not covered in the MES and CPWD Specifications, the work shall be executed as per latest Indian Standard codes published by BIS (formerly ISI) inclusive of all amendments issued thereto or revision, if any, up to the date of opening of tenders (Technical Bid).
- 1.04 Wherever IS/BIS codes are mentioned the latest codes with up to date amendments/revisions shall be used.
- 1.05 In the event of any discrepancy in the description of item as given in the bill of quantities or these specifications and the specifications relating to the relevant item as per MES specifications/CPWD Specifications/Indian Standards mentioned above or drawings, the former shall prevail.
- 1.06 In case of items not covered by MES/CPWD/BIS codes/ specifications, the decision of the Engineer based on sound engineering practice shall be final and binding on the contractor.

- 1.07 The drawings attached with the Bid documents are for the purpose of Bid only, giving the bidder a general idea of the nature and extent of the works to be executed. The rates quoted by the bidders shall be deemed to be for the execution of works in accordance with the Construction Drawings to be supplied to the Contractor during execution of the works. The work shall be carried out in accordance with the architectural drawings and structural drawings supplied to the contractor for construction. These structural and architectural drawings shall have to be properly co related by the contractor before executing the work. In case of any difference noticed between architectural and structural drawing, the contractor shall obtain final decision of the Engineer in writing. For the items where so required, samples shall be prepared before starting the particular items of work for prior approval of the Engineer and nothing extra shall be payable on this account.
- 1.08 In respect of works of the sub agencies deployed for doing the work of electrification, external services, other building works, horticulture work, etc for this project and any other agencies simultaneously executing other works, the contractor shall provide necessary coordination facilities for same. The contractor shall leave such necessary holes, openings, etc for laying/burying in the work pipes, cables, conduits, clamps, boxes and hooks for fan clamps, etc as may be required for electric, sanitary, firefighting, telephone, CCTV system, etc and nothing extra shall be paid for the same.

2.0 PARTICULAR TECHNICAL SPECIFICATIONS

CIVIL WORKS

2.01 General

- 2.01.1 All materials to be used in the works shall bear I.S. Certification marks unless specific make(s)/brands not having IS certification marks is/are particularly specified in the description of item(s) or General Conditions of Contract/Conditions of Particular Application or specifications appended with Bid document or these specifications. In case IS marked materials mentioned in the Bid documents are not used due to non availability, the materials used shall confirm to IS code or MES specifications/CPWD Specifications as applicable in this contract. In such cases, the Engineer shall satisfy himself about the quality of such materials and give his approval in writing. Only articles classified as First Quality by the manufacturer shall be used unless otherwise specified.

2.01.2 Only materials of approved brand/make/manufacturers as per the list enclosed as **Annexure-II** or as specified elsewhere in these specifications /bill of quantities shall be used on the work. Samples of three makes/brands/manufacturers for each material shall be submitted by the contractor to the Engineer for approval well before the requirement of actual procurement and only the material as per sample approved by the Engineer shall be procured for use on the work.

2.01.3 All materials not having IS mark shall be tested as per provision of the mandatory tests in MES specifications/CPWD Specifications and relevant IS Codes. The Engineer may relax the condition regarding testing if the quantity of materials required is small. For the products bearing IS certification mark, no further testing would generally be required at site but Engineer may also get samples of IS marked materials tested at site as per the provision of the mandatory tests. For all materials with IS mark, proper challan/proof of procurement of materials from authentic manufacturers/suppliers shall be provided by the Contractor to the satisfaction of Engineer.

2.02 CEMENT:

Cement used shall be Ordinary Portland Cement 43 grade conforming to IS: 8112 or 33 grade conforming to IS: 269. Contractor shall procure the cement in the quantities required for the project from the approved factories as the work proceeds at site. The Contractor shall maintain daily record of cement received and consumed at site in a form approved by the Engineer.

2.03 COARSE AGGREGATE:

Only crushed or broken stone conforming to IS 383 Shall Be used as coarse aggregate.

2.04 BRICKS:

Unless otherwise specified elsewhere, only bricks of class designation 75(compressive strength 75 Kg per square cm) conforming to MES SSR-1996/relevant IS specifications shall be used for all items of brickwork.

2.05 SCAFFOLDING:

Scaffolding consisting of hardwood ballies and necessary battens and planks or preferably steel scaffolding shall be used and shall be checked by the Contractor his authorized Engineer for their strength and fitness,

and tied up properly. All scaffolding shall be erected so as to be independent of the building work having two sets of vertical supports. Holes shall not be made in the walls for supporting the scaffolding. Planks shall be fixed and tied together. In case of finishing work such as plastering, painting and distempering, no part of the scaffolding should touch the structure. Where ladders are used, gunny bags shall be tied up at the end to protect any damage to work by sliding or tipping. In case of ceiling plaster stage scaffolding shall be provided. This shall be independent of the walls.

2.06 WOOD WORK:

Only sesham timber shall be used for all joinery work and the best kind available, perfectly dry, well seasoned, free from the sapwood, wound, straight, free from knots, cracks, shakes and other defects and any appearance of rot.

2.07 GLASS:

The thickness shall be 4.0mm up to 0.55-sqm sizes and for larger sizes it shall be 5.5 mm unless other wise specified in the specifications.

3.0 ITEMS OF WORK

3.01 General

3.01.1 Unless otherwise specified in the bill of quantities the rates for all items of work shall be considered as inclusive of pumping out or bailing of water if required for which no extra payment will be made. This will include water encountered from any source such as rains, floods, high subsoil water table or any other cause whatsoever.

3.01.2 Cost of any cement slurry required to be added over the base surface (or) for continuation of concreting for bond etc as per sound engineering practice is deemed to be included in the rates of the relevant item(s) and unless otherwise explicitly stated, nothing extra shall be payable or extra cement considered with consumption on this account. The rate for all the items in which the use of cement is involved is inclusive of all costs incurred for curing as per relevant specifications.

3.01.3 The rates of all items of works shall be for all heights, lifts, leads and depths of the building except where otherwise specified in the item of work or in the special conditions appended with the Contract Documents.

3.01.4 The rates for plastering work shall include for making drip course, grooves, bands etc wherever required and nothing extra shall be paid on this account.

3.01.5 The rates for all the items of brick work/concrete work shall be deemed to include making openings, cut, leave or form holes, recesses, chases etc and making good with cement sand mortar (1:3)/PCC (1:3:6) as per requirement /drawings/ directions of the Engineer and no extra payment shall be made to the Contractor on this account.

3.02 Anti-termite treatment to foundations and ground floor

The work of Anti-termite treatment shall be carried out as per IS 6313(Part-II) and in accordance with provision of para 3.2.6 of MES SSR – 1991 Part-I with the modification that only CHLOROPYRIFOS Emulsifiable concentrate confirming to IS-8944 with concentration by volume of 1.0% for soil treatment and 0.5% for mound treatment shall be used instead of the chemicals mentioned there in.

The contractor shall obtain approval of the Engineer for the chemical he proposes to use in the work. A record of chemicals obtained in sealed containers shall be maintained in the measurement book duly signed by Engineer and the contractor.

The work of Anti-termite treatment shall be got executed by the contractor through an approved agency (as approved by Engineer) who is a member of IPCA holding valid licence as per clause 12 of insecticides Act 1968 and persons employed to do the Anti-termite treatment shall be qualified as per Rule 10 of the rules framed under insecticides Rule 1991.

In following accommodation, anti termite treatment will not be carried out

- (i) Garages, repair bays, apron/hard standing, ramps, inspection pits etc.
- (ii) Sentry boxes
- (iii) RCC reservoirs / OHT

In order to facilitate the watch of satisfactory fulfillment of guarantee, the following information will be inscribed on each building on a plate of approved size prepared by plastering the brick surface with 15mm thick in cement and sand mortar (1:4) at such a place and in such a manner as approved by Engineer Date

of expiry of guarantee shall be computed from the physical date of completion of the buildings as certified by the Engineer.

Antitermite treatment carried out during _____
[Month & Year]

Chemical used _____

Agency who executed the work _____

Guarantee expires on _____

3.03 Concrete Work/RCC Work.

All RCC work shall be with machine batched, machine mixed and machine vibrated M-25 Grade Design Mix Concrete including admixture in recommended proportions to accelerate, retard setting of concrete, improving workability without impairing strength and durability as may be required and as per direction of Engineer. Payment for M-25 Grade Design Mix Concrete shall be made at the rates quoted for MES SSR-96 item no. 174 to 180 and 186 under sub-head no.3 –RCC (BOQ item nos 3.1 to 3.8) which is for M-15 Grade Design Mix Concrete plus quoted rate for MES SSR-96 items nos 131 to 134 and 132 to 135 (BOQ item no. 2.1) which is for extra rate for M-20 Design Mix Concrete instead of M-15 Design Mix Concrete plus quoted rates for CPWD DSR item no. 5.44.1 (BOQ item no. 19.11) which is extra rate of M-25 Grade RCC instead of M-20 Grade RCC. Design Mix Specifications shall be as per para 5.8 of CPWD specifications 2002 and IS-456-2000 and other relevant IS codes. Cost of admixtures as required/ as per direction of Engineer as well as all materials, machinery, labour, operations including designing and testing as per relevant specifications/codes/direction of Engineer shall be deemed to be included in the quoted rates and nothing extra shall be payable over and above the quoted rates for any reasons whatsoever.

3.04 Brick Work:

The rate for brickwork for half brick walls includes the cost of providing reinforcement of two nos. 6 mm dia iron bars in every third course.

3.05 Formwork:

Formwork shall substantially and rigidly be constructed of timber or steel or pre-cast concrete or other approved material. However, only steel formwork and shuttering ply shall be used for roof slabs, columns, beams and other important structures. The form work required shall be with proper bracings, props etc. furnished by the Contractor to ensure safety against bulging, deformation or sagging due to the load of wet concrete or any incidental loads and vibrations. Joints shall be tight enough to prevent any leakage of water. Provisions shall be kept for fixing of anchor bolts, sleeves or any inserts as per drawings or as directed by the Engineer. The form work shall be cleaned of scales, patches of concrete or any foreign material, washed thoroughly and coated with two coats of standard mould oil. If desired by the Engineer, polythene sheets shall be used as liner without any extra charge to achieve smooth finish requiring no subsequent rendering. Re-propping of beams shall not be allowed. The formwork shall be inspected and approved by the Engineer before concreting. The minimum period for stripping of the formwork shall not be less than that given in MES SSR-1991. The Engineer may delay the removal of formwork in which case the Contractor shall not claim extra payment on this account.

3.06 Steel:

3.06.1 **General:-** Following types of steel shall be used in the work :-

(a) **Reinforcement Steel:** High strength deformed steel bars produced by **Thermo Mechanical Treatment Process** (TMT steel bars of grade Fe 415, Fe 500 and Fe 550) meeting all other requirements of IS: 1786.

(b) Structural Steel

- (i) Standard Quality - Conforming to IS: 2062.
- (ii) Ordinary Quality - Conforming to IS: 1977.

(c) **Galvanized Steel Sheets.** (Plains & Corrugated) confirming to IS: 277.

(d) **Fabric Reinforcement for Concrete.** Conforming to IS: 1566

3.06.2 **Procurement:-** All steel required for the work shall be contractor's supply. Following checks shall be carried out before the steel supplied by the contractor is accepted and is approved for incorporation in the works: -

- (a) The Structural Steel and Galvanized Sheets to be supplied by the contractors shall be procured from main manufacturers.

(b) TMT steel

- (i) Steel to be supplied by the contractor shall be procured from either Main producers of steel like SAIL, Rashtriya Ispat Nigam Ltd, IISCO, TISCO or the approved Secondary producers having **Thermax or Tempcore** system of treatment. The documents in support of the purchase of steel shall be submitted by the contractor for verification by the Engineer. The particulars of the manufacturer/ supplier of steel shall be furnished by the contractor for every lot of steel separately. The form given at Appendix'A' will be used for this purpose. List of approved secondary producers is given as **Appendix'C'**.
- (ii) The contractor shall prepare a programme for procurement of steel required for the execution of the work, which shall be submitted for approval by the Engineer within one month of award of contract. The contractor shall place their order for procurement of steel with adequate lead time as per the approved programme. The steel should be purchased from the storage depots of the main producers/ approved secondary producers and not from their authorized agents / dealers as the authorized agents deal with the steel manufactured by more than one manufacturer. The authorized conversion agents of the main producers can supply the steel to the contractors provided the main producers have given such directions in a specific sale / purchase order and they are producing TMT steel using **Thermax / Tempcore** technology.

The difference between "Authorized Conversion Agents" and "Authorized Agent / Dealer" needs to be understood clearly. The purchase of steel when allocated through the "Authorized Conversion Agent" by the main producers will have its quality assured by the main producers. However the steel when purchased by a contractor directly from the "Authorized Conversion Agent" or from "Authorized Dealer / Agent" will not have its quality assured by the Main producers. It is therefore necessary and mandatory to ensure that steel is not purchased by the contractor directly from the "Authorized Conversion Agent" or form "Authorized Dealer / Agent" of the Main / Secondary producers.

3.06.3 Testing of steel: - The manufacturer is to carry out inspections and testing of steel in accordance with the relevance BIS provision. The contractor shall submit the manufacturers test Certificate in original along with the Test Sheet giving the results of each mechanical test as applicable and the chemical composition of steel or authenticated copy thereof, duly signed by the manufacturer with each consignment. The Engineer shall record these details in Steel Acceptance Register, as given at **Appendix "B"** after due verification. The Engineer/owners representative shall also organize independent testing of random samples of steel drawn from various lots from a National Test House, SEMT CME, regional Research Labs, Government approved Labs, Zonal Labs, etc as per the recommended minimum frequency shown in Table at **Appendix 'B'**. In order to undertake Departmental testing, requisite facilities shall be organized by the contractor. The cost of samples and cost of testing shall be borne by the contractor. In addition to above tests, the TMT steel received from secondary producers will be tested by Engineer / owner's representative in person, before incorporation in the works, by simple field tests and records shall be maintained. Engineer / Owner's representative will carry out random checks where he has not tested the steel himself and its record would be maintained in the steel test register. Simple field test involves sand papering the X-Section of the TMT bar and dipping the same in chemical solution to give a clearly defined annular ring of tempered steel. The contractor at his cost shall arrange facilities for such tests. All these tests are mandatory.

3.06.4 Documentation: - The contractor shall submit original vouchers from the manufacturer for the total quantity of steel supplied under each consignment to be incorporated in the work. All consignment received at the work site shall be inspected by the Engineer along with the relevant documents before acceptance. The original vouchers and Test Certificates shall be defaced by the Engineer and kept on record in the site office of the Engineer and owner's representative duly authenticated and with cross reference to the control number recorded in the Steel Acceptance Register. The Steel Acceptance Register will be signed by Engineer & owner's representative and contractor. The Engineer and Station Commander may order a Board of Officer for random check of steel and verification of connected document. The entire quantity of all steel items shall also be suitably recorded in the Measurement Book for record purposes as not to be abstracted, before incorporation in the work and shall be signed by the Engineer's representative and the contractor.

3.06.5 Steel in coils etc.

Any bar of any dia for reinforcement may be procured in round bundles or coils and the cost of straightening the same shall be borne by the contractor. When bars are procured in bundles, the length of each bundle shall be worked out on the basis of unit weight predetermined by the Engineer by getting suitable length (not less than 3 meters) out of each consignments received getting it straightened, length measured and weighed in presence of contractor's accredited representative. The said length and the weight shall be recorded from which unit weight (weight per unit length) shall be calculated. The length of bars worked out on the basis of unit weight determined as above shall form the basis for the purpose of calculating quantity of steel used/ to be used in work and making payment of materials lying at site. However if the unit weight works out more than the unit weight given in MES SSR, then unit weight given in MES SSR shall be followed for computing weight of steel for the purpose of making payment in BOQ as well as for payment of steel lying at site.

3.06.6 Bar Bending Schedule.

Contractor shall prepare bar bending schedules for prior approval of the Engineer. However, the approval does not relieve the contractor from his liability for bending, placing and binding reinforcements as per the approved drawings.

3.06.7 Storage, accounting, preservation and maintenance of steel by the Contractor till consumed in the work.

3.06.8 Schedule of supply.

3.06.9 Procedure for making payments for steel including measurements, conversion weight etc.

3.07 HOLD FASTS

Holdfasts for doors shall be as shown in the drawings. Holdfasts for doors irrespective of what is shown in the drawings shall be embedded in PCC 1:2:4 (Type B-1) block built in brickwork. The size of the blocks for wall one brick thick and over shall be 23cm x 23cm x 15cm lugs, of steel windows shall also be embedded in PCC 1:2:4 (type B-1) block of size as specified above for holdfasts. The size of holdfasts shall be as indicated in the drawings. However Engineer may allow to use adequate number of approved DASH TRUE fasteners bolts in case of steel windows/doors to be fixed with RCC columns where not shown on drawings without any price adjustment. The section of steel shall be F! 25x3mm for holdfasts unless otherwise shown on drawings.

3.08 GRILLS/GUARD BARS

Grills/guard bars shall be provided to all windows/vents as per details shown on drawings. All steelwork shall be painted with 2 coats of synthetic enamel paint over a coat of red oxide primer. However irrespective of what is shown on drawings guard bars/grills shall be directly welded to the window frames.

3.09 STEEL WINDOWS/VENTILATORS

3.09.1 Samples

Samples of Steel Windows/ventilators with ISI mark shall be procured from at least three manufacturers approved by Engineer – in – Chief Branch, Kashmir House, New Delhi along with their proof of approval and shall be submitted sufficiently in advance so that the sample of one of the manufacturers can be approved by the Engineer.

3.09.2 Procurement

Steel windows/ventilators shall be procured only from the firm of which the samples have been approved by the Engineer.

3.10 PRESSED STEEL DOOR FRAMES

3.10.1 Samples

Samples of Pressed steel door frames with ISI mark shall be procured from at least three manufacturers approved by Engineer-in-Chief Branch, Kashmir House, New Delhi along with their proof of approval and shall be submitted sufficiently in advance so that the sample of one of the manufacturers can be approved by the Engineer.

3.10.2 Procurement

Steel windows/ventilators shall be procured only from the firm of which the samples have been approved by the Engineer.

3.10.3 Detailed Description

The detailed description of the item no 1255 of MES SSR96 in the bill of quantities is given below and the rate shall be deemed to include cost of all materials and labour etc required for executing the work accordingly including the cost of filling the hollow with cement concrete, MS angle threshold, primer, anticorrosive paint etc:

Pressed steel door frames manufactured from commercial M.S. sheet of 1.25 mm (18 gauge) thickness conforming to IS 513-1994 including cost of M.S. oxidized butt hinges conforming to I.S. 1341-1992 suitably

screwed, flush with the rebate, to the frame along with strengthening M.S. plate of 3.5 mm thickness welded to the frame covered with machine pressed mortar guard, base ties of MS angle size 35x35 x 3 mm as per fig. (3) of I.S. 4351-2003 welded suitably to the frame with necessary holes/sockets/sleeves and arrangements for receiving fittings such as sliding bolt, mortice lock, latch, tower bolts etc. including 25 mm x 3.5 mm size M.S. flat lugs of suitable length and shape as per drawing suitably welded to the frame and embedded in cement concrete blocks in C.C. 1:3:6 (1 cement : 3 coarse and : 6 stone grit 10 mm nominal size) of size 150 x 100 x 100 mm or with 25 x 3.5 mm lugs of suitable shape as required at site fixed with metallic rawl plugs and bolts or with fixing clips or with bolts and nuts with necessary arrangements as required, including pre-treatment of surface, all welded joints to be grinded smooth and filling inside hollow portion of the frame with C.C. 1:3:6 (1 cement :3 coarse sand : 6 stone grit 10 mm nominal size), adequate shock absorbers in the rebate and lock strike plate, applying a coat of red oxide zinc chromate primer of approved make and as per IS : 4351-2003 specifications and also including two coats of anti corrosive bitumastic paint of approved quality on all unexposed surfaces against brick work/concrete work/RCC work.

3.11 Kota stone flooring

The average thickness of the bedding mortar under the slab shall be 20mm and the thickness at any place under the slab shall not be less than 12mm and payment for the same shall be made separately under item no 2060&2061 of MES SSR1996

3.12 Painting

3.12.1 All materials viz. Dry distemper, oil bound distemper, oil paint, flat oil paint, synthetic enamel paint, plastic emulsion paint, cement primer, red lead and other primers and metallic paints shall conform to respective I.S. specifications and shall be obtained from approved manufacturers after getting the samples approved by the Engineer. All paints shall be brought on site in sealed tins in ready mixed form and shall be applied direct.

The tint of the paint shall be as described in the schedule of finishes or as approved by Engineer.

3.12.2 The contractor shall use fresh and best quality paint. The contractor shall obtain the permission of Engineer in writing well in advance for the specific makes/brands of paint that he will use in the work by submit samples of at least three makes/brands from the list of approved manufacturers.

The contractor shall, if so required by the Engineer, produce certificate from the manufacturers or their representatives to establish that the brands of paints used by him are of the approval make. Paints shall be brought at the site in manufacture's drums with seal intact. Paints used in priming coat, under coat and finishing coat shall be of the same manufacturer.

3.12.3 The paints shall be applied first using vertical strokes until the surface are covered and then brushed cross wise for complete coverage with light strokes so as to smooth out laps and brush marks and finally laid off with vertical strokes. This constitutes single coating of paint.

3.13 WATER PROOFING TREATMENT TO RCC ROOF/ ACCESSIBLE ROOF & SUNKEN FLOOR

3.13.1 Water proofing treatment shall be provided with Polymeric water proofing membrane on prepared surface as per manufacturer instruction and under strict supervision of manufacturer technical representative.

Polymeric water proofing membrane shall consist of a center core 90-micron thick high-density polyethylene film protected on both sides with a high quality polymeric asphaltic mix. The polymeric asphaltic mix will be protected on both sides with thermo fusible HMHDPE film. The material shall have the following characteristic/properties:-

- (i) Thickness of polyethylene (center core)- 0.090 mm + .010
- (ii) Heat resistance 100oC for 1hour -Does not drip
- (iii) Cold resistance at (-) 5oC -Does not break/crack
- (iv) Tensile strength

Lengthwise	-110 N/5 cm
Cross wise	-100 N/5 cm
- (v) Elongation

Length wise	-> 300%
Cross wise	-> 300%

3.13.2 Application

- i) 10 mm thick plaster in CM 1:4 with WPC when concrete is green.

- ii) The surface of roof, parapet and gutter, drain mouths, etc. over which waterproofing treatment is to be applied shall be cleaned of all foreign matter such as, fungus, moss, dust etc. by wire brushing and dusting. For cast iron drain out lets a groove shall be cut around to tuck in the treatment. Concrete angle-fillets shall be provided as junctions between roofs and vertical faces of walls (parapet and other walls), around obstacles such as pipes, chimneystacks, etc. and other similar situation to ease up about corners.
- iii) Primer conforming to IS: 3384-1986 @ 0.5 Kg/sqm to be applied on prepared surface, till the surface is properly impregnated.
- iv) Hot blown grade 85/25 bitumen as per IS: 702-1988 @ 1.2 Kg/sqm will be applied over primer.
- v) Laying of polymeric water proofing membrane and bonded completely to the substrate & the overlaps are then scaled/fused by flame as per manufacture instruction and laying procedure are as under :-
 - (a) The membrane shall normally be laid in length at right angles to direction of the run-off gradient, commencing at the lowest level and working up to the crest. The membrane shall be first cut to required lengths, brushed clean of dusting material and laid out flat on the roof. Each length of membrane prepared for laying shall be laid in position and rolled up for a distance of half of its length. The hot binding material shall be laid on to the roofs across the full width of the rolled membrane as the later is steadily rolled out and pressed. The excess bonding squeezed out at the ends shall be removed as laying proceeds.
 - (b) When the first half of the membrane has been bonded to the roof, the other half shall be rolled up and then unrolled on to the hot bonding material in the same way as per Para (v) an above.
 - (c) The minimum overlaps of 100 mm shall be allowed at the ends and sides of strips polymeric membrane. All overlaps shall be firmly bonded by heating and fusing the layer of asphalt and melting the protective plastic film, but taking care not to over heat this, as too much

heat can harm the central polyethylene core, which is essential for water proofing function.

3.13.3 Overlap fusing methodology

- i) Keep the overlap open with the help of trowel and the direct the flame uniformly inside and towards both membranes. Working the flame in opposite direction to the advance of the applicator.
- ii) When the asphalt starts to flow, the applicator should press both membranes with his foot; on the opposite side to the hand holding the torch until a thin string of fluid asphalt appears, indicating correct fusing and bonding. During this phase, the trowel should be worked with a back and forth, lengthwise motion, to homogenize the bonded area.
- iii) Apply a layer of blown grade bitumen (conforming to IS: 702) 85/25 @ 1.2 Kg/Sqm.
- iv) Blinding material, such as sand in dry condition @ 0.5 to 1.0 Kg/Sqm shall be dusted over the bitumen.
- v) Topping will be done with Bricks tiles 40 mm thick laid over 15 mm thick bedding layer of CM 1:4 and jointed & pointed in CM 1:4. Linseed oil @ 5% by weight of cement shall be mixed in cement mortar for screed and pointing to the brick tiles. After lying the curing shall be with water ponding.
- vi) The rain water pipe outlets (here after referred as drains) can be horizontal or vertical depending on whether they are situated in the floor or in the parapet walls. In either case; the treatment is the same, although the difficulty of application may vary. The correct execution of a drain should include the following steps.
 - (a) Cut a strip of polymeric membrane 25 cm in width and length equal to be perimeter of the drain, adding 10 cm for the overlapping. Flame bonds the part of the strip to be inserted into the drain. i.e. approx. 15 cm.
 - (b) Cut the protruding end of the drain strip vertically upwards, with the aid of a heated trowel, into as many slits as are necessary to then be able to press it downwards and flame bond it to the surrounding roof deck. Then, with the help of the trowel and torch, go over the exterior

of the drain to obtain an even spread of the asphalt and fill in the pores.

- (c) Cut a square piece of polymer membrane about 15 cm larger than the diameter of the drain. Flame bonds this square over the drain opening, as centered as possible.
- (d) Then, using the heated trowel cut the part that covers the opening of the drain in to the shape of a star with 8 peaks. Fold the peaks outwards and heat them one by one with the torch and then insert them into the drain. Pressing them down with your fingers to ensure perfect adherence.
- (e) The last step is to go over the inside of the drain, leveling of the surface. The drains shall be at least 15 mm lower than the substrate, so that the extra thickness caused by the various layers of the polymeric membrane does not cause unnecessary ponding of water.

3.13.4 Water proofing treatment to Parapets: In vertical finished with polymeric membrane shall be cut in suitable length and width and should be adhered to the parapets and taking up and over the top of the parapet wall. The lower portion of membrane shall be taken over wall/RCC slab joint and taken up to a length 150 mm horizontally and bonded effectively with polymeric membrane as explained above. The membrane shall be protected with 15 mm thick cement mortar 1:4 plaster and PCC coping at top of the parapet.

3.13.5 Frequency of test - At least one test consists of three-sample specimen at random from each lot. The Polymeric membrane shall be got tested from the test house as mentioned in Appendix –D.

3.13.6 Rates: The rates shall include the cost of all materials and labour involved to complete the work as described above except hot bitumen and brick tiles which will be paid separately under item no. 10.5, 10.3 + 10.4 of BOQ & MES SSR-96 item 1405 & 1399, 1402 respectively. WP treatment Surface area of RCC/brick work in plan shall be measured.

3.14 Water Supply, Sewerage, Drains & Sanitary Plumbing

3.14.1 Statutory Regulations and Approvals:

All sanitary and water supply works shall be carried out only by those Contractors who are licensed by the concerned local authorities to execute this type of work.

It shall be the responsibility of the Contractor to comply with the regulations as laid down by the local authorities. The Contractor shall also be responsible for obtaining all the statutory approvals/certificates for the work from the concerned local authorities, including necessary liaisoning with concerned local authorities at his own cost and these certificates shall be handed over to the Engineer at the completion of the Contract.

It shall also be the responsibility of the Contractor to get the sewerage and water supply connections from the concerned authorities in the name of the Owner for which the Owner/ Employer will bear all the statutory expenditure.

3.14.2 Sewerage and Storm Water Drainage:

3.14.2.1 Alignment and Grading:

The sewers are to be laid to alignment and gradients shown on the drawings but subject to such modifications as shall be ordered by the Engineer from time to time to meet the requirements of the works. No deviations from the lines, depths of cutting or gradients of sewers shown on the plans and sections shall be permitted except by the express direction of the Engineer.

3.14.2.2 Excavation in Tunnels:

The excavation for sewers and works shall be open cutting unless the permission of the Engineer for the ground to be tunneled is obtained. Where sewers have to be constructed along narrow passages, the Engineer may order the excavation to be made partly in open cut and partly in tunnel and in such cases the excavated soil shall be removed at once, so as not to block up the passage and shall be brought back later on for refilling of the trenches or tunnels.

3.14.2.3 Opening out Trenches:

In excavating trenches, etc. the soling, road metalling, pavement, kerbing and turf etc. is to be placed on one side and preserved for reinstatement after filling back the trenches.

Before any road metal is replaced, it shall be carefully shifted. The surface of all trenches and holes shall be restored and maintained to the satisfaction of the Engineer and of the owners of the roads or other

property traversed and the Contractor shall not cut or break any live fence or trees in the line of the proposed works but shall tunnel under them, unless the Engineer shall order to the contrary at no extra cost.

The Contractor shall group up and clear the surface over the trenches and other excavation of all trees, stumps, roots and all other encumbrances affecting execution of the work and shall remove them from the site as approved by the Engineer at no extra cost.

3.14.2.4 Removal of Filth:

All night soil, filth or any other offensive matter met with during the execution of the works, immediately after it is taken out of any trench, sewer or cesspool, shall not be deposited upon the surface or any street or where it is likely to be nuisance or passed into any sewer or drain but shall be at once put into carts and removed to a suitable place to be provided by the Contractor.

3.14.2.5 Refilling:

After the sewer or other work has been laid and proved to be watertight the trench or other excavations shall be refilled. Utmost care shall be taken in doing this, so that no damage shall be caused to the sewer and other permanent work. The filling in the trenches and up to 75 cm above the crown of the sewer shall consist of the finest selected materials placed carefully in 15 cm layers and flooded and consolidated. After this has been laid, the trench and the other excavation shall be filled carefully in 150mm layers with materials taken from the excavation each layer being watered for proper consolidation unless the Engineer shall otherwise direct.

3.14.2.6 Contractor to Restore Settlements and Damages:

The Contractor shall at his own expense, make good promptly during the whole period of the works are in hand, any settlements that may occur in the surfaces of roads, berms, footpaths, gardens, open spaces etc. whether public or private, caused by his trenches or his other excavations and he shall be liable for any accidents caused thereby. He shall also, at his own expense, repair and make good any damage done to buildings and other property. If in the opinion of the Engineer, the Contractor fails to make good such works/property, the Engineer shall be at liberty to get the work done by other means and the expenses thereof shall be paid by the Contractor or deducted from

any money that may be or become due to him or recovered from him in any other manner according to the conditions of the contract.

3.14.2.7 Disposal of Surplus Soil

The Contractor shall at his own expense, provide places for disposal of all surplus materials not required to be used on the works. As soon as each trench is refilled, the surplus soil shall be immediately removed, the surface properly dressed and restored and roadways and sides left clear.

3.14.2.8 Excess Excavation:

If any excavation is carried out at any point or points to a greater width than the specified cross section of the sewer with its envelope the same shall be filled with concrete by the Contractor at his own expenses to the satisfaction of the Engineer.

3.14.2.9 Width of Trenches:

Unless specified otherwise by the Engineer, the width at bottom of trenches for pipes of different diameters laid at different depths shall be as given below:

(a) For all diameters, up to an average depth 120cm, width of trench in cm = diameter of pipe + 30 cm.

(b) For all diameters for depths above 120cm, width of trench in cm = diameter of pipe + 40 cm; and

(c) Notwithstanding (a) and (b), the total width of trench at the top should not be less than 75 cm, for depths exceeding 90 cm.

- 4.0** The aggregate used as per IS – 383 – 1970, Aggregates, crushed Gr uncrushed, derived from natural sources, such as driver Terrance's and river-beds, glacial deposits, rocks, boulders and gravels, for use in the production of concrete for normal structural purposes including Mass concrete work.

5.0 : SPECIFICATIONS OF PAINT:

Application of following primer / Paint in the sequence mentioned below shall be made to the M.S. Angle Iron Posts / Struts except portion embedded in cement concrete which shall have one coat of Alkyd Zinc Phosphate primer. The same treatment shall be given to all the accessories of tightening bolts, U-bolts, nuts, clips, hooks, washer & spike plates etc. by dipping them in the following primer & paint.

- a) First coat Alkyd Zinc Phosphate Primer.
- b) Second coat of Red Oxide Primer.
- c) Third Coat of Synthetic Enamel Grey Paint.
- d) Fourth & Fifth coat of Synthetic Enamel black paint.

Note: (All paint should be of approved Brand & Manufacture).

NATIONAL PROJECTS CONSTRUCTION CORPORATION LTD.

**DETAILS OF MATERIALS TO BE CONSUMED IN BORDER FENCING WORKS
AND TECHNICAL SPECIFICATION OF THE WORK**

1. All the steels are to be purchased from SAIL/TISCO/IISCO.
2. All MS-Angle post will be “Copper Enriched” and the other steel will be as per IS.
3. Approved brand of Cement :- LAFARGE, L&T, AMBUJA, ACC, VALLEY STRONG, CENTURY, RAYMONDS.
4. Concertina Coil & Barbed Wire are to be purchased from DGS&D approved manufacturer and the materials are to be tested from DGS&D Laboratory or their approved laboratory.
5. Specification for concertina coil will be as per CPWD specification which is punched tape concertina coil 1A to CQA, EE, Pune Specification No./IND/ENGG/PRO1245B and controller of quality assurance.
 - i) IMGA – 0112/B (Sheet 1 of 2)
 - ii) IMGA – 0112/B (Sheet 2 of 2)
 - iii) IMGA – 1817/B
 - iv) IMGA – 1820
 - v) IMGA –1821/B
 - vi) IMGA –1822/B
6. Rates of all items mentioned in the BOQ will be including of cost of all materials, machinery, labour, transportation TNP, statutory charges, testing charges, temporary approach to the site etc. all complete.
7. All the concreting for Grouting of the MS Angle post, gate will be with stone aggregate and concreting in pavement will be with Brick aggregate.
8. Painting: -
 - a) All the structural members will be painted with 2 coats primer and three coats synthetic enamel paint of approved brand, colour and manufacturer.
 - b) Barbed Wire, Concertina Coil & other fixture will be dipped two times into anticorrosive bituminous paint.
9. All the works including welding of the angle post are to be executed as per CPWD Specification and drawings. Materials are to be tested as per relevant IS Code from the Govt. /DGS&D approved laboratory at the cost of the contractor.



**NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED
(A GOVT. OF INDIA ENTERPRISE)
NER(IBBW)OFFICE**

**House No.-2, SONAI ROAD, APANJANPALLY
SILCHAR-788006(ASSAM)**

☎-(03842)226995 Tele Fax-(03842)225089

www.npcc.gov.in

**CONSTRUCTION OF BORDER FENCING ALONG
INDO-BANGLADESH BORDER IN THE STATE
OF TRIPURA**

BILL OF QUANTITIES

Package No. – TR-20 to TR-23(R)

NIT NO.: 70064/IBBW/TR/WS/70

DATED: 17/08/2011

ISSUED TO:

**CORPORATE OFFICE
67-68, SECTOR-25
FARIDABAD-121004
HARYANA**

NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED
(A GOVT OF INDIA ENTERPRISE)
Name of Work: Construction of Composite Fencing and Road along Indo-Bangladesh Border in
TRIPURA State
ABSTRACT OF COST
Pkg. No. TR-20 to TR-23(R)
BP. No. 2273 TO 2270
Length -22.70Km.

Sl. No.	Schedule	Description of Work	Amount (Rs.)
1	A	Earthwork for formation (Fencing & IBB Road)	122520791.84
2	B(I)	Composite Fencing with Deeper Foundation	36378308.29
	B(II)	Composite Fencing with Shallow Foundation	99562352.85
3	C	Road along the Fencing (4.5 Mtr. Width)	75171968.00
4	D	Retaining Wall	23644609.20
5	E	Hume Pipe Culvert - 300 dia	2655293.13
6	F	Hume Pipe Culvert - 450 dia	3580121.14
7	G	Hume Pipe Culvert - 900 dia	5350631.24
8		Extra Schedule beyond above Schedule	4406179.00
		TOTAL AMOUNT	373270254.68
OFFER OF THE AGENCY		PERCENTAGE ABOVE / AT PAR /BELOW ON THE ESTIMATED COST OF ALL ABOVE ITEMS i.e. (A) PERCENTAGE IN WORDS.....	
	(B) AMOUNT OF PERCENTAGE	Rs.
		TOTAL AMOUNT IN FIGURE(A+B)	Rs.
		TOTAL AMOUNT IN WORDS (A+B) Rupees.....	

CONTRACTOR

NPCC LTD.

NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED

(A GOVT. OF INDIA ENTERPRISE)

Name of Work: Construction of Composite Fencing along Indo-Bangladesh Border in TRIPURA State

BILL OF QUANTITY OF EARTH WORK

SCHEDULE - A

Pkg. No.

SL.	Particulars	Unit	Qty.	Rate (Rs.)
1	Earthwork in excavation over areas (exceeding 30cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth,for lead upto 100mtr.and lift upto 1.5m, disposed earth to be levelled and neatly dressed etc. All kinds of soil.	Cum	2509595.32	42.77
2	Filling available excavated earh (excluding rock) in trenches plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead upto 50m and lift upto 1.5m.	Cum	506180.00	30.00
SUB-TOTAL				

-

TR-20 to TR-23(R)

Amount (Rs.)
107335391.84
15185400.00
122520791.84

NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED

(A GOVT. OF INDIA ENTERPRISE)

Name of Work: Construction of Composite Fencing along Indo-Bangladesh Border in TRIPURA State

BILL OF QUANTITY OF FENCING WORK

SCHEDULE -B(I)

DEEPER FOUNDATION FOR 5.5Km.

Pkg. No. TR-20 to TR-23(R)

SL.	Particulars	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
1	<p>Providing and fixing security fencing of GI barbed wire consisting of copper enriched MS angle posts of 90x90x6 mm 3000 mm length above ground level (2000 mm vertical and 1000 mm slanting) duly fabricated and welded at bend as per drawing and 1045 mm below ground level placed at 3000mm centre to centre & embedded in cement concrete blocks 600 mm dia. at bottom & 300mm at top, 1295 mm deep placed at 1195 mm below ground level & every 10th posts, end posts & corner posts to be strutted with M.S. angles strut on both sides of size 90x90x6mm & 3440 mm in length (200 mm vertical at top and 3240 mm slanting down) fabricated and welded as per drawing bolted to vertical posts with two nos. 12 mm dia & 50 mm long MS bolts & nuts with washers, struts embedded in cement concrete blocks of 1400x300 mm upto 300 mm height at bottom and slope, towards top of area 300x300 mm of CC block at overall depth of 1295 mm size placed at 1195 mm below ground level as per drawing</p> <p>including providing and fixing galvanised iron barbed wire duly painted by dipping in paint twice with anticorrosive bitumastic paint (IS :158) of approved brand and manufacture in black shade to give a smooth and even surface, size of barbed wire 2.5x2 mm (weight to be not less than 108gm per Metre length) conforming to IS 278-1978 in 20 horizontal rows (13 rows in vertical position and 7 rows in slanting position) to be fixed and stretched with</p> <p>MS hooks/tightening bolts(as per drawing) and properly woven with 4 diagonals (2 in vertical portion and 2 in gooseneck portion) as per drawing of same, GI barbed wire to be fixed to angle iron post in holes with 2.5mm dia. and 100mm long GI staples/clips and providing vertical and diagonal strands of barbed wire properly interwoven with horizontal rows of barbed wire at a spacing of 150 mm upto a height of 7 rows of fencing above ground level, adequately tied at three places in staggered manner with GI wire of not less than 16 gauge as per drawing and providing two sets of spikes each set consisting of 75x6 mm MS flat. 1000 mm long with 13 nos pointed spikes made of 75 mm long 10 mm dia MS rod welded to this MS flat & fixing the same on both the faces of angle iron post in goose neck portion with 3 nos 10 mm dia, 50 mm long MS nuts and bolts with washers and seven holes to clip the Barbed wire in each face as per drawing including applying primer & paint</p> <p>(in five coats as per special condition and specification) as per approved brand and manufacture to give an even shade on all steel work except portion embedded in cement concrete. The foundation concrete blocks of posts and struts shall be of cement concrete 1:3:6 (1 cement 3 coares sand 6 stone aggregate 20 mm nominal size) including excavation</p> <p>in all kinds of soil and the cost of centering & shuttering, back filling of earth in foundation, disposal of surplus earth, including all lead and lifts, jungle clearance etc. complete (for Bangladesh side fencing post and for Indian side fencing post.) in all respect as per drawing technical specifications and direction of Engineer in-charge.</p>	metre	11000	1642.00	18062000.00
3 OF 14					

SL.	Particulars	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
2	<p>Providing and fixing security fencing of GI Barbed wire consisting of MS angle posts 65x65x6 mm 1500 mm length above ground level and 645mm below ground level including providing one number 75 mm long pointed spike made of 12mm dia MS round bar welded to angle iron post at corner for min 25 mm length as per standard drawing MS angle posts placed at 3000 mm centre to centre, embedded in cement concrete blocks 300 mm dia 895mm deep placed at 795 mm below ground level and every 10th post, end posts & corner posts to be strutted with MS angle struts on both sides of size 65x65x6 mm and 2400 mm long (200mm vertical at top and 2200 mm slanting down) fabricaed and welded as per drawing, bolted to vertical posts with 2 nos 12mm dia 50mm long bolts and nuts with washers,</p> <p>struts embedded in cement concrete blocks of size 1000 mm x 300mm up to 300 mm height at bottom and sloped towards top of area 300x300 mm at overall depth of 895mm placed at 795 mm below ground level as per drawing including providing and fixing galvanised iron barbed wire duly painted by dipping in paint twice with anti corrosive bitumastic paint(IS:158) of approved brand and manufacture in black shade to give a smooth and even surface of size 2.5x2.0mm (weight to be not less than 108 gms per merte length) conforming to IS : 278-1978 in ten horizontal rows to be fixed</p> <p>and stretched with MS hooks/tightening bolts (as per drawing) and properly woven with two diagonals of same GI barbed wire to be fixed to angle irons posts in holes with 2.5mm dia at 100 mm long GI staples/clips as per drawing including applying primer and paint (in five coats) as per approved brand and manufacture to give an evenshade on all steel work except portion embedded in cement concrete. The foundation concrete block of posts and struts shall be of cement concrete 1:3:6 (1 cement;3 sand: 6 graded stone aggregate 20 mm nominal size) including excavation in all kinds of soil and the cost of centering & shuttering, back filling of earth in foundation, disposal of surplus earth in all lead and lift, jungle clearance etc. complete (for middle row fencing post)in all respect as per drawing technical specifications and direction of Engineer in-charge.</p>	metre	5500	644.00	3542000.00
3	<p>Providing, laying and fixing of galvanised punched tape concertina coil having galvanised spring steel core of wire 2.5mm dia of cold drawn steel punched tape of low carbon steel having series of sharp barbs uniformly punched along its length, 55 barbs on periphery per revolution crimped on steel spring core wire, galvanised clips GI Steel wire handles hooked to coils for handling MS square bar spikes hooked to coil having pointed faces for anchorage and weight, 15.20 kg. per coil including spreading of each coil 10 metre length adequately tied to existing GI barbed wire fencing and fencing post with GI wire of not less than 16 guage at every 1000 mm spacing, tying of handles of succeeding coil with preceding coil with GI wire of not less than 16 guage, properly anchoring of spikes at start and end of coil in precast cement concrete block of size 20x20x20cm and mix 1:2:4 (1 cement : 2 sand : 4 graded stone aggregate 20mm nominal size) of bottom layer and applying anticorrosive bitumastic paint (IS:158) of approved brand and manufacture in black shade to give a smooth & even surface by dipping in paint twice over punched tape concertina coil complete as per drawing</p> <p>and directions of the Engineer-in-charge.</p>	each	2200	1414.00	3110800.00
4	<p>Providing and fixing GI barbed wire of size 2.5x2.00 mm (weight to be not less than 108 gms per metre length) conforming to IS:278-1978 after painting by dipping in paint twice with anticorrosive bitumastic paint (IS-158) of approved brand and manufacture in black shade to give a smooth and even surface, inside the concertina coil for both layers in inclined diagonal pattern from outer row towards middle row in zigzag manner from Bangladesh side and Indian side as per drawing tying with the barbed wire with six turns of GI binding wire not less than 16 gauge or with two U bolts. The barbed wire will be stretched in such a way that the untied length of concertina coil is not more than 6.00 metre as directed by the Engineer-in-Charge.</p>	meter	11000	17.82	196020.00
4 OF 14					

SL.	Particulars	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
5	Providing and fixing MS square vertical posts for MS gate formed by welding two Nos MS angle of size 100x100x8 mm 4200 mm long , 2850 mm above ground level and 1350 mm embedded in 1000x800x1500 mm foundation block of reinforced cement concrete 1:2:4(1 cement:2 sand: 4 graded stone aggregate 20mm nominal size) including cost of centring & shuttering, 400x400x8 mm base plate,210x100x8 mm triangular stiffener plates jointing the posts and the base plate on the four corners, 2 Nos 16mm dia 200 mm long MS bolts and nuts fixed to the gate post with strutted post of fencing including applying primer & paint (as per special conditions and specifications) of approved brand and manufacturer to give an even shade on all steel work except portion embedded in RCC. The top of post shall be provided with MS plate of 125mm x 125 mm size 4 mm thick on which 4 Nos. pointed spikes of 10 mm dia and 75 mm long to be welded in scattered way and post sides to be welded with 5 nos 8 mm thick cleats with holes for 25 dia pintols as shown. The cold twisted steel reinforcement for RCC foundation block comprising of 4 Nos vertical bars of 12 mm dia,8 nos. 8 mm dia stirrups etc complete as per drawing.	Each	22	15597.00	343134.00
6	Steel work in single section fixed without connecting plate including cutting, hoisting, fixing in position and a priming coat of approved steelprimer (for item no. 1 & 2 above.)	Quintal	8.745	4426.00	38705.37
7	Providing & laying cement concrete 1:5:10 (1 cement :5 sand : 10 graded brick aggregate 40mm nominal size) in base course for cement concrete 1:3:6 pavement (to be paid for separately) to required slope & camber, finishing, tamping etc including centring and shuttering over consolidated ground complete as per directions of Engineer-in-Charge.	cum	1776.17	3144.00	5584278.48
8	Providing and laying cement concrete 1:3:6 (1 cement:3 sand:6 graded brick aggregate 20 mm nominal size) in pavement over a base course of cement concrete 1:5:10 (to be paid for separately) laid to required slope, consolidating finishing, tamping including centring and shuttering complete as per directions of Engineer-in-Charge.	cum	1376.155	3577.00	4922506.44
9	Centering and shuttering including strutting, propping etc. and removal of form work for . A.) Foundations, footings, bases of Columns.	sqm	176	109.00	19184.00
10	Providing and fixing in position at site double leaf M.S. Gate of overall size 3.65 m x 2.80m as per approved drawing & directions of Engineer-in-Charge. (a) 1.6mm thick MS sheet with 60mm dia staggered holes cut to size and welded with frame consisting of MS angle 50 mm x 50mm x 6mm Tee 50m x 50mm x 6mm, cross bracing of MS angle 35mm x 35 mm x 6mm, flat 40 mm x 6 mm gusset plate 6 mm thick. (b) Blade with teeth made of MS Flat 25 mm x 3 mm & M.S. spikes of 16 mm dia rod 600 mm long welded at the top of gate @ 150mm c/c. (c) 3 rows of barbed wire @ 150 mm c/c fixed at the top of gate frame. (d) MS hinges with pintal of 25 mm dia and 80 mm long (2x5nos.), 4 nos 450 mm long tower bolts with 40 mm dia G.I.socket and locking arrangement and a pair of 50 mm dia rollers. (e) 150 mm thick CC 1:2:4 (1 cement:2 sand : 4 graded stone aggregate of 20mm nominal size) laid over 150 mm thick CC 1:5:10 (1 cement:5 sand : 10 graded stone aggregate of 40mm nominal size) and Brick work with bricks of class designation 75 mm in cement mortar 1:4 (1 cement:4 sand) including necessary earth work and providing & fixing circular MS Tee 50 mm x 50 mm x 6 mm for easy movement of rollers. (f) Painting two or more coats of synthetic enamel paint over a priming coat of red oxide zinc chromate primer on all steel work. (g) Payment for MS Posts to be made separately.	Each	11	50880.00	559680.00
SUB - TOTAL					36378308.29

NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED

(A GOVT. OF INDIA ENTERPRISE)

Name of Work: Construction of Composite Fencing along Indo-Bangladesh Border in TRIPURA State

BILL OF QUANTITY OF FENCING WORK

SCHEDULE -B(II)

SHALLOW FOUNDATION FOR 17.2 Km.

Pkg. No. TR-20 to TR-23(R)

SL.	Particulars	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
1	<p>Providing and fixing securiity fencing of GI barbed wire consisting of copper enriched MS angle posts of 90x90x6 mm 3000 mm length above ground level (2000 mm vertical and 1000 mm slanting) duly fabricated and welded at bend as per drawing and 600 mm below ground level placed at 3000mm centre to centre & embedded in cement concrete blocks 450mm dia. at bottom & 300mm at top 750mm deep placed at 700mm below ground level & every 10th posts , end posts & corner posts to be strutted with M.S. angles strut on both sides of size 90x90x6mm & 2910mm in length (200 mm vertical at top and 2710 mm slanting down) fabricated and welded as per drawing bolted to vertical posts with two nos. 12 mm dia & 50 mm long MS botts & nuts with washers, struts embedded in cement concrete blocks of 1000x300 mm upto 300 mm height at top and slope, towards bottom of area 300x300 mm at overall depth of 800 mm size placed at 700 mm below ground level as per drawing including providing and fixing galvanised iron barbed wire duly painted by dipping in paint twice with anticorrosive bitumastic paint (IS :158) of approved brand and manufacture in black shade to give</p> <p>as smooth and even surface,size of barbed wire2.5x2 mm (weight to be not less108 gm per Metre length) conforming to IS 278-1978 in 20 horizontal rows (13 rows in vertical position and 7 rows</p> <p>in slanting position) to be fixed and stretched with MS hooks/tightening bolts(as per drawing) properly woven with 4 diagonals (2 in vertical portion and 2 in gooseneck portion) as per drawing of same, GI barbed wire to be fixed to angle iron post in holes with 2.5mm dia.and 100mm long GI staples/clips and providing vertical and diagonal strands of barbed wire propoerly interwoven with horizontal rows of barbed wire at a spacing of 150 mm upto a height of 7 rows of fencing above ground level, adequately tied at three places in staggered manner with GI wire of not less than 16 guage as per NPCC drawing and providing two sets of spikes each set consisting of 75x6 mm MS flat. 1000 mm long with 13 nos pointed spikes made of 75 mm long 10 mm dia MS rod welded to this MS flat & fixing the same on both the faces of angle iron post in goose neck portion with 3 nos10 mm dia, 50 mm long MS nuts and bolts with washers and seven holes to clip the Barbed wire in each face as per NPCC drawing including applying primer & paint (in five coats as per special conditions and specifications) as per approved</p> <p>brand and manufacture to give an even shade on all steel work except portion embedded in cement concrete.The foundation concrete blocks of posts and struts shall be of cement concrete 1:3:6 (1 cement: 3 sand:6 stone aggregate 20 mm nominal size) including excavation</p> <p>in all kinds of soil and the cost of centering & shuttering, back filling of earth in foundation, disposal of surplus earth,including all lead and lifts, jungle clearance etc. complete (for Bangladesh side fencing post and for Indian side fencing post.) in all respect as per drawing technical specifications and direction of Engineer in-charge.</p> <p>NOTE: Rs.37,84,440/- will be recovered from the agency towards fabrication and erection of 90X90X6mm MS angle at site against Prime Cost.</p>	metre	34400	1425.00	49020000.00
6 OF 14					

SL.	Particulars	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
2	Providing and fixing security fencing of GI Barbed wire consisting of MS angle posts 65x65x6 mm 1500 mm length above ground level and 450mm below ground level including providing one number 75 mm long pointed spike made of 12mm dia MS round bar welded to angle iron post at corner for min 25 mm length as per drawing MS angle posts placed at 3000 mm centre to centre, embedded in cement concrete blocks 250mm dia 600mm deep placed at 550 mm below ground level and every 10th post, end posts & corner posts to be strutted with MS angle struts on both sides of size 65x65x6 mm and 2120 mm long (200mm vertical at top and 1920 mm slanting down) fabricaed and welded as per drawing, bolted to vertical posts with 2 nos 12mm dia 50mm long bolts and nuts with washers, struts embedded in cement concrete blocks of size 800 mm x 250mm up to 300 mm height at top and sloped towards bottom of area 250x250 mm at overall depth of 600mm placed at 500 mm below ground level as per drawing including providing and fixing	metre	17200	510.00	8772000.00
	galvanised iron barbed wire duly painted by dipping in paint twice with anti corrosive bitumastic paint(IS:158) of approved brand and manufacture in black shade to give a smooth and even surface of size 2.5x2.0mm (weight to be not less than 108 gms per merte length) conforming to IS : 278-1978 in ten horizontal rows to be fixed				
	and stretched with MS hooks/tightening bolts (as per drawing) and properly woven with two diagonals of same GI barbed wire to be fixed to angle irons posts in holes with 2.5mm dia at 100 mm long GI staples/clips as per drawing including applying primer and paint (in five coats as per special conditions and specifications) of approved brand and manufacture to give an evenshade on all steel work except portion embedded in cement concrete. The foundation concrete block of posts and struts shall be of cement concrete 1:3:6 (1 cement:3 sand: 6 graded stone aggregate 20 mm nominal size) including excavation in all kinds of soil and the cost of centering & shuttering, back filling of earth in foundation, disposal of surplus earth for all lead and lifts, jungle clearance etc. complete (for middle row fencing post)in all respect as per drawing technical specifications and direction of Engineer in-charge.				
3	Providing, laying and fixing of galvanised punched tape concertina coil having galvanised spring steel core of wire 2.5mm dia of cold drawn steel punched tape of low carbon steel having series of sharp barbs uniformly punched along its length, 55 barbs on periphery per revolution crimped on steel spring core wire, galvanised clips GI Steel wire handles hooked to coils for handling MS square bar spikes hooked to coil having pointed faces for anchorage and weight, 15.20 kg. per coil including spreading of each coil 10 metre length adequately tied to existing GI barbed wire fencing and fencing post with GI wire of not less than 16 guage at every 1000 mm spacing, tying of handles of succeeding coil with preceding coil with GI wire of not less than 16 guage, properly anchoring of spikes at start and end of coil in precast cement concrete block of size 20x20x20cm and mix 1:2:4 (1 cement : 2 sand :4 graded stone aggregate 20mm nominal size) of bottom layer and applying anticorrosive bitumastic paint (IS:158) of approved brand and manufacture in black shade to give a smooth & even surface by dipping in paint twice over puched tape concertina coil complete	each	6880	1414.00	9728320.00
	as per drawings and directions of the Engineer-in-charge.				
4	Providing and fixing GI barbed wire of size 2.5x2.00 mm (weight to be not less than 108 gms per metre length) conforming to IS:278-1978 after painting by dipping in paint twice with anticorrosive bitumastic paint (IS-158) of approved brand and manufacture in black shade to give a smooth and even surface, inside the concertina coil for both layers in inclined diagonal pattern from outer row towards middle row in zigzag manner from Bangladesh side and Indian side as per standard drawing tying with the barbed wire with six turns of GI binding wire not less than 16 gauge or with two U bolts. The barbed wire will be stretched in such a way that the untied length of concertina coil is not more than 6.00 metre as directed by the Engineer-in-Charge.	meter	34400	17.82	613008.00
7 OF 14					

SL.	Particulars	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
5	Providing and fixing MS square vertical posts for MS gate formed by welding two Nos MS angle of size 100x100x8 mm 4200 mm long , 2850 mm above ground level and 1350 mm embedded in 1000x800x1500 mm foundation block of reinforced cement concrete 1:2:4(1 cement:2 sand: 4 graded stone aggregate 20mm nominal size) including cost of centring & shuttering, 400x400x8 mm base plate,210x100x8 mm triangular stiffener plates jointing the posts and the base plate on the four corners, 2 Nos 16mm dia 200 mm long MS bolts and nuts fixed to the gate post with strutted post of fencing including applying primer & paint (as per special conditions and specifications) of approved brand and manufacturer to give an even shade on all steel work except portion embedded in RCC. The top of post shall be provided with MS plate of 125mm x 125 mm size 4 mm thick on which 4 Nos. pointed spikes of 10 mm dia and 75 mm long to be welded in scattered way and post sides to be welded with 5 nos 8 mm thick cleats with holes for 25 dia pintols as shown. The cold twisted steel reinforcement for RCC foundation block comprising of 4 Nos vertical bars of 12 mm dia, 8 nos. 8 mm dia stirrups etc complete as per drawing.	Each	70	15597.00	1091790.00
6	Steel work in single section fixed without connecting plate including cutting, hoisting, fixing in position and a priming coat of approved steel primer (for item no. 1 & 2 above.)	Quintal	27.348	4426.00	121042.25
7	Providing & laying cement concrete 1:5:10 (1 cement :5 sand : 10 graded brick aggregate 40mm nominal size) in base course for cement concrete 1:3:6 pavement (to be paid for separately) to required slope & camber, finishing, tamping etc including centering & shuttering over consolidated ground complete as per directions of Engineer-in-Charge.	cum	5375	3144.00	16899000.00
8	Providing and laying cement concrete 1:3:6 (1 cement:3 coarse sand:6 graded brick aggregate 20 mm nominal size) in pavement over a base course of cement concrete 1:5:10 (to be paid for separately) laid to required slope, consolidating finishing, tamping etc. including centering & shuttering complete as per directions of Engineer-in-Charge.	cum	4269	3577.00	15270213.00
9	Centering and shuttering including strutting, propping etc. and removal of form work for A.) Foundations, footings, bases of Columns.	sqm	464.4	109.00	50619.60
10	Providing and fixing in position at site double leaf M.S. Gate of overall size 3.65 m x 2.80m as per approved drawing & directions of Engineer-in-Charge. (a) 1.6mm thick MS sheet with 60mm dia staggered holes cut to size and welded with frame consisting of MS angle 50 mm x 50mm x 6mm Tee 50m x 50mm x 6mm, cross bracing of MS angle 35mm x 35 mm x 6mm, flat 40 mm x 6 mm gusset plate 6 mm thick. (b) Blade with teeth made of MS Flat 25 mm x 3 mm & M.S. spikes of 16 mm dia rod 600 mm long welded at the top of gate @ 150 c/c. (c) 3 rows of barbed wire @ 150 mm c/c fixed at the top of gate frame. (d) MS hinges with pintal of 25 mm dia and 80 mm long (2x5nos.), 4 nos 450 mm long tower bolts with 40 mm dia G.I.socket and locking arrangement and a pair of 50 mm dia rollers. (e) 150 mm thick CC 1:2:4 (1 cement:2 sand : 4 graded stone aggregate of 20mm nominal size) laid over 150 mm thick CC 1:5:10 (1 cement:5 sand : 4 graded stone aggregate of 40mm nominal size) and Brick work with bricks of class designation 75 mm in cement mortar 1:4 (1 cement:4 sand) including necessary earth work and providing & fixing circular MS Tee 50 mm x 50 mm x 6 mm for ea (f) Painting two or more coats of synthetic enamel paint over a priming coat of red oxide zinc chrome primer on all steel work. (g) Payment for MS Posts to be made separately.	Each	35	50880.00	1780800.00
SUB - TOTAL					103346792.85
RECOVERY					
a	Amount will be Recovered from Agency towards fabrication & erection of 90X90X6mm MS Angles at site against Prime Cost.				-3784440.00
TOTAL					99562352.85

NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED

(A GOVT. OF INDIA ENTERPRISE)

Name of Work: Construction of Composite Fencing along Indo-Bangladesh Border in TRIPURA State

BILL OF QUANTITY OF FENCING WORK

SCHEDULE -B(II)

SHALLOW FOUNDATION FOR 17.2 Km.

Pkg. No. TR-20 to TR-23(R)

SL.	Particulars	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
1	<p>Providing and fixing securiity fencing of GI barbed wire consisting of copper enriched MS angle posts of 90x90x6 mm 3000 mm length above ground level (2000 mm vertical and 1000 mm slanting) duly fabricated and welded at bend as per drawing and 600 mm below ground level placed at 3000mm centre to centre & embedded in cement concrete blocks 450mm dia. at bottom & 300mm at top 750mm deep placed at 700mm below ground level & every 10th posts , end posts & corner posts to be strutted with M.S. angles strut on both sides of size 90x90x6mm & 2910mm in length (200 mm vertical at top and 2710 mm slanting down) fabricated and welded as per drawing bolted to vertical posts with two nos. 12 mm dia & 50 mm long MS botts & nuts with washers, struts embedded in cement concrete blocks of 1000x300 mm upto 300 mm height at top and slope, towards bottom of area 300x300 mm at overall depth of 800 mm size placed at 700 mm below ground level as per drawing including providing and fixing galvanised iron barbed wire duly painted by dipping in paint twice with anticorrosive bitumastic paint (IS :158) of approved brand and manufacture in black shade to give</p> <p>as smooth and even surface,size of barbed wire2.5x2 mm (weight to be not less108 gm per Metre length) conforming to IS 278-1978 in 20 horizontal rows (13 rows in vertical position and 7 rows</p> <p>in slanting position) to be fixed and stretched with MS hooks/tightening bolts(as per drawing) properly woven with 4 diagonals (2 in vertical portion and 2 in gooseneck portion) as per drawing of same, GI barbed wire to be fixed to angle iron post in holes with 2.5mm dia.and 100mm long GI staples/clips and providing vertical and diagonal strands of barbed wire propoerly interwoven with horizontal rows of barbed wire at a spacing of 150 mm upto a height of 7 rows of fencing above ground level, adequately tied at three places in staggered manner with GI wire of not less than 16 guage as per NPCC drawing and providing two sets of spikes each set consisting of 75x6 mm MS flat. 1000 mm long with 13 nos pointed spikes made of 75 mm long 10 mm dia MS rod welded to this MS flat & fixing the same on both the faces of angle iron post in goose neck portion with 3 nos10 mm dia, 50 mm long MS nuts and bolts with washers and seven holes to clip the Barbed wire in each face as per NPCC drawing including applying primer & paint (in five coats as per special conditions and specifications) as per approved</p> <p>brand and manufacture to give an even shade on all steel work except portion embedded in cement concrete.The foundation concrete blocks of posts and struts shall be of cement concrete 1:3:6 (1 cement: 3 sand:6 stone aggregate 20 mm nominal size) including excavation</p> <p>in all kinds of soil and the cost of centering & shuttering, back filling of earth in foundation, disposal of surplus earth,including all lead and lifts, jungle clearance etc. complete (for Bangladesh side fencing post and for Indian side fencing post.) in all respect as per drawing technical specifications and direction of Engineer in-charge.</p> <p>NOTE: Rs.37,84,440/- will be recovered from the agency towards fabrication and erection of 90X90X6mm MS angle at site against Prime Cost.</p>	metre	34400	1425.00	49020000.00
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SL.	Particulars	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
2	Providing and fixing security fencing of GI Barbed wire consisting of MS angle posts 65x65x6 mm 1500 mm length above ground level and 450mm below ground level including providing one number 75 mm long pointed spike made of 12mm dia MS round bar welded to angle iron post at corner for min 25 mm length as per drawing MS angle posts placed at 3000 mm centre to centre, embedded in cement concrete blocks 250mm dia 600mm deep placed at 550 mm below ground level and every 10th post, end posts & corner posts to be strutted with MS angle struts on both sides of size 65x65x6 mm and 2120 mm long (200mm vertical at top and 1920 mm slanting down) fabricaed and welded as per drawing, bolted to vertical posts with 2 nos 12mm dia 50mm long bolts and nuts with washers, struts embedded in cement concrete blocks of size 800 mm x 250mm up to 300 mm height at top and sloped towards bottom of area 250x250 mm at overall depth of 600mm placed at 500 mm below ground level as per drawing including providing and fixing	metre	17200	510.00	8772000.00
	galvanised iron barbed wire duly painted by dipping in paint twice with anti corrosive bitumastic paint(IS:158) of approved brand and manufacture in black shade to give a smooth and even surface of size 2.5x2.0mm (weight to be not less than 108 gms per merte length) conforming to IS : 278-1978 in ten horizontal rows to be fixed				
	and stretched with MS hooks/tightening bolts (as per drawing) and properly woven with two diagonals of same GI barbed wire to be fixed to angle irons posts in holes with 2.5mm dia at 100 mm long GI staples/clips as per drawing including applying primer and paint (in five coats as per special conditions and specifications) of approved brand and manufacture to give an evenshade on all steel work except portion embedded in cement concrete. The foundation concrete block of posts and struts shall be of cement concrete 1:3:6 (1 cement:3 sand: 6 graded stone aggregate 20 mm nominal size) including excavation in all kinds of soil and the cost of centering & shuttering, back filling of earth in foundation, disposal of surplus earth for all lead and lifts, jungle clearance etc. complete (for middle row fencing post)in all respect as per drawing technical specifications and direction of Engineer in-charge.				
3	Providing, laying and fixing of galvanised punched tape concertina coil having galvanised spring steel core of wire 2.5mm dia of cold drawn steel punched tape of low carbon steel having series of sharp barbs uniformly punched along its length, 55 barbs on periphery per revolution crimped on steel spring core wire, galvanised clips GI Steel wire handles hooked to coils for handling MS square bar spikes hooked to coil having pointed faces for anchorage and weight, 15.20 kg. per coil including spreading of each coil 10 metre length adequately tied to existing GI barbed wire fencing and fencing post with GI wire of not less than 16 guage at every 1000 mm spacing, tying of handles of succeeding coil with preceding coil with GI wire of not less than 16 guage, properly anchoring of spikes at start and end of coil in precast cement concrete block of size 20x20x20cm and mix 1:2:4 (1 cement : 2 sand :4 graded stone aggregate 20mm nominal size) of bottom layer and applying anticorrosive bitumastic paint (IS:158) of approved brand and manufacture in black shade to give a smooth & even surface by dipping in paint twice over puched tape concertina coil complete	each	6880	1414.00	9728320.00
	as per drawings and directions of the Engineer-in-charge.				
4	Providing and fixing GI barbed wire of size 2.5x2.00 mm (weight to be not less than 108 gms per metre length) conforming to IS:278-1978 after painting by dipping in paint twice with anticorrosive bitumastic paint (IS-158) of approved brand and manufacture in black shade to give a smooth and even surface, inside the concertina coil for both layers in inclined diagonal pattern from outer row towards middle row in zigzag manner from Bangladesh side and Indian side as per standard drawing tying with the barbed wire with six turns of GI binding wire not less than 16 gauge or with two U bolts. The barbed wire will be stretched in such a way that the untied length of concertina coil is not more than 6.00 metre as directed by the Engineer-in-Charge.	meter	34400	17.82	613008.00
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SL.	Particulars	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
5	Providing and fixing MS square vertical posts for MS gate formed by welding two Nos MS angle of size 100x100x8 mm 4200 mm long , 2850 mm above ground level and 1350 mm embedded in 1000x800x1500 mm foundation block of reinforced cement concrete 1:2:4(1 cement:2 sand: 4 graded stone aggregate 20mm nominal size) including cost of centring & shuttering, 400x400x8 mm base plate,210x100x8 mm triangular stiffener plates jointing the posts and the base plate on the four corners, 2 Nos 16mm dia 200 mm long MS bolts and nuts fixed to the gate post with strutted post of fencing including applying primer & paint (as per special conditions and specifications) of approved brand and manufacturer to give an even shade on all steel work except portion embedded in RCC. The top of post shall be provided with MS plate of 125mm x 125 mm size 4 mm thick on which 4 Nos. pointed spikes of 10 mm dia and 75 mm long to be welded in scattered way and post sides to be welded with 5 nos 8 mm thick cleats with holes for 25 dia pintols as shown. The cold twisted steel reinforcement for RCC foundation block comprising of 4 Nos vertical bars of 12 mm dia, 8 nos. 8 mm dia stirrups etc complete as per drawing.	Each	70	15597.00	1091790.00
6	Steel work in single section fixed without connecting plate including cutting, hoisting, fixing in position and a priming coat of approved steel primer (for item no. 1 & 2 above.)	Quintal	27.348	4426.00	121042.25
7	Providing & laying cement concrete 1:5:10 (1 cement :5 sand : 10 graded brick aggregate 40mm nominal size) in base course for cement concrete 1:3:6 pavement (to be paid for separately) to required slope & camber, finishing, tamping etc including centering & shuttering over consolidated ground complete as per directions of Engineer-in-Charge.	cum	5375	3144.00	16899000.00
8	Providing and laying cement concrete 1:3:6 (1 cement:3 coarse sand:6 graded brick aggregate 20 mm nominal size) in pavement over a base course of cement concrete 1:5:10 (to be paid for separately) laid to required slope, consolidating finishing, tamping etc. including centering & shuttering complete as per directions of Engineer-in-Charge.	cum	4269	3577.00	15270213.00
9	Centering and shuttering including strutting, propping etc. and removal of form work for A.) Foundations, footings, bases of Columns.	sqm	464.4	109.00	50619.60
10	Providing and fixing in position at site double leaf M.S. Gate of overall size 3.65 m x 2.80m as per approved drawing & directions of Engineer-in-Charge. (a) 1.6mm thick MS sheet with 60mm dia staggered holes cut to size and welded with frame consisting of MS angle 50 mm x 50mm x 6mm Tee 50m x 50mm x 6mm, cross bracing of MS angle 35mm x 35 mm x 6mm, flat 40 mm x 6 mm gusset plate 6 mm thick. (b) Blade with teeth made of MS Flat 25 mm x 3 mm & M.S. spikes of 16 mm dia rod 600 mm long welded at the top of gate @ 150 c/c. (c) 3 rows of barbed wire @ 150 mm c/c fixed at the top of gate frame. (d) MS hinges with pintal of 25 mm dia and 80 mm long (2x5nos.), 4 nos 450 mm long tower bolts with 40 mm dia G.I.socket and locking arrangement and a pair of 50 mm dia rollers. (e) 150 mm thick CC 1:2:4 (1 cement:2 sand : 4 graded stone aggregate of 20mm nominal size) laid over 150 mm thick CC 1:5:10 (1 cement:5 sand : 4 graded stone aggregate of 40mm nominal size) and Brick work with bricks of class designation 75 mm in cement mortar 1:4 (1 cement:4 sand) including necessary earth work and providing & fixing circular MS Tee 50 mm x 50 mm x 6 mm for ea (f) Painting two or more coats of synthetic enamel paint over a priming coat of red oxide zinc chrome primer on all steel work. (g) Payment for MS Posts to be made separately.	Each	35	50880.00	1780800.00
SUB - TOTAL					103346792.85
RECOVERY					
a	Amount will be Recovered from Agency towards fabrication & erection of 90X90X6mm MS Angles at site against Prime Cost.				-3784440.00
TOTAL					99562352.85

NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED

(A GOVT. OF INDIA ENTERPRISE)

Name of Work: Construction of Composite Fencing along Indo-Bangladesh Border in TRIPURA State

BILL OF QUANTITY OF RETAINING WALL OF 3.00 MTR.

SCHEDULE -D

Retaining Wall of 3.00 M Height		Pkg. No. TR-20 to TR-23(R)			
SL.	Particulars	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
1	Earthwork in excavation over areas (exceeding 30cm. in depth, 1.5m in width as well as 10sqm. on plan) including disposal of surplus excavated earth for all lead and lift, disposed earth to be levelled and neatly dressed etc. Soft/ loose soil.	Cum	4120.00	42.77	176212.40
2	Filling available excavated earth (excluding rock) in trenches plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead upto 50m and lift upto 1.5m.	Cum	404.00	30.00	12120.00
3	Providing & laying cement concrete in retaining wall, return wall, walls(any thickness) including attached pilasters, buttresses, plinth, string course , fillets etc. upto floor five levels including the cost of centering,shuttering & finishing. A) PCC 1:5:10 (1cement: 5sand: 10brick aggregate 40mm. nominal size.)	Cum	637.20	3144.00	2003356.80
4	Brick work with bricks of class designation 75 in foundation and plinth in cement mortar 1:4 (1cement:4 sand)	Cum	7220.00	2942.00	21241240.00
5	Providing & fixing Pipe sleeve 50mm dia	RM	2824.00	30.00	84720.00
6	Pointing on brick work with cement mortar 1:3 (1 cement:3 fine sand) Flush pointing.	Sqm	2760.00	46.00	126960.00
SUB-TOTAL					23644609.20

NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED

(A GOVT. OF INDIA ENTERPRISE)

Name of Work: Construction of Composite Fencing along Indo-Bangladesh Border in TRIPURA State

BILL OF QUANTITY OF HUME PIPE CULVERT (450 MM DIA)

SCHEDULE - F

Triple Pipe		Pkg. No. TR-20 to TR-23(R)			
SL.	Particulars	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
1	Earthwork in excavation in foundation trenches or drains (not exceeding 1.5m in width or 10sqm. on plan) including dressing of sides and ramming of bottoms, lift upto 1.5m including getting out the excavated soil and disposal of surplus excavated soil upto a lead of 50m etc. complete as per the direction of Engineer-in-charge. a) Soft & loose soil.	Cum	880.00	42.77	37637.60
2	Filling available excavated earth (excluding rock) in trenches plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead upto 50m and lift upto 1.5m.	Cum	140.00	30.09	4212.60
3	Providing & laying cement concrete 1:5:10 (1 cement :5 sand : 10 graded brick aggregate 40mm nominal size) in footings & columns excluding the cost of centering & shuttering complete as per directions of Engineer-in-Charge.	Cum	49.60	3144.71	155977.62
4	Providing & laying cement concrete 1:3:6 (1 cement :3 sand : 6 graded brick aggregate 20mm nominal size) in footings & columns excluding the cost of centering & shuttering complete as per directions of Engineer-in-Charge.	Cum	238.60	4145.00	988997.00
5	Brick work with bricks of class designation 75 in foundation and plinth in cement mortar 1:4 (1cement:4 sand)	Cum	364.00	3237.18	1178333.52
6	Pointing on brick work with cement mortar 1:3 (1 cement:3 fine sand) Flush pointing.	Sqm	520.00	46.32	24086.40
7	Providing & Laying non-pressure NP-2 class (light duty) RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc. complete. 450mm dia RCC pipe. (3nos. 10.75m length)	RM	903.00	1318.80	1190876.40
SUB-TOTAL					3580121.14

NATIONAL PROJECTS CONSTRUCTION CORPORATION LIMITED

(A GOVT. OF INDIA ENTERPRISE)

Name of Work: Construction of Composite Fencing along Indo-Bangladesh Border in TRIPURA State

BILL OF QUANTITY OF HUME PIPE CULVERT (900 MM DIA)

SCHEDULE - G

Double Pipes		Pkg. No. TR-20 to TR-23			
SL.	Particulars	Unit	Qty.	Rate (Rs.)	Amount (Rs.)
1	Earthwork in excavation in foundation trenches or drains (not exceeding 1.5m in width or 10sqm. on plan) including dressing of sides and ramming of bottoms, lift upto 1.5m including getting out the excavated soil and disposal of surplus excavated soil upto a lead of 50m etc. complete as per the direction of Engineer-in-charge. a) Soft & loose soil.	Cum	552.00	42.77	23609.04
2	Filling available excavated earth (excluding rock) in trenches plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead upto 50m and lift upto 1.5m.	Cum	168.00	30.09	5055.12
3	Providing & laying cement concrete 1:5:10 (1 cement :5 sand : 10 graded brick aggregate 40mm nominal size) in footings & columns excluding the cost of centering & shuttering complete as per directions of Engineer-in-Charge.	Cum	58.40	3144.71	183651.06
4	Providing & laying cement concrete 1:3:6 (1 cement :3 sand : 6 graded brick aggregate 20mm nominal size) in footings & columns excluding the cost of centering & shuttering complete as per directions of Engineer-in-Charge.	Cum	234.80	4145.00	973246.00
5	Brick work with bricks of class designation 75 in foundation and plinth in cement mortar 1:4 (1cement:4 sand)	Cum	521.20	3237.18	1687218.22
6	Pointing on brick work with cement mortar 1:3 (1 cement:3 fine sand) Flush pointing.	Sqm	480.00	46.32	22233.60
7	Providing & Laying non-pressure NP-2 class (light duty)RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement: 2 fine sand) including testing of joints etc. complete. 900mm dia RCC pipe (2nos. 10.75m length)	RM	516.00	4758.95	2455618.20
SUB-TOTAL					5350631.24

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

Name of Work: Construction of Composite Fencing along Indo-Bangladesh Border in TRIPURA State

Pkg. No. TR-20 to TR-23(R)

EXTRA WORKS NOT COVERED IN THE OTHER SCHEDULE

Sl.	Particulars	Unit	Rate	Quantity	Amount
1	All the Works not Covered in the Previous Schedule of Rates From Schedule -A to G But available in the Calcutta Schedule of Rate -1994				
	AT PAR CSR' 94		1493620		
	ADD 195% ABOVE AS UPDATE		2912559		
	TOTAL		4406179		4406179

NOTE:- IF RATES FOR ANY ITEMS WILL NOT BE AVAILABLE IN ANY OF THE SCHEDULE THE RATES FOR THE SAME EXTRA ITEMS OF WORK WILL BE DERIVED BASED ON ACTUAL COST OF ALL MATERIALS , LABOURS, MACHINERIES ECT. PLUS 10% MARGIN OF PROFIT FOR THE AGENCY. DECISION OF ENGINEER IN CHARE IN THIS REGARDS IS FINAL AND BINDINGS.