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EXECUTIVE ENGINEER
Western Division-10

DELHI DEVELOPMENT AUTHORITY
PRESS TENDER NOTICE

NIT No.-18/WD-10/DDA/2007-08

1.1 Sealed Item rate tenders are re-invited for the following work by Executive Engineer/WD-10 on behalf of DDA up to 3.00 PM on **22.09.2008** from the approved contractors & eligible contractors of DDA & C.P.W.D and those of appropriate list of P & T, MES & Railways which shall be opened on the same day at 3.30 PM at Ground Floor, Vikas Minar, DDA Office I.P. Estate, New Delhi in the presence of intending purchaser or their authorised representative.

The enlistment of the contractors should be valid on the last date of sale of tenders.

In case only the last date of sale of tender is extended, the enlistment of contractors should be valid on the original date of sale of tenders.

In case both the last date of receipt of application and sale of tenders are extended, the enlistment of contractor should be valid on either of the two date i.e. original date of sale of tender or on the extended date of sale of tenders.

Criteria of eligibility of Contractors for issue of tender documents

1.2 For works costing upto
Rs. 25 lacs

In case of B & R, tenders shall be issued to contractors registered with DDA only.

1.3 For works costing
above Rs. 25 lacs upto
Rs. 2 Crores.

Tenders shall be issued to DDA & CPWD enlisted contractors as per their enlistment. The tenders shall also be issued to non DDA, non CPWD contractors provided they have satisfactorily completed three similar nature of works, each of value not less than 40% of the estimated cost in the last five years.

1.4 For works costing
above Rs. 2 Crores
but upto Rs. 10
Crores.

The tenders shall be issued to the eligible contractors provided they have satisfactorily completed three similar nature of works, each of value not less than 40% of the estimated cost or two works of similar nature, each of value not less than 50% of the estimated cost or one work of similar nature of value not less than 80% of the estimated cost in the last seven years ending last day of the month previous to the one in which the tenders are invited.

NOTE: - Class II contractors of DDA & CPWD shall also be eligible if they satisfy the criteria specified in 1.4 above.

1.5 For works costing
above Rs. 10
Crores.

There shall be Pre Qualification / Post Qualification as the case may be as per existing practice.

The tender documents can be obtained on any working day from the CAU Dwarka Zone/Sale counter Vikas Minar between 11.00 A.M to 3.00 P.M. on payment of cost of tender(non-refundable) on production of valid enlistment Certificate. Sale of tender forms will be stopped four days (including the date of opening) before the date fixed for the opening of tender documents.

The manner of submission of tender, opening of the same and entry of contractor or their authorised representative to the place of opening shall be as provided in clause 3(a), (b) and (c) of PWD-6 forming part of the tender documents.

The tender shall be accompanied with earnest money in cash (up to Rs.10,000/-)only /Receipt, Treasury Challan/Deposit at Call Receipt of a Scheduled Bank/Fixed Deposit Receipt of a Scheduled Bank/Demand Draft of a Scheduled Bank issued in favour of Sr. AO(CAU)DWK Zone, DDA. **50% of the Earnest Money or Rs.20(Twenty)Lacs,whichever is less, shall be in the form prescribed above and balance can be accepted in the form of Bank Guarantee issued by a scheduled bank.**

It shall be ensured that Demand Draft/Fixed Deposit Receipt is valid for a period of Six months or more after the last date of receipt of tender and the same shall be in favour of Sr. Accounts officer, CAU(DWK). No interest shall be paid on Earnest Money as deposited with DDA.

S.No.	Name of Work	Estt. Cost	Earnest Money	Cost of Tender	Time allowed
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Construction of Master Plan Road 45m & 60m R/W at Dwarka, Phase-I.

Sub-Head :-Construction of left out portion of carriage way and remaining service road, foot-paths etc. at Master Plan Road No. 201 & 224 along the side of Sector-1 & 2, Dwarka, Phase-I.(Balance Work & Recoverable from M/s Gaur Construction Co.)

Rs51,13,225/- Rs1,02,265/- Rs.1000/- 4(Four)Months

NOT TO BE PUBLISHED BELOW THIS LINE

**EXECUTIVE ENGINEER
Western Division-10
D.D.A.(DWK)**

PWD-6

DELHI DEVELOPMENT AUTHORITY
NOTICE INVITING TENDERS

DIVISION: WD-10

Sub-Division _____

Sealed item rate tenders in the prescribed form are hereby invited on behalf of the Delhi Development Authority for the work:-

Name of work : **Construction of Master Plan Road 45m & 60m R/W at Dwarka, Phase-I.**

SH : **Construction of left out portion of carriage way and remaining service road, foot-paths etc. at Master Plan Road No. 201 & 224 along the side of Sector-1 & 2, Dwarka, Phase-I.(Balance Work & Recoverable from M/s Gaur Construction Co.)**

1. **Estimated Cost:** Rs51,13,225/-

2. Contract document consisting of the detailed plans complete specification, the schedule of quantities of the various items of work to be done and a set of conditions of Contract can be seen/purchased at CAU(Dwarka) office/Sale counter Vikas Minar between 11.00 AM to 3.00 PM every day except on Second Saturday, Sunday and public holidays.

(a) The site of the work is available which may be seen before tendering.
(b) The **Time Allowed** for carrying out the work will be **4(Four) Months** from the **Tenth day** after the date of written orders to commence the work or from the first day of handing over of the site, whichever is later, in accordance with the phasing, if any, indicated in the tender documents.

3. (a) The tenders shall be placed in sealed covers to be issued by sale counter CAU(Dwarka)/Sale counter, Vikas Minar superscribed the Name of Work, Estimated Amount, Day and Date of opening and Name of Contractor to whom the Tender Documents are sold. These tenders will be submitted by the Contractor at following locations

(i) At Vikas Minar(Ground Floor) for Dwarka Zone.

Separate boxes are available for submission of tenders for each day of opening. The Contractor should ensure that tenders are placed in the proper boxes fixed and provided for a particular day up to seven days in advance (including date of opening) during 10AM to 5 PM except the date of opening when it will be upto 3.00 PM only.

(b) Offers can also be sent by the Contractors through Registered post to the Executive Engineer concerned but such offers must reach at least one day before the date of opening of tenders.

(c) The tenders will be opened by the concerned Executive Engineer on the date fixed at 3.30 pm at Vikas Minar only. Intending Tenderers or one of their authorized representative (having proper Authority on letter head of the Contractor) will be allowed to enter into the premises where tenders will be opened.

4.(a) Tender documents consisting of plans, Specifications, the schedule of quantities of the various classes of work to be done and the set of terms and conditions of Contract to be complied with by the Contractor and other necessary documents can be seen in the office of Executive Engineer/WD-10 between hours of 11.00 AM to 3.00 PM from _____ to _____ on any working day.

Tender documents will be issued during the above mentioned hours on any working day from the office of CAU(DWK)/Sale Counter Vikas Minar on payment Rs.1000/-in cash as cost of Tender(non refundable)

4.(b) **Payment of Earnest Money**

Earnest Money of Rs1,02,265/- shall be deposited, in cash (up to Rs.10,000/-) /Receipt, Treasury Challan/Deposit at Call Receipt of a Scheduled Bank/Fixed Deposit Receipt of a Scheduled Bank/Demand Draft of a Scheduled Bank issued in favour of Sr. AO(CAU)DWK Zone, DDA. **50% of the Earnest Money or Rs.20(Twenty) Lacs, whichever is less, shall be in the form prescribed above and balance can be accepted in the form of Bank Guarantee issued by a scheduled bank.**

It shall be ensured that Demand Draft/Fixed Deposit Receipt is valid for a period of Six months or more after the last date of receipt of tender and the same shall be in favour of Sr. Accounts officer, CAU(DWK). No interest shall be paid on Earnest Money as deposited with DDA.

5. The Contractors should quote in figures as well as in words, the rates and amount tendered by them. The amount for each items should be worked out and the requisite totals be given.
6. When a Contractor signs a tender in an Indian language, total amount tendered in the PWD form No.8 should also be written in same language. In the case of illiterate Contractor the rate/amount tendered should be attested by a witness.
7. The issue of tender form will be stopped four days before (i/c date of opening) the date fixed for opening of tender.
- 8(a). **Each tender must be submitted in sealed cover addressed to Executive Engineer/wd-10. The tender and the proof/receipt of deposited Earnest Money shall be placed in separate sealed envelope, each marked 'Tender' and 'Earnest Money' respectively.** In case where Earnest Money in cash is acceptable the same shall be deposited with the cashier, CAU/DWK.
- 8(b) The Contractor, whose tender is accepted, shall execute an Agreement on Rs.50/-non-judicial stamp paper reiterating his acceptance of the execution of the work on the rates, terms and conditions set in the Contract document.
9. The Contractor, whose tender is accepted, shall be required to furnish by way of Performance Guarantee/Security Deposit for due fulfillment of his Contract at the following rate:-
 - a) **Performance Guarantee of 5% (five percent) of the tendered amount for the proper performance of the Contract Agreement within fifteen days of issue of letter of intent.** This period can be further extended by the Engineer-in-Charge up to a maximum period of seven days on written request of the Contractor. This guarantee shall be in the form of Govt. Security or Fixed Deposit Receipt or Guarantee Bond of any Scheduled Bank or the State Bank of India in accordance with the form annexed hereto.
 - b) **Security Deposit @ 5% (five percent) of the tendered value of the work by way of deduction from the running bills of the Contractor @ 10% (ten percent) of gross amount of each running bill till the sum along with the sum already deposited as Earnest Money will amount to 5% of the tendered value of the work.**
10. The acceptance of a tender will rest with the CE(DWK)/WAB who does not bind himself to accept the lowest tender and reserve to himself the Authority to reject any or all the tenders received without assigning any reason. **All tenders in which any of the prescribed condition not fulfilled or incomplete in any respect are liable to be rejected.**

11. Canvassing in connection with tenders is strictly prohibited and the tender submitted by the Contractor who resort to canvassing shall be liable to rejection.
12. All **Rates** shall be quoted on the proper schedule of the Tender(**in figures & words**)
13. Item rate tender containing percentage below/above will be summarily rejected.
- 13(a) **It may please be carefully noted that no condition, whatsoever, shall be accepted by the Department and the Contractor is strictly prohibited for giving conditional tender** and if any Contractor is not prepared to execute the work at the terms and conditions contained in the tender document, he is requested not to tender for this work. It may be noted that if any Contractor chooses to submit conditional tender in spite of clear direction given above his tender shall be liable to summarily rejected and his full Earnest Money shall stand forfeited. He will also be liable for being debarred from tendering in DDA for a period of six months.
- 13(b) Monthly payment to the Contractor will be made when gross amount of the work done during the previous months is not less than.

Amount of Contract	Gross value of work since previous bill should exceed
Over Rs. 10 lacs Value	Rs. 25,000/-
Over Rs. 2 lacs up to Rs. 10 lacs	Rs. 10,000/-
Over Rs. 50,000 up to Rs. 2 lacs	Rs. 5,000/-
Over Rs. 50,000/-	Rs. 2,500/-
14. On acceptance of the tender the name of the authorized representative of the Contractor, who would be responsible for taking instruction from the Engineer-in-Charge, shall be communicated to the Engineer in charge.
15. Special care should be taken to write the rates in figures as well as in words and the amount in figures only in such a way that Interpolation is not possible. Total amount should be written both in figures and in words. In case of figures, the word Rs. should be written before the figures of Rupees and P after the decimal figure e.g. Rs. 2.15p and in case of words, the word Rupees should precede and the word paise should be written at the end, unless the rate is in whole Rupees and followed by the words only. The rate should invariably be in two decimal places.
16. Delhi Development Authority does not bind itself to accept the lowest or any tender and reserves to itself for accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rate quoted.
17. Sales Tax/VAT or any other Tax on materials in respect of this Contract shall be payable by the Contractor and DDA will not entertain any claim whatsoever in this respect. However Service Tax, if any, shall be reimbursed to the agency on the proof of payment made by agency to concerned department.
18. (a) Contractor must produce valid certificate of Registration with works Contract Cell of Sales Tax Department of GNCTD. The Tenderer shall submit the Tax Clearance Certificate in Form 11 (under Rule 8 (2) of the Delhi Sales Tax of Works Contract Rule (Latest)) issued by the said Cell before the tender paper can be sold to him.
- 18(b) Cess under the provision of Building and Other Construction Workers' (RE & CS) Act 1996 and the Building and Other Construction Workers' Welfare Cess Act 1996 @ 1% of the cost of Construction/Project shall be deducted at source from the bill paid to the Contractor.
19. A Contractor shall not be permitted to tender for works in the DDA Zone (responsible for award and execution of Contract) in which any of his near relative is posted as Divisional Accountant or as an officer in any capacity

between the grades of CE and JE (both inclusive) in the DDA. He shall intimate the name of his near relatives, if any, who are working as group A,B or C officer in DDA. He shall also intimate the name of the persons who are working with him in any capacity or who are subsequently employed by him and who are near relatives, if any Groups A,B or C Officer in the DDA. Any breach of this condition by the Contractor would render him liable to action under **Clause 3** of the Agreement. In addition, he would also be liable to be debarred from tendering in future.

20. The Contractor shall give a list of Non Gazetted DDA employees related to him.
21. No Engineer of Gazetted rank or other Gazetted officer employed in Engineering or Administrative duties in any Engineering Deptt. of the Govt. of India/Delhi Development Authority is allowed to work as Contractor for a period of two years after his retirement from Govt. Service/Delhi Development Authority. The Contract is liable to be cancelled, if either the Contractor or any of his employees are found at any time to be such a person who had not obtained the permission from the Govt. of India/Delhi Development Authority as aforesaid, before the submission of the tender.
The Engineering Deptt. of Govt. of India includes the Engineering Deptt. of CPWD, MES, Railway, P&T, DDA, NDMC, MCD, DJB and others.
22. **The tender for work shall remain open for acceptance for a period of 60(Sixty) days from the date of opening of tenders.** If any, tenderer withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in terms and conditions of the tender which are not acceptable to the department, then the DDA shall, without prejudice to any other right or remedy, be at liberty to forfeit 50% of the said Earnest Money as afore said.
23. The tender for the work shall not be witnessed by a Contractor or Contractors who himself/themselves has/have tendered for the same work. Failure to observe this condition would render the tender of tenderers as well as witnessing the tender liable to summarily rejected.
24. Approved and eligible Contractors of CPWD and those of appropriate class of DDA, Railways, P & T, and MES are also eligible to tender (refer press tender notice).
25. While quoting the rate in Schedule of Quantities the word only should be written closely following the amount and it should not be written in the next line.
26. The tender for the Composite Work includes the Building portion, Sanitary, Water Supply, Drainage Works and Electrical Works.
27. The Tenderer must associate with agencies of the appropriate class which are eligible to tender for Sanitary, Water Supply installation and Electrical Works.
28. The Contractor shall submit the list of works which are in hand (progress) in the Performa given below.

Name of Work	Name and particulars of Division where the work is being executed.	Amount of work in Progress	Position of work	Remarks
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29. The tenderer shall inspect and study the drawings referred in the Tender documents in the office of the Executive Engineer before and for the purpose of submitting the tender.

30. Case of withdrawal of offer

Action to be taken

- | | |
|--|--|
| (i) If the Contractor modifies/withdraw their offer within 60 days of quoting the rates. | The 50% of the Earnest Money deposited by the Contractor shall be forfeited. |
| (ii) If the Contractor withdraws his offer immediately after the Award of Work. | The Earnest Money and Performance Guarantee deposited by the Contractor shall be forfeited absolutely and disciplinary action shall be taken against such Contractor |
| (iii) If the Contractor/agency withdraw his offer after award of work and after taking over possession of site | It is deemed that the Contractor has entered into Agreement and action to penalize the Contractor, for not completing the work within the stipulated period under Clause 2&3 , will be taken against the Contractor, if he abandons the site after taking over the possession of the site from the Engineer-in-Charge. For taking action under Clause 2 & 3 , the only documentary proof required will be the document showing signature of the Contractor or his authorised representative for taking over the possession of site. It is further clarified that action under Clause 2 & 3 of the Agreement attracted even though the Contractor fails to sign the Agreement on Rs.50/- non-judicial stamp paper but do not start work from the tenth day after date on which the order to commence the work is issued to the Contractor. The date of start of the work will be considered as date of taking over the possession of site. In case of tender for supply of material the documentary proof for start of work will be submission of samples for approval to Engineer-in-Charge i.e. in case the supply order is given to the Contractor and he fails to supply the materials or submit the samples to Engineer-in-Charge then the action to be taken against the Contractor is only the forfeiture of Earnest Money and if he submits the samples for supply and there |

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after abandons the work or fails to supply
the materials then action under **Clause-2**
& **3** is attracted

Signature of Divisional Officer.....

Executive Engineer

Division

For and on behalf of DDA, New Delhi

Dated

Name of Contractor.....
Date of Application & Receipt
Tender issued on Cost of Tender Rs.....
Tender issued at Vikas Minar/CAU (Dwarka)/Division Office.

PWD-8

Delhi Development Authority **Item Rate Tender For work**

I/We here by tender for the execution of the work for the Delhi Development Authority which is specified in under written memorandum with in the time specified in such memorandum at the item rate entered in the schedule attached and in accordance to all aspects with the Specifications design, drawings and instructions in writing, referred to in clause-11 of the conditions of Contract, and with such materials as are provided for by and in all other respect in accordance with such conditions so far as applicable.

Memorandum

(a) General Description

Name of Work : Construction of Master Plan Road 45m & 60m R/W at Dwarka, Phase-I.
Sub-head : Construction of left out portion of carriage way and remaining service road, foot-paths etc. at Master Plan Road No. 201 & 224 along the side of Sector-1 & 2, Dwarka, Phase-I.(Balance Work & Recoverable from M/s Gaur Construction Co.)

(b) Estimated Cost : Rs51,13,225/-

(c) Earnest Money : Rs. 1,02,265/-

(d) Performance Guarantee: 5% of the Tendered value.

(e) Security Deposit : As per Clause 1 & 1(a)

(f) Time allowed for the work from the 10th day after the date of written order to commence : 4(Four) Months

I/We hereby agree

- (i) To abide by and fulfill all Terms and Provisions of the said Conditions annexed here to and all the Terms and provisions contained in the Notice Inviting Tender so far as applicable and/or in default there of to forfeit and pay to the Delhi Development Authority or their successors the sum of money mentioned in the said conditions.
- (ii) To execute all the works referred to in the tender documents on the Terms & Conditions contained or referred to there in and to carry out such deviations as may be ordered up to maximum of 20% and here is called the Deviation Limit, at the rates quoted in tender documents and those in excess of this limit at the rates to be determined in accordance with the provisions contained in clause 12-A of the tender forms.

A sum of Rs.....has been deposited in Cash/Receipt Treasury Challan/Deposit at Call Receipt of a Scheduled Bank/Fixed Deposit Receipt of a Scheduled Bank /Demand Draft of a Scheduled Bank/Bank Guarantee as Earnest Money as per provisions laid down in para 4 above in favour of Sr.AO/CAU/Dwarka Zone. If, I/We fail to furnish the prescribed Performance Guarantee within the prescribed period, I/we agree that the said DDA or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said Earnest Money absolutely. Further if, I/We fail to commence work as specified, I/We agree that DDA or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said Earnest Money & the Performance Guarantee absolutely, otherwise the said Earnest Money shall be retained by him towards Security Deposit to execute all the works referred to in the tender documents upon the terms & conditions contained or referred to there in & to carry out such deviations as may be ordered up to maximum of the percentage mentioned elsewhere in the tender documents & those in excess of that limit at the rates to be determined in accordance with the provisions contained in clause 12 & 12 A of the tender form. I/We hereby declare that I/We shall treat the tender documents, drawings & other records connected with the work as secret/confidential documents & shall not communicate information derived there from to any person other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the state.

Dated theday of200

Signature of Witness

Name of Witness.

Address

.....

Occupation.....

Signature of Contractor

Postal Address

.....

.....

ACCEPTANCE

The above tender (as modified by you as provided in letters mentioned hereunder) is hereby accepted by Executive Engineer _____/DDA on behalf of the Delhi Development Authority for a sum of Rs. _____ (Rupees _____).

The letters referred to below shall form part of the Agreement.

- (a)
- (b)
- (c)

For and on behalf of Delhi Development Authority

Signature : _____

Name: _____

Designation: _____

General Rules and Directions

The liability of exemptions for depositing for the Earnest Money by virtue of exempting the bond stands withdrawn w.e.f. 26.12.89 and all the bond stand cancelled from this date and intending tenderer has to deposit the required Earnest Money with individual tender as mentioned in para 4 of PWD-6 form.

1. All works proposed for execution by Contractor will be notified in a form of invitation to tender pasted in public place signed by the Divisional Officer.
This form will state the work to be carried out as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of Earnest Money to be deposited with the tender and the percentage at which the Security Deposit shall be deducted from the bills of the successful tenderer. Copies of the specification, design and drawings and schedule of quantities and of rates of the various descriptions of work and any other document required in connection with the work assigned for the purpose of identification by the Divisional Officer shall also be open for inspection by the Contractor at the office of Divisional Officer during office hours.
2. In the event of tender being submitted by a firm, it must be signed separately by each partner thereof, or in the event of the absence of any partner it must be signed on his behalf by a person holding a power of attorney authorizing him to do so. Such power of attorney to be produced with the tender and it must disclose that the firm is duly registered under the Indian Partnership act.
3. Receipt for payments made on account of work when executed by a firm must also be signed by the several partner except where the Contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners or by some other person having Authority to give effectual receipt for the firm.
4. Any person who submits a tender shall fill up the usual printed form, stating at what rate he is willing to under take each item of the work. Tenders which propose any alteration in the work specified in the said form of invitation to tender or in the time allowed for carrying out the work or which contain any other condition of any sort will be liable to rejection. No single tender shall include more than one work, but Contractors who wish to tender for two or more works shall submit a separate tender for each. Tender shall have the name and number of the work to which they refer written outside the envelope.
- 4(a) The rate(s) and for amount(s) must be quoted in decimal coinage. Amount must be quoted in full ignoring fifty paise and considering more than fifty paise as Rupee one.
5. The Divisional Officer or his duly authorized representative will open tenders in the presence of intending Contractors who may be present at the time and will enter the amount of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, a receipt for the Earnest Money forwarded there with shall there upon be given to the Contractor who shall there upon for the purpose of identification signed copies of the Specifications and other documents mentioned in rule-1, in the event of tender being rejected the Earnest Money forwarded with such unaccepted tender shall there upon be returned to the Contractor remitting the same.
6. The officer inviting tenders shall have the right of rejecting all or any of the tender and will not be bound to accept the lowest tender.

7. The receipt of an accountant or clerk for money paid by the Contractor will not be considered as acknowledgement of payment to the Divisional Officer and the Contractor shall be responsible for seeing that he procure a receipt signed by Divisional Officer or duly authorized cashier of CAU(Dwarka)DDA.
8. The memorandum of work tendered for the schedule of materials to be supplied by the DDA and their issue rates shall be filled in and completed in the office of the Divisional Officer before the tender form is issued. If a form issued to an intending tenderer without having been so filled in and completed he shall request the office to have this done before he completes and delivers his tender.
9. In the case of Item Rate Tenders, only rates quoted shall be considered. Any tender containing percentage below/above the rates quoted is liable to be rejected. Rates quoted by the Contractor in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, if a discrepancy is found, the rates which correspond with the amount worked out by the Contractor shall, unless otherwise proved, be taken as correct. If the amount of an item is not worked out by the Contractor or it does not correspond with the rates written either in figures or words, then the rates quoted by the Contractor in words shall be taken as correct. Where the rate quoted by the Contractor in figures or in words tally but the amount is not worked out correctly, the rates quoted by the Contractor will unless otherwise provided be taken as correct and not the amount. In the event of no rate has been quoted for any items(s), leaving space both in figure(s), word(s), and amount blank, it will be presumed that the Contractor has loaded the cost of this/these item(s) in other item(s) and the rate for such item(s) will be considered as Zero and work will be required to be executed accordingly.
10. If it is found that the tender is not submitted in proper manner or contains too many corrections or absurd rates or amount it would be open for the DDA to reject the same.
11. The tenderer shall sign a declaration under the official secret Act for maintaining secrecy of the tender, shall return all the drawings or other records connected with the work given to them. The unsuccessful tenderer shall return all the drawings given to them.

DECLARATION

I/We hereby declare that I/We shall treat the tender documents drawings and records connected with the work as secret confidential documents and shall not communicate information to any persons other than a person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of state.

Signature of the Contractor

Address.....

CONDITIONS OF CONTRACTS

Definition:

1. The **Contract** means the documents forming the tender and acceptance thereof and formal Agreement executed between the Executive Engineer, Delhi Development Authority and the Contractor together with the documents referred to therein including the conditions, the Specifications, design, drawing and instructions issued from time to time by the Engineer-in-Charge and all the documents taken together shall be deemed to form one Contract and shall be complimentary to one another.
2. In the Contract, the following expressions shall thereof, unless the context otherwise requires, have the meaning hereby respectively assigned to them.
 - (a) The expression **Works or Work** shall, unless there is something either in the subject or context repugnant to such construction to be constructed and taken to mean the work by or by virtue of the Contract to be executed whether temporary or permanent and whether original, altered, substituted or additional.
 - (b) The **Site** shall mean the land or other places or through which the work is to be executed under the Contract or any adjacent land path or street through which work is to be executed under the Contract or any adjacent land path or street which may be allotted or used for the purpose of carrying out the Contract.
 - (c) The **Contractor** shall mean the individual or firm or company whether incorporated or not, undertaking the works and shall include the legal personal representative or such individual or the persons comprising such firm or company or the successors of such individual firms or company and the permitted assignees of such individual or firms or company.
 - (d) The **Authority** or DDA means the **Delhi Development Authority**.
 - (e) The **Engineer-in-Charge** means the **Divisional Officer** who shall supervise and be in-charge of the work and who shall sign the Contract on behalf of the Delhi Development Authority.
 - (f) The **Chairman** means the **Lt. Governor of Delhi**.
 - (g) The terms **Chief Engineer** means concerned **Zonal Chief Engineer** Delhi Development Authority. Words imparting the singular number include the plural number Vice-Versa.
 - (h) The Chief Technical Examiner/Technical Examiner means the Chief Technical Examiner/Technical Examiner of Central Vigilance Commission of Govt. of India.
3. The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of Quantities, which rates and the price shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.
4. The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions.
 - 4.1 In the case of discrepancy between the Schedule of Quantities, the Specifications and/or the Drawings, the following order of preference shall be observed:
 - a) Description of Schedule of Quantities.
 - b) Particular specification and Special Conditions, if any.

- c) Drawings
 - d) CPWD Specifications
 - e) Indian Standard Specifications of BIS
- 4.2 If there are, varying or conflicting provisions made in any one document forming part of the Contract, the Accepting Authority shall be the deciding Authority with regard to the intention of the documents and his decision shall be final and binding on the Contractor.
- 4.3 Any error in description, quantity or rate in Schedule of Quantities or any omission there from shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and Specifications or from any of his obligations under the Contract.

CLAUSES OF CONTRACT

Clause 1: Recovery of Security Deposit

The person/persons whose tender(s) may be accepted (hereinafter called the Contractor) shall permit DDA at the time of making any payment to him for work done under the Contract to deduct a sum at the rate of 10% of the gross amount of each running bill till the sum along with the sum already deposited as Earnest Money, will amount to Security Deposit of 5% of the tendered value of the work. Such deductions will be made and held by DDA by way of Security Deposit unless he/they has/have deposited the amount of security at the rate mentioned above in cash or in the form of Govt. Securities or Fixed Deposit Receipts. In case a fixed deposit receipt of any Bank is furnished by the Contractor to the DDA as part of the Security Deposit and the Bank is unable to make payment against the said Fixed Deposit Receipt, the loss caused thereby shall fall on the Contractor and the Contractor shall forth with on demand furnish additional security to the DDA to make good the deficit.

All compensations or the other sums of money payable by the Contractor under the terms of this Contract may be deducted from, or paid by the sale of a sufficient part of his Security Deposit or from the interest arising there from, or from any sums which may be due to or may become due to the Contractor by DDA on any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid, the Contractor shall within 10 days make good in cash or fixed deposit receipt tendered by the State Bank of India or by Scheduled Banks or Govt. securities (if deposited for more than 12 months) endorsed in favour of the Engineer-in-Charge, any sum or sums which may have been deducted from or raised by sale of his Security Deposit or any part thereof. The Security Deposit shall be collected from the running bills of the Contractor at the rates mentioned above and the Earnest Money if deposited in cash at the time of tenders will be treated a part of the Security Deposit.

NOTE:1. Govt. papers tendered as security will be taken at the 5% (five percent) below its market price or at its face value, whichever is less. The market price of Govt. paper would be ascertained by the Divisional Officer at the time of collection of interest and the amount of interest to the extent of deficiency in value of the Govt. paper will be withheld if necessary.

NOTE: 2 Govt. Securities will include all forms of securities mentioned in rule no.274 of the G.F. Rules except fidelity bond. This will be subject to the observance of the conditions mentioned under the rule against each form of security.

Clause:1(a) Performance Guarantee

- i) The Contractor shall submit an irrevocable PERFORMANCE GUARANTEE of 5% (five percent) of the tendered amount in addition to other deposits mentioned elsewhere in the Contract for his proper performance of the Contract Agreement, (not with standing and/or without prejudice to any other provisions in the Contract) within 15 days of issue of the letter of intent. This period can be further extended by the Engineer- in-Charge up to a maximum period of 7 days on written request of the Contractor stating the reason for delays in procuring the Bank Guarantee, to the satisfaction of the Engineer -in- Charge. This Guarantee shall be in the form of Govt. Securities or Fixed Deposit

Receipts or Guarantee bonds of any Scheduled Bank or the State Bank of India in accordance with the form annexed hereto (**Annexure II**). In case a fixed deposit receipt of any Bank is furnished by the Contractor to the DDA as part of the performance Guarantee and the bank is unable to make payment against the said fixed deposit receipt, the loss caused hereby shall fall on the Contractor and the Contractor shall forthwith on demand furnish additional security to the DDA to make good the deficit.

- ii) A letter of intent shall be issued in the first instance informing the successful tenderer by the competent Authority to accept his tender and the award letter shall be issued only after the Performance Guarantee in any of the prescribed form is received. In case of failure by the Contractor to furnish the Performance Guarantee within the specified period, D.D.A. shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the Earnest Money absolutely.
- iii) The Performance Guarantee shall be initially valid up to the stipulated date of completion plus 60 days beyond that. In case the time for completion of works gets enlarged, the Contractor shall get the validity of Performance Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the competent Authority, the Performance Guarantee shall be returned to the Contractor, without any interest.
- iv) The Engineer-in-Charge shall not make a claim under the Performance Guarantee except for amounts to which the DDA is entitled under the Contract (not withstanding and/or without prejudice to any other provisions in the Contract Agreement) in the event of :-
 - a) Failure by the Contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Guarantee.
 - b) Failure by the Contractor to pay DDA any amount due, either as agreed by the Contractor or determined under any of the Clauses/Conditions of the Agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.
- v) In the event of the Contract being determined or rescinded under provision of any of the clause/condition of the Agreement, the Performance Guarantee shall stand forfeited in full and shall be absolutely at the disposal of the DDA.

NOTE:- Note 1 & 2 given under clause 1 shall be applicable for Clause 1(a).

Clause: 2 Compensation for delay

If the Contractor fails to maintain the required progress in terms of clause 5 or to complete the work and clear the site on or before the Contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the DDA, on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the Superintending Engineer(whose decision in writing shall be final and binding) may decide on the amount of tendered value of the work for every completed day/month (as applicable) that the progress remains below that specified in **Clause 5** or that the work remains incomplete.

This will also apply to Items or group of Items for which a separate period of completion has been specified.

Compensation for delay of work @ 1.5% per month of delay to be computed on per day basis.

Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed 10% of the Tendered Value of work or of the Tendered Value of the Item or group of Items of work for which a separate period of completion is originally given.

The amount of compensation may be adjusted or set off against any sum payable to the Contractor under this or any other Contract with the DDA. In case, the Contractor does not achieve a particular Milestone mentioned at **Page 114** or the rescheduled milestone(s) in terms of Clause 5.4, the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied at the final grant of extension of time.

Withholding of this amount on failure to achieve a milestone, shall be automatic without any notice to the Contractor. However, if the Contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the Contractor fails to make up for the delay in the subsequent milestone(s), the amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever, shall be payable on such withheld amount.

Clause: 3 When Contract can be determined.

The Engineer-in-Charge may, without prejudice to his any other rights or remedy against the Contractor in respect of any delay, inferior workmanship, any claims for damages and/or in respect of any breaches of Contract and without prejudice to any right or remedies under any of the provisions 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 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 unworkman like manner shall omit to comply with the requirements of such notice for a period of seven days thereafter.
- ii) If the Contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.
- iii) If the Contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-Charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continues to do so after a notice in writing of seven days from the Engineer-in-Charge.
- iv) If the Contractor fails to complete the work within the stipulated date or items of work with individual date of completion, if any stipulated, on or before such date(s) of completion and does not complete them within the period specified in a notice given in writing in that behalf by the Executive-in-charge
- v) If the Contractor persistently neglects to carry out his obligations under the Contract and/or commits default in complying with any of the terms and conditions of the Contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge.
- vi) If the Contractor commits any acts mentioned in **Clause 21** hereof.
- vii) If the work is not started by the Contractor within 1/8th of stipulated time.

When the Contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the DDA shall have powers:

- a) To determine or rescind the Contract as aforesaid (of which termination or rescission notice in writing to the Contractor under the hand of Engineer-in-Charge shall be conclusive evidence). Upon such determination or rescission, the Earnest Money deposit, Security Deposit already recovered and Performance Guarantee under Contract shall be liable to be forfeited and shall be absolutely at the disposal of the DDA.
- b) After giving notice to the Contractor to measure the work of the Contractor and to take such whole, or the balance or part thereof as shall be unexecuted out of his hands and to give it to another Contractor to complete the work. The Contractor, whose Contract is determined or rescinded as above, shall not be allowed to participate in the tendering process for the balance work.
In the event of above courses being adopted by the Engineer-in-Charge, the Contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the Contract. And in case action is taken under any of the provision aforesaid, the Contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this Contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

Clauses 3A

In case, the work cannot be started due to reasons not within the control of the Contractor within 1/8th of the stipulated time for completion of work, either party may close the Contract. In such eventually, the Earnest Money Deposit and the Performance Guarantee of the Contractor shall be refunded, but no payment on account of interest, loss of profit or damages etc. shall be payable at all.

Clause 4

In any case in which any of the powers conferred upon the Engineer-in-Charge by Clause 3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such power shall not with standing be exercisable in the event of any future case of default by the Contractor and the liability of the Contractor for the compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the power 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 Engineer-in-Charge which shall be final and binding on the Contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, Plants, Materials and stores in or upon the works or the site thereof, belonging to the Contractor, or procured by the Contractor and intended to be used for the execution of the work/or any part thereof, paying or allowing for the same in account at the Contract rates or in the case of these not being applicable at current market rates to be certified by the Engineer-in-Charge whose certificate thereof shall be final and binding on the Contractor, otherwise the Engineer-in-Charge by giving this in writing may order the Contractor, or his clerk of the works, foreman or other authorized agent to remove such tools, Plants materials or stores from the premises (within a time to be specified in such notice) in the event of the Contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the Contractor's expense or sell them by auction or private sale on account of the Contractor and at his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the

proceeds and expenses of any such sale shall be final and conclusive against the Contractor.

Clause: 5 Time and Extension for delay.

The time allowed for execution of the work as specified at **Page 10 of PWD-8** or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the works shall commence from the 15th Day or such time period as mentioned in letter of award after the date on which the Engineer-in-Charge issues written orders to commence the work or from the date of handing over of the site whichever is later. If the Contractor commits default in commencing the execution of the work as aforesaid DDA shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the Earnest Money & Performance Guarantee absolutely.

- 5.1** As soon as possible after the Contract is concluded, the Contractor shall submit a Time & Progress Chart for each Milestone and get it approved by the Department. The chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by Agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the Contract documents and further to ensure good progress during the execution of the work, the Contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete the work as per milestones given at **Page 114**.
- 5.2** If the work(s) be delayed by:-
- i) force majeure or
 - ii) abnormally bad weather, or
 - iii) serious loss or damage by fire, or
 - iv) civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the works or
 - v) delay on the part of other Contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the Contract, or
 - vi) non availability of stores, which are the responsibility of Govt./DDA to supply, or
 - vii) non availability or break down of tools and Plant to be supplied or supplied by Govt./DDA, or
 - viii) any other cause which, in the absolute discretion of the Authority mentioned in **Clause - 2** is beyond the Contractor's control.
- then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer-in-Charge but shall nevertheless use constantly his best endeavors to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Engineer-in-Charge to proceed with the works.
- 5.3** Request for rescheduling of mile stones and extension of time, to be eligible for consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed form. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired.

- 5.4** In any such case the Authority mentioned in **Clause - 2** may give a fair and reasonable extension of time and reschedule the milestone for completion of work. Such extension shall be communicated to the Contractor by the Engineer-in-charge in writing within 3 months of the date of receipt of such request. Non application by the Contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the Engineer-in-Charge and this shall be binding on the Contractor.

Clause-6

Within 10 days of the completion of the work the Contractor shall give notice of such completion to the Engineer-in-Charge and within 10 days of the receipt of the such notice the Engineer-in -charge shall inspect the work and if there is no defect in the work, he shall furnish the Contractor with a certificate of completion otherwise a provisional certificate indicating defects (a) to be rectified by the Contractor, and/or (b) for which payment will be made at reduced rates, be issued. But no final certificate of completion shall be issued, nor shall the work be considered to be completed until the Contractor shall have removed from the premises on which the work shall be executed all scaffolding surplus materials, rubbish and all huts and sanitary arrangement required for his/their work people on the site in connection with the execution of the work, which shall have been erected or constructed by the Contractor(s) and cleaned of the dirt from all wood work, doors, windows, walls floors or other parts of any building in, upon or about which work is to be executed or of which he may have had possession for the purpose of the execution thereof, and not unit the work shall have been measured by the Engineer-in-Charge. If the Contractor fails to comply with the requirements of this clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangement as aforesaid and cleaning of dirt on or before the date fixed for the completion of the work, the Engineer-in-Charge may at the expense of the Contractor remove such scaffolding, surplus materials and rubbish etc. and dispose of same as he thinks fit and clean of such dirt as aforesaid and the Contractor shall have no claim in respect of any such scaffolding or surplus materials as aforesaid accept for any sum actually released by the sale thereof.

Clause 6A

When the annual repairs and maintenance work is carried out, the splashes and dropping from white washing colour washing, painting etc. on walls, doors, roofs, windows etc. shall be removed and the surface cleaned simultaneously with completion of these items of works in the individual rooms, quarters or premises etc. Where the work is done without waiting for the actual completion of the other items of the work in Contract. In case the Contractor fails to comply with the requirements of this clause, the Engineer-in-Charge shall have the right to get this work done at the risk and cost of the Contractor either Departmentally or through another agency. Before taking such action the Engineer-in-Charge shall give two days notice in writing to the Contractor.

Clause 6 B

The Contractor shall submit the completion plan required vide general specification for Electric works (Part 1 Internal) 2005 and (Part 2 External) 1994 as applicable within 30 days of the completion of work. In case the Contractor fails to submit the completion plan as aforesaid he shall be liable to pay a sum equivalent to 1% of the value of the work subject to a ceiling to Rs.25,000/-(Twenty Five Thousand only) as may be fixed by the Superintending Engineer concerned and in this respect the decision of the Suptdg. Engineer shall be final and binding on the Contractor.

CLAUSE 6 C SUPPLEMENTARY AGREEMENT

Notwithstanding the provisions contained in other clauses, the Engineer-in-Charge may decide to draw a Supplementary Agreement to the main Agreement with the Original Contractor with whom the main Agreement had been executed, at the fag end of the Contract for subsequent execution of the finishing items as given in **Schedule 'B'** of the Schedule of items.

1. The items contained in **Schedule 'B'** may be executed separately under the Supplementary Agreement with the Contractor of the main work, in the eventuality of Engineer-in-Charge deciding to opt for the same once the Work/obligations under **Schedule 'A'** are completed. If so decided, the Contractor will execute the work covered by Schedule 'B' under a Supplementary Agreement as per terms and conditions contained therein.
2. In the event of drawing up of the Supplementary Agreement, the main Contract in respect of **Schedule 'A'** of the items shall be independently finalized by the Engineer-in-Charge as per the terms and conditions of the Main Agreement whereas the final bill, in respect of Schedule 'B' of the items shall be prepared after the completion of the work as per terms and conditions of the Supplementary Agreement.
3. Security Deposit for Main Agreement may be released retaining an amount equivalent to 50% of Security Deposit or 10% of the Tendered Cost of work to be executed under the Supplementary Agreement, whichever is more as Security Deposit till the completion of work covered by Supplementary Agreement and maintenance period thereafter.
4. During the operation of the Supplementary Agreement, the Watch and ward of the entire work including that completed under the Main Agreement (as per Schedule - A) shall continue to remain the responsibility of the Contractor notwithstanding the fact that the main Agreement work has been finalized. The Contractor shall be paid extra on this account @ Rs.6600/- (Rupees Six thousand six hundred only) per month. However nothing extra will be paid for T&P and sundries required for watch and ward operation. This clause shall, however, be operative only after completing all obligations under Main Agreement irrespective of the Specific provision contained in Schedule 'B' of the Schedule of items.
5. During the operation of the Supplementary Agreement as well as the maintenance period thereafter, the Contractor shall be liable to make good, any loss, or damage to the work executed under both the main as well as the Supplementary Agreement, for which nothing extra shall be payable to the Contractor.
6. The supplementary Agreement shall be as per the enclosed Draft (**Annexure-IV**) the terms of which are acceptable to the parties.
7. All other provisions of the Main Agreement, until and unless specifically mentioned otherwise in the Supplementary Agreement, shall be applicable during the operation of the Supplementary Agreement also.

Clause 7

No payment shall be made for a work estimated to cost Rupees five thousand or less till after the whole of the work shall have been completed and certificate of completion given. But in the case of work estimated to cost more than Rs. Five thousand the Contractor shall on submitting the bill be entitled to receive a monthly payment proportionate to the part of work executed to the satisfaction of the Engineer-in-Charge whose certificate of the sum so payable shall be final or conclusive against the Contractor.

All such intermediate payments shall be regarded as payment by way of advanced against the final payment only and not as payment for work actually done and completed and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or recreated or be considered as an admission of the due performance of the Contract on any part thereof, in any respect or the acquiring of any claims, nor shall it conclude, determine or affect in any way the powers of the Engineer-in-Charge under this conditions or any of them as to the final settlement and adjustments of the accounts or otherwise or in any other way vary or affect the Contract. The final bill shall be submitted by the Contractor within one month of the date fixed for completion of the work or of the date of the certificate of completion furnished by the Engineer-in-Charge and payment shall be made within Three months, when amount of the contract plus that of additional items is up to Rs. 2 lacs and within six months, if the same exceeds Rs. 2 lacs, of the submission of such bill. If there shall be any dispute about any item of the work than the undisputed item or items only shall be paid within the said period of three months or 6 months or as the case may be. The Contractor shall submit a list of the disputed items within thirty days from the disallowances thereof and if he fails to do this, his claim shall be deemed to have been fully waived and absolutely extinguished.

When ever there is likely to be delay in recording detailed measurement for making running payment in the case of residential building, advance payment without detailed measurement for works done (other than foundation and finishing items) up to (a) lintel level(including sunshade etc.) and (b) slab level for each floor, worked out at 75% of the assessed value may be made in running accounts bill by the Engineer-in-Charge in his discretion of the basis of certificate from the Assistant Engineer to the effect that the work has been completed up to the level in question. The advance payment so allowed shall be adjusted in the subsequent running bill by taking detailed measurement there of final payment shall be made only on basis of detailed measurement.

Clause 8

A bill shall be submitted by the Contractor each month on or before the date fixed by the Engineer-in-Charge for all work executed in the previous month and the Engineer-in-Charge shall take or cause to be taken the requisite measurement for the purpose of having the same verified, and the claim as far as admissible adjusted as far as possible before the expiry of ten days from the presentation of the bill, if the Contractor does not submit the bill within the time fixed as aforesaid, the Engineer-in-Charge may depute, with in seven days of the date fixed, as aforesaid, his subordinate to measure the said work in presence of the Contractor whose counter signature to measurement list will be sufficient warrant and the Engineer-in-Charge may prepare a bill from such list.

Clause 8 A

Before taking any measurements of any work as has been referred to in Clause 6,7 & 8 there of the Engineer-in-Charge or a subordinate deputed by him shall give reasonable notice to the Contractor. If the Contractor fails to attend at the measurement, after such notice or fails to countersign or to record the difference with in a week from the date of measurement in the manner required by the Engineer-in-Charge then in any such event

the measurement taken by the Engineer-in-Charge or by a subordinate deputed by him as the case may be shall be final and binding on the Contractor and the Contractor shall have no right to dispute the same.

Clause 9

The Contractor shall submit all bills on the printed forms to be had on application at the office of the Engineer-in-Charge and the charges in the bills shall always be entered at rates specified in the tender or in the case of any extra work, ordered in pursuance of these conditions and not mentioned or provided for in the tendered, at the rates here in after provided for such work.

Clause 9 A

Payments due to the Contractor may if so desired by him be made to his bank instead of direct to him provided that the Contractor furnishes to Engineer-in-Charge (i) An authorization in the form of a legally valid documents such as a power of attorney conferring Authority on the Bank, to receive payment and (ii) his own acceptance of the correctness of amount made out as being due to him by Delhi Development Authority or his signature on the bill or other claim preferred against Delhi Development Authority, before settlement by the Engineer-in-Charge of the account or claim by payment to the Bank. While the receipt given by such bank shall constitute a full and sufficient discharge for the payment, the Contractor should whenever possible present his bill duly receipted and discharged through his bankers. Nothing herein contained shall operate to create in favour of the Bank, any right or equities vis-à-vis the Authority.

Clause 10: Stores supplied by Delhi Development Authority

If the specification or schedule of items provides for the use of any special description of materials to be supplied from Engineer-in-Charge stores or if it is required that the Contractor shall use certain stores to be provided by the Engineer-in-Charge, as shown in the schedule of materials here to annexed at **Page 115**, the Contractor shall be bound to procure them from Engineer-in-Charge and shall be supplied such materials and stores as are from time to time required to be used by him for the purpose of the Contract only, and the value of the full quantity of materials and stores so supplied at the rates specified in the said schedule of material may be set off or deducted, as and when materials are consumed in the item of work (including normal wastage) for which payment is being made to the Contractor, from any sums then due, or there after become due to Contractor under the Contract or otherwise or from the Security Deposit or the proceeds of the sale thereof if the same is held in Govt. Securities, the some of sufficient portion thereof being in this cases sold for the purpose.

The Contractor shall bear the cost of getting the material issued loading, transporting to site, unloading, storing as required, cutting assembling and joining the several parts together as necessary. Notwithstanding anything to the contrary contained in any other clause of the Contract and (or the CPWD code) all stores, materials so supplied to the Contractor or procured with the assistance of the Delhi Development Authority, shall remain the absolute property of Delhi Development Authority and the Contractor shall be the trustee of the store, materials and the said store, material shall not be removed/disposed of from the site of the work on any account and shall be all times open to the inspection by the Engineer-in -charge.

Any such stores/materials remaining unused shall be returned to the Engineer-in-Charge at a place directed by him by a notice, he shall so require but in case it is decided not to take back the stores/materials the Contractor shall have no claim for

compensation on any account of such stores/materials so supplied to him as aforesaid and not used by him or for any wastage in or damage to in such stores/materials.

On being required to return the stores/materials the Contractor shall hand over the stores/materials on being paid or credited such price as the Engineer-in-charge shall determine, having due regard to the condition of the stores/materials. The price allowed to the Contractor, however shall not exceed the amount charged to him excluding the storage charge, if any. The decision of the Engineer-in-Charge shall be final and conclusive. In the event of breach of the aforesaid condition the Contractor shall in addition to throwing himself open to account of contravention of the terms of the licenses or permit and/or criminal breach of trust, be liable to Delhi Development Authority for all advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach. Provided that the Contractor shall in no case be entitled to any compensation or damage on the account of the delay in supply or non supply there of all or any such materials and stores. Provided further that the Contractor shall be bound to execute the entire work if the materials are supplied by the DDA with in the original schedule time for the completion of the work plus 50% there of or schedule time plus 6 months whichever is more if the time of the completion exceed 12 months but if a part of the materials only has been supplied with in the aforesaid period, then the Contractor shall be bound to do so much of the work as may be possible with the materials and the stores supplied in the aforesaid period. For the completion of the rest of the work, Contractor shall be entitled to such extension of the times as may be determined by the Engineer-in-Charge whose decision in this regard shall be final and binding on the Contractor.

Clause 10 A

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

Clause 10 B

- i) The Contractor on signing an indenture in the form to be specified by the Engineer-in-Charge shall be entitled to be paid during the progress of the execution the work up to 75% of estimated value of any materials which are in opinion of the Engineer-in-Charge non perishable, non fragile and non combustible and are in accordance with the Contract and which have been brought on the site in connection, therewith and are adequately stored and protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub clause are incorporated in the work, the amount of such advance shall be deducted from the next payment made under any of the clause or clauses of this Contract.

Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of the Engineer-in-Charge provided the Contractor provides a comprehensive insurance cover for the full cost of such materials. The decision of the Engineer-in-Charge shall be

final and binding on the Contractor in this matter. No secure advance, shall however, be paid on high risk materials such as ordinary glass, sand, petrol, diesel etc.

- ii) Mobilization advance not exceeding 10% of the tendered value or Estimated Cost put to tender or Rs.1.00 crore whichever is less may be given, if requested by the Contractor in writing within one month of the order to commence the work. In such a case, the Contractor shall execute a bank guarantee bond from a Scheduled Nationalized Bank as specified by the Engineer-in-Charge for the full amount of such advance before it is released. Such advance shall be in two or more installments to be determined by the Engineer-in-Charge in his absolute discretion. The first installment of such advance shall be released by the Engineer-in-Charge to the Contractor on a request made by the Contractor to the Engineer-in-Charge in this behalf. The second and subsequent installation shall be released by the Engineer-in-Charge only after the Contractor furnishes a proof of the satisfactory utilization of the earlier installments to the entire satisfaction of the Engineer-in-Charge.

Mobilization advance shall be admissible only for works where Estimated Cost put to tender is Rupees Two Crores and above.

- iii) An advance for Plant and Machinery required for the work and brought to site by the Contractor may be given if requested by the Contractor in writing within one month of bringing such Plant and Machinery to site. Such advance shall be given on such Plant and Machinery, which in the opinion of the Engineer-in-Charge will add to the expeditious execution of work and improve the quality of the work. The amount of advance shall be restricted to 5% of tender value. In the case of new Plant and equipment to be purchased for the work, the advance shall be restricted to 90% of the price of such new Plant and equipment paid by the Contractor for which the Contractor shall produce evidence satisfactory to the Engineer-in-Charge. No such advance shall be paid on any Plant and equipment of perishable nature and on any Plant and equipment of a value less than Rs.50,000/-. Seventy five percent of such amount of advance shall be paid after the Plant and equipment is brought to site and balance twenty five percent on successfully commissioning of the same.

This advance shall further be subject to the conditions that such Plant and equipment (a) are considered by the Engineer-in-Charge to be necessary for the work (b) and are in and are maintained in working order, (c) hypothecated to the DDA as specified by the Engineer-in-Charge before the payment of advance is released. The Contractor shall not be permitted to remove from the site such hypothecated Plant and equipment without the prior written permission of the Engineer-in-Charge. The Contractor shall be responsible for maintaining such Plant and equipment in good working order during the entire period of hypothecation failing which such advance shall be entirely recovered in lump sum.

The Contractor shall insure the Plant and Machinery for which mobilization advance is sought and given, for a sum sufficient to provide for their replacement at site. Any amount not recovered from the insurer will be borne by the Contractor.

- iv) The mobilization advance and Plant and Machinery advance in (ii) and (iii) above bear simple interest at the rate of 10% per annum and shall be calculated from the date of payment to the date of recovery, both days inclusive, on the outstanding amount of advance. Recovery of such sums

advanced shall be made by the deduction from the Contractor's bill commencing after first ten per cent of the gross value of the work is executed and paid, on pro rate percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered by the time 80% of the gross value of the Contract is executed and paid, together with interest due on the entire outstanding amount up to the date of recovery of the installment.

- v) If the circumstance are considered reasonable by the Engineer-in-Charge the period mentioned in (ii) and (iii) for request by the Contractor in writing for grant of mobilization advance and Plant and equipment advance may be extended in the discretion of the Engineer-in-Charge.
- vi) The said bank guarantee for advances shall initially be made for the full amount and valid for the Contract period, and be kept renewed from time to time to cover the balance amount and likely period of complete recovery together with interest.

Clause 10 C

If after submission of the tender the price of any material incorporated in the works (not being material supplied from the Engineer-in-Charge stores in accordance with clause 10 thereof) and/or wages of labour increases as direct result of the coming in to force of any fresh law, or statutory rule or order (but not due to any changes in sales tax) and such increase in the price and/or wages prevailing at the time of the last stipulated date of the receipt of the tenders including extension if any for the work and the Contractor there upon necessarily and properly pays in respect of the material (incorporated in the works) such increased price and/or in respect of labour engaged on the execution of the work such increased wages, then the amount of the Contract shall accordingly be varied and provided further that any such increase shall not be payable if such increase has become operative after the stipulated date of completion of the work in question.

If after submission of the tender, the price of any material incorporated in the works (not being a material supplied from the Engineer-in-Charge stores in accordance with clause 10 thereof) and/or wages of labour is decreased as a direct result of the comings in to force of any fresh law or any statutory rules or order (but not due to any changes in sales tax) and such decrease in the price and/or wages prevailing at the time of receipt of the tender for the work. DDA shall in respect of materials incorporated in the works(not being materials supplied from the Engineer-in-Charge stores in accordance with clause 10 thereof) and/or labour engaged on the execution of the work after the date of coming into force of such law statutory rule or order be entitled to deduct from the dues of the Contractor such amount as shall be equivalent to the difference between the prices of the materials and/or wages as prevailed at the time of the last stipulated date for receipt of tenders including extensions if any for the work and the price of materials and/or wages of labour on the coming into force of such law, statutory rule or order.

The Contractor shall, for the purpose of this condition, keep such books of account and other documents as are necessary to show the amount of any increase claimed or reduction available and shall allow inspection of the same by a duly authorized representative of the DDA, and further shall, at the request of the Engineer-in-Charge may require any documents so kept and such other information as the Engineer-in-Charge may require.

The Contractor shall, within a reasonable time of his becoming aware of any alteration in the price of any such materials and/or wages of labour, give notice there of

to the Engineer-in-Charge stating that the same is given pursuant to this condition together with all information relating thereto which he may be in position to supply.

Clause 10 (CA)

If after submission of the tender, the prices of cement and/or steel reinforcement bars incorporated in the works (not being a material supplied from the Engineer-in-Charge's stores in accordance with Clause 10 thereof) increase(s) beyond the price(s) prevailing at the time of the last stipulated date for receipt of tenders (including extension, if any) for the work, then the amount of the Contract shall accordingly be varied and provided, further that any such increase shall not be payable if such increase has become operative after the stipulated date of completion of the work in question.

If after submission of the tender, the prices of Cement and/or Steel reinforcement bar incorporated in the works (not being a material stipulated from the Engineer-in-Charge's stores in accordance with Clause 10 thereof) is decreased. DDA shall in respect of these materials incorporated in the works (not being materials supplied from the Engineer-in-Charge's stores in accordance with Clause 10 thereof) be entitled to deduct from the dues of the Contractor such amount as shall be equivalent to the difference between the prices of the cement and or steel reinforcement bars as prevailed at the time of last stipulated date for receipt of tenders including extensions if any for the work and the prices of these materials on the coming into force of such base price of cement and/or steel reinforcement bars issued under Authority of SE(P)DDA.

The increase/decrease in prices shall be determined by the All India Wholesale price indices for cement and steel (bars and rods) as published by Economic Advisor to Government of India, Ministry of Commerce and Industry and base price of cement and/or for steel reinforcement bars as issued under Authority of SE(P), DDA as valid on the last stipulated date of receipt of tender, including extension if any and for the period under consideration.

The amount of the Contract shall accordingly be varied for cement and/or steel reinforcement bars and will be worked out as per the formula given below.

(a) Adjustment for component of "Cement"

$$V_c = P_c \times Q_c \times \frac{(CI - CI_0)}{CI_0}$$

Where

V_c = Variation in cement cost i.e. increase or decrease in the amount in rupees to be paid or recovered

P_c = Base price of cement as issued under Authority of SE(P)DDA valid at the time of the last stipulated date of receipt of tender including extension, if any.

Q_c = Quantity of cement used in the works since previous bill.

CI_0 = All India Whole sale Price index for cement as published by the Economic

Advisor to Government of India, Ministry of Industry & Commerce as valid on the last stipulated date of receipt of tenders including extensions, if any.

CI = All India Whole sale Price index for cement for period under consideration as published by the Economic Advisor to Government of India, Ministry of Industry & Commerce.

(b) Adjustment for component of 'Steel'

$$V_s = P_s \times Q_s \times \frac{(SI - SI_0)}{SI_0}$$

Where

V_s = Variation in cost of steel reinforcement bars i.e. increase or decrease in the amount in rupees to be paid or recovered.

Ps= Base price of steel reinforcement bars, as issued under Authority of SE(P)DDA at the time of last stipulated date of receipt of tender including extensions, if any.

Qs= Quantity of steel paid either by the way of secured advance or used in the works since previous bills(whichever is earlier).

SI0= All India Wholesale price Index for steel (bar and rods) for the period under consideration as published by the Economic Advisor to Government of India, Ministry of Industry & Commerce as valid on the last stipulated date of receipt of tenders including extensions, if any.

SI= All India Wholesale price Index for steel (bar and rods) for the period under consideration as published by the Economic Advisor to Government of India, Ministry of Industry & Commerce.

Provided always that provisions of the preceding clause 10 C shall not be applicable in respect of Cement and/or steel reinforcement bars.

Clause 10 CC

If the prices of materials (not being materials supplied or services rendered at fixed prices by the Department in accordance with clause 10 & 34 thereof) and/or wages of labour required for execution of the work increases, the contractor shall be compensated for such increase as per provisions detailed below and the amount of the contract shall accordingly be varied, subject to the condition that such compensation for escalation in prices and wages shall be available only for the work done during the stipulated period of the contract including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2. However, for the work done during the justified period extended as above, the compensation as detailed below will be limited to prices/wages prevailing at the time of stipulated date of completion or as prevailing for the period under consideration, whichever is less. **No such compensation shall be payable for a work for which the Stipulated Period of Completion is equal to or less than 18(Eighteen) months**. Such compensation for escalation in the prices of materials and labour, when due, shall be worked out based on the following provisions:

- (i) The base date for working out such escalation shall be the last date on which tenders were stipulated to be received.
- (ii) The cost of work on which the escalation will be payable shall be reckoned as below:
 - (a) Gross value of work done up to this quarter (A)
 - (b) Gross value of work done up to the last quarter (B)
 - (c) Gross value of work done since previous quarter (A-B) (C)
 - (d) Full assessed value of secured advance fresh paid in this quarter (D)
 - (e) Full assessed value of secured advance recovered in this quarter (E)
 - (f) Full assessed value of secured advance for which escalation is payable in this quarter (D-E) (F)
 - (g) Advance payment made during this quarter (G)
 - (h) Advance payment recovered during this quarter (H)
 - (i) Advance payment for which escalation is payable in this quarter (G-H) (I)
 - (j) Extra items paid as per Clause 12 & 12 A based on prevailing market rates during this quarter (J).

Then, $M = C + F + I - J$

$N = 0.85M$

- (k) Less cost of material supplied by the Department as per Clause 10 and recovered during the quarter (K).

- (l) Less cost of services rendered at fixed charges as per Clause 34 and recovered during the quarter (L)

Cost of work for which escalation is applicable:

$$W=N-(K+L)$$

- (iii) Component of cement, steel, materials, labour, POL etc. shall be predetermined for every work and incorporated in the conditions of Contract attached to the tender papers (in para X) and the decision of the Engineer-in-Charge in working out such percentage shall be binding on the Contractor
- (iv) The compensation for escalation for cement, steel, materials and POL, shall be worked as per the formula given below:-

(a) Adjustment for component of "Cement"

$$V_c = \frac{W \times X_c \times (CI - CI_0)}{100 \quad CI_0}$$

V_c = Variation in cement cost i.e. increase or decrease in the amount in Rs. to be paid or recovered.

W = Cost of work done worked out as indicated in sub-para (ii) of clause 10(cc)

X_c = Component of cement expressed as percent of the total value of work. (para x)

CI = All India Wholesale Price Index for cement for the period under consideration as published by the Economic Advisor to Govt. of India, Ministry of Industry and Commerce.

(In respect of the justified period extended under the provisions of clause 5 of the contract without any action under clause 2, the Index prevailing at the time of stipulated date of completion or the prevailing Index of the period under consideration, whichever is less, shall be considered.)

CI_0 = All India Whole sale Price index for cement as published by the Economic Advisor to Government of India, Ministry of Industry & Commerce as valid on the last stipulated date of receipt of tenders including extensions, if any.

(b) Adjustment for component of "Steel".

$$V_s = \frac{W \times X_s}{100} \times \frac{(SI - SI_0)}{SI_0}$$

V_s = Variation in steel cost i.e. increase or decrease in the amount in Rs. to be paid or recovered

W = Cost of work done worked out as indicated in sub-para (ii) of clause 10(cc)

X_s = Component of steel expressed in percent to the total value of the work. (para x)

SI = All India Wholesale Price Index for Steel (bars and rods) for the period under consideration as published by the Economic Advisor to Govt. of India, Ministry of Industry and Commerce. However, the **Price Index shall be minimum of the following:-**

- (i) **Index** for the month when the last consignment of steel reinforcement for the work is procured, or

- (ii) **Index** for the month by which half of the stipulated contract period is over
- (iii) **Index for the period under consideration.**
For the justified period extended under the provision of clause 5 of the contract, without any action under clause 2, same principle as for the period within stipulated period of completion, will apply.

SIO= All India Wholesale Price Index for Steel (bars & rods) published by the Economic Advisor to Govt. of India, Ministry of Industry & Commerce as valid on the last stipulated date of receipt of Tenders including extension, if any.

(c) Adjustment for component of "Materials"

$$V_m = \frac{W \times X_m \times (MI - MIO)}{100 \quad MIO}$$

V_m= Variation in materials cost i.e. increase or decrease in the amount in Rs. to be paid or recovered.

W= Cost of work done worked out as indicated in sub-para (ii) of clause 10 (cc)

X_m= Components of "Materials" expressed as percent of the total value of the work (para x).

MI= All India Wholesale Price Index for civil component/electrical component of construction material as worked out on basis of All India Wholesale Price Index for individual Commodities/Group items for the period under consideration as published by the Economic Advisor to Government of India, Ministry of Industry & Commerce and applying weightages to the individual Commodities/Group items .

(In respect of the justified period, extended under the provisions of clause 5 of the contract without any action under clause 2, the Index prevailing at the time of stipulated date of completion or the prevailing Index of the period under consideration, whichever is less shall be considered.)

MIO= All India whole sale price Index for construction material valid on the last stipulated date of receipt of tenders including extension, if any as published by the Economic Advisor to Government of India, Ministry of Industry & Commerce.

(d) Adjustment for component of "POL "

$$V_F = \frac{W \times Z \times (FI - FIO)}{100 \quad FIO}$$

V_F= Variation in cost of fuel, oil and lubricants i.e. increase or decrease in the amount in rupees to be paid or recovered.

W=Cost of work done worked out as indicated in sub para(ii) and clause 10 (cc)

Z= Component of fuel, oil and lubricants expressed as percent of total value of work.(para x).

FI= All India Wholesale Price Index for Fuel, Oil and Lubricants for the period under consideration as published by the Economic Advisor to Government of India, Ministry of Industry & Commerce, New Delhi.

(In respect of the justified period, extended under the provisions of clause 5 of the contract without any action under clause 2, the Index prevailing at

the time of stipulated date of completion or the prevailing Index of the period under consideration, whichever is less shall be considered.)

FIO= All India whole sale price Index for fuel, oil and lubricants published by the Economic Advisor to Govt. of India, Ministry of Industry and Commerce, New Delhi valid on the last stipulated date of receipt of tenders including extension, if any.

- (v) The following principles shall be followed while working out the indices mentioned in para (iv) above.
- (a) The compensation for escalation shall be worked out (at quarterly intervals) and shall be with respect to be cost of work done during the three calendar months of the said work. The first such payment shall be made at the end of three months after the month excluding in which the tender was accepted and thereafter at three months intervals. At the time of completion of the work, the last period for payment might become less than 3 months, depending on the actual date of completion.
- (b) The index (MI/FI etc.) relevant to any quarter/period for which such compensation is paid shall be the arithmetical average of the indices relevant to the three calendar months. If the period up to the date of completion after the quarter covered by the last such installment of payment, is less than three month index MI and FI shall be the average of the indices for the month falling within that period.

- (vi) The compensation for **escalation of labour** shall be worked out as per the following formula given below:

$$VL = \frac{W \times Y}{100} \times \frac{(LI - LI0)}{LI0}$$

VL= Variation in Labour cost i.e. increase or decrease in the amount in rupees to be paid or recovered.

W= Value of work done, worked out as indicated in sub-para (ii) of Clause 10 (cc).

Y= Component of labour expressed as percentage of the total value of work. (para x)

LI0= Minimum daily wage in rupees of an unskilled adult male mazdoor, fixed under any law, statutory rule or order as on the last stipulated date of receipt of tender including extension, if any.

LI= Minimum wage in rupees of an unskilled adult male mazdoor, fixed under any law, statutory rule or order as applicable on the last date of the quarter previous to the one under consideration.

(In respect of the justified period, extended under the provisions of clause 5 of the contract without any action under clause 2, the Index prevailing on the last date quarter previous to the quarter pertaining to stipulated date of completion or the Index prevailing on the last date of the quarter previous to the one under consideration, whichever is less shall be considered.)

- (vii) The following principle will be followed while working out the compensation as per sub para (vi) above.
- (a) The minimum wage of an unskilled male mazdoor mentioned in sub-para VI above shall be the higher of the following two figures namely those notified by Govt. of India, Ministry of labour and those notified by the local administration, both relevant to the place of work and the period reckoning.
- (b) The escalation for labour shall also be paid at the same quarterly interval when escalation due to increase in cost of materials and/or POL is paid under this clause. If such, revision of minimum wages takes place during any such

quarterly intervals, the escalation compensation shall be payable for work done in all quarters subsequent to the quarter in which the revision of minimum wages takes place.

- (c) Irrespective of variation in minimum wages of any category of labour for the purpose of this clause, the variation in the rates for an unskilled adult male mazdoor alone shall form the basis for working out the escalation compensation payable on the labour component.
- (viii) In the event of the price of the material and/or wages of labour required for execution of the work decreases, there shall be downward adjustment of the cost of the work. So that such prices of the materials and/or wages of labour shall be deductible from the cost of work under this Contract and in this regard the formula herein stated under this clause 10(CC) shall mutatis mutandis apply, provided that:
 - (a) No such adjustment for the decrease in the price of materials and/or wages of labour aforementioned would be made in a case of Contract in which the stipulated period of completion of the work is **18 months or less**.
 - (b) The Engineer-in-Charge shall otherwise be entitled to lay down the principles on which the provision of this sub-clause shall be final and binding.
- (ix) Provided always that the provisions of the proceeding clause **10 C & 10 CA shall not be applicable** for Contracts where provisions of this clause are applicable, but in cases where provisions of this clause are not applicable, the **provision of Clause 10 C & 10 C A** will become applicable.
- (x) **Schedule of component of Cement, Steel, other materials, Labour etc. for price escalation under Clause 10 CC:**

Component of Cement Xc

Expressed as percent of total value of work.....%

Component of Steel Xs

Expressed as percent of total value of work.....%

Component of Materials Xm

Expressed as percent of total value of work.....%

Component of Labour Y

Expressed as percent of total value of work.....%

Component of POL Z

Expressed as percent of total value of work.....%

Clause 10 D

The Contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work etc. as Delhi Development Authority's property and such materials shall be disposed off to the best advantage of Delhi Development Authority according to the instructions in writing issued by the Engineer-in-Charge

Clause 10 E

Cement shall be supplied by the Department in HDPE or gunny bags containing 50 kg. of cement in each bag and shall be available in multiples of 50 kg. bags. The recovery rate of cement is inclusive of cost of jute paper or HDPE bags.

Clause 10 F

In case the empty cement bags are required by DDA for bonafied use in work. The Executive Engineer of the work shall have the power to collect the bags himself and the Contractor shall have to return desired number of empty jute/poly bags in serviceable condition to him on the same condition and as per prevailing rates of DGS & D for bags collecting agents.

Clause 11: 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 and both as regards materials and otherwise in every respect in strict accordance with the Specifications. The Contractor shall also conform exactly, fully and faithfully to the designs, drawings and instructions in writing in respect of the work signed by the Engineer-in-Charge and the Contractor shall be furnished free of charge one copy of the Contract documents together with Specifications and of all such design drawing and instruction as are not included in the Central Public Works Department compilation entitled CPWD Specification for work at Delhi 1996 volume 1 to VI with 1 to 19 Correction Slips, or in any Bureau of Indian Standard or any other, published Standard or Code or, schedule of rates or any printed publications, or General Specification referred to elsewhere in the Contract and CPWD Specification 2002 or CPWD General Specifications for Electrical works Part-I (Int). 2005 and Part-II(Ext.)1994 with up to date Correction Slips.

Clause 12: Alteration on Specification and Drawing.

The Engineer-in-charge shall have powers (i) to make any alteration in, omission from, addition to or substitution for the original Specifications drawings and instructions that may appear to him to be necessary or advisable during the progress of the work and (ii) to omit a part of the work in case of non availability of a portion of the

site or for any other reason and the Contractor shall be bound to carry out the work in accordance with any instruction which may be given to him in writing signed by the Engineer-in-charge and such alterations, omission, additions or substitutions shall not invalidate the contract and any altered, additional, substituted work, which the contractor may be directed to do in the manner as specified above, 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 Contracts work and certified by the Engineer-in-Charge shall be conclusive as to such proportion. Over and above, this a further period to the extent of 25% of such extension so extended 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 additional altered or substituted work are specified in the Contract for the Work, the Contractor is bound to carry out the additional, altered or substitute work at the same rates as are specified in the Contract for the work.
- (ii) If the rates for the altered, additional or substituted work are not specifically provided in the Contract for the work. The rates will be derived from the rates for a similar class of work as are specified in the Contract for the work.
- (iii) If the rates for altered, additional or substituted work includes any work for which no rate is specified in the Contract or the rate can not derived from the similar class of work in the Contract, then such work shall be carried out at the rates entered in

the current CPWD Schedule of Rates for Delhi 2002 with 1 to 3 correction slips plus/ minus percentage which the total tendered amounts bear to the Estimated Cost of the entire work put to tender or CPWD Schedule of Rates (Electrical) Part-I, Internal 2007 and Part-II, External 1995 Electrical Works.

- (iv) If the rates for the altered, additional or substituted work can not be determined in the manner specified in sub-clause (i), (ii) & (iii) above then rates for such shall be worked out on the basis of the current C.P.W.D. Schedule of Rates for Delhi 2002 with 1 to 3 correction slips plus/ minus percentage which the total tendered amounts bear to the Estimated Cost of the entire work put to tender. Provided always that if the rate for a particular part or parts of the items is not in the schedule of rates for such parts or parts will be determined by the Engineer-in-Charge on the basis of prevailing market rates when the work was done or CPWD Schedule of Rates (Electrical) Part-I, Internal- 2007 and Part-II, External 1995 for Electrical works with up to date correction slips.
- (v) If the rates for any altered, additional or substituted item of work can not be determined in the manner specified in Sub-clause (i) to (iv) above, then the Contractor shall, within seven days from the date of receipt of the order to carry out the said work, inform the Engineer-in-Charge of the rate which he proposed to claim for such item of work, supported by the analysis of the rate claimed, and the Engineer-in-Charge shall within three months thereafter, after giving due consideration to the rates claimed by the Contractor determined the rate on the basis of prevailing market rates and pay the Contractor accordingly. However the Engineer-in-Charge by giving notice in writing will be at liberty to cancel his order to carry out such class of work and arrange to carry it out in such manner as he may consider advisable. But under no circumstances the Contractor shall suspend the work on the plea of non-settlement of rate of items falling under the clause.
- (vi) Except in case of items relating to foundations, provisions contained in sub-clause (i) to(v) above shall not apply to Contract or substituted items as individually exceed the percentage set out in the tender documents (referred to here in below as deviation limit) subject to the following restrictions:
 - (a) The deviation limit referred to above is the net effect (algebraic sum) of all additions and deduction ordered.
 - (b) In no case shall the addition/deductions (arithmetical sum) exceed twice the deviation limit.
 - (c) The deviation ordered on items of any individual trade included in the Contract shall not exceed plus/minus 50% of the value of that trade in the Contract as a whole or half the deviation limit: whichever is less.
 - (d) The value of additional items, of any individual trade not already included in the Contract, shall not exceed 10% of the deviation limit.
- (vii) For the purpose of operation of clause 12 (vi) the following work shall be treated as work relating to foundations.
 - (a) For building plinth level or 1.2 meters above ground level which ever is lower excluding items of flooring and DPC but including base concrete below the floor.
 - (b) For abutment, piers retaining walls or culverts and bridges, wall of water reservoirs, the bed of floors level
 - (c) For retaining walls where floor level is not determinable 1.2 meters above the average ground level or bed level.

- (d) For roads all items of excavations and filling including treatment of sub base and soling work.
- (e) For water supply lines sewer lines, underground storm water drains and similar works, all items of work below ground level except items of pipe work and masonry work.
- (f) For open storm water drains all items of work except lining of drains.

Note : Individual trade means the trade sections into which a schedule of quantities annexed to the Agreement at Page ____ to ____ has been divided or in the absence of any such divisions the individual sections of the CPWD Schedule of Rates specified above such as excavation and earth work concrete, wood and joinery etc. The rates of any such work except the items relating to foundation which is in excess of the deviations limits shall be determined in accordance with the provisions contained in clause 12 A of additional items.

Clause 12 A:

In the case of Contract items substituted items or additional items which result in exceeding the limits laid down in sub-clause (vi) of clause 12 except the items relating to foundation work which the Contractor is required to do under clause 12 above the Contractor shall within 7 days from the receipt of order claim revision of the rates supported by proper analysis in respect of such 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 clause 12 and Engineer-in-Charge may revise their rates having regard to the prevailing market rates and the Contractor shall be paid in accordance with the rates so fixed. The Engineer-in-Charge 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 a manner as he may consider advisable but under no circumstance the Contractor shall suspend the work on the plea of not settlement of rates of items falling under this clause.

All the provisions of the proceeding paragraph shall equally apply to the decrease in the rates of items or 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 the preceding Clause 12, and the Engineer-in-Charge may revise such rates having regards to the prevailing market rates.

Clause 13:

If at any time after the commencement of the work the Authority shall for any reason whatsoever not require the whole work or part of work there of, as specified in the tender, to be carried out, the Engineer-in-Charge shall give notice in writing of the fact to the Contractor who shall have no claim to any payment to compensation whatsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he did not derive in consequence of the full amount of the work not having been carried out neither shall he have any claim for compensation by reason of any alteration having been made in the Original Specifications, drawings, designs and instructions which shall involve any curtailment of the work as originally contemplated. Provided that the Contractor shall be paid the charges on the cartage only of materials actually and bonafiedly brought to the site of the work and had rendered surplus as a result of the abandonment or curtailment of the work or any portion thereof and then taken back by the Contractor. Provided, however,

that the Engineer-in-Charge shall have in all such cases, the option of taking over all or any such material at their purchase price or at local current rates, whichever may be less. In the case of such stores having been issued from DDA Stores and returned by the Contractor to DDA Stores, credit shall be given to him by the Engineer-in-Charge at the rates not exceeding those at which they were originally issued to him after taking into consideration and deduction for claim on account of any deterioration or damage while in the custody of the Contractor and in this respect the decision of the Engineer-in-Charge shall be final.

Clause 14

If it shall appear to the Engineer-in-Charge or any officer deputed as his authorized subordinate-in-charge of the work, Chief-Engineer, Superintending Engineer, Chief Technical Examiner/Technical Examiner of Central Vigilance Commission or any officer deputed & Chief Engineer Quality Control DDA or by an Officer of the vigilance of the Authority, 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 for the work are unsound or of quality inferior to that Contracted for, otherwise or not in accordance with the Contract, the Contractor shall on demand in writing, which shall be made within six months of the completion of the work, from the Engineer-in-Charge specifying the work, materials or articles complained of, notwithstanding that the same may have been passed, certified and paid for, will 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 material or article so specified and provide other proper suitable material or articles at his own charge and cost and in the event of his failing to do so within a period to be specified by the Engineer-in-Charge in his demand aforesaid, then the Contractor shall be liable to pay compensation at the rate of one percent on the estimated amount put to tender for every day not exceeding ten days while his failure to do shall continue and in the case of any such failure, the Engineer-in-Charge may rectify or remove and re-execute the work or remove and replace with others, the materials, or articles complained, as the case may be at the risk and expense in all respects of the Contractor.

Clause 15

All work under or in course of execution or pursuance of the Contract shall at all times be open to the inspection and supervision of the Engineer-in-Charge and his authorized subordinates and the Central vigilance Commission or by the Chief Engineer quality control DDA or his authorized subordinate officer, and the Contractor shall at all times during the usual working hours and at all others times for which reasonable notice of the intention of the Engineer-in-Charge or authorized subordinate to visit the works has been given, the Contractor either himself be present to receive the orders and instructions or have a responsible agent duly accredited in writing present for that purpose Orders given to the Contractor agent shall be considered to have the same force as if they had been given to the Contractor himself. The work during its progress can also be inspected by the Chief Technical Examiner of the Central Vigilance Commission or by Chief Engineer Quality Control DDA or by an officer of the Vigilance Cell of the Authority on behalf of the Engineer-in-Charge (or any Technical Officer C.E.(Q.C.), SE(QC), E.E.(Q.C.) or any officer of higher level.

Clause 16:

Contractor shall give not less than seven days notice, in writing to Engineer-in-Charge or his authorized subordinate in charge of the work, before covering up or

otherwise placing beyond the reach of measurement any work in order that the same may be measured and correct dimension thereof be taken before the same is so covered up or placed beyond the reach of measurement and shall not cover up any work without the consent in writing of the Engineer-in-Charge or his authorized subordinate in charge of the work. The Engineer-in-Charge or his authorized subordinate-in-charge of work shall within the aforesaid period of seven days inspect the work, and if any work shall be covered or placed beyond the reach of measurement without such notice having been given to the Engineer-in-Charge, consent being obtained the same shall be uncovered at the Contractor's expense or in default thereof no payment or allowance shall be made for such work or the materials with which same was executed.

Clause 17: Contractor liable for Damages done and for imperfection notice during maintenance period.

If the Contractor or his working people or servants shall break, deface injure or destroy any part of building in which they may be working or any building, road, kerb, fence enclosure, water pipe, cables, drains, Electric or Telephone post or wires or trees, grass or grassland, or cultivated ground continuous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress from any causes whatever or if any defect shrinkage or other faults appear in the work within 12 months (6 months in case of any work other than road work costing Rs.10,00,000/- and below) after a certificate final or otherwise of its completion shall have been given by the Engineer-in-Charge as aforesaid arising out of defect or improper materials or workmanship the Contractor shall upon receipt of a notice in the writing on that behalf make the same good at his own expense or in default, the Engineer-in-Charge cause the same to be made good by other workman and deduct the expense from any sums that may be due or at any time after may become due to the Contractor, or from his Security Deposit for the portion pertaining to asphaltic work which is governed by sub-para(iii) of clause 35 or the proceeds of sale thereof or of a sufficient portion thereof of the Security Deposit of the Contractor except the portion pertaining to asphaltic work is governed by sub-para (iii) of clause 35 shall not be refunded before the expiry Of 12 Months (Six months in case of any work other than road work costing Rs.10 Lacs and below) after the issue of the certificate final or completion of work or till the final bill has been prepared and passed whichever is later.

Clause 17 A :- Refund of Security Deposit in road works

Provided that in the case of road work if in the opinion of the Engineer-in-Charge, half of the Security Deposit is sufficient to meet all the Liabilities of Contractor under this Contract, half of the Security Deposit will be refundable after six months the remaining half after twelve months of the issue of the said certificate of completion or till the Final bill has been prepared and passed whichever is later

Clause 17B : Defects relating to work of leakage of Roof

Provided further that for defects relating to leakage from the roof, the Contractor shall be responsible for rectification of the same within a period of one year or two rainy seasons (ending October) whichever is later, after the physical date of completion of the work as a whole to be recorded by the Deptt. and 10% of the Security Deposit of the Contractor will be refunded after expiry of the above period.

Clause 18: Contractor to supply Tools & Plants etc.

The Contractor shall provide at his own cost all materials (except such materials, if any as may in accordance with the Contract be supplied from the Engineer-

in-Charge stores) Plant, tools, appliances, implements, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specification or other documents forming part of the Contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied or which is entitled to require together with carriage there of to and from the work. The Contractor shall also supply with out charge the requisite number of persons with the means and materials necessary for the purpose of setting out work and counting, weighing and assisting the measurement for examination at any time and from time to time of the work or materials. Failing his so doing the same may be provided by the Engineer-in-Charge at the expenses of the Contractor and expanses may be deducted from any money due to the Contractor or otherwise and/or from his Security Deposit or the proceeds of sale there of or a sufficient portions there of.

Clause 18 A: Recovery of Compensation paid to Workman

In every case in which by virtue of the provisions of section 12 sub-section (i) of the workman's compensation Act 1923 Delhi Development Authority is obliged to pay compensation to a workman employed by the Contractor, in execution of the works, Delhi Development Authority will recover from the Contractor the amount of the compensation so paid, and without prejudice to the rights of Delhi Development Authority under section 12 sub-section (ii) of the said Act Delhi Development Authority shall be at liberty to recover such amount or any part there of, by deducting it from the Security Deposit or from any sum due by Delhi Development Authority to the Contractor whether under this Contract or otherwise. Delhi Development Authority Shall not be bound to contest any claim made against it under section 12 sub-section (i) of the said Act, except on the written request of the Contractor and upon his giving to Delhi Development Authority full security for all cost for which Delhi Development Authority might become liable in consequence of contesting such claim.

Clause 18 B: Ensuring payment and Amenities to Workers if Contractor fails

In every case which by virtue of the provisions of the Contract labour (Regulation & Abolition) Act, 1970 and of the Contract Labour (Regulation & Abolition) Central Rules 1971, DDA is obliged to pay any amounts of wages to a workman employed by the Contractor in the execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under clause 19-H or under the CPWD Contractor's Labour Regulations, or under the rules framed by the government from time to time for protection of health and sanitary arrangements for workers employed by DDA Contractors, DDA will recover from the Contractor the amount of wages so paid or the amount of expenditure so incurred and without prejudice to the rights of the DDA under section 20. Sub-section (2) and Section (21), Sub-section (4) of the Contract Labour (Regulation & Abolition) Act, 1970, DDA shall be at liberty to recover such amount or any part there of by deducted it from the Security Deposit or from any due by DDA to the Contractor, whether under this Contract or otherwise, DDA shall not be bound to contest any claim made against it under section 20, sub-section (i) and Section 21, Sub Section (4) of the said act.

Clause 19: Labour Laws to be complianced with by the Contractor

The Contractor shall obtain license under the Contract Labour (R&A), Act 1970, and the Contract Labour (Regulation & Abolition) Central Rules 1971, before the

commencement of the work and continue to have a valid license until the completion of the work. The Contractor shall also abide by the provision of child labour prohibition and Regulation Act 1986.

The Contractor shall comply with all the provisions of the Delhi Building and other construction workers (Regulations of Employment and conditions of Service) Rule-2002 framed Under Section 62 of the Building and other construction workers (Regulation of employment and Condition of service) Act, 1996 of Govt. of India as notified by the govt. of NCT of Delhi vide notification No. DLC/CLA/BCW/01/19 dt. 10.1.2002 which inter alia provides that a Cess @ 1% of the cost of construction/project or as revised by the competent Authority from time to time shall be leviable and shall be deducted at source from the bills paid to the Contractor. All other terms/conditions as per the Act, mentioned herein-above as well as rules made there under and modification issued from time to time would also apply.

Any failure to fulfill this requirement shall attract the penal provisions of this Contract arising out of the resultant non-execution of the work.

Clause 19 A: No Labour below the age of Fourteen Years shall be employed on the work

Clause 19 B: Payment of wages to labour:

- (a) The Contractor shall pay not less than fair wages to labourers engaged by him on the work.
Explanation: "Fair Wages" means wage, whether for time or piece work, notified at the time of inviting tenders for the work, where such wages have not been so notified the wages prescribed by the D.D.A. for the district in which the work is done it will be notified/prescribed by D.D.A. in consultation with the officer's of the Industrial Relation Machinery located in the respective areas and will not be less than the minimum rates of the wages fixed by the Govt. of N.C.T. Delhi for that class of employee engaged on the same type of the work in the same area.
- (b) The Contractor shall, notwithstanding the provisions of any Contract to the contrary, cause to be paid fair Wage to labourers indirectly engaged on the work, including any labour engaged by his sub-Contractors in connection with said work, as if the labour had been immediately employed by him.
- (c) The respect of all labour directly or indirectly employed in the works for performance of the Contractor's part of this Contract, the Contractor shall comply with or cause to be complied with the D.D.A. Contractor's labour regulations made by the Govt. of N.C.T. Delhi from time to time payment of wages, period of deductions from wages, recovery of wages not paid and deductions unauthorisidely made, maintenance of wages books or wage slip, publication of scale of wages and other items of employment inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract labour (regulation and abolition) Act 1970 and Contract labour (Regulation & Abolition) central rules, 1971, which ever is applicable.
- (d) The Engineer-in-Charge concerned shall have right to deduct from the money due to the Contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfillment of the conditions of the Contract for the benefit of the workers, non-payment of

wages or of deductions made from his wage which are not justified by their terms of the Contract or non-observance of the Regulations.

- (e) Under the provision of the Minimum Wages Act 1948 and the Minimum Wages (Central) Rule 1950, the Contractor is bound to allow or cause to be allowed to the labourers directly employed in the works one day rest for six days continuous works and pay wages at the same rate as for duty. In the event of default the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labourers and pay the same to the persons entitled there to from any money due to the Contractor by the Engineer-in-Charge concerned, in the case of the N.C.T. of Delhi, however as the all inclusive **minimum daily wages fixed under Delhi Government Notification No F12(142)02/MW/LAB/1108 Dated 03.03.08 effective from 01.02.08 or as amended or recommended from time to time**.
- (f) Vis-à-vis the Delhi Development Authority and the Contractor shall be primarily liable to all payment to be made under and for the observance of the Regulation aforesaid without prejudice to his right to claim indemnity from sub contractors.
- (g) The regulation aforesaid shall be deemed to be a part of this Contract and any breach there of shall be deemed to be a breach of this Contract.

Clause 19 C: Penalty for each default to provide facilities:-

In respect of all labour directly or indirectly employed in the work for the performance of the Contractor's part of this Contract, the Contractor shall at his own expense arrange for the safety provision as per Safety Code framed from time to time and shall at his own expense provide for all facilities in connection there with. In case the Contractor fails to make arrangement and does not provide necessary facilities as aforesaid he shall be liable to pay a penalty of Rs. 200/- for each default and in addition the Engineer-in-Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs, incurred in that on behalf of the Contractor.

Clause 19 D: Statement of Staff employed by Contractor

The Contractor shall by the 4th and 19th of every month, submit to the Engineer-in-Charge, a true Statement showing, in respect of the second half of the preceding month and the first of the current month respectively:-

1. The number of labourers employed by him on the work,
2. Their 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 by them and.
5. The number of female workers who have been allowed Maternity Benefit according to clause – 19F and the amount paid to them Failing which the Contractor shall be liable to pay to D.D.A. sum not exceeding Rs. 50/- for each default or materially incorrect statement. The decision of the Divisional Officer shall be final in deducting from any bill due to the Contractor and the amount levied as fine shall be binding on the Contractor.

Clause 19 E:

In respect of all labours directly or indirectly employed in the works for the performance of the Contractor's part of this Agreement, the Contractor shall comply with or cause to be complied with all rules by Government from time to time, for the protection of health and sanitary arrangement for workers employed by the Delhi Development Authority and its Contractors.

Clause 19 F:

Leave and pay during leave shall be regulated as follows:

1. Leave

- (i) In the case of delivery, maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and four weeks following that day
- (ii) In case of miscarriage -up to three weeks form the date of miscarriage.

2. Pay

- (i) In case of delivery – leave pay during maternity leave will be at the rate of the women's average daily earnings, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she given notice that she expects to be confined or, at the rate of rupees one only day whichever is greater.
 - (ii) In case of miscarriage leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done (during a period of 3 months immediately preceding the date of such miscarriage.
3. Conditions for the grant of maternity leave: No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than Six months immediately preceding the date on which she proceeds on leave.
4. The Contractor shall maintain a register of maternity (benefit) in the prescribed form as shown below and the same shall be kept at the place of work.

Register of Maternity Benefit (Clause 19 F of the conditions of Contract)

Name and address of the Contractor(s)

Name and location of work,

Name of Employee	Father's/ Husband's Name	Nature of Employment	Period of Actual Appointment
(1)	(2)	(3)	(4)

Date on which notice of

Confinement given

(5)

Date of which maternity leave commenced and ended

Date of Delivery/ Miscarriage	In case of Delivery Commenced	Ended	In case of miscarriage Commenced	Ended
(6)	(7)	(8)	(9)	(10)

Leave pay paid to the Employee

In case of Delivery

In case of Miscarriage

Rate of leave pay	Amount paid	Rate of leave pay	Amount paid	Remarks
(11)	(12)	(13)	(14)	(15)

Specimen form of the Register regarding maternity benefit admissible to Contractor's labour in Delhi Development Authority work.

1. Name of the work Name of Contractor
2. Name of the woman and her husband's name
3. Designation 4. Date of appointment.....
5. Date with Month & Year in which she is employed
6. Date of discharge/dismissal, if any
7. Date of production of certificate in respect of pregnancy.....
8. Date on which woman informs about expected delivery.....
9. Date of delivery/miscarriage/death
10. Date of production of certificate in respect of delivery/miscarriage.....
11. Date with the amount of maternity/death, death benefit, if paid in advance of expected delivery.....
12. Date with the amount of subsequent payment of maternity benefit.....
13. The name of the person nominated by the women to receive the payment of the maternity benefit after her death
14. If woman dies, the date of her death, the person to whom Maternity benefit amount was paid, the month thereof and the date of payment.
15. Signature of the Contractor authenticating entries in the register
16. Remarks column for the use of inspecting officer

Clause 19G: MODEL RULES

In the event of the Contractor (s) committing a default or breach of any of the Provisions of the DDA Contractor's labour Regulation and Model Rules for Protection of Health and sanitary arrangements for workers as amended from time to time or furnishing any information or submitting or filing any statement under the provisions of the above Regulations and Rules which is materially incorrect, he/they shall without prejudice to any other liability, pay to the Delhi Development Authority a sum not exceeding Rs.50/-per day for each day, default, breach or furnishing, making, submitting, filing such material incorrect statements and in the event of the Contractor(s) defaulting continuously in this respect, the penalty may be enhanced to Rs.50/- per day for each day of default subject to a maximum of **Five per cent of the Estimated Cost of the work put to Tender**. The decision of the Engineer-in-Charge shall be final and binding on the parties.

Should it appear to the Engineer-in-Charge that the Contractor (s) is/are not properly observing and complying with the provisions of DDA Contractor's Labour

Regulations and model rules and the provisions of the Contract (Labour Regulation & Abolition) Act 1970, and the Contract labour (Regulation & abolition) Central Rules 1971, for the protection of health and sanitary arrangements for work people employed by the Contractor, hereinafter referred a "The said Rules", **the Engineer-in-Charge shall have power to give notice in writing to the Contractor (s) requiring that the said rules be complied with and the amenities prescribed there in be provided to the work people within a reasonable time**, to be Specified in the notice. If the Contractor(s) fail within the period specified in the notice to Comply with and/observe the said rules and to provides the amenities to work people as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities herein before mentioned at the cost of the Contractors(s). The Contractor (s) shall erect, make and maintain at his/their own expenses and according to approved standards all necessary tents and sanitary arrangement required at for his/their work people on the site in-connection, with the execution of the works, and if the same shall not have been erected or constructed according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the Contractor's requiring that the said tents and sanitary arrangements be remodeled and/or reconstructed according to approved standards, and if the Contractors shall fails to remodel or reconstruct such tents and sanitary arrangement according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel such tents and sanitary arrangements, according to approved Standards at the cost of the Contractor(s).

Construction of labour huts near work sites shall be avoided as far as possible Whenever labour huts are pitched the Engineer-in-Charge will prepare a plan of the area to be occupied by the labour of the construction agency reflecting there upon of huts to be constructed. The Engineer-in-Charge shall obtain an undertaking from the Contractor that the site of the labour huts shall be cleared of the labour huts after the work has completed in the following Performa.

I/We here by undertake that.

1. Full site free from any encroachment has been handed over to me/ us on.....
2. The labour huts..... in nos. pitched/constructed by me/us at site as shown On the site plan and duly signed by me/us, belong to me/us.
These shall be removed from the site before the completion of the work. In case of failure to do so the Department can get the same removed at my risk and cost.
The Contract bill shall not be finalized till the Engineer-in-Charge given a certificate that the area occupied by the labour of the Contractor has been cleared/vacated.

Signature of the Contractor

Clause 19H: Specifications for labour camp.

The Contractor (s) shall at his/their own cost provide his/their labour with a sufficient number of huts/tents (here in after referred to as the camp) of the following Specifications on a suitable plot of land to be **approved by the Engineer-in-Charge**.

- 1(a) The minimum height of each hut/tent shall be 2.10 meters (7'-0") and the floor area to be provided at the @2.7sqm. (30Sq.ft.) for each member of the worker's family staying with labourer.
- (b) The Contractor(s) shall in addition construct suitable cooking place having minimum Area of (1.8M x1.5M)(6'x5.0') adjacent to the tent/hut for each family.

- (c) The Contractor (s) shall also construct temporary Latrines and Urinals for the use of the labours each at the scale of not less than four pan for each one hundred of the total strength. Separate latrines and Urinals be provided for women.
- (d) The Contractors (s) shall also construct sufficient number of bathing & washing places, one unit for every 25 persons residing in the camp. Theses bathing & washing places shall be suitable screened.
- 2(a) The floor of hut/tent shall be in bricks and shall be at least 6" (0.15m) above the surrounding ground the Tents shall be of canvas cloth (water proof) as may be approved by the Engineer-in-Charge and the Contractor shall ensure that through out the period of their occupation the tents remain water tight.
- (b) There shall be kept an open space of at least 8 yards (7.2M) between the rows of tents which may reduced to 20 ft. (6m) according to the availability of site with the approval of the Engineer-in-Charge. Back to back construction will be allowed.

3. **Water Supply:**

The Contractor shall provide adequate supply of water for the use of labourers. Provision shall not be less than two gallons of pure water per head per day for drinking purpose and three gallons of clean water per head per day for batching & washing purposes, where piped water supply is available supply shall be at stand posts and where the supply is from wells or river, tanks, which may be of metal or masonry, shall be provided. The Contractor (s) shall also at his/their cost make arrangement for laying pipe lines for supply to his/their labour camp from the existing mains wherever available and shall pay all fees and charges there of.

- 4. The site selected for the camp shall be on high ground, removed from jungle.

5. **Disposal of Excreta:**

The Contractor (s) shall make necessary arrangement for the disposal of excreta from latrines by trenching or incineration shall be according to the requirements laid down by local Health Authority. If trenching or incineration is not allowed the Contractor's shall make arrangement for the removal of the excreta through the Municipal Committee/Authority and inform it, the number of laboures employed so that arrangements may made by such Committee Authority for the removal of the excreta All charge on this account shall, be born by the Contractor and paid directly by him to the Municipality / Authority. The Contractor shall provide one sweeper for every 8 seats in case of dry system.

6. **Drainage:**

The Contractor shall provide efficient arrangement for drawing away sullage water so as to keep the camp neat and tidy.

- 7. The Contractor shall make necessary arrangement for keeping the camp area sufficiently lighted to avoid accident to the workers.

8. **Sanitation:**

The Contractor (s) shall make arrangement for conservancy and sanitation in the labour camps accordingly to the rule of the Local Public Health and Medical Authority

- 9. Wherever electric connection from NDPL/BSES is readily available the Contractor would provide sufficient street-lights for the labour camp as per directions of the Engineer-in-Charge.

Clause 19 I:

The Engineer-In-Charge may require the Contractor **to dismiss or remove from the site of the work any person or persons in the Contractor (s)**

employment on the work who may be incompetent or misconduct himself and the Contractor shall forth with comply with such requirements.

Clause 19 J:

It shall be the responsibility of the Contractor (s) to see that the building under construction is not occupied by any body unauthorized during construction, and is hand over to the Engineer-in-Charge with vacant possession of complete building. If such building, though completed is occupied illegally, then the Engineer-in-Charge will have the option to refuse to accept the said building/buildings in that position any delay in acceptance on this account will be treated as delay in completion and for such delay a levy up to 5% of the Estimated Cost put to tender may be imposed by the Superintending Engineer, whose decision shall be final both with regards to the justification and quantum and shall be binding on the Contractor. However the Superintending Engineer may require the Contractor, through a notice, to remove the illegally occupation any time on or before reconstruction and delivery.

Clause 20.

The Contractor shall comply with all the provisions of the minimum wages Act 1948, and Contractor Labour (regulation & Abolition Act 1970), amended from time to time & rules framed there under & other labour laws affecting the Contract labour that may be brought **into force time to time**.

Clause 21:

Work not to be sublet Contract may be rescinded and Security Deposit forfeited for sub-letting, bringing or if Contractor becomes insolvent. The Contract shall not be assigned or sublet without the written approval of the Engineer-in-Charge and if the Contractor shall assign or sublet his Contract or attempt to do so or become insolvent or commence an insolvency proceeding or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given promised, or offered by the Contractor or any of his servants or agents or any public officer or persons in the employment of Delhi Development Authority in any way relating to his office or employment or if any such officer or person shall become in any way indirectly or directly interested in the Contract, the Engineer-in-Charge on behalf of the Authority shall have power to adopt any of the courses specified in clause 3, thereof as he may deem best suited to the interest of Delhi Development Authority and in the event of any these courses being adopted the consequence specified in the said clause 3 shall ensure.

Clause 22: Reasonable compensations without references to actual loss

All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of Delhi Development Authority without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

Clause 23: Change in firm's constitution to be intimated

Where the Contractor is a partnership **firm**, the previous approval in writing of the Engineer-in-Charge shall be obtained before any change is made in the constitution of the Firm. Where the Contractor is an individual or a Hindu undivided family business concern, such approval as aforesaid shall likewise be

obtained before the Contractor enters into any partnership Agreement where under the partnership firm would have the right to carry out the works here by undertaken by the Contractor. If previous approval as aforesaid is not obtained, the Contract shall be deemed to have been assigned in contravention of clause 21 here of and the same action may taken, and same consequences shall ensure as provided in the said clause 21.

Clause 24:

All works to be executed under the Contract shall be executed under the direction and subject to the approval in all respects of the Engineer-in-Charge who shall be entitled to direct at what point or points and in what manner they are to be commenced and time to time carried on.

Clause 25:

The decision of the Superintending Engineer/Chief Engineer regarding the quantum of reduction as well as justification there of in respects of rates for sub standard work below specification which maybe decided to be accepted will be final and would not open to arbitration.

Clause 26: Contractor to Indemnify D.D.A. against patent rights

The Contractor shall fully indemnify and keep indemnified the Delhi Development Authority against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any realities which may be payable in respect of any article or part thereof included in the Contract. In the event of any claims made under or action brought against Delhi Development Authority in respect of any such matters as aforesaid, the Contractor shall be immediately notified, thereof, and Contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise there from, provided that the Contractor shall not be liable to indemnify the Delhi Development Authority if the infringement of the patent or design or any alleged patent or Design right is the direct result of an order passed by the Engineer-in-Charge, in this behalf.

Clause 27: Deleted

Clause 28:

In the case of any class of work for which there is no such Specifications as referred to in Rule-1, such work shall be carried out in accordance with the B.I.S./district Specifications. In case there is no B.I.S./District Specifications, then in such case the work shall be carried out as per manufacturers Specification. In case, there are no such Specifications, as required above, the work shall be carried out in all respect in accordance with the instructions and requirements of the Engineer-in-Charge.

Clause 29 (1) Withholding and lien in respect of sums from Contractor

Wherever any claims for payment of any sum money arise out of or under Contract or against the Contractor, the Engineer-in-Charge or D.D.A. shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from security, if any deposited by the Contractor and for the purpose aforesaid, the Engineer-in-Charge or the D.D.A. shall be entitled to withhold the

Security Deposit, if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the Contractor, the Engineer-in-Charge or the D.D.A. shall be entitled to withhold and have lien to retain to the extent the such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the Contractor under the same Contract or any other Contract with the Engineer-in-Charge or the D.D.A. or any Contracting person through the Engineer-in-Charge pending finalization of adjudication of any such claim. It is an agreed term of the Contract that the sum or sums of money so with held or retained under the lien referred to above by the Engineer-in-Charge or D.D.A. till the claim arising out of or under the Contract is determined by the competent court, and that the Contractor will have no claim for interest or damages what so ever on any account in respect of such with holding or retention under the lien referred to above and duly notified as such to the Contractor. For the purpose of this clause, where the Contractor is a partnership firm or a limited company, the Engineer-in-Charge or the D.D.A. shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/Limited company as the case may be, whether in his individual capacity or otherwise.

Clause 29 (ii)

Delhi Development Authority shall have right to cause an audit and technical examination of the works and the final bills of the Contractor, including all supporting voucher, abstract etc. to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been over paid in respect of any work done by the Contractor under the Contract or any work claimed to have been done by him under the Contract and found not to have been executed, the Contractor shall be liable to refund the amount of overpayment and it shall be lawful for Delhi Development Authority to recover the same from him in the manner prescribed in sub-clause (i) of this clause or in any other manner legally permissible, and if it is found that the Contractor was paid less than what was due to him under the Contract in respect of any work executed by him under it the amount of such under payment shall, be duly paid by Delhi Development Authority to the Contractor, without any interest there on what so ever Provided that Delhi Development Authority shall not be entitled to recover any/some over paid, not the Contractor shall be entitled to payment of any sum paid short where payment has been agreed upon between the Chief-Engineer or Executive Engineer on the one hand and the Contractor on the other hand under any term of the Contract permitting payment for work after assessment by the Chief-Engineer or the Executive Engineer.

Clause 30 : Lien in respect of any D.D.A. Works/Contract

Any sum of money due and payable to the Contractor (including the Secutiry Deposit refundable to him) under the Contract may be withheld or retained by way of lien by the Engineer-In-Charge or the D.D.A. or any other Contracting persons or persons through Engineer-in-Charge against any claim. The Engineer-in-Charge or D.D.A. or such other Person or persons in respect of payment of a sum of money arising out of or under any Contract made Contractor with the Engineer-in-Charge or the D.D.A. or with such other person or persons. It is an agreed terms of the Contract that sum of money so with held

or retained under this clause by Engineer-in-Charge or the D.D.A. will be kept withheld or retained as such by Engineer-In Charge or the D.D.A. or till his claim arising out of the same Contract or any other Contract is either mutually settled or determined by the competent Court, and that the Contractor shall have no claim for interest or damages what so ever on this account or any other ground in respect of any sum of money with-held or retained under this clause and duly notified as such to the Contractor.

Clause 31:

The Contractor (s) shall make his/their own arrangement for unfiltered water required for the work and nothing extra will be paid for the same. This will subject to the following conditions:

(a) That the water used by the Contractor shall be fit for construction purpose to the satisfaction of the Engineer-In Charge.

(b) The cost of testing shall be paid by the Contractor.

Clause 32: (i)

The Contractor shall be allowed to construct temporary wells in Delhi Development Authority land for taking water for construction purposes only after he has got permission of the Engineer-in-Charge in writing. No charge shall be recovered from the Contractor on this account, but the Contractor shall be required to provide necessary safety arrangements to avoid any accidents or damage to adjacent building, roads and service lines. He shall be responsible for any accidents or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to it's original condition after the wells are dismantled on completion of the work.

Clause 32: (ii) Contractor to repair the wells/head pump at sites

Where there is no pipe water supply arrangement and the water is to be taken by the Contractor from the wells or hand pumps constructed by the Delhi development Authority no charge shall be recovered from the Contractor on that account. The Contractor shall, however, draw water at such hours of the day that it does not interfere with normal use for which the hand pumps and wells are intended. He shall also be responsible for all damage and abnormal repairs arising out of his use, the cost of which shall be recoverable from Contractor on this account. **The Engineer-in-Charge shall be the final Authority to determine the cost recoverable from Contractor on this account and his decision shall to binding on the Contractor.**

Clause 33: Return of surplus materials

Notwithstanding any thing contained to the contrary in any or all of the clause of this Contract, where any materials for the execution of the Contract are procured with the assistance of Delhi Development Authority either by issue from DDA stock or purchase made under order of permits or licenses issued by DDA, the Contractor shall hold the said materials economically and solely for the purpose of the Contract and not dispose of them without the permission of the D.D.A. and return, if required by the Engineer-in-Charge all surplus materials or unserviceable materials that be left with him after the completion of the Contract or at it's termination for any reason whatsoever on being paid or credited such price at the Engineer-in-Charge shall determine having due regard to the condition of the materials. The price allowed to the Contractor however shall not exceed the amount charged to him excluding the element of storage

charges. **The decision of the Engineer-in-Charge shall be final and conclusive.** In the event of breach of the aforesaid condition the Contractor shall in addition throwing himself open to action for contravention of the term of the Licenses or permit and or for criminal breach of trust be liable to D.D.A. for all moneys, advantages or profit resulting or which in the usual course would have resulted to him by reason of such breach.

Clause 34: Hire of Plants & Machinery

The Plant and Machinery as per annexure (at Page 116) required for the work be issued to the Contractor on hire basis on the condition given below.

- 34(a) Plant and Machinery when supplied shall be made available and taken at the Departmental equipment shed as mentioned in the annexure and the Contractor shall bear the cost of their carriage from shed to the site of the work and back. **(The Contractor shall arrange his programme of work accordingly to availability of Plant & Machinery and no claim whatsoever will be entertained from him for any delay in supply by Department.)**
- 34(b) The Plant and Machinery as stipulated above will be issued as and when available and if required by the Contractor Rollers when required should be obtained from the Department. The Contractor shall arrange his programme of work according to the availability of Plant & Machinery and no claim whatsoever, will be entertained from him for any delay in supply by the Department.
- 34(c) The hire charge shall be recovered at the prescribed rates from and inclusive of the date on which the Plant and Machinery is made available & up to and inclusive of the date of its return in good order even though the same may not have been working for any cause except for major break down, due to no fault of the Contractor or faulty use requiring more than 3 working days continuously
(Excluding intervening holiday and Sunday) for bringing the Plants in order. The Contractor shall immediately intimate in writing to the Engineer-in-Charge
when any Plant or Machinery gets out of order requiring major repairs as aforesaid and binding on the Contractor.
- 34(d) The Engineer-in-Charge shall record the date and time of receipt of such intimation in the log sheet of the Plant and Machinery. Based on this if the break down occurs before lunch, the period of major break down will be computed considering half a day's break down on the day of complaint. If the break down occurs in the post lunch period, the period of major break down will be computed starting from the next working day. In case of any dispute under this clause the decision of the Superintending Engineer shall be final & binding on the Contractor.
- 34(e) The hire charges shown above are for each day of 8 hours (inclusive of the one hour lunch break) or part thereof.
- 34(f) Hire Charges will include service of operating staff required and supply of lubricating oil and stores for cleaning purpose. Power fuel of approved type e.g. fire works and Kerosene oil, for running the Plant & Machinery and also the full time chowkidar for guarding the Plant and Machinery against any loss or damage, shall be arranged by the Contractor who shall be fully responsible for the safeguard and security of Plants and Machinery. The Contractor shall on or before

the supply of Plant & Machinery signed an Agreement indemnifying the Department against any loss caused to the Plant & Machinery either during transit or at the site of work.

- 34(g) Ordinarily no Plant and Machinery shall work more than 8 hours a day inclusive of one hour lunch break. In case of a urgent work, however the Engineer-in-Charge may, at his direction, allow the Plant and Machinery to worked for more than normal period of 8 hours a day In that case the hourly hire charges for over time to be born by the Contractor shall be 50% more than the normal proportionate hourly charges ($1/8^{\text{th}}$ of the daily charges) subject to a minimum of half day's normal charges on any particulars day for working out hire-charges for over time, a period of half an hour and above will be charged as one hour and a period of less than half an hour will be ignored.
- 34(h) The Contractor shall release the Plant and Machinery every 7th day for periodical servicing and / or wash out, which may take about three to four hour or more. Hire charges for full day/shall be recovered from the Contractor for the day of servicing / wash out irrespective of the period employed in serving/wash out.
- 34(i) The Plant and Machinery once issued to Contractor shall not be returned by on account of lack of arrangements of labour and materials etc on his part. The same will be returned only when they require major repairs or when in the opinion of the Engineer-in-Charge the work or a portion for which the same was issued is completed.
- 34(j) Log book for recording the hour of daily work for each of the Plant and Machinery supplied to the Contractor will be maintained by the Department and will be attested by the Contractor or his authorized agent daily. In case Contractor contests the correctness of the entire and /or failing to sign the Log Book, the decision of the Engineer-in-Charge shall be final and biding on him. Hire charges will be calculated according to the entries in the Log book, and will be binding on the Contractor. Recovery on account of hire charge, for road roller shall be made for the minimum numbers of days worked out on the assumption, that a roller can consolidate per day and maximum quantity of material or area of surfacing as noted against in the annexed statement on **Page 17**.
- 34(k) In the case of concrete mixers, Contractor shall arrange to get the hopper cleaned and the drum washed at the close of the work each day or each occasion.
- 34(l) The contractor shall be responsible to return the Plant and Machinery in the same condition in which it was handed over to him and he shall be responsible for all damages caused to the said Plant and Machinery at the site of work or elsewhere when in operation or otherwise or during including damages to or loss of parts and for all losses due to this failure to return the same soon after completion of work for which it was issued The Divisional Engineer shall be the sole judge to determine the liability of the contractor and It's extent in this regard and his decision shall be final and binding on the contractor.
- 34(m) In case the road roller for consolidation are employed by the Contractor himself, the log book such roller shall maintained in the same manner as is done in case of Departmental rollers. The maximum quantity of any items to be consolidated for each roller day's shall also be same in

annexure to clause for less use of roller recovery or the less roller days shall be made at the stipulated issue rate.

Clause 35: Condition relating to use of Asphalted Materials

- (i) The Contractor undertakes to make arrangements for the supervision of the works by the firms supplying the tar or bitumen used. .
- (ii) The Contractor shall collect the total quantity of tar or bitumen required for the work as per standard formula before the process of painting is started and shall hypothecate it to the Engineering-in-Charge. If any bitumen or tar remains unused on completion of the work on account of lesser use of material in actual execution for reason other than Authorized changes of specification and abandonment of portion of work, a corresponding deduction equivalent to the cost of unused materials as determined by the Engineer-in-Charge shall be made and material returned to the Contractors. Although the material are hypothecated to D.D.A. the Contractors under takes the responsibility for their proper watch, safe custody and protection against all risk. The material shall not be removed from site of work without the consent of the Engineer-in-Charge in writing.
- (iii) The Contractor shall be responsible for rectifying defects noticed within a year from the date of completion of the work. The Security Deposited relating to a phetic work shall refunded after expiry of this period.

Clause 36. Contractor 'Superintendence, Supervision Technical Staff & Employees.

- (i) The Contractor shall provide all necessary superintendence during execution of the work and as long there after as may be necessary for proper fulfilling of the obligations under the Contract. The Contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge the name, qualification, experience, age, address, and other particulars along with certificates of the Principal Technical representative to be in charge of the work. Such qualification and experience shall not be lower than specified in clause 36(iv). The Engineer-in-Charge shall within 15 days of receipts of such communication intimate in writing his approval or otherwise of such representative to the Contractor. Any such approval may, at any time be withdrawn and in case of such withdrawal the Contractor shall appoint another such representative according to the provisions of this clause. Decision of the tender accepting Authority shall be final and binding on the Contractor in this respect. Such principal Technical Representative shall be appointed by the Contractor soon after receipt of the approval from Engineer-in-Charge and shall be available at site within Fifteen days of start of work.

If the Contractor (or any partner in case of firm/company) who himself has such qualifications, it will not be necessary for the said Contractor to appoint such a principal technical representative but the Contractor shall designate and appoint a responsible agent to represent him and to be present at the work whenever the Contractor is not in a position to be so present. All the provisions applicable to the principle technical representative under the clause will also be applicable in such a case to Contractor or his responsible agent. The principal technical representative and/or the Contractor shall on receiving reasonable notice from the Engineer-in-Charge or his designated representative (s) in charge of the work in writing or in person or otherwise, present himself to

the Engineer-in-Charge and/or at the site of work as required, to take instruction. Instruction given to the principal technical representative or the responsible agent shall be deemed to have the same force as if these have been given to the Contractor. The principal technical representative and/or the Contractor or his responsible authorized agent shall be actually available at site at least on two working days every week, these days shall be determined in consultation with the Engineer-in-Charge as well as fully during important stage of execution of works, during recording of measurement of work and whenever so required by the Engineer-in-Charge by a notice as aforesaid and shall also note down instruction conveyed by the Engineer-in-Charge or his designated representative in the site order book and shall affix his signature in token of noting down the instructions and in token of acceptance of measurement. There shall be no objection if the representative/ agent looks after more than one work and not more than three work in same station provided these details are disclosed to the Engineer-in-Charge and he shall be satisfied that the provisions and the purpose of this clause are fulfilled satisfactorily. If the Engineer-in-Charge, whose decision in this respect is final and binding on the Contractor, is convinced that no Technical representative or agent is effectively appointed or is effectively attending or fulfilling the provision of this clause, a recovery shall be effected from the Contractor as specified in clause 36 and the decision of the Engineer-in-Charge as recorded in the site order book and measurement recorded in Measurement book shall be final and binding on the Contractor. Further if the Contractor fails to appoint a suitable technical representative or responsible agent and if such appointed persons are not effectively present or do not discharge their responsibilities satisfactorily, the Engineer-in-Charge shall have full powers to suspend the execution of the work until such date a suitable agent appointed and the Contractor shall be held responsible for the delay so caused to the work. The Contractor shall submit a certificate of employment of the technical representative/responsible agent along with every on account bill/Final bill and shall produce evidence, if at any time, so required by the Engineer-in-Charge.

- (ii) The Contractor shall provide and employ on the site only such Technical Assistants as are skilled and experienced in their respective fields and such foreman and supervisory as are competent to give proper supervision to the work. The Contractor shall provide and employee skilled, semiskilled and unskilled labour as if necessary for proper and timely execution of the work.
- (iii) The Engineer-in-Charge shall be at liberty to object to and require the Contractor to remove undesirable from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at work site without the written permission of the Engineer-in-Charge and the persons so removed shall be replaced as soon possible by competent substitutes.

Clause 36(iv); Minimum qualification and experience required for principal technical representative.

(a) For works with Estimated Cost put to tender more than

- (i) Rs. 10 Lacs for Civil Work Graduate or retired AE possessing recognized Diploma

- (ii) Rs.5 Lacs for Elect /Mech. Works

(b) For works with Estimated Cost put to tender.

- | | | |
|------|---|---|
| (i) | More than Rs.5 Lacs but less than Rs.10 Lacs for Civil Works | |
| (ii) | More Than Rs.1 Lakh but less then Rs.5 Lacs for Elect./ Mech. Works | Recognized Diploma Holder |
| (c) | Discipline for which the Principal Technical Representative should belong | Civil/Elect/Mech. |
| (d) | Minimum experience of works | 10 years |
| (e) | Recovery to be effected from the Contractor in the event of not fulfilling the provisions of clause 36. (i) | i)Rs. 4,000/-pm for Graduate
ii)Rs. 2,000/-pm for Diploma Holder |

Clause 37

The whole work may be split up between two or more Contractors or accepted in part and not in entirety if considered expedient.

Clause 38:

In pursuant to or under any law, notification or order any Royalty, Cess or the like become payable by the D.D.A. and does not at any time becomes payable by the Contractor to the state Government/Local Authority in respect of any materials used by the Contractor, in the works then in such a case, it shall be lawful to the D.D.A. and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the Contractor. Sales tax or any other tax on material, Tax/Duty in respect of this Contract shall be payable by the Contractor and Delhi Development Authority shall not entertain any claim whatsoever in this respect.

Clause 39:

Without prejudice to any of the rights or remedies under this Contract if the Contractor dies, Divisional Officer on behalf of the Delhi Development Authority shall have the option of terminating the Contract without compensation to the 'heirs' of the Contractor

Clause 40: If any relative working in D.D.A. such Contractors not allowed to tenders.

The Contractor shall not be permitted to tender for works in D.D.A. Zone (responsible for award and execution of Contractors) in which any of his near relatives is posted as divisional accountant or as officer in any capacity between grades of CE and J.E. (both inclusive) in the D.D.A. He shall intimate the names of his near relatives, if any who are working as group A or group B & C officer in D.D.A. He shall also intimate the names of these persons who are working with him in any capacity or are subsequently employed by him and near relatives of any groups A or groups B & C officers in the D.D.A. Any breach of this condition by the Contractor would render him liable to action under **Clause-3** of the Agreement. In addition, he would also liable to be debarred form tendering in future in D.D.A.

Note: By the terms near relatives is meant wife, husband, parents and grand parents, children, brothers, sisters, uncles, aunts, cousin and their corresponding in-laws.

Clause 41:

No Engineer of Gazetted rank or other Gazetted officer employed in Engineering or Administrative duties in an Engineering Department of the Delhi Development Authority is allowed to work as a Contractor or employee of a Contractor for a period of two years after his retirement from Authority's service without prior permission of Delhi Development Authority in writing. This Contract is liable to be cancelled if either the Contractor or his employee is found at any time to be such a person who had not obtained the permission of the Delhi Development Authority as aforesaid, before submission of tender or engagement in the Contractor's service as the case may be.

Clause 42:

- (i) The Contractor shall see that only required quantities of material are got issued. Any such materials remaining unused and in perfectly good condition at the time of completion or termination of the Contract shall be returned to the Engineer-in-Charge at a place where directed, directly by him by notice in writing under his hand if he shall so require, credit for such materials will be given at the prevailing market rate not exceeding the amount charged from him excluding the element of storage charge @ 2.0% levied at the time of issue of materials to him. The Contractor shall also not be entitled to cartage and incidental charges for returning the surplus material from and to the above said stores where these were issued.
- (ii) After completion of the work the theoretical quantity of cement to be used in work shall be calculated on the basis of statement showing quantity of cement to be used in different items of work provided in Delhi Schedule of Rate 2002 with 1 to 3 Correction Slips. In case any item is executed for which the standard constants for the consumption of cement are not available in the above mentioned statement or can not be derived, the same shall be calculated on the basis of standard formula to be laid down by the Superintending Engineer of the circle concerned. Over this theoretical quantity of cement shall be allowed a variation up to 3% plus/minus for work up to the Estimated Cost of which put to tender is less than Rs.5 Lacs and (+/-) 2% for works the Estimated Cost of which put to tender is more than Rs.5 Lacs. The difference of the quantity of the cement actually issued to the Contractor and theoretical quantity including authorized variation, if not returned by the Contractor, shall be recovered at twice the issue without prejudice to the provision of the relevant conditions regarding return of materials governing the Contracts. In the event of it's being discovered that the quantity of cement used is less than the quantity ascertained allowing variation on the minus side (as stipulated above), the cost of quantity of cement not so used shall be recovered from the Contractor on the basis of Stipulated Issue rates and cartage to site.
- (iii) The provisions of foregoing sub-clause shall apply mutatis mutandis in the case of steel section, reinforcement of structural steel (each diameters/section or category shall be considered separately) except that theoretical quantity of the steel shall be taken as the quantity required as per design or as authorized by the Engineer-in-Charge including authorized lap pages plus 3% wastage due to cutting into pieces. Over this theoretical

quantity 2%plus/minus shall be allowed as variation due to wastage being more or less.

- (iv) After the completion of the work the actually quantity of cables (other than underground cables) wire conduct/ G.I.S.C.I pipes G.I/M.S. sheets used in the various items of work shall be calculated on the basis of measurements recorded in the Measurement Books for purpose of payment and for assessing the consumption of materials used on works. Over this quantity a variation of 5% plus shall be allowed for wastage of materials during execution in case of cable, wire, conduit pipes/G.I./C.I./S.C.I. pipes and 10% plus in case of G.I./M.S. sheet. The difference in quantity recorded in the measurement book including authorized variation as states above, if not returned by the Contractors, shall be recovered at twice the issue rates plus cartage to site, with out prejudice to the provisions of the relevant condition regarding return of materials governing the Contract.
- (v) After completion of the work the theoretical quantity of bitumen to be used on works shall be calculated on the basis of CPWD statement showing quantity of bitumen to be used in different items of work provided in the Delhi Schedule of Rates 2002 with 1 to 3 Correction Slips. The theoretical quantity of bitumen to be used in the work shall be calculated on the basis of standard formula s laid down by Superintending Engineer of the concerned circle for other then DSR items. Over the said theoretical quantity of Bitumen a variation up to plus (excess) 2.5% shall be allowed. The difference in the quantity of bitumen actually issued to the Contractor and the theoretical quantity shall be recovered at Twice the Issue Rate of Bitumen without prejudice to the provision of the relevant conditions in the Agreement regarding return of materials governing the Contract. In the event of it has been discovered that the quantity calculated in the manner aforesaid (no variation) is on the lower side, the cost of quantity of bitumen not so used shall be recovered by the Contractor on the basis of stipulated issued rate plus cartage thereof up to site.
- (vi) The provision made above are without prejudice to the rights of the Delhi Development Authority to taken action against the Contractor under the condition of the Contractor for not doing the work according to the prescribed specification.
- (vii) The material shall be issued to the Contractor at the place of delivery as mentioned in the schedule. If these are delivered at any other site, the difference due to cartage will adjusted accordingly. The Contractor shall have to cart the materials at his own cost to the site of the work as soon as these are issued. The material shall be issued between the working hours and as per rules of the Delhi Development Authority's Go down as framed from time to time.
- (viii) The Contractor shall bear all incidental charges, storage and safe custody of materials
- (ix) M.S. Round bars and TMT/ Tor Steel shall be issued in lengths as available in the Stores. No claim on this account shall be entertained.
- (x) The Contractor shall construct suitable godowns at the site of work for storing the materials safe against damages from sun, rain, dampness fire, theft etc. He shall also employ necessary watch and ward establishment for this purpose.
- (xi) Cement bags shall be stored in separate godowns as per typical godowns sketch attached, with pucca floor and weather proof roof and walls. Each godown shall be provided with a single door with two locks. The key of one

lock shall remain with D.D.A.'s Junior Engineer-in-Charge of work, and that of the other lock with the authorized agent of the Contractor at the site of work, and that the cement issued from the godown according to the daily requirement with the knowledge of both the parties. The cement bags shall be stacked on proper floor consisting of two layers of dry bricks laid on well consolidated earth at a level of at least one foot above ground level. These stacks shall be in rows of 2 bags and 10 bags high with a minimum 2'-9" clear space around. The bags should be placed horizontally continuous in each line as shown in the accompanying sketch. The day to day receipt and issue accounts of cement shall be maintained by the Junior Engineer-in-Charge and signed daily by the Contractor or his authorized agent (stipulated materials shall not be issued on 2nd Saturday, Sunday & Gazette holidays).

Caused 43 DELETED

Clause 44: Compensation during war like situation

The work (whether fully constructed or not) and all materials, tools and Plants, scaffolding, temporary building and other things connected therewith shall be at the risk of the Contractor until the work has been delivered to the Engineer-in-Charge of work, and a certificate from him to that effect obtained. In the event of the work, any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or war like operation, the Contractor shall, when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack and remove in store all serviceable materials salvaged from the damaged work and shall be paid at the Contract rates in accordance with provision of this Agreement for the work of clearing the site of debris, stacking or removal of serviceable materials and for the reconstruction of all works ordered by the Engineer-in-Charge, such payment being in addition to compensation up to the value of work originally executed before being damaged or destroyed and paid for.

In case of work damaged or destroyed but not already measured and paid for, the compensation shall be assessed by the Divisional Officer up to Rs.5000/- and by the Chief Engineer for a higher amount. The Contractor shall be paid for the damages/destruction suffered and for restoring the material at the rate, based on the analysis of rates tendered for, in accordance with the provisions of this Agreement. The certificate of the Engineer-in-Charge regarding the quantity of material and the purpose for which they were collected shall be final and binding on all parties to this Contract. Provide always that no compensation shall be payable for any loss in consequence of hostilities or war-like operations.

- (a) Unless the Contractor had taken all such precaution against air-raid deemed necessary by the A.R.P. Officer of the Engineer-in-Charge.
- (b) For materials etc. not on site of the work or for any tools and Plants, Machinery, scaffolding, temporary buildings and other things not intended for the work. In the event of the Contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of times for its completion as is considered reasonable by the Divisional Officer.

Clause 45:

The Contractor shall deposit royalty and obtain necessary permit for supply of red bajri stone kankar etc. from local Authority.

Clause 46

Security Deposit for the work shall not be refunded till clearance from the labour officer is obtained by the Contractor.

Clause 47: DELETED

Clause 48:

The Contractor shall comply with the provisions of the apprentice Act, 1961 and the rules and order issued there under from time to time. If he fails to do so, his failure will be a breach of the Contract and the Engineer in charge may in his discretions cancel the Contract. The Contractor shall be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

Clause 49: Anti Malaria Measures

The Contractor shall at his expenses make necessary arrangement for under taking anti-malaria measures including drainage at places as abandoned howdyes, Water tanks, excavated sites etc where water is likely to stagnate an cause mosquito breeding. The Contractor shall comply with every reasonable directions of the Engineer-in Charge.

SAFETY CODE

1. Suitable scaffolds should be provided for workmen for all works that can not be safely done from the ground or from solid construction except such short period works as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying material as well, suitable foot-holds and hand-holds shall be provided on the ladder and ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 (1/4 horizontal and 1 vertical).
2. Scaffolding or Staging more than twelve 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 3 feet high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside ends thereof with only such opening as may be necessary for the delivery of the materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platforms, gangways and stair ways should be so constructed that they should not sag unduly or unequally and if the height of the plate form or the gangway or the stairway is more than 12 feet above ground level or floor level, they should be closely boarded and should have adequate width and should be suitable fastened as described in (2) above
4. Every opening in floor of a building or all working platforms shall be provided with suitable means to prevent the fall of persons or materials. The opening can be protected by providing suitable fencing or railing whose minimum height shall be 3'-0" (90cm)
5. 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 30 feet (9m) in length, while the width between side rails in hung ladder shall in no case less than 11 $\frac{1}{2}$ " (29 cm), for ladder up to and including 10 feet (3.05m) in length. For longer ladder this width should be increased at last $\frac{1}{4}$ " (6mm) for each additional foot of length. Uniform step spacing shall not exceed 12" (30 cm). Adequate precautions shall be taken to prevent danger from Electrical equipment. The materials on any of the site of work shall not be so stacked or placed as to cause danger or inconvenience to any person or public. The Contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses to defence of every suit, action or other proceeding at law that may brought by any 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 proceeding to any such person or which may, with the consent of the Contractor, be paid to compensate and claim by any such person.
6. **Excavation and Trenching:-**
All trenches four feet more in depth shall at all times be provided with at least one ladder for 100 feet /30 m in length or fraction thereof. Ladder shall extend from bottom of the trench to at least 3 feet (90 cm) above the surface of the ground. The side of the trenches which are 5'-0" (1.5 Mt) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing so as to avoid the danger of sides to collapse. Excavated materials shall not be placed within 5 feet (1.5m) 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 under cutting shall done

7. Demolition:

Before any demolition works is commenced and during the progress of the work following safety measures shall be taken.

- (a) All roads and open areas adjacent to the work site shall either be closed or suitable protected.
 - (b) No Electric cable or apparatus which is liable to be source of danger or a cable or apparatus used by the operator shall remain electrically charged.
 - (c) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
8. All necessary personal safety equipments, as considered adequate by the Engineer-in-Charge, should be kept available for the use of the persons employed on the site and maintained in a condition suitable for immediate use and the Contractor should take adequate steps to ensure proper use of equipment by those concerned.

The following safety equipments shall invariably be provided.

- (a) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
- (b) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes shall be provided with protective goggles.
- (c) Those engaged in welding works shall be provided with welder's protective eyes shields.
- (d) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- (e) When workers are employed in Sewers, Storm water piped drains and manholes, which are in active use, the Contractor shall ensure that the following safety measures are adhered to:-
 - (i) Entry for workers into the line shall not be allowed except under supervision of the J.E or any other higher officers.
 - (ii) At least 5 to 6 manholes at upstream and downstream should be kept open for at least 3 to 4 hours before any man is allowed to enter into the manhole for working inside.
 - (iii) 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.
 - (iv) 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.
 - (v) Safety belt with rope should be provided to the workers. While working inside the manhole, such rope should be handed by two men standing outside to enable him to be pulled out during emergency.
 - (vi) The area should be barricaded or cordoned off by suitable means to avoid mishaps of any kind. Proper warning sign should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
 - (vii) 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.
 - (viii) No smoking or open flames shall be allowed near the blocked manholes being cleaned.

- (ix) Workers should not be allowed to work inside the manhole continuously. They 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.
- (x) Gas mask with oxygen cylinder should be kept at site for use in Emergency.
- (xi) 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 water 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.
- (xii) The workers engaged for the cleaning the manholes and sewers should be properly trained before allowing to work in the manhole.
- (xiii) The workers shall be provided with Gumboots or non sparking shoes, bump helmets and gloves, non-sparking tools, safety lights and gasmasks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.
- (xiv) Workman descending a manhole shall try each ladder step of rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole wall.
- (xv) If a man has received a physical injury he should be brought out the sewer immediately and adequate medical aid should be provided to him.
- (xvi) 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.
- 9. 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. Where ever men above the age of 18 years are employed on the work of lead painting the following precautions should be taken.
 - (i) No paint containing lead or lead products shall be used except in the form of paste or ready – made paint.
 - (ii) Suitable face masks should be supplied for use by the workmen when paint is applied in the form of spray on a surface having lead paint is dry rubbed and Scrapped.
 - (iii) Overalls equipments (all safety equipments) shall be supplied by the Contractors to the Workmen when paint is applied in the form of spray on a surface having lead paint dry rubbed and scrapped.
 - (iv) Overalls shall be supplied by the Contractors so the workmen and adequate facilities shall be provided to enable the working painters to wash during the execution of works.
 - (v) White lead, sulphate of lead, or product containing these pigments shall not be used in painting operation except in the form of pastes or paint ready for use.
 - (vi) Precautionary measures shall be taken whenever required to prevent damage arising from the application of a paint in the form of pastes or paint ready for use, in the form of spray
 - (vii) Precautionary measures shall be taken whenever required in order to prevent danger arising out from dust caused by dry rubbing down and scrapping.
 - (viii) Overalls shall be worn by working painters during the whole working period.
 - (ix) Suitable arrangement shall be made to prevent clothing put on during working hours being spoiled by painting materials.

- (x) Cases of lead poisoning and suspected lead poisoning shall be notified and subsequently verified by medical man appointed by the competent Authority of D.D.A.
- (xi) The D.D.A. may require necessary medical examination of the workers.
- (xii) Instruction with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.
- (10) When the work is done near any place where there is risk of drawing, all necessary equipments should be provided and kept ready for use and all necessary steps to be taken for prompt rescue of any person in danger and adequate provision should be made for prompt first aid treatment of all injuries likely to be sustained during the course of work.
- (11) Use of hoisting machines and tools including their attachments, anchorage and supports shall conform to the following standards or conditions.
 - (i)(a) These shall be of good mechanical construction, sound material and adequate strength and free from patent defect and shall kept repaired and 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.
 - (ii) 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 gives signal to operator.
 - (iii) 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 having all gears referred to above shall be plainly marked with 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.
- (iv) In case of Departmental machines, the safe working load shall be notified by the Electrical Engineer-in-Charge. As regards Contractor's machines the Contractor shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any Machinery to site of work and get it verified by the Electrical Engineer concerned.
- (12) Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguard. Hoisting appliance should be provided with such means as will reduce to the minimum risk of accidental decent of the load. Adequate precautions should be taken to reduce to the minimum risk of any part of a suspended load becoming accidentally displaced. When workers employed on electrical installation which are already energized, insulating mask, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any ring, watches and carry keys or other materials which are good conductors of electricity.
- (13) All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe conditions and no scaffold. Ladder or equipment shall be altered or removed while it is use. Adequate washing facilities should be provided at or near places of work.
- (14) These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person

responsible for the compliance of the safety code shall be named there in by the Contractor.

- (15) 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 Labour Officer or Engineer-in-Charge of the Authority or their representative.
- (16) Notwithstanding the above Clause (1) to (15) there are nothing in these to exempt the Contractor from the operating of any other Act or rule in force in the Republic of India.

MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY D.D.A. OR ITS CONTRACTORS

1. Application

These rules shall apply to all building and construction works in charge of Delhi Development Authority in which twenty or more workers are ordinarily employed in any day during which the Contract work is progress.

2. Definitions

"Work place" means a place where at an average fifty or more workers are ordinarily employed in connection with construction work.

"Large work place" means a place where at an average 500 or more workers are ordinarily employed in connection with construction work.

3. First Aid Facilities:

- (a) At every work place there shall be provided and maintained, so as to be easily accessible during working hours, first aid appliances including an adequate supply of sterilized dressing cotton wool. The appliances shall be kept in good order and in large work place, they shall be placed under the charge of a responsible person who shall be readily available during working hours.
- (b) At large work place where hospital facilities are not available within easy distance from the work, First Aid posts shall be established and run by a trained compounder.
- (c) Where large work place is at remote from regular hospitals, an indoor ward shall be provided with one bed for every 250 employees.
- (d) Where large work places are situated in cities, town or in their suburbs and no beds are considered necessary owing to the proximity of city or town hospitals, suitable transport shall be provided to facilitate removal of urgent cases to the hospitals at other work places. Some conveyance facilities, such as a car, shall be kept readily available to take injured person or persons suddenly serious to the nearest hospital.

4. Drinking Water

- (a) In every work place, there shall be provided and maintained at suitable places, which is easily accessible to labour, a sufficient supply of cold water fit for drinking.
- (b) Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where drinking water shall be stored.
- (c) Every water supply or storage shall be at distance of not less than 50 feet from any latrine, 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 well shall be entirely closed in and be provided with a trap-door which shall be dust and water proof.
- (d) A reliable pump shall be fitted to each covered well, the trap-door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.
- (e) The Contractor shall supply only potable water in the labour camps. Samples of water shall be drawn from the sources of water supply in the labour camps every month and got tested from MCD lab by the Contractor. Wherever drinking water is supplied to the labour camps through water tankers, samples shall be drawn from the tanker and got tested. In water storage tanks chlorine tablets shall be added from time to time as per requirements so that potability of water remains intact. No extra payment shall be made on this account to the Contractor.

5. Washing and Bathing place:

- (i) Adequate washing and bathing places shall be provided separately for man and women.
- (ii) Such facilities shall be conveniently accessible and places shall be kept clean, hygienic and in dried condition

6. Scale of accommodation in Latrines and urinals

- (i) Latrines and urinals shall be provided within the premises of every work, on the following scale:

	No. of seats
(a) Where the number of persons does not exceed 50.	2
(b) Where the number of persons exceeds 50, but does Not exceed 100.	3
(c) In particular cases the Executive Engineer shall have the powers to vary scale where necessary.	3 per 100

(ii) Latrines and urinal for women:

If women are employed, separate latrine and urinals, screened those for men and marked in the vernacular in conspicuous letter "For women only" shall be provided on the scale laid in rule 6 (i).

(iii) Latrines and urinals

Except in work- places provided with water flushed latrines, connected with a water borne sewage system, all latrines shall be provided with receptacles on dry earth system which be cleaned at least four times daily and at least twice every during working hours and kept in strictly sanitary condition. The receptacles shall tarred inside and out side at least once a year.

(iv) Construction of latrines

The inside well shall be constructed of masonry of some suitable heat-resisting, non-absorbant materials and shall be cement washed inside and out side at least once a year. The dates of cement washing shall be maintained for this purpose and kept available for inspection. Latrine will not be of standard lower than borehole system and should have thatched roof.

(v) Disposal of Excreta

Unless otherwise arranged for by the Local Sanitary Authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator approved by the Assistance Director of Public Health or the Municipal Medical Officer of Health as the case may in whose jurisdiction the work place is stated. Alternatively excreta may be disposed off by putting a layer of night soil at the bottom of pucca tank prepared for the purpose and covering it with a 6" layer of waste or refuse and then covering with a layer of earth for a forthright (when it will turn into manure).

7. Provision of shelter during rest:

At every work place there shall be provided free of cost two suitable sheds, one for meals and the other for rest separately for the use of men and women. The height of each of the shelter shall not be less than 11 feet (3.35m) from the floor level to the lowest part of the roof. The sheds should be of thatched roof and mud flooring will be provided with dwarf wall around not less than 2-1/2 feet (76cm). Sheds should be kept clean and the space provided shall be on the basis at least 5 square feet (0.46sqm) per head.

8. Creches:

- (a) At every work place, where 50 or more women workers are ordinarily employed, there shall be provide two tents for the use of children under the age of 6 years belonging to such women. One tent should be used for infant's games and play and other as their bed room. The tent shall not be constructed on a

lower standard than the following:

- (i) Thatched roof
- (ii) Mud floor.
- (iii) Planks spread over the mud floor and covered with matting.

The tents shall be provided with suitable and sufficient opening for light and ventilation. There shall be adequate provision of sweeper to keep the places clean. There shall be two dais in attendance. Sanitary utensils shall be provided to the satisfaction of the Health Officer of the area concerned. The use of the tent shall be restricted to children, their attendants and mother of the children.

- (b) Where the number of women workers is more than 25 but less than 50, the Contractor shall provide at least one tent and one dais to look after the children of women workers.
- (c) The size of crèche shall vary according to the number of women workers.
- (d) The crèche shall be properly maintained and necessary equipment like toys etc. shall be provided.

9. Canteen

A cooked food canteen on a moderate scale shall be provided for the benefit of workers whenever it is considered expedient. of the Contracts.

CONTRACTOR'S LABOUR REGULATIONS

SHORT TITLE

These regulation, may be called the "Delhi Development Authority Contractor's Labour Regulations.

1. DEFINITION

In these regulations, unless otherwise expressed or indicated, the following words and expression shall have the meaning hereby assigned to them respectively that is to say.

- (i). "Labour" means workers employed by Delhi Development Authority or its Contractor directly or indirectly through sub contractor or other persons or by an agent on his behalf, on a payment not exceeding Rs. 3633 /- per month and will not include supervisory staff like Overseers etc.
- (ii). "Fair Wages" means wages, whether for time or piece work fixed and notified at the time of inviting tenders under the provision of the minimum wages act from time to time not be less than minimum rates of wages fixed by the Govt. of N.C.T. Delhi vide Notification **No.F.12(142)/02/MW/Lab./1108 dated 03.03.08 effective from 01.02.08** or as amended from time to time (plus consumer price index)
- (iii). "Contractor" shall include every person whether a sub-contractor or head man agent employing labour on the work taken on Contract.
- (iv). "Wages" shall have the same meaning as defined in the payment of wages act and includes time and piece rate wages.
- 2(a) Normally working hours of an employee should not exceed 8 hours a day. Working day shall be so arranged that inclusive of intervals for rest, it shall not spread over more than 12 hours on any day.
- (b) When the 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 given overtime for the extra hours put in by him at double the ordinary rate of wages and children shall not be made to work extra.
- (c) Every worker shall be given a weekly holiday normally on Sunday in accordance with the provision of the minimum wages (Central) Rules 1950 as amended from time to time irrespective of whether such worker is governed by the minimum wages act 1948.
- 3. Display of notice regarding wages etc.
- (a) The Contractor shall before he commences his work on Contract, display and correctly maintain and continue to display and correctly maintain in a clear and legible condition in conspicuous place on the work, notice in English and in the local Indian Language spoken by the majority of the workers giving the minimum rate wages which have been certified by the Executive Engineer, the Chief Engineer or Regional Labour commissioner as fair wages and the hours of work which such wages are earned and the actual wages being paid. (and other relevant information)
- (b) Send a copy of such note to the certifying officer as EE/CE and required Labour commissioner

4. Payment of Wages

- (i) Wages due to every worker shall be paid him directly or through other person authorized on this behalf.
- (ii) All wages shall be paid in current coin or in currency or in both.
- (iii) Arrears claimed after 3 months after the completion of the work shall not be entertained.

5. Fixation of wage periods

The Contractor shall fix the wage periods in respect of which wages shall be payable

- (i) No wages period shall exceed one month.
- (ii) The wages of every worker employed on the Contract shall be paid (a) in case of establishment in which wage period is one week, within three days from the end of the wage period and (b) in the case of other establishments.
Before the expiry of 7th day or 10th day from the end of the wage period according to the number of workers employed in such establishment does not exceeds 1000.
- (iii) 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 day succeeding the one on which his/her employments is terminated.
- (iv) All payment of wages shall be made on a working day except when the work is completed before the expiry of the wage period in which case final payment shall be made 48 hours of the last working day at work site and during the working time.
Note: - The term "Working day" means a day on which the work for which the labour employed is in progress.

6. Wage book and wage Slip etc.

- (i) The Contractor shall maintain a wage book of each worker in such a form as may be convenient, at the place of work but the same shall include the following particular:-
 - (a) Name of the worker.
 - (b) Rate of daily or monthly wages.
 - (c) Nature of work on which employed.
 - (d) Total number of days worked during each wage period
 - (e) Dates and period for which worked overtime.
 - (f) Gross wages payable for the during wage period.
 - (g) All deduction made from the wage with an indication. In each case of the ground for which the deduction is made
 - (h) Wage actually paid for each wage period.
- (ii) Signature or thumb impression of the worker.
- (iii) The Contractor shall also issue a wage slip containing the aforesaid particulars to each worker, employed by him on the work at least a day prior to the day of disbursement of wages.
- (iv) The Contractor shall issue an Employment Card in the prescribed form III to each worker on the day of work or entry into his employment. If the worker has already any such card from the previous employer, the Contractor shall merely endorse that employment card with relevant entries. On termination of employment the employment Card shall again be endorsed by the Contractor and returned to the worker.
- (v) "The Contractor shall issue an Attendance cum Wage Card as per Form iv enclosed to each worker on the day of work on entry into his employment"

7. Register of Unpaid wages

The Contractor shall maintain a Register of unpaid wages in such form as may be convenient at the place of work but the same shall include the following particulars:

- (a) Full particulars of the labourers whose wages have not been paid.
- (b) Reference number of the muster roll and wage register.
- (c) Rate of wages.
- (d) Wage period.
- (e) Total amount not paid.
- (f) Reason for not making payment.
- (g) How the amount of unpaid wages was utilized.
- (h) Acquaintance with date

8. 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 include the following particulars:

- (a) Full particulars of the labourers 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 & time when 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 details of the person to whom the same paid.
- (m) Amount paid with details of the person to whom the same was paid.
- (n) Authority by whom the compensation was assessed.
- (o) Remarks.

9. Fines and deductions which may be made from Wages

The wages of a worker shall be paid to him without any deductions of any kind except the following.

- (a) Fines. (List of acts and Omission for which fine can be imposed)
 - (i) Willful subordination or disobedience, whether alone or in combination with another.
 - (ii) Theft, fraud dishonesty in connection with Contractor's business or property of the D.D.A.
 - (iii) Taking or giving bribes or any illegal gratification.
 - (iv) Habitual late attendance
 - (v) Drunkenness, fighting, riotous or indecent behavior.
 - (vi) Smoking near or around the area where combustible or other materials are, stacked.
 - (vii) Habitual negligence.
 - (viii) Habitual indiscipline.
 - (ix) Causing damage to work in progress or to property of the D.D.A. or the Contractor.
 - (x) Sleeping on duty.
 - (xi) Malingering or slowing down work.

- (xii) Giving false information regarding name, age, father's name etc.
- (xiii) Habitual loss of wages cards supplied by the employers.
- (xiv) Unauthorized use of employer's property or manufacturing, or making of unauthorized articles at the work place.
- (xv) Bad workmanship in constructions and maintenance by skilled workers which is not approved by the Department and for which Contractors are compelled to undertake rectification.
- (xvi) Making false complaints and or misleading statements.
- (xvii) Engaging in trade with in the premises of the establishment.
- (xviii) Any unauthorized divulgence of business affairs of the employers
- (xix) Collection or canvassing for the collection of any money within the premises of any establishment unless authorized by the employers.
- (xx) Holding Meeting inside the premises without previous sanction of the employer.
- (xxi) Threatening or intimidating any workman or employee during the working hours within the premises.
- (b) Deduction for absence from the duty, i.e. from the place or 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/she was absent.
- (c) Deduction for damage or loss of goods expressly entrusted to the employed person, for custody, or for loss of money or any other deduction which he is required to account, where such damages or loss is directly attributable to his neglect or default.
- (d) Deduction for recovery of advances or for adjustment of over payment of wages, advances granted shall be entered in a register.
- (e) (i) any other deduction, which the Central Government may from time to time allow.
(ii) No fine 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.
(iii) No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until worker has been given an opportunity for showing cause against such fines or deductions.
(iv) The total amount of fine which may be imposed in any one wage period on a worker shall exceed an amount to three paise in a rupees of the total wages, payable to him in respect of that period.
(v) No fine imposed on any worker shall be recovered from him by installment or after the expiry of sixty days from the day on which it was imposed.
(vi) Every fine shall be deemed to have been imposed on the day of the Act or omission in respect of which it as imposed.

10 Register of fines, etc.

- (i) The Contractor shall maintain a register of fines and a register of deduction for damage or loss in form Nos. 1 and 2 respectively which should be kept at the place of work.
- (ii) The Contractor shall maintain, both in English and the local Indian Language, a list approved by the Chief Commissioner, clearly stating the Act of Omission for which penalty, or fine can be imposed on a workman and display it in a good condition in a conspicuous place on the work

11 Preservation of Registers.

The wage book, the wages slips, the register of unpaid wages, the registers of accidents, the registers of fines, reduction required to be maintained under these regulations shall be preserved for 12 months after the date of last entry made in the end and shall be made available for inspection by the Engineer-in-Charge, or Labour Welfare Officer or any other officer, authorised by Ministry of Urban affairs & Employment Government of India in this behalf.

12 Power of Labour Welfare Officer to make investigations or Enquiry

The Labour Welfare Officer or any other person authorized by the Central Government on their behalf shall have power make enquiries with a view to ascertaining and enforcing due and proper observance of the fair wage clauses and provisions of these regulations. He shall investigate into any complaint regarding the default made by the Contractor or Sub-Contractor in regard to such provisions.

13 Report of Labour Welfare Officer

The Labour Welfare Officer or any other person authorized as aforesaid shall submit a report of his investigation or enquiries to the Executive Engineer concerned indicating the extent, if any to which the default has been committed with a note that necessary deduction from the Contractor's bill be made and the wages and other dues be paid to the labourers concerned. In case an appeal is made by the Contractor under clause 14 of these regulations actual payment of labourers will be made by the Executive Engineer after the Regional Labour Commissioner has given his decision on such appeal.

The Executive Engineer shall arrange payment to the labourers concerned within 45 days from the receipt of the report from the Labour Welfare Officer or the Regional Labour Commissioner as the case may be.

14. Appeal against decision of Labour Welfare Officer.

Any person aggrieved by the decision and recommendations of the Labour Welfare Officer or other person so authorized may appeal against such decision to the Regional Labour Commissioner within 30 days from the date of decision, forwarding simultaneously a copy of his appeal to the Executive Engineer concerned but subject to such appeal, the decision of the Officer shall be final and binding upon the Contractor.

15. Prohibition regarding representation Through Lawyer.

(i) A workman shall be entitled to be represented in any investigation or enquiry under these regulations by:

(a) An officer of the Registered Trade Union of which he is a member.

(b) An officer of federation to Trade Unions to which the trade referred to in clause (a) is affiliated.

(c) Where the employer is not a member of any registered trade union, by an officer of a Registered Trade Unions, connected with the Industry in which the worker is employed or any other workman employed in the Industry in which the worker is employed.

(ii) An employer shall be entitled to be represented in any investigation or enquiry under these regulations by:

(a) An officer of an association of employers of which he is a member.

(b) An officer of an federation of associations of employers to which association referred to in clause (a) is affiliated.

(c) Where the employer is not a member of any association of employers by an officer of Association of employer connected with the industry in which the employer is engaged or other employer, engaged in the Industry in which the employer is engaged.

- (iii) No party shall be entitled to be represented by a legal practitioner in any investigation or Enquiry under these regulations.

16. Inspections of books and slip

The Contractor shall allow inspection of the wages books and the wage slips, the register of unpaid wages, the register of accidents, and the register of fines and deduction to any of his workers, or to his agent at a convenient time and

place after due notice is received from the Labour Welfare Officer or any person authorized by the Central Govt. on his behalf.

17. Submission of Returns:

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

18. Amendments:

The Central Government may from time to time add to or amend the regulations and or any questions as to the application/interpretation or effect of those regulations, decision of the Chief Labour Commissioner or Deputy Labour Commissioner the Government of the India or any persons authorized by the Central Government on that behalf shall be final.

GENERAL CONDITIONS

1. Before tendering, the tenderer shall inspect the site of work and shall fully acquaint himself about the conditions with regard to site, nature of soil, availability of materials, extent of leads and lifts involved in the work (over the entire duration of Contract) including local conditions, traffic restrictions, obstructions and other conditions for satisfactory execution of the work. He should take into consideration all such factors and contingencies, while quoting his rates. No claim whatsoever shall be entertained by the Department on this account.
2. Periphery of works area shall be the area shown in the lay out plan of the scheme.
3. The Contractor must study the Specifications and conditions carefully before tendering and drawings referred in the tender documents are available for inspection of intending tenderer in the office of the Executive Engineer. Tenderer, shall inspect the same and acquaint themselves with the work to be executed. Tenderer, who shall desirous to have these drawings, can obtain them by making payment as decided by the Engineer-in-Charge. The Contractor shall have no claim with reference to these drawings in respect of any of the rates after acceptance of the tender.
4. The Architectural, structural and other services drawings for the work shall at all time be properly correlated before executing any work and no claim whatsoever shall be entertained in this respect.
5. The Contractor shall have to make approaches, to the site, if so required and keep them in good condition for transportation of labour and materials as well as inspection of works by the Engineer-in-Charge. Nothing extra shall be paid on this account.
6. The building work shall be carried out in the manner so as to comply in all respects with the requirement of relevant bye-laws of the local body under the jurisdiction of which the work is to be executed. The work of water supply and internal sanitary installation, external water supply, drainage and Electrical Work shall be carried out as per bye-laws of the local body and the Contractor shall produce necessary completion certificate whenever required from such Authority after completion of work. Nothing extra shall be paid on this account. The Contractor shall associate specialized agencies for sanitary and water supply. The work is to be carried out through licensed plumber and sanitary installation agency. For electrical work, special conditions for electrical work may be seen. The Contractor shall get external water supply, sewerage & storm water design approved for the work from concerned Department immediately after award of work at his level and nothing will be paid on this account by the Department. However Infrastructure fund, if any, claimed by DJB/MCD shall be borne by DDA.
7. The work shall be carried out in such manner so as not to interfere or effect or disturb other works, being executed by other agencies, if any. He shall arrange his work with that of the others in an acceptable and coordinated manner and shall perform it, in proper sequence to the complete satisfaction of the Engineer -in-charge. Any damage done by the Contractor to any existing work shall be made good by him at his own cost. Otherwise the same shall be got done at his risk and cost.

8. The Contractor or his authorized representative should always be available at the site of work to take instructions from Departmental officers, and ensure proper execution of work.
9. No work shall commence in the absence of Contractor's engineers and they shall certify in writing about the correctness of layout, alignment of structure and shall ensure stability of all structural and other building items.
10. All work and materials brought and left upon the ground by the Contractor or by his orders for the purpose of forming part of the works, are to be considered to be the property of the DDA and the same are not to be removed or taken away by the Contractor or any other person without consent in writing of the Engineer -in-Charge but the D.D.A is not to be in any way responsible for any loss or damage which may happen to or in respect of any such work or materials either by the same being lost or damaged by weather or otherwise.
11. Royalty at the prevalent rates and all other incidental expenditure shall have to be paid by the Contractor on all the boulders, metal shingle, earth sand bajri etc. collected by him for the execution of the work directly to the concerned revenue Authority of the State or Central Government. His rates are deemed to include all such expenditure and nothing extra shall be paid.
12. The Contractor shall take all necessary precautions to prevent any nuisance or inconvenience to the owners, tenants of adjacent properties and to the public in general and to prevent any damage to such properties and any pollution of smoke, streams and waterways. He shall make good at his cost and to the satisfaction of the Engineer-in-Charge, any damage to roads, paths, cross-drainage works or public or private property whatsoever caused by the execution of the work or by traffic brought thereon by the Contractor. Utmost care shall be taken to keep the noise level to the barest minimum so that no disturbance as far as possible is caused to the occupants/users of adjoining buildings.
13. Existing drains, pipes, cables, overhead wires, sewer lines, water lines and similar services encountered in the course of the execution of the work shall be protected against the damage by the Contractor at his own expense. The Contractor shall not store materials or otherwise occupy any part of the site in a manner likely to hinder the operation of such services.
14. The work shall be executed and measured as per metric dimensions given in the Schedule of Quantities, drawings etc. (FPS units wherever indicated are for guidance only).
15. One flat as directed by Engineer-in-Charge will be selected as sample flat in which samples of all items taken in schedules of quantities shall be executed by Contractor and got it approved by Engineer-in-Charge before such items are executed on the project. However he shall complete one sample unit within nine months from the date of start of the work.
16. The above site will be given on temporary basis. After the completion/stoppage/rescission of the work, clear site shall have to be handed over to the Engineer-in-Charge. Similarly the site for labour camp given to the agency shall be returned after the completion/stoppage/ rescission of the work free from all the occupation.
17. All the above land is handed over only for the execution of above mentioned work. An Agreement with regard to handing over land for above mentioned use only is to be made by the agency.
18. If the agency delayed the vacation of occupied area of land after the completion recorded/ stoppage/rescission of the work, he will charged at the

rate Rs. 1,50,000/- per month per hectare. The decision by the SE will be final and binding.

19. The Contractor shall give the following under taking in respect of taking over of land in the following proforma.

I/We hereby undertake that:

(i) Full site free from any encroachment has been handed over to me/us on.....

(ii) The labour tents..... in nos. pitched by me/us at site as shown on the site plan duly signed by me/us belongs to me/us

(iii) The site office, casting yard, laboratory etc., will be constructed as per the plan attached.

iv) Construction of labour tents near the work sites shall be avoided as far as possible. The final bill shall not be paid unless all the tents are cleared & removed from the site.

20. The Engineer-in-Charge shall not be precluded or stopped for taking any measurements, and framing of estimates or detaining any certification made either before or after the completion and acceptance of the work and payment, from showing the true amount and character of the works performed any materials furnished by the Contractors and from showing that by such measurements, estimates or certificates in nature are incorrectly made, such that the Engineer in-charge shall not be precluded or stopped from recovering from the Contractor such damages as it may be sustained by reason of his failure to comply with the terms and conditions of the Contract.

21. Engineer-in-Charge shall have full powers to send workmen employed on the premises to execute fittings and other work not included in the Contract for whose operation the Contractor is to afford every reasonable facility during ordinary working hours provided that such operations shall be carried on in such manner as not to hinder the progress of the work included in the Contract.

22. The Contractor shall execute his work, so as not to interfere with or hinder the progress of completion of the work being performed by other Contractors or piece meal workers or by the Engineer-in-Charge and shall as far as possible arrange his work, shall place and dispose off the materials; being used or removed, so as not to interfere with the operations of the other Contractor, piece meal workers, or of DDA or other Departments. He shall arrange his work with that of the others in an acceptable manner and shall perform it in proper sequence.

23. Any permission, if required from police authorities or other Departments for closing or cutting of the road will be obtained by the Contractor at his own. He will have no claim for any financial loss or extension of time on this account. -

24. **Shops**

Restaurants, Tea shops or kiosks shall not be allowed to put up by the Contractor in the works area/labour tents area. Temporary kiosks(s) put up by the Engineer-in-Charge shall be taken by the Contractor on lease which is to be determined on the date of completion or termination of Contract whichever is earlier, and the rate of Rs.500.00 per kiosks per month shall be recovered from the Contractor from the bills paid. On date of completion of the work or termination of Contract whichever is earlier, the kiosks(s) shall be vacated by the Contractor and a vacant possession shall be given over to the Engineer-in-Charge failing which penalty shall be levied on the Contractor at the rate of Rs.150.00 per day of delay involved.

25. Construction of labour tents near the work sites shall be avoided as far as possible. Whenever labour tents are pitched, the Contractor shall prepare a plan of the allotted area by the Engineer-in-Charge for this purpose to be occupied by the labour of the construction agency reflecting thereon, the number of tents to be constructed. The final bill shall not be paid unless all the tents are cleared from the site.
26. In the event of any difference of opinion among site representative in carrying out the item of work in accordance with the Agreement, the Engineer-in-Charge shall decide the issue and his decision shall be final and binding on the Contractor and the Contractor shall be bound to carry out the instruction to complete the work in time. At no point of time the Contractor shall stop execution of the work on any ground whatsoever.
27. Unless stated otherwise, rates quoted by the Contractor shall hold good for work at all heights and depths. The Contractor shall not be paid any thing extra for maintaining in good condition all the work executed till completion of the entire work; nor on account of damage to the works caused by rains or other natural phenomenon during the execution of works.
28. Payment for work in different floors, extra for items for RCC, brick work above different floor levels shall be made at rates provided for these items. For operations of these rates, the floor level shall be considered as the top of main structural RCC slab in that floor viz. top of RCC slab in main room and not the top of any sunken or depressed floor for lavatory slabs.
29. The rate shall be inclusive of working under water and adverse conditions and including pumping out or bailing out water, unless otherwise specified in the nomenclature. This will include water encountered from any source such as rains, floods, sub-soil water table being high or any cause whatsoever.
30. **Lowest Rate of the item shall be paid in case the item appears in more than one Schedule of Quantities of the same Contract.**
31. Cutting of holes in walls, floors, chhajjas, R.C.C. slabs etc. The tendered rates shall include the cost of cutting holes wherever required and making good the same, nothing extra shall be paid for this.
32. The material will be issued to the Contractor at the place of delivery as mentioned in the schedule of materials. If these are delivered at any other site, the difference due to cartage will be adjusted accordingly. The Contractor shall have to cart at his own cost the materials to the site of work as soon as these are issued. The material will be issued during the working hours and as per rules of D.D.A. godowns as framed from time to time.
33. The Contractor shall bear all incidental charges for cartage, storage and safe custody of materials.
34. All materials obtained from D.D.A. store or otherwise shall be got checked by the Engineer-in-Charge of the works on receipt of the same at site before use.
35. **Levy of Taxes.**
 - 35.1. Tendered rates are inclusive of all taxes and levies except service tax payable under the respective statutes. However, pursuant to the Constitution Act 1982, if any, further tax or levy is imposed by statute after date of receipt of tenders and the Contractor there upon necessarily and properly pays such taxes/levies, the Contractor shall be reimbursed the amount so paid provided such payment, if any, is not in the opinion of Superintending Engineer(whose decision shall be final and binding) attribute to delay in execution of work under the control of the Contractor.

- 35.2 The Contractor shall keep necessary books of account and other document for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of DDA and further he shall furnish such other information/documents as the Engineer -in-charge may require.
- 35.3 The Contractor shall within a period of 30 days of imposition of any further tax or levy, pursuant to this Constitution Act, 1982 give a written notice thereof to the Engineer-in-Charge that the same is given pursuant to this condition together with all necessary information relating thereto.
36. The Contractor shall leave such recesses, holes, openings etc. as may be required for the electric, air-conditioning and other related works for which inserts, sleeves, brackets conduits, base plates, clamps etc. shall be supplied free of cost by the Contractor unless otherwise specifically mentioned and the Contractor shall fix the same at the time of casting of concrete, stone work and brick works if required, and nothing extra shall be payable on this accounts unless otherwise mentioned in the item/Contract.
37. The Contractor shall submit drawings of staging and shuttering arrangement, electrical and fire-fighting works for approval of Engineer-in-Charge. The Contractor shall also submit bar binding schedule for approval of Engineer-in-Charge before execution.
38. The Contractor shall make his own arrangements for obtaining electric connections, if required, and make necessary payments directly to the Department concerned. The Department will however make all reasonable recommendations to the Authority concerned in this regard.
39. No foreign exchange shall be made available by the Department for the purpose of procurement of equipment, Plants, Machinery, materials of any kind or any other items required to be carried out in execution of work.
40. The work of electrification, Horticulture and other internal and external services may be carried out simultaneously by other agencies with the work being tendered for against the enclosed Contract documents. The Contractor shall afford necessary facilities for the same.
41. The Contractor shall be required to do the work of development simultaneously along with building work, as per the direction of Engineer-in-Charge.
42. Contractor may be required to execute the work under foul position and nothing extra for executing the work in foul position/condition is payable.
43. No payment will be made to the Contractor for damage caused by rains, or other natural calamity during the execution of the works and no such claim on this account will be entertained unless specified otherwise.
44. The empty containers shall not be removed from the site of work till the relevant item of work has been completed and permission obtained from the Engineer-in-Charge.
45. The malba/garbage removed from the site shall be disposed off by the Contractor at any suitable place as directed by the Engineer in-charge & nothing extra payable on this account.
46. (a) The field staff shall keep the record of initial levels and final levels of all such low lying area.
(b) The surplus soil/earth shall be disposed off as per directions of Engineer-in-Charge.

47. All materials which are specified to be tested at the manufacturer's works shall satisfactorily pass the test in presence of the authorized representative of Engineer-in-Charge before being used in the work. In case all requisite testing facilities are not available at the manufacturer's premises, such testing shall be conducted at laboratory approved by the Engineer-in-Charge.
48. The item of External plastering shall be taken after getting the approval of the Engineer-in-Charge. The item of external finishing, if got executed from another agency, may need a close co-ordination between the items of external plastering and finishing for which the Contractor shall have to work in close liaison with the second agency as per the direction of Engineer-in-Charge.
49. Barricading of excavated trenches on both sides of the trench to the height of 1.60 meters with galvanized steel plain sheet of 1.00mm thick(Class-D)fixed on 100mm dia Sal Ballies 3m, apart with nails etc. will be done by Contractor as a safety measure and nothing extra will be paid for. He will also provide red strips on sheets with aluminum paint 75mm wide alternatively on outsides of sheets vertically and no extra payment will be made on this account.
50. The Contractor shall, during the currency of the Contract, when called upon by the Engineer-in-Charge, engage and also ensure engagement of sub-Contractors and other employee by the Contractor in connection with the works, apprentices for such periods as may be required by the Engineer-in-Charge. The Contractor shall then train them as required under the Apprentices Act, 1961 and the rules made there under and shall be responsible for all obligations of the employer under the said Act, including the liability to make payment(s) to apprentices as required under the said Act.
51. **SAFETY OF WORKERS:**
In respect of all labours directly or indirectly employed in the work for the performance of the Contractor's part of this Agreement, the Contractor shall at his expense arrange for the safety provisions as per the latest edition of India Standard Safety Codes shown below and shall at his own expenses, provide for all facilities in connection therewith. In case the Contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay penalty prescribed under relevant clauses of these tender documents for each default and in addition the Engineer-in-Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the cost incurred in on that behalf from the Contractor and no claims shall be entertained.
- | | | |
|-------|-----------|--|
| i) | I.S: 3006 | Part I Safety code for Scaffolds and Ladders. |
| ii) | I.S: 3696 | Part II Safety code for Scaffolds and Ladders Part II Ladders. |
| iii) | I.S: 76 | Safety code for Excavation work. |
| iv) | I.S: 4031 | Safety code for Blasting and Drilling operations. |
| v) | I.S: 4138 | Safety code for working in Compressed air. |
| vi) | I.S: 5121 | Safety code for piling and other deep foundations. |
| vii) | I.S: 5916 | Safety code for constructions involving use of Bituminous materials. |
| viii) | I.S: 7293 | Safety code for working construction Machinery. |
| ix) | I.S: 7969 | Safety code for storage and handling of building materials. |
| x) | | Any other code as per directions of Engineer-in-Charge. |

52. **QUALITY CONTROL:**

- 52.1 Contractor shall be fully responsible for the quality of work be executed as per prescribed specification, relevant BIS codes and drawings. All work under or in course of execution or executed, in pursuance of the Contractor shall at all time be open to the inspections and supervision of the Quality Control Wing/ Vigilance of DDA & CTE. Contractor shall be required to uncover the hidden item whenever it is required by CE (QC) or CTE for checking measurements, quality of work and Specifications etc.
- 52.2 The Divisional Officer (Civil and Elect.) of DDA will also examine the work executed from the point of view of scope of work, inventory of fittings and fixtures and Specifications for the various item before the work is finalized. If in the opinion of the CE (QC) or CTE, any of the work has been executed with improper material or defective workmanship, failure to do so will make him liable for penalty and other actions under clause 14 of PWD-8 of Agreement. If during any of the visit, use of sub-standard material or improper workmanship is noted by the Divisional Officer or his Superiors or CE(QC) or any of the authorized representative or his supervisors, the same also be promptly rectified on getting a written notice to do so.
53. **Sewerage Works**
- 53.1 The Contractor shall carry out the work of sewer lines in close co-ordination with works of the services in the area. The Contractor shall have no financial or other claims arising out of lack of co-ordination.
- 53.2 No payment shall be made for the excavation for RCC pipe lines for the portions covered by excavation for construction of manholes.
- 53.3 Earth excavated from trenches shall be stacked at a distance from the top edge of excavation, equal to depth of the trench below ground level or equal to 1.5m whichever is greater.
- 53.4 S.F.R.C. Covers shall be inscribed with name of respective division/DDA, manufacturer's name & month & year of manufacturing with grade of concrete and ISI mark.
54. Where ever necessary the S.C.I pipes and G.I. pipes shall be fixed in R.C.C. columns, beams etc. with scrub plugs and nothing extra shall be paid for it.
55. G.I. pipes of various sizes as specified & stipulated will be issued by the Department from D.D.A. stores only for item of water supply and sanitary installation. For other item involving the use of G.I. pipes and M.S. pipes of various size such as hand rails, rain water pipes, spouts & flush pipe etc. the Contractor shall make his own arrangement and no extra claim on this account will be entertained by the Department. Fire Hydrant shall conform to I.S. 909-1975.
56. The Contractor is to provide, at all times during the progress of the works and the maintenance period, proper means of access, with ladders, gangways etc. and other necessary attendant to move and adopt as directed for the inspection or measurements of the works by the Engineer in-charge or his authorized representative.
57. The following specialized works shall be carried out by specialist persons or manufacturers with the written approval of the Engineer in-charge.
- i) Stone & marble works.
 - ii) Steel doors, windows and rolling shutters.
 - iii) Terrazzo tile flooring/ mosaic flooring/glazed tiles and ceramic tiles/exposed aggregate finished plaster i/c grit wash.
 - iv) Flush doors/fire doors.

- v) Painting & polishing
 - vi) Water proofing treatment of roof, terraces, balconies, sunken portions of toilets in all floors, water tanks etc.
58. Where the Contractor is required to provide materials of certain sizes or weights which may have gone out of market due to change over to metric standard, substitutes conforming to the nearest equivalents on the higher side, as approved by the Engineer-in-Charge, shall be used. No claim of extra payment shall be entertained on this account.
59. The Contractor shall make the following available readily and in good working condition at site to ensure proper quality of work. Theodolite, Dumpy level with staff, steel tapes, stop watch, platform type weighing machine of 200 Kgs. Capacity, steel balance with weights, spring balance, slump cone with tamping rod, 15 cm cube moulds, 24 Nos. Plumb Bob, spirit level, Vernier/ Micrometer, Calibrated cylinder, Hammers, thermometers etc.
60. The layout alignment and the orientation of the different members of the structural works should be carried out after thoroughly checking the drawing and obtaining clarification, if any from the Engineer-in-Charge. The setting out work should be carried out by the precision surveying instruments and got approved from the Engineer-in-Charge. The Contractor shall arrange the necessary equipment and instruments.
61. The Engineer-in-Charge shall require (where he deems so necessary) to provide grooves of approved pattern between various surfaces such as timber/ plaster, exposed aggregate/ plaster/ concrete/ exposed concrete/ brick work, ceiling/ walls, skirting/ plaster between various concreting operations of same or different members (particularly in the exposed concrete work) or as required etc. such grooves shall be provided without extra charges and the Contractor's rate for various items are deemed to include the cost of all labour, tools and materials required for making such grooves.
62. Large sized details shall take precedence over small sized drawings. The Contractor shall verify all dimensions at site.
63. Where directed by the Engineer-in-Charge, the Contractor shall provide permanent bench marks. Likewise, any other levels or line or points specifically required by the Engineer-in-Charge shall be built-in. The Contractor shall carefully protect and preserve such important mark during execution of work.
64. Whenever directed by the Engineer-in-Charge with a view to obtain exposed face concrete by itself, form work shall have to be provided by the Contractor in specific pattern as required and instructed. A sample of the exposed face finish shall be made by the Contractor and the same shall be got approved before the work is started. Due care shall be taken while removing the form work. Time allowed for such shuttering shall be as per decision of Engineer-in-Charge. On removal of form work, the surface shall be rubbed with carborandum stone, so as to give a smooth finish and to match the surrounding surface. No patching up with cement plaster or otherwise shall be allowed. If however, any honey combs, broken edges, or ugly off sets etc. are found, the Contractor shall have to re-do the work without any extra charges. The material used for shuttering for exposed concrete shall be only timber with freshly sawn surfaces or as approved by the Engineer-in-Charge.
65. The Contractor shall be responsible for getting the necessary tests certificates from the concerned branch of Municipal Corporation and also to get connection for the drainage and water supply from the concerned branch of Municipal Corporation.

66. The work shall be done in conformity with the plans and within the requirements of the general Architectural, Air Conditioning, Electrical and Structural Plans. This work shall be properly coordinated with the work of the other trades. Hangers and sleeves, structural opening shall be furnished in time for their installations as other work proceeds.
67. (a) The plumbing drawings are diagrammatic, but shall be followed as closely as actual construction and work permits.
(b) The Architectural drawing shall be co-related with the plumbing drawings to all dimensions and shall be followed.
68. (a) The recommended positions of the fittings, fixtures, control valve, tanks etc. as shown on the drawing will be adhered to as far as possible.
(b) If there is discrepancy due to incomplete description/ ambiguity or omission in the drawing and other documents, whether original or supplementary, forming the Contract, either found on completion or during progress of the work, the Contractor shall immediately, on discovering the same, brought to the notice of the Engineer-in-Charge and the decision of the Engineer-in-Charge shall be final and binding on the Contractor.
69. The Contractor shall submit the complete set of original and further two copies of additional drawings to the Engineer-in-Charge after completion of the work. The drawings must give with the following information :-
(a) Running detail of all pipes and diameter on all floors and the vertical stacks.
(b) Location and sizes of all control valves access panels and other equipments.
(c) I.L. of all manholes including I.L. at out falls.
No completion certificate will be issued until the drawings as aforesaid are submitted by the Contractor.
70. During the progress of the work, completed portions of the building may be occupied and put to use by the D.D.A. but the Contractor shall remain fully responsible for maintenance of the installations till the entire work covered by the Contract is satisfactorily completed.
71. (a) Separate godowns shall be provided for OPC & PPC storage.
(b) No P.P.C. should be used in R.C.C. frame structure specially in the exposed portion like chajjas, balconies, open terraces, top roofs, extended beams, open stair cases and slab beams in toilets.
72. The Contractor shall be responsible for any activity, authorized or Unauthorized, going on within the site area handed over to him by the Department for construction/development/maintenance or for any other purpose. The Contractor shall also be responsible for informing the Engineer in-Charge, in writing, wherever their supervision is essential. Further this shall not be a ground for seeking time extension in completion of the work and/or for claiming any loss and/or damage by the Contractor, if at all this causes prolongation of completion of work.
73. For interlocking concrete block pavement as per specification for interlocking concrete block pavement.
74. SFRC cover shall be of M/s K.K.Manholes & gratings, M/s Hindustan Precast, M/s Daya concrete products, M/s S&P Delhi or any other company which have license to manufacture SFRC cover with grade MD 10 as per IS 12952:2002.

SPECIAL CONDITIONS

1. The site for the work is available.
2. Sub-soil water table at work site is reported to be about.....
below the general ground level as per soil investigation report. The water level is likely to rise during rainy season, but nothing extra shall be paid for the work under sub-soil water.
- 3.(a) A detailed programme in the form of precedence network diagram is to be submitted to the Engineer-in-Charge within 15 days after award of work. Any modification suggested by the Engineer-in-Charge shall be incorporated in the Bar Chart. It will be ensured by the Contractor that the time schedule laid down in the aforesaid Bar Chart is adhered to. In case of any slippage, the time lost will have to be made good by the Contractor by speeding up the activities. In such case, he shall be bound to follow the revised programme decided by the Engineer-in-Charge. The programme chart should include the following.
 - i) Descriptive note explaining sequence of various activities.
 - ii) Network (bar chart/precedence network)
 - iii) Programme for procurement of materials by the Contractor.
 - iv) Programme of mobilization of Machinery/equipment.
 - v) Time schedule for the requirement of material to be supplied by the Department.
 - vi) Cash flow statement.If the Contractor fails to submit the BAR chart, the Engineer-in-Charge shall get it prepared at the risk and cost of the Contractor
- (b) Contractor shall give the Engineer-in-Charge on the 4th day of each month, the progress report of the work done during the previous month. The progress of work will be reviewed periodically by the Engineer-in-Charge with the Contractor and shortfalls, if any, will be sorted out. The Contractor shall there upon take such action as may be necessary to bring back his work to schedule without additional cost to the Department.
4. The submission of detailed programme, for approval by the Engineer-in-Charge, or the furnishing of such particulars shall not relieve the Contractor from any of his duties or responsibility under the Contract. This is, without prejudice to the right of the Engineer-in-Charge to take action against Contractor as per terms and condition of the Agreement.
5. In order to adhere the programme, if the work is to be carried out in more than one shift and no claim on this account shall be entertained. Contractor will have to give advance notice in writing to Engineer-in-Charge for executing any work in odd hours i.e. beyond normal working hours between 9 AM to 5 PM. Contractor shall arrange suitable, to and fro transportation for DDA site staff to their residences, in case the site staff is required to stay beyond office hours.
6. Contractor shall be allowed 15 days for mobilization from the date of issue of letter of award for the work. During this period Contractor will mobilize Plant & equipment and complete other preliminaries like approval of quarry, mix design, trial mix etc.
7. (a)The Contractor shall provide and maintain C.G.I. sheet barricading not less than 2.5m in height from ground level duly painted in white and green as required according to the rules. Wherever, compound wall/fencing exists this provision will not be insisted upon. Nothing extra shall be paid for the same.
(b)The Contractor shall take all necessary measures for the safety of traffic during construction and provide, erect and maintain such barricades, including

signs, marking, flags, lights and flagman as necessary, at either end of the excavation/embankment and at such intermediate points, as directed by the Engineer-in-Charge for the proper identification of construction area. He shall be responsible for all damages and accidents caused due to negligence on his part. These provisions are in addition to the safety measures already mentioned in PWD-8.

8. Contractor shall provide one signboard of size 3mx5m, displaying name of the Department, and the project, architects, consultant and main Contractor, as approved by the Engineer-in-Charge. Nothing extra shall be paid on this account.
9. Some restrictions may be imposed by the security staff/Delhi Police on the working and for movement of labour, materials etc.
 - i) The movement of trucks and vehicles shall be regulated in accordance with rules and regulations as approved by competent Authority.
 - ii) The Contractor shall be bound to follow all such restrictions/instructions and nothing extra shall be payable on this account.
 - iii) No claim whatsoever will be entertained by the Department on account of any restrictions (including temporary suspension of work) imposed by the security agencies in execution of work.

10. **QUALITY ASSURANCE**

- 10.1 The Contractor shall ensure quality control measures on different aspects of construction including materials, workmanship and correct construction methodologies to be adopted.
- 10.2 The Contractor shall intimate the source of various raw materials namely aggregate, cement, sand, water etc. to be used on the work and get it approved from the Engineer-in-Charge. Trial mixes for controlled concrete shall be prepared using the approved materials. The Contractor shall stick to the approved source unless it is absolutely unavoidable. The change, if any, shall be done with the prior approval of the Engineer-in-Charge for which tests etc. shall be carried out by the Contractor at his own cost.

11.1 **SAMPLES OF MATERIALS:**

(a) The Contractor shall submit to the Engineer-in-Charge samples of all materials to be used in the work for approval before procuring bulk supplies and before commencing the work. These approved samples shall be preserved and retained in the custody of the Engineer-in-Charge as standards of materials and workmanship till the completion of the work. The cost of such samples shall be borne by the Contractor and nothing shall be payable on this account. Preference shall be given to those articles which bear ISI certification mark. In case articles bearing ISI Certification mark are not available, the quality of samples brought by the Contractor shall be judged by the standard laid down in the relevant ISI Specifications. All materials and articles brought by the Contractor to the site for use shall conform to the samples approved which shall be preserved till the completion of the work.

- (b) Coarse sand will be used after washing in case silt contents is beyond permissible limit.

11.2 **SUB STANDARD MATERIAL/WORK:**

In case any material/work is found sub standard the same shall be rejected by the Engineer-in-Charge and the same shall be removed from the site of work within 48 hours, failing which the same shall be got removed by the Engineer-in-Charge at the risk and cost of the Contractor without giving any further notice and time.

11.3 TESTING OF MATERIALS:

Even ISI marked materials may be subjected to quality test at the discretion of the Engineer-in-Charge besides testing of other materials as per the specification described for the item/materials. Whenever ISI marked materials are brought to the site of work the Contractor shall if required by the Engineer-in-Charge, furnish manufacturer test certificate or test certificate from approved testing laboratory to establish that the material procured by the Contractor for incorporation in the work satisfy the provisions of IS Codes relevant to the material and/or the work done.

- 11.4 The contractor shall arrange to carry out all tests as required under the Agreement from the laboratories as approved by the Engineer-in-Charge. Testing charges shall be borne by the Department only if the material tested conforms to the relevant specifications otherwise the testing charges shall be borne by the contractor and the same shall be adjusted against the payment due to the contractor. No testing charges shall be payable by the contractor for the tests conducted in DDA laboratories only if the material tested conforms to the relevant specifications otherwise the testing charges shall be borne by the contractor and the same shall be adjusted against the payment due to the contractor. Water testing charges, if any, shall be borne by the contractor. The expenditure incurred on the field tests at site shall be borne by the contractor. All cost of these samples, their packing, to and fro transportation from the site to the testing laboratory shall be borne by the contractor. Allowing to establish the laboratory at site shall not absolve, the contractor from fulfilling the criteria of getting the test done in independent laboratory. The decision of the Engineer-in-Charge for allowing any test in the site laboratory or any other laboratory shall be final.
- 11.5 (a) 75% Tests will have to be conducted in DDA Zonal laboratory and 25% in DDA Central Laboratory at Khelgaon, Shahpur Jat, New Delhi.
(b) In case there is any discrepancy in frequency of testing as given in the list of mandatory tests and that in individual sub-heads of work as per C.P.W.D. Specifications 1996/Vol.1 to VI with Correction Slips 1 to 19 & 2002 for cement mortar, cement concrete & R.C.C. work (higher of two frequencies of the testing shall be followed) and nothing extra shall be payable to the Contractor on this account.
- 11.6 The quality of cement concrete and RCC shall be tested during the execution of the item of work as prescribed in CPWD Specifications.
- 11.7 The Contractor shall provide, at no extra cost, at site appliances such as weighing scale, graduated cylinders, standard sieves, slump cones, C.I. or M.S. moulds, caliper, tapes etc. for testing of materials at site of work.
12. Any cement slurry added over base surface or for continuation of concreting for better bond is considered to have been included in the item (unless otherwise specifically stated) and nothing extra shall be payable or extra amount considered in consumption in this account.
13. The earth obtained from the execution of foundation shall be used for filling in plinth sides, under the floors, courtyards and low lying areas etc. within the premises as per the direction of Engineer-in-Charge. The Contractor if decided by the Engineer-in-Charge in writing shall dispose the surplus earth outside the premises at the specified location for which extra payment shall be made as per the terms and conditions of the Contract.
14. The registers for cement, reinforcement bars, paints, lead, other material etc., testing and other registers shall be maintained, as required by the Engineer-in-Charge as per format. These registers shall be signed by the

Contractor/or by his authorized representative and the junior Engineer & Assistant Engineer-in-charge of the work.

15. Factory made materials shall be procured only from reputed & approved manufacturers or their authorized dealers. List of such approved manufacturers is available at ANNEXURE – I. For the items/materials not appearing in the list, the decision of Engineer-in-Charge shall be final and binding.
16. Wherever specialized work is to be executed or materials are to be procured through specialized agencies, their names shall be got approved well in advance from Engineer-in-Charge. Failure to do so shall not justify delay in execution of work. It is suggested that immediately after award of work, Contractor should negotiate with concerned specialized agencies and send their names for approval to Engineer-in-Charge. Any material procured without prior approval of Engineer-in-Charge in writing is liable to be rejected. Engineer-in-Charge reserves his right to get the materials tested in laboratories of his choice before final acceptance. Non standard material shall not be accepted.
17. Contractor shall also submit the names of water proofing specialist along with information about their technical capabilities and list of similar works executed by the specialized agency in the past for the approval of Engineer-in-Charge within 30 days from the date of award of work. The approved specialized agency for the work of water proofing will have to execute a guarantee bond in prescribed proforma enclosed at ANNEXURE- III for removing any defects for at least 10 years. Guarantee bond shall be signed by both the specialized agencies as approved by the Engineer-in-Charge and the Contractor to meet their liability under the guarantee bond. However, the sole responsibility about the efficiency of water proofing treatment shall rest with the building Contractor.
18. 10% of the cost of water proofing work shall be retained as additional Security Deposit and the amount so withheld would be released after ten years from the date of completion of the entire work under the Agreement. If the performance of the work done is found unsatisfactory and any defects are noticed during the guarantee period, it shall be rectified by the Contractor within seven days of receipt of intimation of defects in the work. If the defects pointed out are not attended within the specified period, the same will be got done by another agency at the risk and cost of the Contractor.
19. The tenderer shall indicate the names of at least 3 specialized agencies with whom they are likely to be associated for sanitary, water supply and electrical works. The Engineer-in-Charge reserves the right to select anyone to whom the work could be assigned.
20. The Contractor shall necessarily use the surface vibrator for compaction of concrete in floor slab etc. for placement of concrete at various levels tower crane of appropriate size, capacity and boom length or concrete pump shall necessarily be deployed by the Contractor. However, mechanical hoist can be used by the Contractor for lifting other construction materials.
21. The term machine batched machine mixed and machine vibrated design mix concrete used anywhere in Agreement shall mean the concrete produced in automatic concrete batching & mixing Plant and if necessary transported by transit concrete mixers, placed in position by the concrete pumps and vibrated by surface vibrator/needle vibrator/plate vibrator, as the case may be, to achieve required strength and durability.

(a) The mix design and testing of trial mixes shall be done in any of the Laboratories listed below for the approval of Engineer-in-Charge.

(i) National Council of Cement and Building Material, Ballabhgarh.

(ii) C.R.R.I., New Delhi.

(iii) I.I.T. Delhi.

22. The tenderer will indicate the system of centering and shuttering, he proposed to adopt for easy erection and de-shuttering. Based on this system, the type of material to be used in shuttering will be determined.

23. The Contractor shall carry out disc test on all sewer lines and satisfy the Engineer-in-Charge that the lines are absolutely clear. Any obstruction shall be removed by the Contractor without any claim for extras. Decision of the Engineer-in-Charge with regard to disc test and cleaning of the lines shall be final.

24. **CONDITIONS OF CEMENT:**

(a) The Contractor shall procure 43 grade (conforming to IS: 8112) ordinary Portland cement as required in the work, from reputed manufacturers of cement, having production capacity of 1 million tones or more per annum, such as ACC, L&T, JP Rewa, Vikram, Shree Cement, Birla Jute and Cement Corporation of India, as approved by Ministry of Industry, Government of India, and holding licence to use ISI certification mark for their product. Supply of cement shall be taken in 50 Kg. bags bearing manufacturer's name and ISI marking. Samples of cement arranged by the Contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant BIS Codes. In case test results indicate that the cement arranged by the Contractor does not conform to the relevant BIS codes, the same shall stand rejected and shall be removed from the site by the Contractor at his own cost within a week's time of written order from the Engineer-in-Charge to do so.

(b) The cement shall be brought at site in bulk supply of approximately 50 tones or as decided by the Engineer-in-Charge.

(c) The two cement godowns, one for the untested and the other one for cement that has been tested & approved, of capacity to store a minimum 2000 bags of cement shall be constructed by the Contractor at site of work for which no extra payment shall be made. Double lock provision shall be made to the door of cement godowns. The keys of the one lock shall remain with Engineer-in-Charge or his authorized representative and the key of the other lock shall remain with the Contractor. The Contractor shall be responsible for the watch and ward and safety of the cement godowns and no extra payment shall be paid for the same. The Contractor shall facilitate the inspection of the cement godowns by the Engineer-in-Charge or his authorized representatives at any time.

(d) The cement shall be got tested by Engineer-in-Charge and shall be used on work only after test results have been received. The Contractor shall supply free of cost the cement required for testing. The cost of tests shall be borne by the Contractor/Department in the manner indicated below:

(i) By the Contractor, if results show that the cement does not conform to relevant BIS codes.

(ii) By the Department, if the results show that the cement conforms to relevant BIS Codes.

(e) Cement brought to site and cement remaining unused after completion of work shall not be removed from site without written permission of the Engineer-in-Charge.

(f) Damaged cement shall be removed from the site immediately by the Contractor on receipt of a notice in writing from the Engineer-in-Charge. If he does not do so within three days of receipt of such notice, the Engineer-in-Charge shall get it removed at the cost of the Contractor.

(g) The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in clause 10 of the Contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in **Special Conditions at SL.No.30** of the Contract and shall be governed by conditions laid therein. No payment for excess consumption of cement will be allowed. However, for lesser consumption beyond permissible theoretical variation recovery shall be made in accordance with conditions of Contract without prejudice to action for acceptance of work/item at reduced rate or rejection as the case may be.

(h) For non-schedule items, the decision of the Superintending Engineering regarding theoretical quantity of cement which should have been actually used, shall be final and binding on the Contractor.

25. **CONDITIONS OF STEEL:**

i) The Contractor shall procure steel reinforcement of Thermo Mechanically Treated Bars conforming to relevant BIS Codes directly from the main producers i.e SAIL, TISCO, IISCO and RINL. The Contractor shall have to submit documentary proof to the satisfaction of the Engineer-in-Charge of having procured the steel reinforcement from the main producers. In exceptional circumstances of non-availability of particular diameter for limited quantity and for a limited period, procurement of steel from secondary producers having valid BIS licence and having thermax/tempcore Plant for production of TMT bars will be allowed with the prior approval of Chief Engineer in writing and who shall satisfy himself independently about the non-availability of particular diameter of steel for which request has been made by the Contractor for procurement from the secondary producers. The Contractor shall necessarily produce documentary evidence regarding non-availability of particular diameter of steel from the main producers. **In case, of use of TMT bars from secondary producers, reduction in rate of Rs.2.00 (Rupees two only) per Kg from the quoted rate of Item No.....shall be made for the quantity procured from secondary producers and used on the work.** The Contractor shall have to obtain and furnish test certificates to the Engineer-in-Charge in respect of all supplies of steel brought by him to the site of work. Samples shall also be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant Specifications. In case, test results indicate that the steel arranged by the Contractor does not conform to the Specifications, the same shall stand rejected and shall be removed from the site of work by the Contractor at his own cost within 7 days of written order from the Engineer-in-Charge to do so.

ii) The steel reinforcement bars shall be brought to the site in bulk supply of 10 tonnes or more or as decided by the Engineer-in-Charge.

iii) The steel reinforcement shall be stored by the Contractor at site of work in such a way as to prevent distortion and corrosion and nothing extra shall be paid on this account. Bars of different sizes and lengths shall be stored separately to facilitate easy counting and checking.

iv) For checking nominal mass, tensile strength, bend test, rebend test, etc. specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below:

Size of bar	For consignment below 100 tonnes.	For consignment over 100 tonnes.
Under 10mm dia Bars.	One sample for each 25 tonnes or part thereof	One sample for each 40 tonnes or part thereof.
10mm to 16mm dia bars.	One sample for each 35 tonnes or part thereof.	One sample for each 45 tonnes or part thereof.
Over 16mm dia Bars.	One sample for each 45 tonnes or part thereof.	One sample for each 50 tonnes or part thereof.

v) The Contractor shall supply free of charge the test pieces of steel bars required for testing. The cost of tests shall be borne by the Contractor/Department in the manner indicated below:

a) By the Contractor, if results show that the steel does not conform to relevant BIS Codes.

b) By the Department, if the results show that the steel conform to relevant BIS Codes.

vi) The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 10 of the Contract. The theoretical consumption of steel shall be worked out as per procedure prescribed in **Special Conditions at Sl.No. 30** of the Contract and shall be governed by conditions laid therein.

26. The agency shall have to provide cement slurry coating on the reinforcing bars as soon as the same are brought at site of work and shall be stacked on brick/timber platform above 30-40 cm height from ground level. Nothing extra shall be paid on this account.

27. **CONDITIONS FOR WATER:**

- 27.1 The Contractor shall make his own arrangement for providing water for construction and drinking purposes. Contractor shall have to get the water tested from any laboratory approved by the Engineer-in-Charge at regular interval as per the revised CPWD Specifications 2002 for cement mortar, cement concrete and RCC works (which supercedes the chapter 3,4&5 of CPWD Specifications 1996 Vol II). All expenses towards collection of samples, packing transportation and testing charges, etc. shall be borne by the Contractor.

- 27.2. If the tube well water is not suitable, the Contractor shall arrange suitable water from municipal or any other source at his own cost and nothing extra shall be paid to the Contractor on this account. The water shall be got tested at frequency specified in latest BIS Code/CPWD Specifications.

28. **Instructions for Composite Contract:**

a) The tenderer must associate with himself agencies of the appropriate class eligible to tender for the other components individually.

b) It will be obligatory on the part of the tenderer to sign the tender documents for all the components. (The schedule of quantities, conditions and special conditions etc).

The Executive Engineer-in-Charge of the major component will call tenders for the composite work. The cost of tender document and Earnest Money will be fixed with respect to the combined Estimated Cost put to tender for the composite tender. The Earnest Money will become part of the Security Deposit of the civil work.

On acceptance of the composite tender by the competent Authority the letter of award will be issued by the Executive Engineer in charge of the major component on behalf of the D.D.A.

29. The work of internal electrical installation shall be supervised and monitored by Electrical Wing of D.D.A. The Contractor for the main work shall have to get the electric work done as per direction of Executive Engineer Electrical Division. The measurement part of electrical work shall be done by Executive Engineer, Electrical Division and shall forward to Executive Engineer Civil for incorporation in the bills. The Security Deposit for electrical work shall be released only after a certificate regarding satisfactory completion of work is given by Executive Engineer (Electrical).

30. **Conditions for Theoretical Consumption of Materials**

For the materials, which are not stipulated/issued from the store of Engineer-in-Charge, **Clause 42 will not be applicable** and following conditions shall apply.

- 30.(i) After the completion of the work the theoretical quantities of the following materials, duration of equipment to be used in different items of work shall be calculated on the basis of statement showing quantities of materials to be used in different items of the work provided in the DSR 2002 with 1 to 3 Correction Slips. In case any of the items is executed for which the standard constants for the consumption of the materials/duration of equipment cannot be derived from the statement, the same shall be calculated on the basis of standard formula to be laid down by the Superintending Engineer of the Circle concerned. Over these theoretical quantities of the materials/duration of equipment shall be allowed a variation up to a percentage as given below. In the event it is being discovered that the quantities of the materials/duration of equipment used is less than the materials/duration of equipment as ascertained as here before said, provided (allowing variation on the minus side as stipulated above). The cost of quantities of the materials and equipments not so used shall be recovered from the Contractor on the basis of double of the market rates. The market rates of such materials/duration of equipment shall be ascertained and to be approved by the Suptdg. Engineer of the Circle concerned and the same shall be final and binding on the Contractor. The above procedure will also be repeated along with each and every running account bill and recovery, if any, shall be made simultaneously.

<u>S.No.</u>	<u>Item</u>	<u>Variation on minus side</u>
1.	Cement	2%
2.	Steel	Nil
3.	Bitumen	Nil
4.	All other Materials	Nil

- ii) The provisions made above are without prejudice to the rights of the Delhi Development Authority to take action against the Contractor under the conditions of the Contract for not doing the work according to the prescribed Specifications.
- (iii) The Contractor shall construct suitable Godowns at site of work for storing the materials safe against damages from Sun, Rain, Dampness, Fire, Thefts

etc. He shall also employ necessary watch & ward establishment for this purpose.

- (iv) Cement bags shall be stored properly so that it cannot be affected by weather or by any other cause. The day today receipt and issue statement verifiable should be submitted to the Asstt. Engineer daily showing the work done against the cement issued duly signed by the Contractor or his authorized agent. The statement must show the consumption variation as per above Clause(i).
 - (v) There will be two or more cement godowns, so that only godown from where cement has been tested and conforming to CPWD Specification can be operated. The godown will not be operated till Test Report of cement is received from Laboratory and conform to CPWD Specifications.
 - (vi) The same criteria of test mentioned above shall apply Mutatis-Mutandis in case of other materials brought at site by the Contractor.
 - (vii) Cement bags shall be stored in separate godown as per typical godown sketch attached, with pucca floor and whether proof roofs & walls. Each godown shall be provided with a single door with two locks. The keys of one lock shall remain with DDA's Junior Engineer-in-Charge of work and that of the other lock with the authorized agent of the Contractor at the site of work, so that the cement issued from the godown according to the daily requirement with the knowledge of both the parties. The cement bags shall be stacked on proper floor consisting of two layers of dry bricks laid on well consolidated earth at a level of at least one foot above ground level. These stacks shall be in rows of 2 bags and 10 bags high with a minimum 2'-9" clear space around. The bags should be placed horizontally continuous in each line shown in the accompanying sketch. The day to day receipt and issue accounts of cement shall be maintained by the Junior Engineer-in-Charge and signed daily by the Contractor or his authorized agent. Materials will be issued to the Contractor during working hours as per rule of Delhi Development Authority frame from time to time.
 - (viii) The Contractor shall bear all incidental charges, storage and safe custody for the materials.
31. **All the Services i.e. Sewer, Storm Water Drain and Water Supply shall be designed and got approved from the respective Civic Agencies like D.J.B., M.C.D., Dist com etc. by the Contractor. No extra payment shall be made to the contractor on this account.**
32. **Maintenance of Installations**
During the progress of the Work, completed portions of the building may be occupied and put to use by the D.D.A., but the Contractor shall remain fully responsible for maintenance of the installations till the entire work covered by the Contract is satisfactorily completed.
33. The Contractor shall be responsible for any activity authorized or unauthorized going on with in the site area handed over to him by Department for Construction, Development, Maintenance or for any other purpose. The Contractor shall also be responsible for informing the Engineer-In Charge in writing, wherever their supervision is essential. Further this not be ground for seeking time extension in completion of the work and /or for claiming any loss and/ or damage by the Contractor if at all this clause propagation completion of work.

GENERAL SPECIFICATIONS

1. **Specification:**

Specification to be followed for execution of work shall be:-

- 1.1 The entire work shall be executed as per CPWD Specifications 1996 Vol.I to VI with Correction Slips No.1 to 19 and Revised CPWD specification 2002 for Cement Mortar, Cement Concrete and RCC works (which supercedes the chapter 3,4 & 5 of CPWD Specifications 1996 Vol. II) and particular Specifications attached herewith, till the date of opening of the tender. However, in case of any discrepancy in the description of any items as given in the schedule of quantities appended with the tender and the specification relating to the relevant item that shall be sorted out as per CPWD Specifications 1996 Vol. I to VI Correction Slips 1 to 19 & revised CPWD specification 2002 for Cement Mortar, Cement Concrete & R.C.C. work, the former shall prevail over, if the Specification for any items are, not available in CPWD Specifications referred above, relevant BIS Specifications shall be followed. In case BIS Specifications are also not available, the decision of the Engineer-in-Charge shall be final.
- 1.2 CPWD Specifications Pt.-I (Int.) 2005 and Pt.II (Ext.) 1994 with up to date Correction Slips for Electrical works shall be followed.
- 1.3 Samples of all building materials, doors and windows fitting, sanitary wares and other articles required for execution of works shall be got approved from Engineer-in-Charge shall only be used. Articles classified as First quality by the manufacture shall be used unless otherwise specified.
- 1.4 The Contractor shall give a performance test such as smoke test/pressure test of the entire installations as per standard Specifications before the work is finally accepted and nothing extra whatsoever shall be payable to the Contractor for the test.
- 1.5 The weep holes, expansion joints, wherever required in S.W.drains, may be provided at suitable intervals as per specification and nothing extra shall be paid on this account.

2.0 **Brick Work:**

- 2.1 Contractor shall procure fly ash cement bricks from the following manufacturer as given below:
 - (a) Rajghat Power House, New Delhi.
 - (b) I.P.Station, New Delhi.
 - (c) Badarpur Thermal Power Station, New Delhi.
- 2.2 All mortars shall be mixed in Mechanical mixtures, no hand mixing shall be allowed for mixing of mortar.

3.0 **R.C.C.**

3.1 **FORM WORK:**

(a) **Cleaning and Treatment of Works:**

All rubbish, particularly chipping shaving and saw dust shall be removed from the interior of the forms before the concrete is placed. The form work in Contract with the concrete shall be cleaned and thoroughly wetted or treated with an approved composition to prevent adhesion between form work and concrete. Care shall be taken that such approved composition is kept out of Contract with the reinforcement.

(b) For the execution of centering and shuttering, the Contractor shall use propriety "Reebole" chemical mould release agent of FOSROC or equivalent as shuttering oil as recommended by the manufacture and nothing extra shall be paid on this account.

(c) **Stripping Time:**

In case the concrete gain the required strength the de-shuttering shall be executed as follows:

Walls, columns and vertical faces of structural members. 48 hours.

Removal of prop under slab:-

- a) Spanning upto 4.5 m. 7 days.
- b) Spanning over 4.5m. 14 days.

Removal of props under beams and arches:-

- a) Spanning up to 6m. 14 days.
- b) Spanning over 6 m. 21 days.

In case of hot weather or cold weather these period may be varied at the discretion of Engineer-in-Charge. The number of props, their size and disposition shall be such as to be able to safely carry full dead load of the slab, beam or arch as the case may be together with any live load likely to occur during placing of concrete, curing or further construction.

(d) **Removal of Form Work**

Form work shall be removed in such a manner as it would not cause any shock or vibration that would damage the concrete. Before removal of soffits and props concrete surface shall be exposed to ascertain that the concrete has sufficiently hardened.

3.2 **DESIGN MIX (Ready Mix)**

- a) Design mix (Ready Mix) concrete shall be used in the work for all structural members. A computerized automatic batching Plant of minimum capacity 80 cum per day (8 hours working) shall be installed at site or Ready Mixed concrete with O.P.C. from reputed manufacturer to be approved by Engineer-in-Charge shall be allowed.

Concrete for all reinforced concrete works in columns, wall, footing, beams, slab and the like shall be laid and well consolidated by vibrating using portable mechanical vibrator. The rest of the concrete such as chajjas and shelves etc. shall be laid and well consolidated by pouring & tamping. Care shall be taken to ensure that concrete shall be poured through concrete pumps.

- b) **The minimum quantity of cement for M-25 & M-30 grade R.C.C. will be 360 Kg. per Cum. and 370 kg. per Cum. respectively. In piles, the grade of R.C.C. will be M-35 and minimum quantity of cement shall be 400 Kg/Cum.** The Admixtures, complying with I.S. 9103, shall be used for improving workability and their performance shall be monitored as per clause 5.5 I.S. 456-2000 and clause 4.1.3 of revised CPWD specification 2002 for Cement Mortar, Cement Concrete & R.C.C. work. Admixtures should not impair durability of concrete nor combine with the constituent to form harmful compounds nor increase the risk and corrosion of reinforcement. Nothing extra shall be paid for use of admixtures improving the workability of concrete. Nothing extra will be paid for pumping the concrete as well.

The **maximum water cement ratio** for a particular concrete grade shall be kept as specified in IS: 10262 and shall not exceed the value given in Table IS: 456-2000, which are as follows:

M25	-	0.50
M30	-	0.45
M35	-	0.45
M40	-	0.50 For Piles Work only

M40 - 0.40

- 3.3 **The concrete mix design with and without admixture will be carried out by the Contractor through one of the following laboratories/Test houses and ready mix concrete shall conform to accepted design mix.**
(i) IIT, Delhi.
(ii) National Council for Cement & Building Materials, Ballabhgarh.
(iii) CRRI, Delhi.
- 3.4 In the event of all the three laboratories being unable to carry out the requisite design/testing the Contractor shall have to get the same done from any other laboratory with prior approval of the Engineer-in-Charge.
- 3.5 The Contractor shall submit the mix design report obtained from any of above approved laboratories for approval of Engineer-in-Charge within 30 days from the date of issue of award letter. No concreting shall be carried out until the mix design is approved.
- 3.6 The cost of packaging, sealing, transportation, loading, unloading, cost of samples and the testing charges for Mix design in all cases shall be borne by the Contractor.
- 3.7 a) For procurement of ready mix concrete from RMC Plants, the Contractor shall, within 15 days from award of the work, submit list of at least three RMC Plant companies of repute along with details of such Plants including details of transit mixer, pumps etc. to be deployed indicating name of owner/company, its location, capacity, technical establishment, past experience and text of MOU proposed to be entered between purchaser (the Contractor) and supplier (RMC Plant) to the Engineer-in-Charge who shall give approval in writing (subject to drawl of MOU). The Contractor shall draw the MOU with approved RMC Plant owner/company and submit to Engineer-in-Charge within a week of such approval. The Contractor will not be allowed to purchase ready mixed-concrete without completion of above stated formalities for us in this project.
b) Notwithstanding, the approval granted by Engineer-in-Charge in aforesaid manner, the Contractor shall be fully responsible for quality of concrete including input control, transportation and placement etc.
c) The Engineer-in-Charge will reserve right to inspect the RMC Plant at any stage and reject the concrete if he is not satisfied about quality of product. The Contractor should therefore draw MOU/Agreement with RMC owner/company very carefully keeping all terms and conditions/Specifications forming a part of this tender document.
- 3.8 The Engineer-in-Charge reserves the right to exercise control over the:
(i) Ingredients, water and admixtures procured, stored and to be used in the concrete including conducting of tests for checking quality of Materials, recordings of test results and declaring the Materials fit or unfit for use in production of mix.
(ii) Weighing and quantity check on the ingredients, water and admixtures added for batch mixing.
(iii) Time of mixing of concrete.
(iv) Testing of fresh concrete, recordings of results and declaring the mix fit or unfit for use. This will include continuous control on the workability during production and taking corrective action.
For exercising such control, the Engineer-in-Charge shall periodically depute his authorized representative at the RMC Plant. It shall be responsibility of the Contractor to ensure that all necessary equipment

manpower & facilities are made available to Engineer-in-Charge/or his authorized representative at RMC Plant.

- 3.9 Ingredients, admixtures & water declared unfit for use in Production of mix shall not be used. A batch mix found unfit for use shall not be loaded into the truck for transportation.
- 3.10 All required relevant records of RMC shall be made available to the Engineer-in-Charge or his authorized representative. Engineer-in-Charge shall as required, specify guidelines & additional procedures for quality control & other parameters in respect of materials and production & transportation of concrete mix, which shall be binding on the Contractor & the RMC Plant.
- 3.11 43 grade OPC (Conforming to IS-8112) of brand/make/source as approved by Engineer-in-Charge shall only be used for production of concrete.
- 3.12 The RMC produced concrete shall be accepted by Engineer-in-Charge at site after receipt of the same after fulfilling all the requirements of mix mentioned in the tender documents.
- 3.13 The item of Design Mix cement concrete shall be inclusive of all the ingredients including admixtures if required, labour, Machinery T&P etc. (except shuttering which will be measured & paid for separately) required for a design mix concrete of required strength and workability. The rate quoted by the agency shall be net & nothing extra shall be payable on account of change in quantities of concrete ingredients like cement and aggregates and admixtures etc. as per the approved mix design.
- 3.14 Ready mix concrete shall be arranged in quantity as required at site of work. The ready mix concrete shall be supplied as per the pre-agreed schedule approved by Engineer-in-Charge.
- 3.15 Precast cover blocks in cement mortar 1:2 mix (1 cement: 2 coarse sand) of about 4x4cm. Section will be placed between form work and reinforcement to achieve uniform and required cover of concrete in slab and beam bottom. For beam side and columns factory made round type cover blocks shall be used.

3.16 SCAFFOLDING:

The scaffolding for doing the brick work for all external walls shall be done from outside. The supports shall be sound and strong, tied together with the horizontal pieces. The holes for horizontal scaffolding pole shall be provided only in header course. The holes in the masonry work for supporting the scaffolding shall be filled and made good before plastering. The contractor shall be responsible for providing and maintaining sufficiently strong scaffolding so as to withstand all loads likely to come upon it. Nothing extra is payable on this account.

Double steel scaffolding having two sets of vertical supports shall be provided for external wall finish, cladding etc.

Due care shall be taken by the contractor to ensure the execution of brick masonry walls in plumbs. The outer face of the building shall be kept as true face.

3.17 WOOD WORK:

Wooden shutters as specified, shall be procured from factories as approved by the Engineer-in-Charge and shall conform to relevant IS Code. The Contractor shall inform well in advance to the Engineer-in-Charge the names and address of the factory from where the Contractor intends to procure/get the shutters manufactured. The Contractor will place order for

manufacturing of shutters only after written approval of the Engineer-in-Charge in this regard is given. The Contractor is bound to abide by the decision of the Engineer-in-Charge and recommend a name of another factory from the approved list in case the factory already proposed by the Contractor is not found competent to the manufacture quality shutters. Shutters will however, be accepted only if they meet the specified test. The Contractor will also arrange stage wise inspection of the shutters at factory by the Engineer-in-Charge or his authorized representative. The Contractor will have no claim if the shutters brought at site are rejected by the Engineer-in-Charge in part or in full lot due to bad workmanship /quality. Such shutters will not be measured and paid. The Contractor shall remove the same from the site of work within 7(Seven) days after the written instructions in this regard are issued by the Engineer-in-Charge.

- 4.0 All fittings & fixtures shall be got approved from the Engineer-in-Charge before procurement well in advance and the approved samples shall be kept at site till completion of work.

5.0 **STEEL WORK:**

- 5.1 The manufacturer/fabricator of the following items of steel work shall be got done only from the workshops approved by the Chief Engineer:

(i)Pressed Steel Door frames.
(ii)Steel Doors, Windows, Ventilators and Composite Units.
(iii)Grills.

- 5.2 The names of suitable workshops having technical capability and experience in executing similar work shall be submitted well in advance for approval of the Chief Engineer.

- 5.3 10 mm dia M.S. tie bar shall be provided at the bottom end of pressed steel/Tee iron frames to maintain them in true alignment and nothing extra is to be paid for the same.

- 5.4 The railing height shall be clear height above the finished floor/tread. The height of vertical bars at the turning points of the stair case railing shall be adjusted so as to provide smooth curvature to the railing.

- 5.5 All the welded joints for Doors and windows shutters and frames shall have continuous arc/flash butt welding. The welding joints shall be properly finished by grinding before applying coat of primer.

- 5.6 The hinges of door shutters shall be welded to angle iron frames at full length of Contract area each Eyes and hooks shall be provided to such frames as per requirement. Nothing extra shall be paid for this work or for providing wooden padding for fixing the fitting to suit angle iron frames.

- 5.7 Rates for steel window shall be deemed to exclude the cost of providing M.S. stays and windows fastener of approved type each. The rate of M.S. Grills shall cover all work provided. No distinction shall be made between plain and ornamental grills for payment. The grill should be welded along the full length of the structure with M.S. frames of doors & windows.

- 5.8 Welding wherever required in the structure like grill, railing and frames shall be done in full length along the Contract area of the member, tuck welding is not allowed.

6.0 **FLOORING:**

- 6.1 All the work in general shall be carried out as per CPWD Specifications.

- 6.2 Only machine cut stone true to shape, size and dimensions etc. as specified shall be used for flooring work. Nothing extra shall be payable.
- 6.3 The ceramic tiles shall be as specified in the item. The tiles shall be of specified colours as shown in the drawings and will be paid in pattern as per architectural drawings. Nothing extra shall be paid for laying tiles in specific pattern. The tiles shall be of first quality of approved make. The Ceramic Floor Tiles shall be of Group-V of approved make.
- 6.4 Proper gradient shall be given to flooring for toilets, verandah, kitchen, courtyard etc. so that the wash water flows towards the direction of floor trap. Any reverse slope, if found, shall be made good by the Contractor by ripping open the floor/grading concrete and nothing extra shall be paid for such rectifications.
- 6.5 The flooring and skirting will be executed as per pattern shown in the Architectural drawings and as per approval of Engineer-in-Charge and nothing extra shall be payable on this account.
- 6.6 Samples of flooring material will be procured well in advance and submitted to the Engineer-in-Charge for approval. Approved samples should be kept at site with the Engineer-in-Charge and the same shall not be removed with out written permission of Engineer-in-Charge. No payment whatsoever will be made for these samples.
- 6.7 Kota stone slab flooring shall be laid as per pattern approved by the Engineer-in-Charge. The stone slabs shall be machine cut and size as approved by Engineer-in-Charge.
- 6.8 The rate of items of flooring is inclusive of providing sunk flooring in bathrooms, kitchen etc. and nothing extra on this account is admissible. The flooring is to be laid in pattern of various combinations as per architectural drawings. The flooring in treads and risers of staircase is to be laid in single piece. Nothing extra shall be paid on these accounts. The measurement shall be made for finishing work of flooring.

7.0 **WATER SUPPLY AND SANITARY INSTALLATIONS:**

- 7.1 For various fitting in internal services, the dimensions given in the following table shall be maintained.

Item	Height above Floor level(mm)	Distance from face of wall(mm)
Bath Room		
Bib Cock	800	200
Shower Rose	2100	500
Stop Cock for Shower Rose.	1100	
W.C.		
Bib Cock	250	100
Other fittings		
Wash basin front Edge	800	
Mirror: Bottom	1260	
Top	1800	
Glass shelf	1050	
Towel Rail	1100	
Kitchen Sink	900	
Kitchen bottom Tap	500	200

- 7.2 The SCL/CI/PVC etc., pipe and G.I pipe etc. wherever necessary shall be fixed to RCC columns, beams etc. with raw plugs and nothing extra shall be paid for this.

- i) The Contractor shall submit completion plans for water supply, internal sanitary installations and building drainage work within thirty days of the date of completion. These plans are to be submitted on drawings prepared preferably by computers (1 original copy plus 3 Photostat) on suitable scales to show the general arrangement and desired details. In case the Contractor fails to submit the completion plans as aforesaid, the Security Deposit shall not be released.
- ii) The variation in consumption of material shall be governed as per CPWD specification and clauses of the Contract to the extent applicable.
- iii) The pig lead to be consumed for 100 mm, 75mm, SCI pipe joints shall not be less than 0.98kg and 0.88 kg. per joint respectively. However, in case of less consumption of pig lead by more than 5% of quantity of pig lead specified above shall be recovered from the Contractor at market rate to be determined by Engineer-in-Charge whose decision in the matter will be final.
- iv) The Contractor shall bear all incidental charges for cartage, storage and safe custody of materials and shall construct suitable godowns, yards at the site of work for storing materials so as to be safe against damage by sun, rain, fire or theft etc. at his own cost and also employ necessary watch and ward establishment for the purpose at his own cost.
- v) Concealed piping or sanitary work shall be carried out with the help of suitable chases to be cut in the wall by chase cutting tools only. In no case haphazard cutting of wall by chisel shall be allowed. After fixing of pipes in chases, the chases shall be filled with cement mortar 1:3 (1 cement : 3 coarse sand) and nothing extra shall be paid on this account. Sanitary fixtures shall be of the best quality approved by the Engineer-in-Charge. Wherever particular makes are mentioned, the same shall be provided as per the tender specification after approval of Engineer-in-Charge.
- vi) All fixtures and fittings shall be provided with all such accessories as are required to complete the item in working condition whether specifically mentioned or not in the Schedule of Quantities, Specifications, elsewhere in this tender document & drawings. The quoted rates shall be deemed to be all inclusive for a complete item fit for use including all materials, labour T&P, specials, equipment, testing & commissioning etc. Accessories shall include proper fixing arrangement, brackets, nuts, bolts, screws and required connections pieces. Nothing extra whatsoever shall be payable on this account.
- vii) Fixing screws shall be half round head chromium plated brass screws with C.P.washers where necessary or otherwise as provided in the item.
- viii) Porcelain sanitary ware shall be glazed vitreous china of first quality free from warps, cracks and glazing defects and shall conform to I.S.2556-1967. Colour of sanitary ware, shall be specified or as selected by the Engineer-in-Charge. Nothing extra shall be payable on this account.
- ix) All fittings and fixtures shall be fixed in a neat workman like manner, true to required level and heights and in accordance with the manufacturer recommendations and as per directions of Engineer-in-Charge. Care shall be taken to fix all inlet and outlet pipes at correct positions.

x) Horizontal pipes running along ceiling shall be fixed on structural adjustable clamps of approved design. Horizontal pipes shall be laid to uniform slope and the clamps adjusted to the proper levels so that the pipes fully rest on them and are properly secured.

7.3

Clamps:

Structural clamps shall be fabricated from M.S. structural members i.e. rods, angles, channels flats as per detailed drawing or as directed. Contractor shall provide all nuts, bolts, welding material and paint the Clamps with one coat of red oxide and two or more coats of black enamel paint.

Whereas M.S. clamps are required to be anchored directly to brick walls, concrete slabs, beams or columns, nothing extra shall be payable for clamping arrangement and making good with cement concrete 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) or as the mix of element (beam or column) as directed by the Engineer-in-Charge.

7.4

China Flushing Cistern & European Water Closet:

European W.C. shall be low volume flushing (10 litres) P or S trap type set flushed by means of low volume cistern. The cistern shall be in vitreous china or in ABS plastic, as specified in the schedule of quantities, with all components in non corrosive materials. The flush pipe shall be C.P. brass with suitable adopter for water closet inlet.

Each W.C. seat shall be provided with a sole plastic seat of colour given in the schedule of quantities, rubber buffers and chromium plated hinges. Plastic seat shall be so fixed that it remains absolutely stationary in vertical position without falling down on the W.C.

Rate for providing and fixing of water closet shall include all items and operations stated in the respective Specifications and Schedule of Quantities to provide a complete item fixed for use and nothing extra is payable. Quoted Rates shall also be inclusive of cutting holes and chases and making good the same, C.P. Brass screws, nuts, bolts and any fixing arrangements required and recommended by manufacturers including testing and commissioning.

7.5

Flat Back Wash Basin:

Flat Back wash basin shall be white glazed vitreous china of size mentioned in schedule. Each basin shall be provided with R.S. or C.I. brackets and clips and the Basin securely fixed to wall. Proper silicon sealant shall be applied between the junction of stone and wash basin lip for sealing any voids.

7.6

Unplasticised PVC Pipes & Fittings

UPVC pipes and fittings shall conform to IS: 4985 of specified class.

Jointing shall be done as per the manufacturers recommendations. The pipes and fittings must have matching dimensions for a perfect joint.

Loose or excessively tight joints in the system shall not be accepted. Fittings must have sufficient gap (approx. 10mm) for permissible thermal expansion of pipes.

UPVC pipes shall be clamped to the wall with approved type UPVC or Galvanized Iron saddle clamps.

Rates for all items quoted shall be inclusive of all work and items given in the above mentioned Specifications and Schedule of Quantities and applicable for the work under floors, in shafts or at ceiling level at all

heights and depths. All rates are inclusive of cutting holes and chases in RCC and masonry work and making good the same.

All rates are inclusive of pre-testing and on site testing of the installation, materials and commissioning.

All UPVC rain water pipes shall be measured net when fixed correct to a centimeter including all fittings along its length. No allowance shall be made for the portions of pipes lengths entering the sockets of the adjacent pipes or fittings. The above will apply to both case i.e. whether pipes are fixed on wall face or pillars or embedded in masonry or pipes running at ceiling level.

Rate for providing and fixing of P trap inlet fitting shall include all items and operations stated in the respective Specifications and Schedule of Quantities to provide a complete item fixed for use and nothing extra is payable. Rates for all items under Specifications paras above shall be inclusive of cutting holes and chases and making good the same, any fixing arrangements required including testing and commissioning etc. complete.

7.7 Special Fittings:

C.P. Brass Taps and Stop Cocks as specified in the schedule shall be provided. All floors trap grating in toilets and shower areas & kitchen shall be SCT type.

7.8 The H.D.P.E. water storage tanks should be F.D.A. (Food Drug Addition) approved and tested by C.B.R.I. Roorkee and Public Health Engineering Laboratory. If necessary the Engineer-in-Charge will be at liberty to get the tanks tested for the various tests laid down by test house approved by the Engineer-in-Charge to ensure their strength and suitability for storing potable water. The testing and other incidental charges shall, however be borne by the Contractor and the Contractor shall also provide the guarantee covered by the manufacturer and the same shall duly endorsed to the DDA with manufacturer's guarantee for all the above materials.

Measurements:

Rates for all items quoted shall be inclusive of all work and items given in the above mentioned Specifications and Schedule of Quantities and applicable for the work under floors, in shafts or at ceiling level at all heights and depths. All rates are inclusive of cutting holes and chases in RCC and masonry work and making good the same.

All rates are inclusive of pre testing and on site testing of the installations, materials and commissioning.

8.0 WATER PROOFING:

1. All areas where water proofing is to be done the water proofing shall be got done through firms specialized in water proofing.

The item of water proofing in schedule of quantities pertaining to the building works, shall be guaranteed against seepage/leakage for a period of ten years. The Contractor shall have to execute a performance bond in the prescribed Performa enclosed in the tender documents.

2. The proportion of the water proofing compound of approved makes to be used in cement shall be 1% by weight i.e. 1kg. of chemical of approved quality and manufacture shall be mixed with 100 kg. of cement or in the proportion recommended by the manufactures.

GUARANTEE BOND:

Ten years Guarantee Bond in prescribed proforma attached at **Annexure III** herewith shall be submitted by the Contractor which shall also be signed by both the specialized agency and the Contractor to meet their liability/liabilities under the guarantee bond. However, the sole responsibility about efficiency of water proofing treatment shall rest with the building Contractor.

(Ten per cent) of the cost of water – proofing work shall be retained as additional Security Deposit and the amount so withheld would be released after ten years from the date of completion of the entire work under the Agreement, if the performance of the work done is found satisfactory. If any defect is noticed during the guarantee period, it shall be rectified by the Contractor within seven days of receipt of intimation

of defects in the work. If the defects pointed out are not attended within the specified period, the same will be got done from another agency at the risk and cost of the Contractor.

However, the Security Deposit deducted may be released in full against bank guarantee of equivalent amount in favour of Engineer-in-Charge, if so decided by the Engineer-in-Charge.

The Security Deposit against this item of work shall be in addition to the Security Deposit mentioned elsewhere in Contract form.

9.0

FINISHING:

9.1

The work shall be carried out as per CPWD Specifications.

9.2

The primer, ready mixed paint, distemper etc. of makes as per **Annexure I** shall only be used and brought to the site of work, in the original sealed containers. The material brought to the site of work shall be sufficient for at least 30 days of work. The material shall be kept under the joint custody of Contractor and representative of the Engineer-in-Charge. The empty containers shall not be removed from the site till the completion of the work without permission of the Engineer-in-Charge.

10.0

CLEANING AND DISINFECTION OF PIPELINES:

On completion of hydraulic tests and before a pipe is disinfected, it shall be proved to be free from obstruction, debris and sediment by scouring or by any other process which the Engineer-in-Charge may prescribe. Upon satisfactory completion of testing and cleaning, the pipelines shall be disinfected as under:

Chlorine solution shall be applied at the charging point as the pipeline is being filled and dosing shall be continued until the pipeline is full and at least 50 parts of chlorine per million parts of water have been made available and distributed evenly. If ordinary bleaching powder is used, proportions will 150gms of powder to 1000 litres of water. If a proprietary brand is used, the proportion shall be as specified by the manufacturers. The treated water shall be left in pipeline for a period as directed but not exceeding 24 hours. Chlorine residual tests shall be taken at various points along the pipeline. The disinfection process shall be repeated until the sample of water taken from the pipeline are declared fit for human consumption by a recognized laboratory.

11.0

SPECIFICATIONS FOR WATER SUPPLY, SEWERAGE & DRAINAGE:

General:

- 11.1 The scope of work comprises supply, laying, installation, commissioning and testing of water supply, sewerage and drainage works including sanitary fixtures and fittings. These works shall be executed as per the Specifications of items attached and CPWD Specifications (1996) Volume I & VI with 1 to 19 Correction Slips.
- 11.2 All the water supply and sanitary works shall be carried out by the licensed plumbers approved by the local authorities and skilled workman, experienced in the trade.
- 11.3 All the works shall be completely concealed either within shafts or chases and dropped ceilings, unless specifically shown in drawings or required otherwise.
- 11.4 The Contractor shall be responsible for coordinating the work with works of other trades sufficiently ahead of time to avoid unnecessary hold ups. Hangers, sleeves, recesses, etc. shall be left in time as the work proceeds whether or not these are shown in drawings.
- 11.5 Only material of specified make subject to the approval of the sample by Engineer-in-Charge shall be used.
- 11.6 The Contractor shall submit, as directed by the Engineer-in-Charge, samples, manufacturer's drawings, equipment characteristics and capacity, date etc. of all the equipment, accessories, devices etc. that he proposes to use in the installation to the Engineer-in-Charge for approval.
- 11.7 Before the work is handed over the Contractor shall clean all fixtures removing all plaster, stickers, rust stains and other foreign matter, leaving every part in acceptable condition and ready for use to the satisfaction of the Engineer-in-Charge.
 - (a) All sanitary wares and fittings shall conform to I.S. standards. The Contractor shall submit samples of all fittings and fixtures proposed to be used to the Engineer-in-Charge for his approval. The approved samples shall remain with the Engineer-in-Charge till the completion of the work.
 - (b) The G.I. fittings shall be of same grade and specification as prescribed for G.I. pipe. All the workmanship shall conform to Indian Standard Codes of practice. The fixing and finishing shall be neat, true to level and plumb. Manufacturer's instruction shall be followed closely regarding installation and commissioning.

All fixtures shall be protected throughout the progress of the work from damage. Special care shall be taken to prevent damage and scratching of the fittings. Tool marks on exposed fixtures shall be removed with hot water only after the final completion of the work.
- 10.0 **CERAMIC GLAZED TILES:**
- 12.1 The Agreement item provides for white glazed tiles, coloured tiles, however be used as per the direction of Engineer-in-Charge if these tiles are available at the rate of white glazed tiles. In such case no extra payment shall be admissible.

All fixtures and accessories shall be fixed in accordance with a set pattern matching the tiles, or interior finish as per architectural requirements. Wherever necessary the fittings centered to dimensions and pattern desired.

- 12.2 Preparation of surface & laying:**
Base concrete or the RCC slab on which the tiles to be laid shall be cleaned wetted & mopped. The bedding mortar shall be as specified in the item of the work. The average thickness of the bedding mortar shall be 20mm while the thickness under any portion of the tiles shall not be less than 10mm.
- 12.3** Mortar and tiles shall be laid as per paras 11.15.4.2, 11.15.4.3, 11.15.4.4, 11.15.4.5 & 11.15.4.6 of CPWD Specifications 1996.
- 11.0 GLAZED TILES:**
- 13.1** Work shall be carried out as per item of schedule of quantity and CPWD Specifications 1996 Paras 11.16.1, 11.16.2, 11.16.3, 11.16.4, 11.16.5, 11.16.6
- 13.2** The Agreement item provides for white glazed tiles, coloured tiles, however be used as per the direction of Engineer-in-Charge if these tiles are available at the rate of white glazed tiles. In such case no extra payment shall be admissible.
- 14.0 EXPANSION JOINTS:**
- 14.1** Expansion joints are to be covered with A.C.sheet/as per item of Schedule of Quantity.
- 15.0 CONSTRUCTION JOINTS:**
- 15.1** The Contractor shall give his proposal for location and treatment of construction joints. The construction joints shall be provided only at places and in the manner as approved by Engineer-in-Charge.
- 15.2** Except where shown otherwise on the drawing, reinforcement shall continue through construction joints.
- 15.3** The foreign matter and laitance shall be cleaned properly by compressed air before starting further work.
- 16.0 PRECASTING WORK:**
The precast kerb stone, as stipulated in the schedule of quantities shall be procured by the Contractor from one of the approved list of manufacturer. Before execution of work, Contractor shall submit Engineer-in-Charge the name of the firms along with their quality assurance system. The Engineer-in-Charge have right to inspect the factories of manufacturer before and during production of precast members. During manufacturing of precise members at least six cubes of size 150mmx150mmx150mm out of the concrete mix shall be casted in the factory of precasting for each day of manufacturing in the presence of representative of Engineer-in-Charge. The three cubes shall be tested after 7 days of casting and balance 3 cubes shall be tested after 28 days of casting. After manufacturing and curing of precast members, and their supply at site. Engineer-in-Charge shall have right to do conduct any non-destructive test on precast members to assure the quality of members if found necessary by tests. However, minimum of one no. non destructive test/rebound hammer test shall be done by Engineer-in-Charge on one precast members out of 500 members/kerb stone so produced and supplied.
- 17.0 EXTERNAL FINISHING:**
The external finishing with rough cast plaster shall be done as per CPWD Specification and as per item of Schedule of Quantity and sample of such plaster should be prepared by the Contractor and got approved by Engineer-in-Charge before undertaking mass work.

Annexure-I

List of Approved make of materials.
(For Civil Works).

Specification/brands names of materials (Refer materials, whichever are applicable for the scope of work) and finishes approved by the Architect are listed below. However, approved equivalent materials and finishes of any other specialized firms may be used, in case it is established that the brands specified below are not available in the market and subject to approval of the alternate brand by the Engineer-in-Charge (**also see Conditions of Contract**).

S.No.	Materials	Approved Make
1.	POLY-SULPHID SEALANT	PIDILITE, TUFFSEAL, CHOKSY CHEMICALS.
2.	T.M.T. STEEL	SAIL, TISCO, RINL, IISCO
3.	STRUCTURAL STEEL SECTIONS	TATA,SAIL, LLOYD METAL, SUPREME
4.	SHUTTERING PLYWOOD	ANCHOR, SWASTIK, KITPLY
5.	ADMIXTURE	FOSFORC BY M/S. S.G. FOUNDARY AIDS MC- BY BAUCHEMIE INDIA PVT. LTD. ROFFEE CONSTRUCTION CHEMICAL
6.	PORTLAND CEMENT(GRADE-43)	L & T, ACC, J.K., J.P.REWA, VIKRAM, BIRLA JUTE, CEMENT CORPORATION OF INDIA, SHREE CEMENT
7.	WHITE CEMENT	J.K. WHITE, BIRLA WHITE
8.	ANDODISED ALUMINIUM HARDWARE	ECIE, EVERITE, SIGMA(ISI MARKED) ADARSH, ARAGENT, CLASSIC, ARKEY
9.	BLOCK BOARD COMMERCIAL VENEERED	SITAPUR, DURO, NATIONAL, KIT WOODCRAFT, SWASTIK, JAWALA, JYOTI
10.	FLOAT GLASS	MODIFLOAT, SEINT GOBAIN.
11.	WIRE MESH	STERLING ENTERPRISES, TRIMURTY WELDED MESH
12.	SYNTHETIC ENAMEL PAINT	J & N, BERGER, NEROLAC, ASIAN, I.C.I.
13.	WATER PROOF CEMENT PAINT	SNOWCEM, ACQUCEM
14.	GLAZED CERAMIC TILES	JOHNSON, SOMANY, KAJARIA, BELL CERAMIC.
15.	MARBLE CHIPS.	BARODA, DEHRADOON, UDAIPUR, (AS PER APPROVED SAMPLES).
16.	WATER PROOFING COMPOUND	TAP CRETE, CICO, ACCOPROOF

17.	BITUMEN	I.O.C., H.P.C.L., B.P.C.L.
18.	BRICK-COBA WATER PROOFING AND ACRYLIC IMPREGNATION TREATMENT	OVERSEAS W.P. CO. ROOFERS COMBINE, DEVICON INTERNATIONAL, HINDUSTAN WATER PROOFING.
19.	PU-FOAM INSULATION & ELASTOMERIC MEMBRANE W.P.	LLOYD INSULATION, LLOYD PROJECTS.
20.	PLYWOOD/FLUSH DOOR/ PLY BOARD	DURO, KITPLY, SWASTIC, HANSO SUNMICA, JYOTI.
21.	ADHESIVE	PIDILITE, DUNLOP, VANORGANIES
22.	TILE ADHESIVE	CICO, PIDILITE
23.	LOOKING MIRROR	ATUL, GOLD GLASS, S.K. GLASS.

Annexure-I(Contd.)

List of Manufactures of Approved Makes of Materials.

S.No.	Materials	I.S.No.	Brand Name	Manufacturer
1.	Vitreous China Sanitaryware	2556	Parry	E.I.D. Parry(India) Ltd., Madras
			CERA	Madhusudan Industries Ltd. Gujrat
			Hindustan (Hindware)	Hindustan Sanitaryware & Industries Bahadurgarh
2.	Plastic W.C. Seat	2548	NYCFR, Commander Diplomat Bestolite	D.P.Gupta and Co. New Delhi
3.	C.P.Brass Fittings		Jaguar	Jaguar Ind.(Pv. Ltd., Delhi.
	-do-		GEM	GEM Sanitary Appliances Pvt. Ltd., Delhi.
			Dripless	Dripless Faucets(India) New Delhi.
			Parko ESSCO Orient	Prakash Brass Work Industries, New Delhi.
4.	C.P.Brass Accessories		Ess Ess	Ess Ess Bathroom Products Pvt. Ltd. Panchkula
			Dripless Delta	Delta Marketing Pvt. Ltd., New Delhi.
			Lotus	D.P.Gupta & Co. New Delhi.
5.	Soil Waste & Rainwater Pipes & fittings. a) Sand Cast	1729	NECO	Nagpur Engg. Co. Nagpur
			BIC	B.C. Foundaries Agra
			RIF	Raj Iron Foundaries, Agra
			HIF	
6.	G.I. Pipes/M.S.Pipes	1239	TATA, I.T.C.	TISCO Tubes Division Jamshedpur, Indian Tube Co. Ltd., Calcutta.
			G.S.T. JINDAL HISSAR	Gujrat Steel Tubes Co., Gujrat Jindal Tubes Ltd. Hissar
7.	G.I.fittings (Malleable Cast Iron)	1879(Part-I to X)	R	R.M. Engg. Works, Ahmedabad.
			KS UNIK	K.S. Engg. Works, Ghaziabad Unik Engg. Works Jalandhar

8.	Stoneware Pipes & Gully Trap	651	Perfect, Bhasker	Perfect Potteries Traps, Jabalpur.
9.	R.C.C. Pipes		Lakshmi Sood & Kamal, Indian Hume Pipe	
10.	C.I. Class LA Pipes	1536	Kesoram	Kesoram Spun Pipe & Foundries, Calcutta.
			Electro steel	Electro steel Casting Ltd., West Bengal
11.	C.I. double flanged sluice valves	780	Kirloskar	Kirloskar Bros. Ltd., Pune
			IVC	Indian Valve Co. Ltd. Calcutta
			Burn	Martin, Burn & co. Ltd., Calcutta
12.	PVC PIPE		SUPREME	Supreme Industries Mumbai
			PRINCE, PARKASH, AKG	Selfshine Industries Ltd.
			FINOLEX	Finolex Ind. Ltd., Pune
13.	HDPE PIPE		HASTI	Harvel Irrigation Pvt. Ltd., Delhi
14.	Dash Fastners		Hilti	
15.	Roof drain fittings, clean out plugs		NEER	Sage Metal Works, New Delhi.
16.	SFRC Manhole Cover		Arzoo, K.K., Moonlight Bee-key, Leader, J.K., GPA, SANT, SO LOTO	
17.	Brass Stopcock & Bibcock		Leader, J.K., GPA, SANT SO LOTO.	
18.	Ductile Iron Pipes	8329	Electro Steel Jindal	Electro steel Casting Ltd., Jindal Saw Ltd.
19.	Ductile Iron Special	9523	Electro Steel	Electro Steel

Annexure-II

**FORM OF PERFORMANCE SECURITY
BANK GUARANTEE BOND**

1. In consideration of the Lt. Governor of Delhi (hereinafter called "the DDA") having agreed under the terms and conditions of Agreement no. _____ dated _____ made between _____ and _____ (hereinafter called the said Contractor(s)) for the work _____ (hereinafter called the said Agreement) having agreed to production of a irrevocable Bank guarantee for Rs. _____ only) as a Security/Guarantee from the Contractor (s) for compliance of his obligations in accordance with the Terms & Conditions in the said Agreement, We _____ (hereinafter referred to as "the Bank") (Indicate the name of the Bank) hereby undertake to pay to the DDA an amount not exceeding Rs. _____ (Rupees _____ only) on demand by the DDA.
2. We _____ do hereby undertake to pay the amounts due and (Indicate the name of the Bank) payable under this Guarantee without any demure, merely on a demand from the DDA stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. _____ only.
3. We, the said bank further undertake to pay to the DDA any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit or proceeding, pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor (s) shall have no claim against us for making such payment.
4. We _____ further agree that the guarantee herein (Indicate the name of the bank) contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the DDA under or by virtue of said Agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-Charge on behalf of the DDA certified that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor (s) and accordingly discharge this Guarantee.
5. We _____ further agree with the DDA that (Indicate the name of the Bank)

The DDA shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time or from time to time any of the power exercisable by the DDA against the said Contractor(s) and to for bear or enforce any of the terms & conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Contractor or for any forbearance, act of omission on the part of the DDA or any indulgence by the DDA to the said Contractor (s) or by any such mater or thing whatsoever which under the law relating to sureties would, but for this provisions, have effect of so reliving us.

6. This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor (s).

7. We _____lastly undertake not to revoke this
(Indicate the name of the Bank)

Guarantee except with the previous consent of the DDA in writing.

8. This Guarantee shall be valid up to _____ unless extended on demand by DDA, Not-with-standing anything mentioned above, our liability against this Guarantee is restricted to Rs. _____(Rupees _____only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guaranteed all our liabilities under this guarantee shall stand discharged.

Dated the _____day of _____,200

For _____
(Indicate the name of the Bank)

ANNEXURE-III

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

The Agreement made this.....day of.....Two thousand andbetween.....son of(hereinafter called the Guarantor of the one part) and the Delhi Development Authority (hereinafter called the DDA 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 D.D.A. 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 to be reckoned from the date after the Maintenance Period prescribed in the Contract.

NOW THE GUARANTOR hereby guarantees that water proofing treatment given by him will render the structures completely leak- proof and the minimum life of such water proofing treatment shall be Ten years to be reckoned from the date after the maintenance period prescribed in the Contract.

Provided that the Guarantor will not be responsible for leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose:

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

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

That if, Guarantor fails to execute the water proofing or commits breach there under then the Guarantor will indemnify the Principal and his successors against all loss, 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 DDA, the decision of the Engineer-in-Charge will be final and binding on the parties.

IN WITNESS WHEREOF these presents have been executed by the Obligor_____and by_____and for an on behalf of the Delhi Development Authority, on the day, month and year first above written.

SIGNED,SEALED and delivered by OBLIGOR in the presence of -

1._____

2._____

SIGNED for and on behalf of THE DELHI DEVELOPMENT AUTHORITY by _____in the presence of -

1._____

2._____

FORM OF SUPPLEMENTARY AGREEMENT

This Agreement made this day the _____ 200__
between _____ hereinafter, called the First Party which
expression shall include his heirs, executors and administrators/ their successors and
assigns and the Chairman, DDA through _____ hereinafter, called the
Second Party, which expression shall include his successors and assigns. The terms of
the Agreement shall be as under:

1. That this Agreement shall be called as Supplementary Agreement to the Agreement No. _____ related to the Construction of _____, entered into by the parties to this Agreement.
2. That WHEREAS the First Party has substantially completed the execution of the work described in and covered by the **Schedule 'A'** of Items of the Agreement No. _____ and Whereas the items of the work mentioned in the **Schedule 'B'** annexed to this Agreement cannot now be executed, and Whereas both the parties are desirous that the items mentioned in this **Schedule 'B'** annexed to the Agreement should be executed by the First Party at the time of actual handing over of the physical possession of the flats to the Allottees or as and when otherwise desired by the Engineer -in-Charge, it is, hereby, further agreed as under:-
 - a) That the First Party shall and execute the works covered by the items mentioned in the **Schedule 'B'** annexed to this Agreement (in parts) at the rates and as per the terms and conditions of the Main Agreement No. _____ whenever called upon to do so by the Second Party.
 - b) That the time period for the execution of entire work covered under **Schedule 'B'** would be _____ or as extended from time to time by the Engineer-in-Charge with mutual consent of both the Parties.
 - c) That the First Party shall complete the execution of all the items mentioned in **Schedule 'B'** as well as any other work emanating from the execution of items covered by **Schedule 'A'** under the Original Agreement in a particular flat/ flats within the period fixed by the Engineer-in-Charge, on the receipt of letters written /verbal instructions to that effect from time to time.
 - d) That the total time period specified under Para 'b' shall automatically get reduced, if the Second Party, by virtue of provisions contained in para 'c' instruct the First Party from time to time in a manner which may result in the completion of all the flats before the time so Stipulated therein.
 - e) That the First Party shall have absolutely no claim of whatsoever nature against the Second Party for doing the work mentioned in **Schedule 'B'** annexed to this Agreement as required under sub-clause(a) above, except that to which he would be entitled under the Original Agreement No. _____.
 - f) That the First Party shall be liable to execute all other items arising out of the Original Agreement No. _____ which in the opinion of the Engineer-in-Charge, are necessary.
 - g) That the Final bills relating to the works cover under **Schedule 'A'** and **Schedule 'B'** shall be prepared independently after the completion of the respective parts of the work as per the terms and conditions of Main Agreement and/or Supplementary Agreement as applicable.

- h) That on the due execution of this Supplementary Agreement by the parties, the bill of the First Party in relation to the work already done by him under Schedule 'A' of the Original Agreement, if completed in all respects as per the terms and conditions of the Agreement, shall be finalized by the Second Party, subject, however, to fulfillment of all other obligations as per terms and conditions of the Agreement by the First Party, and due payment shall be made to the First Party as per the terms and conditions of the Original Agreement.
- i) Security Deposit for Original Agreement may be released, retaining an amount equivalent to 50% of Security Deposit or 10% of the Tendered Cost of work to be executed under the Supplementary Agreement, whichever is more i.e. Rs. _____ as Security Deposit till the completion of work covered by Supplementary Agreement and maintenance period thereafter. The Second Party shall have a right to deal with the said amount of Security Deposit as it thinks proper under the terms and conditions of the Original/Supplementary Agreement. Further, on the due execution and completion of this Supplementary Agreement, to the satisfaction of the Engineer –in-Charge, the first party shall be entitled to refund of this amount of Security Deposit relating to the work in question, subject to the right of the Second Party to retain such amount as it thinks reasonable as mentioned in above, soon after the maintenance period, as mentioned in **Clause 17** of the Original Agreement, is over.
- j) That during the operation of Supplementary Agreement, the watch and ward of the entire work including that completed under the Original Agreement shall continue to remain the responsibility of the First Party. The First Party shall be paid extra on this account at quoted / predetermined rates.
- k) The first party shall be liable to make good any loss or damage to the work executed under both, original as well as Supplementary Agreement during the operation/currency of Supplementary Agreement as well as subsequent maintenance period, for which nothing extra shall be paid to the First Party.
- 3. Except as modified by this Agreement, the said Original Agreement No. _____ shall remain in Full Force and effect in all respects including Technical Audit, Defect Liability etc.

**IN WITNESS WHEREOF THE ABOVE MENTIONED PARTIES HAVE
PUT THEIR SIGNATURE ON THIS DAY THE-----**

Contractor

Executive Engineer

TABLE OF MILESTONE(S)

S.No.	Description of Milestone(Physical)	Time Allowed in Months(From Date of Start)	Amount to be withheld in case of non achievement of Milestone
1.	BLANK	BLANK	BLANK
2.			
3.			
4.			
5.			

OR

S.No.	Financial Progress	Time Allowed (From Date of Start)	Amount to be withheld in case of non achievement of Milestone
1.	1/8 th (of the whole work)	1/4 th (of the whole work)	In the event of not achieving the necessary progress as assessed from the running payment, 1% of the Tendered Value of work will be withheld for failure of each Milestone.
2.	3/8 th (of the whole work)	1/2 (of the whole work)	-do-
3.	3/4 th (of the whole work)	3/4 th (of the whole work)	-do-
4.	Full	Full	-do-

SCHEDULE OF MATERIALS TO BE ISSUED
(Annexure to Clause 10)

S.No.	Description of Item	Unit	Qty.	Rate	Place of Delivery
1.	Ordinary Portland Cement	M.T.	102.00	Rs 2800/- (Rs Two Thousand & Eight Hundred)	Any DDA Store of Delhi N. Delhi
2.	T.M.T./Cold Twisted Deformed Bars	M.T.	NIL	NIL	-do-
3.	M.S. Round Bars	M.T.	NIL	NIL	-do-
4.	S.C.I. Pipes	Meter	NIL	NIL	-do-
	(a) 100mm dia	Meter	NIL	NIL	-do-
	(b) 75 mm dia	Meter	NIL	NIL	-do-
	(c) 50 mm dia	Meter	NIL	NIL	-do-
5.	C.I./D.I. Pipe Class L.A.	Meter	NIL	NIL	-do-

CONDITIONS :

1. The materials shall be issued to the Contractor at the place of delivery mentioned against each item shown. Nothing shall be paid for cartage of the same to different sites as required and as directed by the Engineer-in-Charge.
2. The Issue rates mentioned in schedule of materials to be issued are inclusive of 2% storage charges.

SCHEDULE OF TOOLS & PLANTS TO BE ISSUED
(ANNEXURE TO CLAUSE – 34)

S.No.	Description of Plant & Machinery	Hire Charges P.Day	Place of issue
	BLANK	BLANK	BLANK

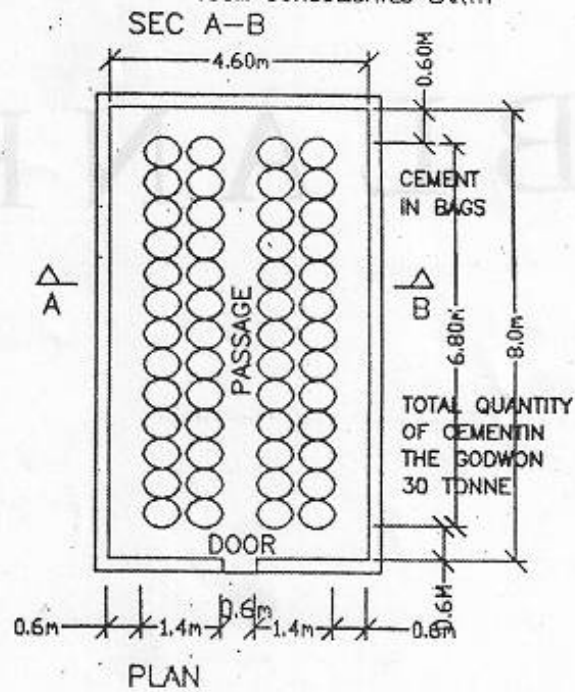
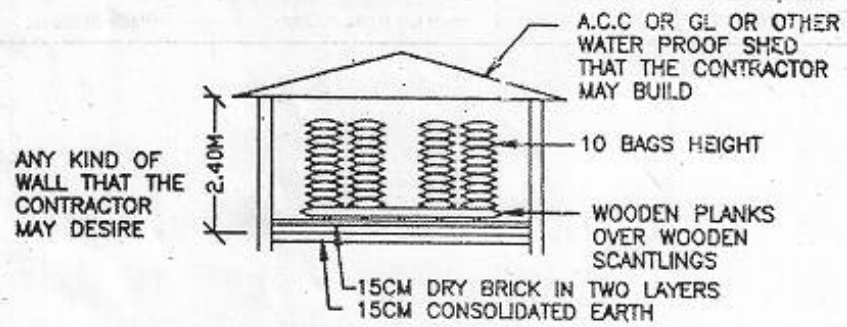
Annexure to Additional condition Clause 34(j) showing quantities of materials of area of road roller of surfacing considered for working out the minimum period for which hire charges are to be recovered "Road work".

S.No	Materials of Surfacing	Quantities of Area
1	Consolidation of earth Subgrade	1860sqm.
2	Consolidation of sub base with 90mm to 45mm graded stone metal	30 cu.m
3	Consolidation of wearing coat of stone ballast 7.5 cm to 11.5 cm thick	30 cu.m
4	Consolidation of wearing coat of brick ballast 10cm.thick	60 cu.m
5	Spreading and consolidation of red bajri 6 mm.	1860 sqm
6	Painting one coat using stone aggregate 13.2 mm nominal size (a) @ 1.65 cum per 100 sqm. and paving bitumen A-90 or S-90 @ 2.25 Kg. per sqm. or (b) @ 1.5 cum per 100 sqm. bitumen emulsion or road tar @ 1.95 Kg per sqm.	930 sqm
7	Painting two coats using (a) For first stone aggregate 13.2 mm nominal size. (i) @ 1.50 cum per 100 sqm. with paving bitumen A-90 or S-90 @ 2.00 Kg./sqm. (ii) @ 1.35 cum per 100 sqm with bitumen emulsion @ 2.00Kg./sqm. or (iii) @ 1.50 cum per 100 sqm with road tar @ 2.25Kg./sqm (b) For 2 nd coat, stone aggregate 11.2 mm nominal size 1.0 cum. per 100 sqm with (i) One kg of paving bitumen A-90 or S-90 or bitumen emulsion per sqm. or (ii) 1.25 kg of bitumen emulsion per sqm.	600 sqm.
8	Repainting with stone aggregate 11.2 mm nominal size 0.9 cum. per 100 sqm. with (a) 1.10 kg of paving bitumen A-90 or S-90 bitumen emulsion per sqm. or (b) 1.22 kg of bitumen emulsion per sqm.	1670 sqm.

9	2 cm. premix carpet surfacing using 2.4 cum. of stone aggregate 11.2 mm nominal size per 100 sqm and binder including tack-coat. The binder being paving bitumen S-90 or hot cut back bitumen or bitumen emulsion @ 96 kg/cum of agg. in specified quantities.	930 sqm.
10	2.5 cm thick premix carpet surfacing using 3.00 cum of stone aggregate 11.2 mm nominal size per 100 sqm and binder including tack coat. The binder being paving bitumen S-90 or hot cut back bitumen emulsion in specified quantities.	930 sqm
11	4 cm thick concrete surfacing using stone aggregate 3.8 cum. (69% 20mm nominal size and 40% 12.5 mm nominal size) per 100 sqm and coarse sand 1.90 cum. per 100 sqm and hot cut back bitumen over a tack coat of hot cut back bitumen.	370 sqm.
12	5 cm thick bitumen concrete surfacing using stone aggregate 4.8 cum (60% 40mm nominal size and 40% 20mm nominal size) per 100sqm and coarse sand 2.40 cum per 100 sqm and hot cut back bitumen over a tack coat of hot cut back bitumen.	370 sqm.
13	6 cm thick bitumen concrete surfacing using stone aggregate 5.8 cum.(60% 40mm nominal size and 40% 25mm nominal size) per 100 sqm and coarse sand 2.9 cum per 100 sqm and hot cut back bitumen over a tack coat of hot cut back bitumen @ 50 kg per cum. of aggregate.	280 sqm.
14	7.5 cm bitumen concrete surfacing using stone aggregate 7.3 cum (60% 50mm nominal size and 40% 40mm nominal size) per 100 sqm and coarse sand @ 3.6 Cum /100 sqm and hot cut back bitumen over a tack – coat of hot cut back bitumen.	230 sqm.
15	2.5 cum bitumastic sheet using stone aggregate 1.65 cum (60% 13.2mm nominal size, 40% 11.2mm nominal size) per 100 sqm. and coarse sand 1.65cum.per 100 sqm. and hot cut bitumen over a tack coat of hot cut back bitumen.	930 sqm.
16	4 cm bitumastic sheet using stone aggregate 2.6 cum (60% 13.2mm nominal size, 40% 11.2mm nominal size) per 100 sqm and coarse sand 2.6cum.per 100 sqm. and hot cut back bitumen over a tack coat of hot bitumen.	560 sqm.
17	Laying full grouted surface using stone aggregate 40mm nominal size 6.10 cum, per 100 sqm. with binder binding with 20mm to 13.2 nominal size stone grit 1.83 cum per 100 sqm. and seal coat of binder and stone grit 11.2 mm nominal size 1.07 cum./100 sqm., the binder being hot bitumen or tar, as specified.	460sqm.
18	Laying full grouted surface using stone aggregate 50mm nominal size 9.14 cum, per 100 sqm. with binder binding with 40mm nominal size 1.83 cum per 100 sqm and seal coat of binder and stone grit 11.2mm nominal size 1.07 cum/100 sqm, the binder being hot bitumen or tar.	370sqm.
19	4cm thick premix macadam surfacing using stone aggregate 25mm nominal size 4.57 cum per 100 sqm and hot bitumen binding with stone aggregate 13.2 mm nominal size 1.52 cum per 100 sqm. and seal coat of hot bitumen and stone aggregate 11.2 mm nominal size 1.07 cum per 100sqm.	560sqm.

- | | | |
|----|---|----------|
| 20 | 5cm thick premix macadam surfacing with stone aggregate 25mm nominal size 6.10 cum per 100 sqm. and hot bitumen binding with stone aggregate 13.2 nominal size 1.52 cum per 100 sqm and seal coat of hot bitumen and stone aggregate 11.2 mm nominal size 1.07 cum/100 sqm. | 460sqm. |
| 21 | Seal coat to premix and with paving bitumen S-90 using 128kg. of bitumen per cum of sand and 0.75 cubic meter of sand per hundred sq. meter of road surface. | 1860sqm. |
| 22 | Consolidation of granular sub base course with power vibratory roller. | 133 cum. |
| 23 | Consolidation of CC 1:4:8 base course with power vibratory roller. | 133 cum. |

TYPICAL CEMENT GODWON
AT SITE OF WORK



THEORITICAL CO-OFFICIENTS FOR
ROAD – ROLLER/VIBRATORY ROLLER

1.	Supply & spreading 15cm thick layer of coarse sand	1860 m ² per day
2.	P/L bitumenous paving asphalt 60/70 penetration (5.5%)	0.054 days per m ³
3.	P/L hotmix 50mm thick	0.06 days per m ³
4.	P/L premix bitumen macadam	
5.	a) 3.4%	0.06 days per m ³
6.	P/L dense Bitumen Macadam	
7.	5% Bitumen of 60/70	0.054 days per m ³
8.	2.5cm thick premix carpet surfacing	930 m ² per day
9.	Preparation of sub grade	1860 m ² per day
10.	Laying W.B.M. Stone aggregate	
11.	a) Sub base 90-45 mm	30 m ³ per day
12.	b) Base course 63-45 mm	30 m ³ per day
13.	c) Base course 53-22.4 mm	30 m ³ per day
14.	Earth work in rough excavation banking excavated earth in layer	0.008 days per 10m ³

CONDITIONS FOR BITUMEN

The bitumen of required penetration manufactured by I.O.C., B.P., and H.P. shall only be allowed for use in the work.

- i) After completion of the work theoretical quantity of bitumen to be used at work shall be calculated on the basis of CPWD Schedule showing the quantity of Bitumen in different items of work provided in the DSR-2002 with 1 to 19 correction slips.
- ii) Difference in the quantity of bitumen actually consumed by the contractor in the work and theoretical quantity calculated including authorized variation if difference is on the minus side, the work executed with less bitumen shall be rejected and the work is to be re-executed by the agency at his cost.
- iii) The contractor shall have to submit their original vouchers for procurement of bitumen along with manufacturer's test reports as a testimony of the material supplied conforming to referred BIS code & CPWD specification 1996 Vol. I to VI and revised specification 2002 (Modification to chapter-3,4,5 of CPWD specifications Vol. II in pursuance to IS:456-2000) with 1 to 19 correction slips and MORT & H specifications 2001 wherever these are superior to the BIS specification.

The quantity of bitumen taken in the nomenclature of the items is to optimum. Contractor shall have to get the design mix approved from any premier Govt. Institution (The decision of the Engineer-in-charge in this regard will be final and no further request of any kind will be entertained). In the case the quantity of bitumen in the design mix exceeds the quantity in this item, the contractor shall have to execute the work as per approved design mix and nothing extra shall be paid for extra quantity of bitumen used in the work. The contractor shall have to bear the cost of getting the cost of design mix approved from the above stated institution and nothing extra shall be paid.

In case the quantity of bitumen in the design mix is reduced than that provided in the item of work, the rate of the item of work shall be reduced for bitumen content @ prevailing market rate for less quantity of bitumen only.
- iv) Making necessary diversion for smooth flow of traffic and its maintenance during the execution of work will have to be done by the contractor for which nothing extra shall be paid.
- v) The contractor must take all precautions to avoid any accident by exhibiting necessary caution boards, Speed limit boards, road flag and red lights and providing barriers. He shall be responsible for all damages and accidents caused due to negligence on his part/employee/workers etc. No hindrance shall be caused to traffic during execution of the work. Nothing extra on any account shall be paid regarding the precaution taken by the contractor. He shall indemnify DDA against claim for compensation arising out of negligence in this respect.

SPECIFICATIONS FOR INTERLOCKING CONCRETE BLOCK PAVEMENT

- 1.0** The interlocking concrete blocks for the pavement shall be procured of the approved shape, size and colour from the reputed manufacturers having facilities of production of design mix concrete, vibro-compacting machine of required specification and well established laboratory for conducting the required tests. The approval shall be obtained from the engineer-in-charge in writing well before the procurement action by the agency.
- 2.0** The engineer-in-charge reserves the right to inspect the manufacturing plant, manufacturing process and to collect the samples at factory or work site and get it tested in the Laboratory of his choice to his entire satisfaction. The testing charges payable if any shall be borne by the contractor.
- 3.0** Unless otherwise specified in the nomenclature of items or in the drawing the concrete paving block, shall conform to the grade(s) as specified in **Table 1** hereunder for various uses.
- 4.0** All paver block, shall be sound and free of cracks or other visual defects which will interfere with the proper paving of the unit or impair the strength or performance of the pavement constructed with the paver blocks. Minor defects in the form of chippings, resulting from the customary methods of handling during delivery, not larger than 10 mm in not more than 5% of consignment shall not be deemed grounds for rejection.

5.0 Sampling for Testing:

- 5.1** The paver blocks required for carrying out the tests laid down in this standard shall be taken by one of the methods given in 5.2 and 5.3 In either case, a sample of 20 blocks shall be taken from every consignment of 4000 blocks or part thereof of the same size, shape and thickness, and the same batch of manufacture. From these samples, the blocks shall be taken at random for conducting the tests.
- 5.2** The required number of paver blocks shall be taken at regular intervals during the loading of the vehicle or the unloading of the vehicle depending on whether sample is to be taken before delivery or after delivery. When this is not practicable, the sample shall be taken from the stack, in which case the required number of blocks shall be taken at random from across the top of the stacks, the sides accessible and from the interior of the stacks by opening trenches from the top.

- 5.3 Each designated section or part thereof in a consignment of blocks shall be divided into ten real or imaginary, approximately equal, group. Two blocks from each group shall be randomly selected for testing.
- 5.4 The sample paver blocks shall be marked for future identification of the consignment it represents. The blocks shall be kept under cover and protected from extreme conditions of temperature, relative humidity and wind till they are required for test. The test shall be undertaken as soon as practicable after the sample has been taken.
- 5.5 All the 20 paver blocks shall be inspected for visual defects. Out of the 20 blocks, 10 blocks shall be subjected to the test for measurement of dimensions, chamfer, aspect ratio, plan area, wearing surface area and deviation from squareness and, in the case of two layer blocks, for measurement of the thickness of the wearing layer. Out of these 10 blocks, 5 blocks shall be subjected to tests for water absorption, block density and compressive strength, in that order. The remaining 5 blocks in this group of 10 shall be subjected to flexural strength test, and remaining if the blocks are used for road pavement carrying vehicular traffic.

6.0 Acceptance Criteria

The lot shall be considered as conforming to the requirements of the specification if the following conditions are satisfied:-

6.1 Dimensions & tolerances:

The recommended dimensions and tolerances for Type A, B and C paver blocks, measure as per "Annexure B" are given in Table 2. Among the sampled 20 blocks the number of blocks with visual defects outside the tolerance limit shall not be more than three.

6.2 Water absorption:

Water absorption, being average of the five units, when determined in the manner described in "Annexure C" shall not be more than 5% by mass.

6.3 Block density:

The block density of concrete pavers, being average of five units, determined in the manner described in "Annexure.D", shall not be less than 2200 Kg/m³.

6.4 Compressive strength:

The concrete block when tested for compressive strength as per method specified in "Annexure.E" shall conform to the requirement and tolerances for different grades as given in Table 3.

6.5 Flexural strength:

The flexural strength the block, shall not be less than 4.0 Mpa when tested as per method specified in "**Annexure F**"

6.6 Abrasion Resistance:

The abrasion index of the paver blocks sample determined by method specified in "**Appendix G**" shall conform to the values given in **Table 4**.

7.0 Marking:

Concrete paver blocks manufactured in accordance with laid down specification shall be marked permanently with the following information:

- a) the identification mark of manufacturer ;
- b) The grade of concrete used for manufacturing of paver blocks.

8.0 For detailed guidelines for the use of interlocking concrete block pavement IRC: SP: 63-2004 may be referred to.

9.0 Technical specifications for laying concrete paving blocks are available in **Annexure "A"**.

10.0 Payment

The finished area shall be measured nearest to 0.01 sqm. for the purpose of payment. The payment for edge restraint shall be made separately which shall be measured on per cum. basis.

Table 1: Recommended grade of concrete for production of paver blocks

Concrete classification	Grade Designation	Specified Characteristic Compressive Strength of 150mm cubes at 28 Days (N/mm ²)	Recommended Use for Production of Blocks For Application Under Traffic Category	Typical Examples of Application
Standard Concrete	M-25- M-30	25-30	Non-Traffic	Building Premises, Monument Premises, Landscapes, Public Gardens/ Parks, Embankment Slopes, Sand Stabilisation etc.
	M-30- M-35	30-35	Light	Pedestrian Plazas, Shopping Complexes, Ramps, Dairy Farms, Car Parks, Office Driveways, Housing Colonies, Office Complexes, Rural Roads ,Farm Houses, Beach Sites, Tourist Resorts etc.
	M-35- M-45	35 - 45	Medium	City Streets, Small and Medium Market Roads, Low Volume Roads, Utility Cuts on Arterial Roads Service Stations etc.
	M-45- M-59	45 - 59	Heavy	Bus Terminals, Industrial Complexes, Mandi Houses, Roads on Expansive Soils, Factory Floors and Pavements etc.
High Strength Concrete	M-60 And Above	60 And Above	Very Heavy	Container Terminals, Ports, Dock Yards, Mine Access Roads, Bulk Cargo Handling Areas, Airport, Pavements etc.

Notes

1. Non-traffic areas are defined as areas where no vehicular or pedestrian traffic occurs.
2. Light traffic is defined as a daily traffic of up to 150 commercial vehicles exceeding 30 KN laden weight, or an equivalent of up to 0.5 million standard axles (MSA) for a design life of 20 years (A standard axle is defined as a single axle load of 81.6 KN).
3. Medium traffic is defined as a daily traffic of 150 to 450 commercial vehicles exceeding 30 KN laden weights, or an equivalent of 0.5 to 2.0 MSA for a design life of 20 years.
4. Heavy traffic is defined as a daily traffic of 450 to 1500 commercial vehicles exceeding 30 KN laden weights, or an equivalent of 2.0 to 5.0 MSA for a design life of 20 years.
5. Very heavy traffic is defined as a daily traffic of more than 1500 commercial vehicles exceeding 30 KN laden weights, or an equivalent of more than 5 million MSA for a design life of 20 years.

Table 2: Recommended dimensions and tolerances for type A, B and C paver blocks.

S.No.	Dimension	Measurement Method	Recommended Values	Tolerance Limit
1.	Width, W	As per Annex B	80 to 115 mm	± 2 mm
2	Length, L	As per Annex B	(1.5 to 2.3) X W	± 2 mm
3	Thickness, T	As per Annex B	60 to 120 mm	± 3 mm
4	Aspect Ratio (L/T)	As per Annex B	Maximum: 4.4	+ 0.275
5	Chamfer	As per Annex B	Maximum: 5mm	+ 1 mm
6	Thickness of Wearing Layer	As per Annex B	Minimum:15mm	- 2mm
7	Plan Area, Asp.	As per Annex B	Maximum:0.03m ²	+0.001m ²
8	Wearing Surface Area, A _{sw}	As per Annex B	75% of plan Area	$\pm 1\%$
9	Squareness	As per Annex B	Nil	± 2 mm

Table 3 Compressive strength requirements of concrete paver blocks.

S.No.	Grade of Concrete	28-day Compressive Strength (MPa) of Chamfered Paver Blocks of Thickness			
		60mm	80mm	100mm	120mm
1	M-25	26.5	29.5	31.0	32.5
2.	M-30	31.8	35.4	37.2	39.0
3	M-35	37.1	41.3	43.4	45.5
4	M-40	42.4	47.2	49.6	52.0
5	M-45	47.7	53.1	55.8	58.5
6	M-50	53.0	59.0	62.0	65.0
7	M-55	58.3	64.9	68.2	71.5
8	M-60	63.6	70.8	74.4	78.0

Note: A 10 percent lower tolerance limit in compressive strength shall be allowed.

1. TECHNICAL SPECIFICATIONS FOR LAYING CONCRETE PAVING BLOCKS

1.1. Base

1.1.1. The Finished surface of the concrete base shall match the design profile of the concrete blocks within ± 10 mm.

1.1.2. Compaction shall be done with vibratory roller. In restricted areas where normal rollers cannot operate, hand-held or plate vibrators should be employed.

1.2. Bedding Sand Layer

1.2.1. The bedding sand layer shall be from either a single source or blended to achieve the following grading.

<i>IS Sieve Size</i>	<i>Per cent Passing</i>
9.52 mm	100
4.75 mm	95-100
2.36 mm	80-100
1.18 mm	50-95
600 micron	25-60
300 micron	10-30
150 micron	0-15
75 micron	0-10

Single sized, gap-graded sands or those containing an excessive amount of fines will not be used. The sand particles should preferably be angular type.

The joint-filling sand should pass a 2.35 mm sieve and be well graded. The following grading is recommended:

<i>Sieve Size</i>	<i>Per cent Passing</i>
2.36 mm	100
1.18 mm	90-100
600 micron	60-90
300 micron	30-60
150 micron	15-30
75 micron	0-10

The use of cement in the joint-filling sand is not recommended as a general practice as the cemented sand is likely to crack into segments which are easily dislodged.

1.2.2. Average thickness of this laying course shall be 20 to 40 mm.

1.2.3. The sand should be slightly moist, and the moisture content shall be about 4 per cent by weight.

1.2.4. It should contain not more than 3 per cent by weight of clay and silt and the materials shall be free from deleterious salts or contaminants.

1.2.5. The finished surface of the bedding layer shall match exactly the design profile as indicated on the drawings.

1.2.6. Before placing the bedding layers, the surface of concrete should be cleared by sweeping.

1.2.7. Walking or driving on the finished surface of the bedding layer shall not be permitted.

1.3. Concrete Paving Blocks

1.3.1. Laying of the blocks shall be done, precisely at the indicated level and profile and in a way that a good surface draining to the gulley chambers is assured.

1.3.2. Around gulley chambers and inspection pits the pavement shall have a level of 5 mm higher than the above mentioned elements.

1.3.3. The blocks shall be laid to the pattern directed by the Engineer or the pattern recommended by the designer. The blocks shall be laid as tight as possible to each other. The maximum joint width shall be limited to 4 mm.

1.3.4. Laying of broken blocks is not allowed except along connections or edges. The maximum length of a purpose broken block is 100 mm. Breaking of the blocks shall be done with a "block splitter" or a mechanical saw.

1.3.5. Fine angular sand as per specification shall be brushed into the joints, and thereafter compaction shall be done with a vibrating plate compactor on a clean surface. After compaction, again fine angular sand shall be brushed into the joints.

1.4. Surface Tolerances

1.4.1. Surface tolerance for finished surface shall be ± 10 mm from the design level.

1.4.2. The surface tolerance for base course shall be in the range of 0 to +10 mm from nominated level and 10 mm deviation from a 3 m straight edge.

1.4.3. The surface tolerance for sub-base shall be within 0 to -20 mm of nominated level.

2. FIELD/LABORATORY TESTS

- (a) Necessary field/laboratory tests shall be carried out by the contractor while executing the work at his own cost.
 - (b) The field/laboratory tests may be conducted in an Engineering College/ approved technical institution as directed by the Engineer.
-

"ANNEX B"**METHOD FOR DETERMINATION OF DIMENSIONS, ASPECT RATIO, PLAN AREA, WEARING SURFACE AREA AND DEVIATION FROM SQUARENESS.****B-1 DETERMINATION OF LENGTH, WIDTH, THICKNESS AND ASPECT RATIO****B-1.1 Apparatus**

The apparatus shall comprise:

- a) Steel calipers;
- b) A steel rule capable of measuring up to 300 mm to an accuracy of 0.5 mm

B-1.2 Specimens

Ten paver block specimens, randomly selected from the group of blocks of specified shape, size and thickness, as per the sampling procedure in 5, shall be tested.

B-1.3 Procedure

B-1.3.1 Length and Width: The length and width of a paver block (Fig.3) shall be measured across two opposite faces by using the steel calipers or steel rule. Two representative positions shall be used for measurement of length and three for measurement of width. The mean values of length and width for the block shall be noted to the nearest 1 mm.

B-1.3.2 Thickness: The thickness of a paver block (Fig. 3) shall be measured at four sensibly different representative positions. The mean value of the thickness of the block shall be noted to the nearest 1 mm.

B-1.3.3 Aspect Ratio: The Aspect Ratio of the specified block shall be calculated by dividing the mean length by the mean depth as determined by the procedures in B-1.3.1 and B-1.3.2 and shall be noted to the nearest 0.1

B-2 CHAMFER**B-2.1 Apparatus**

The apparatus shall comprise of steel calipers.

B-2.2 Specimens

The ten paver block specimens, tested for dimensions as per B-1, shall be tested.

B-2.3 Procedure

The depth and width of chamfer of the paver block (Fig.3) shall be measured across two opposite faces, to the nearest 0.1 mm, by using the steel calipers. Four representative positions shall be used for measurement of depth and width. The mean values of depth and width of chamfer for the block shall be noted to the nearest 0.1 mm

B-3 PLAN AREA AND WEARING SURFACE AREA

B-3.1 Apparatus

The apparatus shall comprise:

- (a) Balance capable of weighing 100 g to an accuracy of 0.01 g;
- (b) Sheets of thin cardboard of uniform thickness;
- (c) Sharp pencil;
- (d) Odd-leg marking gauge (Fig.4);
- (e) Sharp scissors;
- (f) Steel rule marked with graduations of 0.5 mm.

B-3.2 Specimens

The ten specimens, tested for dimensions as per B-1, shall be used for the tests.

B-3.3 Procedure

B-3.3.1 Plan Area (Asp): The block shall be placed, wearing surface facing up, on the card board and its perimeter traced with the pencil. The shape shall be cut out accurately with the scissors and weighed to the nearest 0.01 g, and the result recorded as mass **m_{sp}**. A rectangle measuring 200 mm X 100 mm, accurately cut out from the same cardboard, shall also be weighed to the nearest 0.01 g, and the result recorded as mass **m_{std}**. The plan area for the block shall be calculated from the formula:

$$A_{sp} = \frac{20,000 \, m_{sp}}{m_{std}}, \text{ mm}^2$$

Alternatively, where possible, the plan area may also be calculated by multiplying the length by the width, as determined by the procedure in B-1.3.1

B-3.3.2 Wearing Surface Area (A_{sw}): The width of the chamfer of the block shall be measured at four sensibly different locations and their mean value determined. A ball-point pen refill shall be fixed to the odd-leg marking gauge and the gauge shall be set to the measured mean value of chamfer width. The gauge so set shall be used to draw a line, indicating the width of the chamfer, along the periphery of the cardboard shape of the plan area of the block with mass m_{sp} , as obtained in B-3.3.1. The marked chamfer width on the cardboard shall be neatly cut away with the scissors, and the cardboard shall be weighed to the nearest 0.01 g and the result recorded as mass m_{sw} . The wearing surface area for the block shall be calculated from the formula:

$$A_{sw} = \frac{20,000 \, m_{sw}}{m_{std}}, \text{ mm}^2$$

B-4 DEVIATION FROM SQUARENESS

B-4.1 Apparatus

The apparatus shall comprise:

- (a) Engineer's square or a profiled template
- (b) Feeler gauges

B-4.2 Specimens

The ten specimens, tested for dimensions as per B.1, shall be used for the tests.

B-4.3 Procedure

With the stock of the square or profiled template in contact with the top or bottoms surface of the block, the blade shall be brought into contact with the vertical face of block. The clearance, if any, between the square or profiled template and the vertical face of the block shall be measured to the nearest 0.1 mm with the feeler gauge at points 10 mm inside each top and bottom edge of the block. This measurement shall be repeated at six sensibly different locations around the block, and the average of the feeler gauge measurement noted as the deviation from squareness for the block, which shall be noted to the nearest 0.1 mm.

B-5 REPORT

The individual and average values of measured dimensions, chamfer, aspect, ratio, plan area, wearing surface area and deviation from squareness of specimens tested as per B-1, B-2, B-3 and B-4 shall be reported.

"ANNEX C"**METHOD FOR DETERMINATION OF WATER ABSORPTION****C-1 APPARATUS**

The balance used shall be sensitive to within 0.5 percent of the mass of the smallest specimen tested.

C-2 SPECIMENS

Five out of the ten test specimens selected for test as per Annex B shall be used for the tests.

C-3 PROCEDURE

C-3.1 Saturation: The test specimens shall be completely immersed in water at room temperature for 24 ± 2 hours. The specimens shall then be weighed, while suspended by a metal wire, and completely submerged in water, and the weight shall be recorded in kg to the nearest 0.001kg.(Wa). They shall be removed from the water and allowed to drain for one minute by placing them on a 10mm or coarser wire mesh. Visible water on the specimens shall be removed with a damp cloth. The specimen shall then be immediately weighed and the weight for each specimen noted in kg to the nearest 0.001 kg. (Ww).

C-3.2 Drying : Subsequent to saturation, the specimens shall be dried in a ventilated oven at $(107 \pm 7)^{\circ}\text{C}$ for not less than 24 h. and until two successive weighing at intervals of 2 hours show an increment of loss not greater than 0.2 percent of the previously determined mass of the specimen. The dry weight of each specimen (Wd) shall be recorded in kg to the nearest 0.001kg.

C-4 CALCULATION

C-4.1 Absolute Water Absorption (Wab): The absolute water absorption shall be calculated as follows:

$$Wab = \frac{Ww - Wd}{Ww - Wa}, \quad \text{Mg/m}^3$$

C-4.2 Percent Water Absorption (W %): The percent water absorption shall be calculated as follows:

$$W\% = \frac{Ww - Wd}{Wd} \times 100$$

C-5 REPORT

The individual and average values of measured water absorption of specimens tested as per C-1 to C-4 shall be reported.

" ANNEX D"**METHOD FOR DETERMINATION OF DENSITY****D-1 APPARATUS**

- (a) Electric oven
- (b) Weights and Balance of adequate capacity and accuracy

D-2 SPECIMENS

Five specimens tested as per Annex C shall be used for the tests.

D-3 PROCEDURE

D-3.1 The five specimens shall be dried to constant mass in a suitable oven, heated to $(110 \pm 5)^{\circ} \text{C}$. The blocks shall then be taken out and allowed to cool to room temperature. Their dimensions shall be measured in accordance with Annex B and the overall volume completed in m^3 , nearest to 0.001 m^3 . The blocks shall then be weighed in kg to the nearest 0.001 kg .

D-3.2 Alternatively, the volume of the specimens shall be calculated by making use of the data generated during the determination of water absorption (Annex C), as follows:

$$\text{Volume} = (W_w - W_a) 10^{-3}, \text{ m}^3$$

D-4 CALCULATION

The density of each block shall be calculated as follows:

$$\text{Density} = \frac{\text{Mass of block in kg}}{\text{Volume of block in m}^3} \times 10^{-3} (\text{Mg/m}^3)$$

D-5 REPORT

The individual and average values of measured density of specimens tested as per D-1 to D-4 shall be reported.

"ANNEX E"**METHOD FOR DETERMINATION OF COMPRESSIVE STRENGTH****E-1 APPARATUS**

E-1.1 Testing Machine: The apparatus shall comprise a compression testing machine which shall be equipped with two steel bearing blocks for holding the specimen. It is desirable that the blocks have a minimum hardness of 60 (HRC) and a minimum thickness of 25 mm. The block on top through which load is transmitted to the specimen shall be spherically seated. The block below on which the specimen is placed shall be rigidly fitted. When the bearing area of the steel blocks is not sufficient to cover the bearing area of the paver block specimen, two steel bearing plates meeting the requirements of E-1.2 shall be placed between the steel platens fitted on the machine and the specimen.

E-1.2 Steel Bearing Block and Plates : The surfaces of the steel bearing blocks and plates shall not depart from the plane by more than 0.025 mm in any 15 mm dimension. The centre of the sphere of the spherically seated upper bearing block shall coincide with the centre of the bearing surface. If a bearing plate is used, the centre of the sphere of the upper bearing block shall be on a line passing vertically through the centroid of the specimen bearing face. The spherically seated block shall be held closely in its seat, but shall be free turn in any direction. The diameter of the face of the bearing blocks shall be at least 150 mm. When steel plates are employed between the steel bearing blocks and the specimen, the plates shall have a thickness equal to at least one-third the distance from the edge of the bearing block to the most distant corner of the specimen. In no case shall the plate thickness be less than 12mm.

E-2 SPECIMENS

The five specimens tested as per Annexes C and D shall be used for the tests.

E-3 CAPPING OF SPECIMENS

E-3.1 The bearing surfaces of the specimens shall be capped by one of the methods described in Clauses C-3.1 and C-3.2 of Appendix C of IS: 2185 (Part1)-1979,

E-3.2 Alternatively, 4 mm thick plywood sheets of size larger than the specimens by a margin of at least 5 mm from all edges of the specimen shall be used for capping the specimens.

E-3.3 When blocks with surface relief features have to be tested; their surfaces shall be ground to plainness before capping and testing.

E-4 PROCEDURE

E-4.1 The dimensions and plan areas of the blocks shall be determined as described in Annex B. The blocks shall be stored for 24 ± 4 hours in water maintained at a temperature of $(20 \pm 5)^{\circ}\text{C}$. The bearing plates of the testing machine shall be wiped clean. The specimen shall be clamped between the plates in such a way that the axes of the specimen are aligned with those of the bearing plates.

E-4.2 The load shall be applied without shock and increased continuously at a rate of $15 \pm 3 \text{ N/mm}^2$ / minute until no greater load can be sustained by the specimen or delamination occurs. The maximum load applied to the specimen shall be noted in N.

E-5 CALCULATION

The apparent compressive strength of individual specimen shall be calculated by dividing the maximum load (in N) by the plan area (in mm^2). The corrected compressive strength shall be calculated by multiplying the apparent compressive strength by the appropriate correction factor from Table below. The strength shall be expressed to the nearest 0.1 N/mm^2 .

Correction factors for thickness and chamfer of paver block for calculation of compressive strength

(Clause E-5)

Paver Block Thickness (mm)	Correction factor for	
	Plain Block	Chamfered Block
60	1.00	1.06
80	1.12	1.18
100	1.18	1.24
120	1.24	1.30

For other thickness of paver blocks between 60 mm and 120 mm, linear extrapolation of correction factor shall be made.

E-6 REPORT

The individual and average compressive strength of the specimens tested as per E-1 to E-5 shall be reported.

"ANNEX F"**METHOD FOR DETERMINATION OF FLEXURAL STRENGTH****F-1 APPARATUS**

The apparatus used for test shall be the same as in Clause 8 of IS 516 with the following modifications:

- (a) The distance from centre to centre of the two rollers on which the specimen is supported shall be 160 mm.
- (b) The load shall be applied through a single roller mounted on top of the specimen at the centre of the supporting span, i.e., the horizontal distance from the loading point to the centre of each of the supporting rollers shall be 80mm.

F-2 SPECIMENS

This test method can be applied for type A, B and C blocks having minimum length of 180 mm. Five paver block specimens, randomly selected from the group of blocks of specified shape, size and thickness, as per the sampling procedure in 5.0, shall be tested.

F-3 CAPPING OF SPECIMENS

F-3.1 The test specimens shall be capped by one of the methods described in E-3 of Annex E.

F-3.2 Specimens with false joints and surface relief features which are likely to interfere with the test results shall have their surface ground to plainness before capping and testing.

F-4 PROCEDURE

The test procedure shall be the same as in Clause 8 of IS 516, with the following modifications:

- (a) The load shall be applied along the vertical centre line of the supporting span
- (b) The load shall be applied without shock and increased continuously at a rate such that the extreme fiber stress increases at approximately 7 kg/cm²/min.
- (c) The load shall be increased until the specimen fails, and maximum load applied shall be recorded.

F-5 CALCULATION

Flexural strength of the specimen shall be calculated as follows:

$$f_b = \frac{24 p}{bd^2}$$

Where

f_b = Flexural strength (N/mm²)

p = Maximum load (N)

b = Width of the block (mm)

d = Thickness of the block (mm)

F-6 REPORT

The individual and average flexural strength of block specimens tested as per F-1 to F-4 shall be reported.

"ANNEX G"**METHOD FOR DETERMINATION OF ABRASION RESITANCE****G-1 APPARATUS**

The following apparatus is required :

- (a) Electric drill (1000 watts minimum, ' WOLF 3814' or equivalent),
- (b) Drill bracket, guide bar and guide-bar bracket (' WOLF 0421' or equivalent),
- (c) Drill stand and paving-unit clamp welded to base plate,
- (d) Drill stand shaft,
- (e) Dial gauge (calibrated one full revolution = 1mm),
- (f) Chuck and ball race
- (g) Chuck casing with water hose connection , and
- (h) Revolution counter (photoelectric or electronic) to measure total revolutions or rpm of ball-race.

The output of the shaft of the drill shall be set at a speed of between 1000 and 1050 revolutions per minute. When the test drill is rigged, the total sliding mass of the drill and attachments shall be 14.5 kg. with a tolerance of ± 0.25 kg. The test rig shall be maintained in this condition. Before testing, the rig shall be checked to ensure that there are no external factors affecting the sliding mass. The drill-stand shaft and guide bare shall be lubricated to ensure free sliding at all Times.

G-2 SPECIMENS

Five paver block specimens, randomly selected from the group of blocks of specified shape, size and thickness, as per the sampling procedure in 5.0, shall be tested.

G-3 PROCEDURE

G-3.1 The mass of drill and fittings shall be checked for free slide on the drill stand shaft without any obstruction. The dry specimen shall be clamped on the drill-stand base plate. The ball-race shall be placed on the specimen and the chuck shall be lowered on the ball-race. The drill shall be left unclamped on the shaft. A constant rate of water supply to the test surface of the specimen shall be started and maintained to clear the debris formed during abrasion.

G-3.2 The drill shall be run for approximately 3 seconds to seat the ball-race. The dial gauge plunger shall be lowered on the bearing surface of the drill bracket and chuck shall be rotated by hand through one revolution in each direction. The dial gauge shall be set Zero to the mean of the needle reading.

G-3.3 The drill shall be run, stopping it at approximately every 1000 revolutions to measure the penetration. The test shall be continued until the ball-race has completed 5000 revolutions or until the dial gauge has indicated an indentation greater than 1.5mm, whichever occurs first. The indentation shall be measured by rotating the chuck by hand through one revolution in each direction and noting the

mean dial gauge reading. The number of revolutions of the ball-race shall be noted.

Note: If the drill and drill stand appear to wander from side to side causing the ball race to alter its path to the paver block surface, then either the drill has been set at the wrong speed or the guide mechanism is worn and needs replacement. Results from the test are valid only if a clearly defined circular impression has been made on the paver block surface upon completion of the test.

G-4 CALCULATION

The abrasion index of the specimen shall be calculated using the following formula:

$$I_a = \frac{\sqrt{r}}{d_i}$$

Where:

I_a = Abrasion Index (calculated when the ball-race revolutions equal 5000 or the penetration equals 1.5mm, whichever occurs first)

r = ball-race revolutions in thousands

d_i = depth of indentation in mm

G-5 REPORT

The minimum value of abrasion index obtained from the five specimens shall be reported as the abrasion index (I_a -min) of the sample.

G-6 GUIDE FOR CHOICE OF ABRASION INDEX

The Abrasion Index is defined in such a manner that it increases/decreases with the increase/decrease in abrasion resistance. When the purchaser wants to specify values for Abrasion Index, the values given in Table 4 may be taken as interim guide.

Table 4 Suggested values of Abrasion Index
(Clause G-6)

S.No	Traffic (Ref. Table 1)	Minimum 28 Days Abrasion Index
1	Non-Traffic	1.0
2	Light Traffic	1.2
3	Medium Traffic	1.3
4	Heavy Traffic	1.5
5	Very Heavy Traffic	2.0

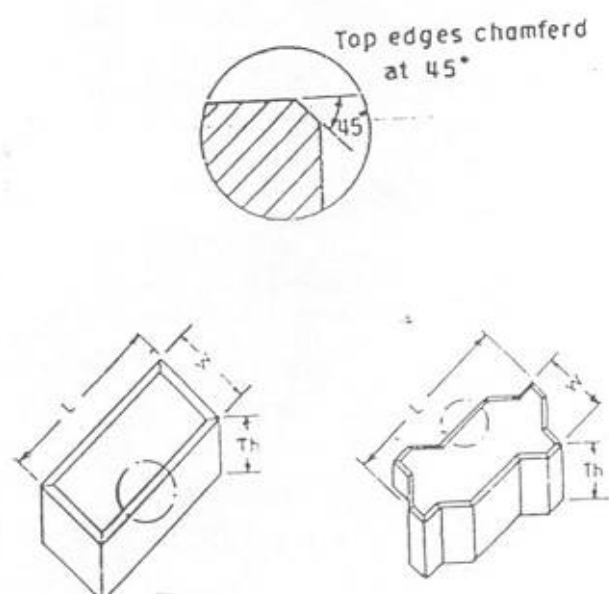


Fig. 3 Length(L), width(W), thickness(Th) & chamfer
(Clauses B-1.3.1 & B-2.3.)

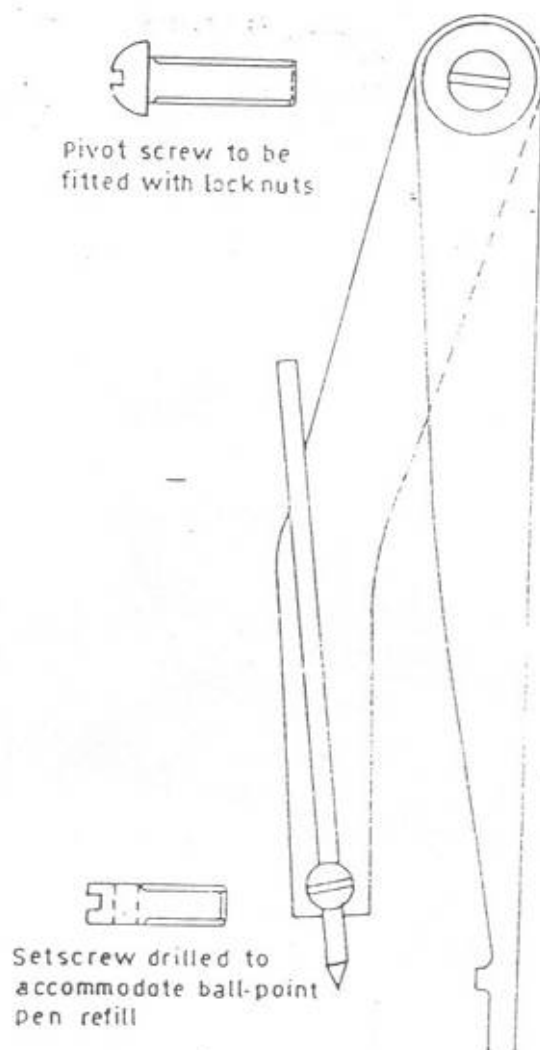


Fig. 4 Odd-leg marking gauge (components & assembly)
(Clause B-3.1)

SCHEDULE OF QUANTITIES

SCHEDULE-A FOR BALANCE WORK

(Recoverable from M/s Gaur Construction Co.)

Name of work :- Construction of Master Plan Roads 45m & 60m R/W at Dwarka, Phase-I.

SH :- Construction of left out portion of carriage way and remaining service road, foot-paths etc. at Master Plan

Road No. 201 & 224 along with side of sector 1 & 2, Dwarka, Phase-I.

S.No.	Description of Item	Qty	Unit	Rate(Rs)	Amount (Rs)
1	Preparation of Sub Grade by excavating earth to an average of 22.5 cm depth dressing to camber and consolidating with road roller including making good the undulations etc. and disposal of surplus earth upto 50 metre.	7928.21	Sqm		
2	Providing, laying, spreading and compacting specified graded sand gravel or any other course material in Sub Base Course including pre mixing the material at OMC in mechanical mixer (Pug Mill) carriage of mixed material, spreading in uniform layers with motor graders on a prepared base and compacting with power roller to achieve the desired density including all material , labour, machinery, lighting, guarding, barricating and maintainance of diversion complete by mechanical mean with all lead and lift as per approved specifications and as per direction of Engineer-in-charge.	317.1	Cum		

3	Providing, laying, spreading and compacting specified graded stone aggregate to Wet Mix Macadam specifications including pre mixing the materials with water at OMC in mechanical mixer (Pug Mill), carriage of mixed material by tipper to site, laying in uniform layers in sub base/base course on a well prepared under base and compacting with power vibratory roller to achieve the desired density including lighting, guarding, barricading and maintenance of diversion etc. by mechanical mean with all lead and lift as per approved specifications and as per direction of Engineer-in-charge.	1520.88	Cum
4	Providing and applying Priming Coat with cationic slow setting bitumen emulsion ready mixed available having kinematics viscosity primer at 60 degree centigrade (between 30 - 60 centistokes) using 0.75 kg. per sqm liquid bituminous material as per BIS 8887/1995 and spraying the primer with self propelled pressure distributor, cleaning and preparing the existing road of WBM all complete as per MOST specification and as per the direction of Engineer-in-charge.	2117.99	Sqm
5	Providing and applying tack coat on bituminous/granular surface using bitumen emulsion of medium setting grade including spraying the bitumen emulsion with mechanically operated spray unit including cleaning and preparing the existing road surface as per MOST specification for road and bridge (Fourth revision 2001) a) Granular base (Not primer) @ 4 Kg/10 sqm	2811.66	Sqm

6	Providing and laying premix Bituminous Macadam base course with stone aggregate of quality size and grading as specified in MOST specification and straight run bitumen of grade 60/70 @ 3.40% by weight of total mix including hot mixing of stone aggregate and bitumen in hot mix plant, transporting mixed material and laying mixed material with paver finisher to the required level and grade, rolling with road roller of 8 to 10 tonne capacity to achieve the required compaction and density as per MOST specification for road and bridge work (Fourth revision 2001) but excluding the cost of primer/ tack coat).	63.7	Cum
	a) 50 mm compacted thickness (Bitumen content 3.40% by weight of total mix).		
7	Providing and laying Dense Bituminous Macadam on prepared surface with specified grade crushed stone aggregate for profile corrective base/ binding course including in hot mix plant transporting the mixed material by tipper to paver and laying the mixed material with paver finisher fitted with electronic sensing device to the required leveled grade, rolling by power roller to achieve the desired density as per MOST specification for road and bridge work (Fourth revision 2001) but excluding the cost of primer/ tack coat).	39.57	Cum
	a) 50 mm average compacted thickness 5% bitumen of 60/ 70 grade.		

8	2.5 cm premix carpet surfacing with paver with 2.25 cum and 1.12 cum. of stone chippings of 13.2mm and 11.2mm size respectively per 100 sq.m. and 52 kg. and 56 kg. of hot bitumen per cum. of stone chippings of 13.2 mm and 11.2 mm size respectively including a tack coat with hot straight run bitumen including consolidation with road roller of 6 to 9 tonne capacity etc. complete but excluding the cost of primer/tack coat and seal coat.	4283.25	Sqm
9	a) With paving Asphalt 60/70 with no solvent Making bell mouth opening / entrance of size 100x50x50 cm for drainage pipe under footpath including providing cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size) for shape of bell mouth including plastering, providing and fixing 100x50x5 cm size precast R.C.C. slab 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5mm nominal size) reinforced with Thermo-Mechanically Treated bars reinforcement @ 100 kg per cum of reinforced concrete including plastering with cement mortar 1:3 (1 cement : 3 fine sand) of 6mm thickness on exposed surface of the slab & bell mouth including centring, shuttering & neat cement punning inside the bell mouth etc. all complete.	65	Each

10	Making 30 cm wide kerb channel 50 mm thick cement concrete of mix 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) after ramming and consolidation of surface including cutting road surface/ excavation wherever required and finished with the top smooth 20mm cement plaster of mix 1:4 (1 cement : 4 coarse sand) and excavation etc. complete as per the direction of Engineer-in-charge.	1238.65	Mtr
11	Providing and fixing reputed manufacture, manufactured of equivalent precast cement concrete kerb stone of size 400mm length 375 height 200mm top thickness with one edge rounded using M-20 concrete with vibration compaction system casted in jointless fibre glass mould so as to get shutter finish on 5 faces including etc. carriage from factory to site loading, unloading, stacking and setting in required position with cement mortar 1:3 (1 cement : 3 coarse sand) including making joints or without grooves including necessary required excavation complete as per the direction of Engineer-in-charge (Length of the finished kerb stone shall be measured at its top surface for payment).	1979.45	Mtr

12	Providing and fixing inter locking Paver Blocks 60 mm thick from approved manufacturer of required design with M-30 grade cement concrete on pavement including setting in position over 50 mm thick bed of sand including cutting and placing and levelling etc. (The rate is inclusive of cost of transportation labour, sand, wastage, breakage, cutting, finishing and compaction with plate vibrator) complete as per the direction of Engineer-in-charge. a) In grey colour.	3505.5	Sqm
13	Making connection of drain or sewer line with existing manhole/drain including breaking into and making good the walls, floors with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cement mortar 1:3(1 cement : 3 coarse sand) finished with a floating coat of neat cement and making necessary channels for the drain etc. complete. a) For pipes 250 to 300 mm diameter	13	Each
14	Providing and laying non-pressure NP-2 class (light duty) R.C.C. 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: a) 250 mm dia. R.C.C. pipe	340.95	Mtr

15	Earth work in excavation in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 M : a)All kinds of soil.	327.86	Cum
16	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including disposal of excavated earth upto 50 m and lift upto 1.5 m, disposed soil to be levelled and neatly dressed : a)All kinds of soil	4116.7	100Sqm
17	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 up to 50 m and lift upto 1.5 m	1940	Cum
18	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth a)1:5:10 (1 Cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size)	282.93	Cum
19	Brick work with F.P.S. bricks of class designation 75 in foundation and plinth in Cement mortar 1:4 (1 cement : 4 coarse sand)	181.76	Cum

20	12 mm cement plaster of mix 1:4 (1 cement : 4 coarse sand)	417.75	Sqm
21	Providing and laying cement concrete in retaining walls, return walls, walls (any thickness) including attached pilasters, columns, piers, abutments, pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor block, plain window sills, fillets etc. upto floor five level excluding the cost of centring, shuttering and finishing. a)1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	2.07	Cum
22	Centring and shuttering including strutting, propping etc. and removal of form for : a)Edges of the slab and breaks in floors and walls under 20 cms wide.	296	Mtr
23	White washing with lime to give an even shade a) New work (Three or more coats)	111.75	Sqm.
24	Chequered precast cement concrete tiles 22 mm thick in footpath & courtyard jointed with neat cement slurry mixed with pigment to match the shade of tiles including rubbing and cleaning etc. complete on 20 mm thick bed of cement mortar 1:4 (1 cement :4 coarse sand) a)Ordinary cement without any pigment	82.49	Sqm.

TOTAL (A)

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SCHEDULE OF QUANTITIES

SCHEDULE-B FOR ADDITIONAL QUANTITIES AND ITEMS REQUIRED TO COMPLETE THE WORK (Non Recoverable from M/s Gaur Construction Co.)

Name of work :- Construction of Master Plan Roads 45m & 60m R/W at Dwarka, Phase-I.
SH :- Construction of left out portion of carriage way and remaining service road, foot-paths etc. at Master Plan Road No. 201 & 224 along with side of sector 1 & 2, Dwarka, Phase-I.

S.No.	Description of Item	Qty	Unit	Rate(Rs)	Amount(Rs)
1	Providing and applying tack coat on bituminous/granular surface using bitumen emulsion of medium setting grade including spraying the bitumen emulsion with mechanically operated spray unit including cleaning and preparing the existing road surface as per MOST specification for road and bridge (Fourth revision 2001) a) Granular base (Not primer) @ 4 Kg/10 sqm	1150	Sqm		

2	<p>Making bell mouth opening / entrance of size 100x50x50 cm for drainage pipe under footpath including providing cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20mm nominal size) for shape of bell mouth including plastering, providing and fixing 100x50x5 cm size precast R.C.C. slab 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5mm nominal size) reinforced with Thermo-Mechanically Treated bars reinforcement @ 100 kg per cum of reinforced concrete including plastering with cement mortar 1:3 (1 cement : 3 fine sand) of 6mm thickness on exposed surface of the slab & bell mouth including centring, shuttering & neat cement punning inside the bell mouth etc. all complete.</p>	40	Each
3	<p>Making connection of drain or sewer line with existing manhole/drain including breaking into and making good the walls, floors with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement and making necessary channels for the drain etc. complete.</p> <p>a) For pipes 250 to 300 mm diameter</p>	74	Each
4	<p>Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth</p> <p>a) 1:5:10 (1 Cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size)</p>	12	Cum

5	Brick work with F.P.S. bricks of class designation 75 in foundation and plinth in Cement mortar 1:4 (1 cement : 4 coarse sand)	251	Cum
6	12 mm cement plaster of mix 1:4 (1 cement : 4 coarse sand)	99	Sqm
7	Earth work in excavation over areas (exceeding 30cm in depth. 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m; disposed earth to be levelled and neatly dressed All kinds of soil	900	Cum
8	Extra for every additional lift of 1.5 m or part thereof in kinds of soil.	356	Cum
9	Extra rate for quantities of works, executed : In or under foul position, including pumping out water as required. (Against item no. 7 of Schedule B)	180	Cum

NOTE:- The extra percentage Rate is applicable in respect of each Item but limited to quantities of work executed in these difficult conditions. The unit, namely, metre depth, to be considered for payment, shall be the depth measured from the Sub-soil water level upto the centre of gravity of the quantity executed in difficult conditions. The depth shall be reckoned correct to 0.1 metre, 0.05 meter or more shall be taken as 0.1 meter and less than 0.05 metre ignored.

	TOTAL	(B)	<hr/> <hr/> <hr/>
AMOUNT OF SCHEDULE-A			<hr/>
AMOUNT OF SCHEDULE-B			<hr/>
TOTAL AMOUNT OF (SCHEDULE A + B)			<hr/> <hr/>

Executive Engineer/WD-10/DDA