

B-1 TENDER FORM

DRAFT TENDER PAPER FOR

Maintenance and Repairs to New Administrative Building of PCNTDA including painting, repairing paving blocks, Developing new parking, Garden work, Electrical repairs etc.

PIMPRI CHINCHWAD NEW TOWN DEVELOPMENT AUTHORITY,
NEAR AKURDI RAILWAY STATION, PUNE-411 044.



**TENDER PAPER FOR
E-TENDER NOTICE NO. for 2017-18**

TENDER NO B-1

**B-1 TENDER PAPERS
(e-tender)**

NAME OF WORK: - Maintenance and Repairs to New Administrative Building of PCNTDA including painting, repairing paving blocks, Developing new parking, Garden work, Electrical repairs etc.

Estimate Cost	Rs.	1,92,15,024/-
Tender form Fee	Rs.	1000/- +GST
Earnest Money Deposit	Rs.	1,50,000/-
Security Deposit	Rs.	1,93,000/-
Period of Work		12 Months

**Pimpri chinchwad New Town Development Authority
New Administrative Building,
Near Akurdi Railway station, Pune-411 044
Tel :- 020-27652934 Fax : 020-27652935**

Pimpri Chinchwad New Town Development Authority,

New Administrative Building,

Near Akurdi Railwaystation,Pune-411 044, Phone No. (020)-27652934/35

E-TENDER NOTICES NO. : for 2017-18

Sealed online **B-1 e - tenders** for the following work are invited by the Chief Executive officer from the eligible contractors (Joint venture not allowed.),

Sr No	e-tender No.	Name of Work	Estimated Cost (Rs.) Lakhs	Earnest Money (Rs.)	Security Deposit	Time Limit for completion (Month)	Cost of e-tender form fee Rs.
1	B-1	Maintenance and Repairs to New Administrative Building of PCNTDA including painting, repairing paving blocks, Developing new parking, Garden work, Electrical repairs etc.	1,92,15,024/-	1,50,000/-	1,93,000/-	12 Months	1000/+GST

E-tender time table

SN	Details	Start Date	Hrs.	End Date	Hrs
1	Publication of Tender				
2	Document Download Start				
3	Pre-bid Meeting				
4	Bid Submission Start				
5	Opening of bid				

Note : All the payment towards EMD & Cost Of Tender Form will be done through, e-payment gateway by using Net banking only. Bidders are using SB MOPS other banks Internet Banking are requested to make online payment 4 days in advance

Note:-

- i.All eligible/interested contractors who want to participate in tendering process should compulsorily get enrolled on e-tendering portal "<http://mahatenders.gov.in>" in the appropriate category applicable to them.
- ii. Contractor shall contact for details or any difficulties in submission of online tenders if any to "The 24 x 7 Toll Free Telphonic Help Desk Nos. 0120-4200462 and 0120-4001002
- iii. Mobile no. 91-8826246593
- iv. It is compulsory for all participants to submit all documents online. Bids will not be accepted by hand or by post. In case of failure online offer will not be opened.
- v. Right to reject any or all online bids of work without assigning any reasons thereof are reserved with PCNTDA.
- vi. Detailed terms and condition are displayed on portal,
- vii. Above Tender Notice is displayed on www.pcntda.org.in

Chief

STANDARD BIDDING DOCUMENT
DRAFT TENDER PAPER FOR
REPAIR WORK
PART I : COMPLETE BIDDING DOCUMENT

PIMPRI-CHINCHWAD NEW TOWN DEVELOPMENT AUTHORITY

NIGDI, PUNE 411 044

Repairs to New Administrative Building of PCNTDA including painting, repairing paving blocks, Developing new parking, Garden work, Electrical repairs etc.

AGREEMENT NO.

COMPETITIVE BIDDING

(CIVIL WORKS)

NAME OF WORK : Maintenance and Repairs to New Administrative Building of PCNTDA including painting, repairing paving blocks, Developing new parking, Garden work, Electrical repairs etc.

PERIOD OF SALE OF BIDDING DOCUMENT :

TIME AND DATE OF PRE-BID CONFERENCE :

LAST DATE AND TIME FOR RECEIPT OF BIDS :

*TIME AND DATE OF OPENING TECHNICAL BIDS :

*TIME AND DATE OF OPENING FINANCIAL BIDS : TO BE ANNOUNCED

PLACE OF OPENING OF BIDS : **Pimpri Chinchwad New Town Development Authority,**
New Administrative Building, Near Akurdi Railway station, Pune-411 044

OFFICER INVITING BIDS : CEO PCNTDA

INVITATION FOR BID
(IFB)

PIMPRI-CHINCHWAD NEW TOWN DEVELOPMENT AUTHORITY

NIGDI, PUNE 411 044

Maintenance and Repairs to New Administrative Building of PCNTDA including painting, repairing paving blocks, Developing new parking, Garden work, Electrical repairs etc.

AGREEMENT NO.

Date:

Bid No.:

1. The PCNTDA invites bids for the construction of works detailed in the table. The bidders may submit bids for any or all of the following works.

TABLE

<u>Package No.</u>	<u>Name of work</u>	<u>Approximate value of work (Rs.)</u>	<u>(EMD)Bid security (Rs.)*</u>	<u>Cost of document (Rs.)</u>	<u>Period of completion</u>
1	2	3	4	5	6
1	Maintenance and Repairs to New Administrative Building of PCNTDA including painting, repairing paving blocks, Developing new parking, Garden work, Electrical repairs etc.	1,92,15,024/-	1,50,000/-	1000/- +GST	12 Months

2. Bidding documents (and additional copies) may be purchased from the office of..... from.....to..... , for a non-refundable fee (three sets) as indicated, in the form of cash or Demand Draft on any Scheduled bank payable at Pune in favour of..... Interested bidders may obtain further information at the same address. Bidding documents requested by mail will be dispatched by registered/speed post on payment of an extra amount of Rs. The..... will not be held responsible for the postal delay if any, in the delivery of the documents or non-receipt of the same.
3. Bids must be accompanied by security of the amount specified for the work in the table, payable at..... and drawn in favour of..... Bid security will have to be in anyone of the forms as specified in the bidding document and shall have to be valid for 45 days beyond the validity of the bid.
4. Bids must be delivered toon or beforehours on (date) and will be opened on the same day at..... hours, in the presence of the bidders who wish to attend. If the office happens to be closed on the date of receipt of the bids as specified, the bids will be received and opened on the next working day at the same time and venue.
5. A pre bid meeting will be held onat..... hrs. at the office of..... to clarify the issues and to answer questions on any matter that may be raised at that stage as stated in Clause 9.2 of 'Instructions to Bidders' of the bidding document.
6. Other details can be seen in the bidding documents.

Signature of Authorised Officer

SECTION 1
INSTRUCTIONS TO BIDDERS
(ITB)

Section 1: Instructions to Bidders

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A. GENERAL

1. Scope of Bid

1.1 The Employer (named in Appendix to ITB) invites bids for the Repairs to New Administrative Building of PCNTDA including painting, repairing paving blocks, Developing new parking, Garden work, Electrical repairs etc. including painting, repairing paving blocks, Developing new parking, Garden work etc. (as defined in these documents and referred to as "the works") detailed in the table given in IFB.

1.2. The successful bidder will be expected to complete the works by the intended completion date specified in the Contract data.

1.3. Throughout these bidding documents, the terms 'bid' and 'tender' and their derivatives (bidder! tenderer, bid! tender, bidding! tendering, etc.) are synonymous.

2. Source of Funds

2.1. The expenditure on this project will be PCNTDA 's own.

3. Eligible Bidders

3.1. This *Invitation for Bids*

is open to all bidders .

3.2. All bidders shall provide in Section 2, Forms of Bid and Qualification Information, a statement that the Bidder is neither associated, nor has been associated, directly or indirectly, with the Consultant or any other entity that has prepared the design ,specifications, and other documents for the Project or being proposed as Project Manager for the Contract. A firm that has been engaged by the Employer to provide consulting services for the preparation or supervision of the works, and any of its affiliates, shall not be eligible to bid.

3.3 Bidders shall not be under a declaration of ineligibility for corrupt and fraudulent practices by the Central Government, the State Government or any public undertaking, autonomous body, authority by whatever name called under the Central or the State Government.

4. Qualification of the Bidder

4.1. All bidders shall provide in Section 2, Forms of Bid and Qualification

Information, a preliminary description of the proposed work method and schedule, including drawings and charts, as necessary. The proposed methodology should include programme of construction backed with equipment planning and deployment duly supported with broad calculations and quality assurance procedures proposed to be adopted justifying their capability of execution and completion of work as per technical specifications, within stipulated period of completion.

4.2 Deleted.

4.3. All bidders shall include the following information and documents with their bids in Section 2:

(a) Copies of original documents defining the constitution or legal status, place of registration, and principal place of business; written power of attorney of the signatory of the Bid to commit the Bidder;

(b) Total monetary value of construction work performed for each of the last five years;

(c) Experience in works of a similar nature and size for any one of the last five years, and details of works underway or contractually committed; and clients who may be contacted for further information on those contracts;

(d)Major items of construction equipment proposed to carry out the Contract;

(e)Qualifications and experience of key site management and technical personnel proposed for Contract;

- (f) Reports on the financial standing of the Bidder, such as profit and loss statements and auditor's reports for the past five years;
- (g) Evidence of access to line (s) of credit and availability of other financial resources facilities (10% of contract value), certified by the Bankers (Not more than 3 months old)
- (h) Undertaking that the bidder will be able to invest a minimum cash up to 25% of contract value of work, during implementation of work.
- (i) Authority to seek references from the Bidder's bankers;
- (j) Information regarding any litigation, current or during the last five years, in which the Bidder is involved, the parties concerned, and disputed amount;
- (k) Deleted
- (l) The proposed methodology and program of construction, backed with equipment planning and deployment, duly supported with broad calculations and quality control procedures proposed to be adopted, justifying their capability of execution and completion of the work as per technical specifications within the stipulated period of completion as per milestones (*for all contracts over Rs.5 Crore*).
- (m) Latest income tax clearance certificate from concerned department.

4.4. Bids from joint venture of maximum two entities are permitted.

A joint venture consortium shall be of maximum two members. And both members shall be eligible bidders/contractors who fulfill the conditions stated below and in the respective tender document which shall offer, an undertaking stating that within 45 days of order to proceed with the work it shall get incorporated.

Maximum 2 members can participate in joint venture consortium

1. LCM (Lead Consortium Member)
2. SCM (Significant Consortium Member)

LCM percentage share in consortium shall be minimum 70% and maximum 80% SCM percentage share shall be remaining.

The financial eligibility requirements shall be fulfilled in aggregate and in proportion to their percentage share in consortium.

For Joint Venture Consortium bidding each member that is LCM & SCM shall submit their C.A. certified respective bid capacities. The aggregate value of consortium bid capacity will be also certified by the Chartered Accountant.

In case of a Bidding Consortium, the Lead Consortium Member (LCM) shall be that Consortium Member vested with the prime responsibility of work. The Lead Consortium Member, shall necessarily make the maximum equity contribution in the Consortium, and this equity contribution shall not be less than 70%. Where the technical qualification is being demonstrated through each of consortium member, such technical member shall also hold not less than 20% equity stake in the work and would continue to hold this stake for at least a period defect liability period DLP + 1 year after the completion of the project.

4.5. A. To qualify for award of the contract, each bidder in its name should have in the last five years as referred to in Appendix.

(a) Achieved a minimum annual financial turnover (in all classes of civil engineering construction works only) amount indicated in Appendix in anyone year (*usually not less than seventy five percent of the estimated annual payments under the contract*);

(b) 30% similar type of work Satisfactorily completed. (the
similar work is as defined in Appendix to ITB) (c)

executed in anyone year, the minimum quantities of the following items of work as indicated in Appendix.

- Painting (Internal and External.)	27841.50 sqm	
- Cement Concrete Paving Blocks	3645.31 sqm	-
Supplying Murum	1824.00 cum	

- Garden work- Lawn, Ground cover, Flower bed etc 2492.23 sqm
(combined quantities)

(usually 80% of the expected peak rate of construction)

B. Each bidder should further demonstrate:

(a) Availability (either owned or leased or by procurement of the following key and critical equipment for this work)

Based on the studies, carried out by the Engineer the minimum suggested major equipment to attain the completion of works in accordance with the prescribed construction schedule are shown in the **Annexure-I.**

(b) availability for this work of personnel with adequate experience as required; as per Annexure-II.

(c) liquid assets and/or availability of credit facilities of no less than amount indicated in Appendix

(Credit lines/ letter of credit / certificates from Banks for meeting the funds requirement etc. - usually the equivalent of the estimated cash flow for 3 months in peak construction period.)

(d) Each bidder must produce: An affidavit on a Stamp Paper, duly attested from the Notary, that the information furnished with the bid documents is correct in all respects; and failure to submit the document as specified shall make the bid non-responsive.

C. To qualify for a package of contracts made up of this and other contracts for which bids are invited in the IFB, the bidder must demonstrate having experience and resources sufficient to meet the aggregate of the qualifying criteria for the individual contracts.

4.6. Sub-contractors' experience and resources shall not 'be taken into account in determining the bidder's compliance with the qualifying criteria except to the extent stated in 4.5 (A) above

4.7. Bidders who meet the minimum qualification criteria will be qualified only if their available bid capacity is more than the total bid value. The available bid capacity will be calculated as under:

$$\text{Assessed Available Bid capacity} = (A * N * 2 - B)$$

where

A = Maximum value of civil engineering works executed in anyone year during the last five years (updated to the price level of the year indicated in Appendix) taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the works for which bids are invited.

B = Value (updated to the price level of the year indicated in Appendix) of existing commitments and on-going works to be completed during the next.....years (period of completion of the works for which bids are invited)

Note: *The statements showing the value of existing commitments and on-going works as well as the stipulated period of completion remaining for each of the works listed should be countersigned by the Engineer in charge, not below the rank of an Executive Engineer or equivalent.*

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

- made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or

- record of poor performance such as abandoning the works, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.; and/or
- participated in the previous bidding for the same work and had quoted unreasonably high bid prices and could not furnish rational justification to the employer.

5. One Bid per Bidder

5.1. Each bidder shall submit only one bid for one package. A bidder who submits or participates in more than one Bid (other than as a subcontractor or in cases of alternatives that have been permitted or requested) will cause all the proposals with the Bidder's participation to be disqualified.

6. Cost of Bidding

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

7. Site Visit

7.1. The Bidder, at the Bidder's own responsibility and risk is encouraged to visit and examine the Site of Works and its surroundings and obtain all information that may be necessary for preparing the Bid and entering into a contract for construction / repair of the Works. The costs of visiting the Site shall be at the Bidder's own expense. He may contact the person whose contact details are given in the Appendix to ITB.

The building is parking + seven storied having 35.00 m height approximately. There are four sloping slabs. These slabs are also near about 35.00 M height above ground level. No extra rate will be payable to contractor for H – frame steel scaffolding to be used for painting. Rates mentioned in schedule B are only applicable. Contractor shall visit these places and quote accordingly.

B. BIDDING DOCUMENTS

8. Content of Bidding Documents

8.1. The set of bidding documents comprises the documents listed below and addenda issued in accordance with Clause 10:

Section	Particulars	Volume No.
	Invitation for Bids	I
1	Instructions to Bidders	
2	Qualification Information, and other forms	
3	Conditions of Contract	
4	Contract Data	
5	Technical Specifications	II
6	Form of bid	III
7	Bill of Quantities	
8	Securities and other forms	
9	Drawings	IV
10	Documents to be furnished by bidder	V

11	QAP	
12	Financial Offer	

8.2. The Bid document is available on the web site www.mahatenders.gov.in. In this case the bidder will have to pay the cost of bid document as stated in Bid document and the payment shall be made by net banking payment gateway system. The bidder shall use the Digital Registration (identification) Key to obtain permission to make such payment.

8.3. The bidder is expected to examine carefully all instructions, conditions of contract, contract data, forms, terms, technical specifications, bill of quantities, forms, Annexes and drawings in the Bid Document. Failure to comply with the requirements of Bid Documents shall be at the bidder's own risk. Pursuant to clause 26 hereof, bids which are not substantially responsive to the requirements of the Bid Documents shall be rejected.

9. Clarification of Bidding Documents

9.1. A prospective bidder requiring any clarification of the bidding documents may notify the Employer in writing or by cable (hereinafter "cable" includes telex and facsimile) at the Employer's address indicated in the invitation to bid. The Employer will respond to any request received not later than 15 days prior to the deadline for submission of bids. Responses will be forwarded to all purchasers of the bidding documents, including a description of the enquiry but without identifying its source.

9.2. Pre-bid meeting

9.2.1. The bidder or his official representative is invited to attend a pre-bid meeting which will take place at the address, venue, time and date as indicated in appendix.

9.2.2. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.

9.2.3. The bidder is requested to submit any questions in writing or by cable to reach the Employer not later than ten days before the meeting.

9.2.4. Minutes of the meeting, including the text of the questions raised (without identifying the source of enquiry) and the responses given will be transmitted without delay to all purchasers of the bidding documents. Any modification of the bidding documents listed in Sub-Clause 8.1 which may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause 10 and not through the minutes of the pre-bid meeting.

9.2.5. Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.

10. Amendment of Bidding Documents

10.1. Before the deadline for submission of bids, the Employer may modify the bidding documents by issuing addenda.

10.2. Any addendum thus issued shall be part of the bidding documents and shall be communicated in writing or by cable to all the purchasers of the bidding documents.

Prospective bidders shall acknowledge receipt of each addendum in writing or by cable to the Employer. The Employer will assume no responsibility for postal delays.

10.3. To give prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may, at his discretion, extend as necessary the deadline for submission of bids, in accordance with Sub-Clause 20.2 .

C. PREPARATION OF BIDS

11. Language of the Bid

11.1. All documents relating to the bid shall be in the English language.

12. Documents Comprising the Bid

12.1 The e-Bid submitted by the Bidder shall be in two separate parts:

Part I

This shall be named Technical Bid and shall comprise of:

(The tender shall be uploaded in two separate parts viz: (1) Technical Bid and (2) Financial Bid as stated in the bid document. The procedure for e-bidding shall be explained in the pre-bid meeting or can be clarified from the consultants to the work)

a) TECHNICAL BID

The technical bid shall be uploaded as per the procedure with the following documents:

- i) Earnest Money Deposit by net banking system (Bid security).
- ii) Documents for Eligibility Criteria as stated in the bid document.
- iii) Copy of audited balance sheet and Bid Capacity duly certified by C.A. for F.Y. 2013-14, 2014-15, 2015-16, for F.Y.2016-17 and for F.Y.2017-18
- iv) A list of works in hand and tendered for.
- v) List of machinery and plants immediately available with the Tenderer for use on this work and list of machinery proposed to be utilised on this work, but not immediately available and the manner in which it is proposed to be procured. The condition, cost and location of machinery shall be indicated. (Contractor shall submit document in support of ownership of machinery.)
- vi) Details of Technical personnel on the rolls of the tenderer giving details of experience and qualification of each of them and details of technical personnel to be appointed for this project along with bio-data duly signed by the person to be appointed.
- vii) Work plans prepared with help of computer software viz. MS-Projects / Prima Vera, indicating the methodology planning with resources logistics and work plan with indicative milestone shall be submitted duly signed by the Tenderer. He should indicate requirement of machinery and manpower in work plan. A bid uploaded without work plan in the form of bar chart indicating mile stone etc. would be considered as invalid and non responsive. The detailed work programme will be finalized and approved by Employer after award of work. Contractor shall suitably modify the programme as directed by Engineer.
- viii) Deleted

- ix) Litigation History if any for last 5 years.
- x) Affidavit (on Rs. 500/- Stamp Paper) as per PWD GR No. CAT/2017/Pra.Kra.8/BLDG-2, dated 29/06/2017 stating that the document attached are true. (Sample format is attached.)
- xi) Evidence of access to financial resources along with name, address, telephone number fax number of the bidders banker along with name of contact person from the bank.
- xii) For bid documents downloaded from website, the payment should be made by gateway system.

- Note: 1. All uploaded documents shall be in PDF format.
 2. The bidder shall in no case upload any document related to the financial bid in the technical bid format. The violation will result in disqualification of the bidder from the bidding process.
 3. The bidders shall upload the bid document in scanned PDF or any other format as the technical bid

Part II. It shall be named Financial Bid and shall comprise of:

b) FINANCIAL BID

The bidder should upload his financial offer in digital format as e-tendering by using the digital registration key. The Contractor shall quote for the work as per details given in the main tender and also based on the details of conditions, stipulation made by the department and as per bill of quantity, specification and corrigendum / addendum issued before last date of receipt of tender document. The tender / offer shall be unconditional. Conditional offer will be rejected summarily as non-responsive.

12.2 Each part shall be separately considered.

12.3. Following documents, which are not submitted with the bid, will be deemed to be part of the bid.

Section	Particulars	Volume No.
	Invitation for Bids (IFB)	
1	Instructions to Bidders	Section I
3	Conditions of Contract	
4	Contract Data	
5	Specifications	Section II
9	Drawings	Section IV
10	QAP	Section VI
11	Financial Offer	Section VII

13. Bid Prices

13.1. The contract shall be for the whole works as described in Sub-Clause 1.1, based on the priced Bill of Quantities submitted by the Bidder.

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

13.3. All duties, taxes, and other levies payable by the contractor under the contract, or for any other cause shall be included in the rates, prices and total Bid Price submitted by the Bidder (except Royalty and Quality Control Charges)

13.4: The rates and prices quoted by the bidder are subject to adjustment as note prescribe below schedule-B

14. Currencies of Bid and Payment

14.1. The unit rates and the prices shall be quoted by the bidder entirely in Indian Rupees. All payments shall be made in Indian Rupees.

15. Bid Validity

15.1. Bids shall remain valid for a period not less than 120 days after the deadline date for bid submission specified in Clause 20. A bid valid for a shorter period shall be rejected by the Employer as non-responsive. In case of discrepancy in bid validity period between that given in the undertaking pursuant to Clause 12.1 (v) and the Form of Bid submitted by the bidder, the latter shall be deemed to stand corrected in accordance with the former and the bidder has to provide for any additional security that is required.

15.2. In exceptional circumstances, prior to expiry of the original time limit, the Employer may request that the bidders may extend the period of validity for a specified additional period. The request and the bidders' responses shall be made in writing or by cable. A bidder may refuse the request without forfeiting his bid security. A bidder agreeing to the request will not be required or permitted to modify his bid except as provided in 15.3 hereinafter, but will be required to extend the validity of his bid security for a period of the extension, and in compliance with Clause 16 in all respects.

15.4. Bid evaluation will be based on the bid prices

16. Bid Security

16.1 The Bidder shall furnish, as part of the Bid, Earnest Money/Bid security, in the amount as shown in column 4 of the table of IFB.

16.2 The Earnest Money shall be paid by net banking gateway system by using digital registration key as stated in Appendix to ITB.

16.3 Any bid not accompanied by an acceptable Earnest Money, shall be rejected by the Employer as non-responsive.

16.4 The Earnest Money of unsuccessful bidders will be returned within 28 days of the end of the Bid validity period specified in Sub-Clause 15.1.

16.5 The Earnest Money of the successful Bidder will be discharged when the Bidder has signed the Agreement and furnished the required Performance Security.

16.6 The Bid Security / Earnest Money will be forfeited:

- a) if the Bidder withdraws the Bid after its submission during the period of Bid validity;
- b) if the Bidder does not accept the correction of the bid price, pursuant to Clause 27; or
- c) in the case of a successful Bidder, if the Bidder fails within the specified time limit to
 - i. sign the Agreement; and/or
 - ii. furnish the required Performance Security.

17. Alternative Proposals by Bidders

17.1. Bidders shall submit offers that fully comply with the requirements of the bidding documents, including the conditions of contract basic technical design as indicated in the drawing and specifications. Conditional offer or alternative offers will not be considered further in the process of tender evaluation.

18. Format and Signing of Bid

18.1 The Bidder shall upload one set of the bid comprising of the documents as described in Clause 12.

18.2 Deleted

18.3 Deleted.

D. SUBMISSION OF BIDS

19. Sealing and Marking of Bids

19.1. Deleted

19.2. Deleted

19.3. Deleted

19.4. Deleted

20. Deadline for Submission of the Bids

20.1. Complete Bids (including Technical and Financial) must be received by the Employer at the address specified above not later than the date indicated in appendix. In the event of the specified date for the submission of bids declared a holiday for the Employer, the Bids will be received up to the appointed time on the next working day.

20.2. The Employer may extend the deadline for submission of bids by issuing an amendment in accordance with Clause 10, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will then be subject to the new deadline.

21. Late Bids

21.1. Any Bid received by the Employer after the deadline prescribed in Clause 20 will be returned unopened to the bidder.

22. Modification and Withdrawal of Bids

22.1. Bidders may modify or withdraw their bids by giving notice in writing before the deadline prescribed in Clause 20 or pursuant to Clause 23.

22.2. Deleted

22.3. No bid may be modified after the deadline for submission of Bids except if pursuance of Clause 23.

22.4. Withdrawal or modification of a Bid between the deadline for submission of bids and the expiration of the original period of bid validity specified in Clause 15.1 above or as extended pursuant to Clause 15.2 may result in the forfeiture of the Bid security pursuant to Clause 16.

E. BID OPENING AND EVALUATION

23. Bid Opening

Bid opening shall be carried out in two stages. Firstly, 'Technical Bid' of all the bids received (except those received late) shall be opened on the date and time mentioned in the Appendix to ITB. 'Financial Bid' of those bidders whose technical bid has been determined to be substantially responsive shall be opened on a subsequent date, which will be notified to such bidders.

23.1. The Employer will open all the Bids received (except those received late), including modifications made pursuant to Clause 22, in the presence of the Bidders or their representatives who choose to attend at time, date and the place specified in Appendix in the manner specified in Clause 20 and 23.3. In the event of the specified date of Bid opening being declared a holiday for the Employer, the Bids will be opened at the appointed time and location on the next working day.

23.1.1 Envelopes marked 'withdrawal' shall be opened and read. Bids for which acceptable notice of withdrawal has been submitted pursuant to Clause 22 shall not be opened.

23.1.2 Bidder's names, withdrawals, 'modification of technical bid', the presence of bid security and such other details, as the Employer may consider appropriate will be announced by the Employer at the time of the opening.

23.2 In all other cases, the amount of Earnest Money, forms and validity shall be announced. Thereafter, the Employer at the opening as the Employer may consider

appropriate, will announce the bidders' names and such other details.

23.3 The Employer will prepare minutes of the Bid opening, including the information disclosed to those present in accordance with Clause 23.1.

23.4 Within three or four days after the opening of the technical bids their evaluation will be taken up with respect to bid security, qualification information and other information furnished in Part I of the bid in pursuant to clause 12.1 and a list will be drawn up of the responsive bids whose financial bids are eligible for consideration.

23.5 The Employer shall inform the bidders, whose technical bid is found responsive, of the date, time and place of opening of the financial bids. The bidders so informed, or their representative, may attend the meeting of opening of financial bids.

23.6 At the time of the opening of the 'Financial Bid', the names of the bidders whose bids were found responsive in accordance with clause 23.5 will be announced. The financial bids of only these bidders will be opened. The remaining bids will be returned unopened to the bidders. The responsive bidders' names, the Bid prices, the total amount of each bid, any discount/rebate and such other details as the Employer may consider appropriate will be announced by the Employer at the time of bid opening. Any Bid price, which is not read out and recorded, will not be taken into account in Bid Evaluation.

23.7 The Employer shall prepare the minutes of the opening of the Financial Bids.

24. Process to be Confidential

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

25. Clarification of Financial Bids

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

25.2. Subject to sub-clause 25.1, no Bidder shall contact the Employer on any matter relating to his bid from the time of the bid opening to the time the contract is awarded. If the Bidder wishes to bring additional information to the notice of the Employer, it should do so in writing.

25.3. Any effort by the Bidder to influence the Employer in the Employer's bid evaluation, bid comparison or contract award decisions may result in the rejection of the Bidders' bid.

26. Examination of Bids and Determination of Responsiveness

26.1. During the detailed evaluation of "Technical Bids", the Employer will determine whether each Bid (a) meets the eligibility criteria defined in Clause 3 and 4; (b) has been properly signed; (c) is accompanied by the required securities and; (d) is substantially responsive to the requirements of the Bidding documents. During the detailed evaluation of the "Financial Bid", the responsiveness of the bids will be further determined with respect to the remaining bid conditions, i.e., priced bill of quantities, technical specifications, and drawings.

26.2. A substantially responsive "Financial Bid" is one which conforms to all the terms, conditions, and specifications of the Bidding documents, without material deviation or reservation. A material deviation or reservation is one (a) which affects in any substantial way the scope, quality, or performance of the Works; (b) which limits in any substantial way, inconsistent with the Bidding documents, the Employer's rights or the Bidder's obligations under the Contract; or (c) whose rectification would affect unfairly the competitive position of other Bidders presenting substantially responsive Bids.

26.3. If a "Financial Bid" is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation.

27. Correction of Errors

27.1. "Financial Bids" determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:

- (a) where there is a discrepancy between the rates in figures and in words, the rate in words will govern; and
- (b) where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern.

27.2. The amount stated in the "Financial Bid" will be corrected by the Employer in accordance with the above procedure and the bid amount adjusted with the concurrence of the Bidder in the following manner:

- (a) If the Bid price increases as a result of these corrections, the amount as stated in the bid will be the 'bid price' and the increase will be treated as rebate;
- (b) If the bid price decreases as a result of the corrections, the decreased amount will be treated as the 'bid price' Such adjusted bid price shall be considered as binding upon the Bidder. If the Bidder does not accept the corrected amount the Bid will be rejected, and the Bid security may be forfeited in accordance with Sub-Clause 16.6 (b).

28. Deleted

29. Evaluation and Comparison of Financial Bids

29.1. The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Sub-Clause 26.2.

29.2. In evaluating the Bids, the Employer will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:

- (a) making any correction for errors pursuant to Clause 27; or
- (b) making an appropriate adjustments for any other acceptable

variations, deviations; and

- (c) making appropriate adjustments to reflect discounts or other price modifications offered in accordance with Sub-Clause 23.6.

29.3. The Employer reserves the right to accept or reject any variation or deviation. Variations and deviations and other factors, which are in excess of the requirements of the Bidding documents or otherwise result in unsolicited benefits for the Employer shall not be taken into account in Bid evaluation.

29.4. The estimated effect of the price adjustment conditions under Clause 47 of the *Conditions of Contract*, during the period of implementation of the Contract, will not be taken into account in Bid evaluation.

29.5. If the Bid of the successful Bidder is seriously unbalanced in relation to the Engineer's estimate of the cost of work to be performed under the contract, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, the Employer may require that the amount of the performance security set forth in Clause 34 be increased at the expense of the successful Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.

29.6. A bid which contains several items in the Bill of Quantities which are unrealistically priced low and which cannot be substantiated satisfactorily by the bidder, may be rejected as non-responsive.

30. Deleted

F. AWARD OF CONTRACT

31. Award Criteria

31.1. Subject to Clause 32, the Employer will award the Contract to the Bidder whose Bid has been determined

- (i) to be substantially responsive to the Bidding documents and who has offered the lowest evaluated Bid Price; and
- (ii) to be within the available bid capacity adjusted to account for his bid price which is evaluated the lowest in any of the packages opened earlier than the one under consideration.

In no case, the contract shall be awarded to any bidder whose available bid capacity is less than the evaluated bid price, even if the said bid is the lowest evaluated bid. The contract will in such cases be awarded to the next lowest bidder at his evaluated bid price.

32. Employer's Right to Accept any Bid and to Reject any or all Bids

32.1. Notwithstanding Clause 31, the Employer reserves the right to accept or reject any Bid, and to cancel the Bidding process and reject all Bids, at any time prior to the award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Employer's action.

33. Notification of Award and Signing of Agreement

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

33.2. The notification of award will constitute the formation of the Contract, subject only to the furnishing of a performance security in accordance with the provisions of Clause 34.

33.3. The Agreement will incorporate all agreements between the Employer and the successful Bidder. It will be signed by the Employer and sent to the successful Bidder, within 28 days following the notification of award along with the Letter of Acceptance. Within 21 days of receipt, the successful Bidder will sign the Agreement and deliver it to the Employer.

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

34. Performance Security

34.1. Within 10 days / as mentioned in the letter of Acceptance of receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer a Performance Security in any of the forms given below for an amount equivalent to 1% of the Contract price (FOR TENDER PERIOD PLUS DLP PLUS 60 DAYS) plus additional security for unbalanced Bids in accordance with Clause 29.5 of ITB and Clause 52 of Conditions of Contract: a bank guarantee in the form given in Section 8; or certified Cheque / Bank Draft as indicated in Appendix.

34.2. If the performance security is provided by the successful Bidder in the form of a Bank Guarantee, it shall be issued either (a) at the Bidder's option, by a Nationalized bank Payable at Pimpri-Chinchwad

34.3. Failure of the successful Bidder to comply with the requirements of Sub-Clause 34.4 shall constitute sufficient grounds for cancellation of the award and forfeiture of the Bid Security.

34(A) Additional Performance Security:

If the tenderer has quoted the offer below the estimated cost put to tender, the tenderer shall have to submit Additional Performance Security in the form of Demand draft / Fixed Deposit Receipt of any Nationalized or Scheduled Bank in favor of the Chief Executive Officer, PCNTDA payable at Pune .The scanned copy of the Demand draft/Fixed Deposit Receipt of any Nationalized or Scheduled Bank (Additional Performance Security) shall be uploaded and submitted in financial bid through e-tendering process. It is mandatory to each tenderer that he shall submit sealed envelope bearing name of agency, name of work and tender notice number which contains the Demand draft/Fixed Deposit Receipt of any Nationalized or Scheduled Bank (for which the photocopy has been submitted online as above) The envelope shall be submitted to office of the Chief Executive Officer at the time of opening of financial bid.The amount of the Additional Performance Security shall be calculated by the tenderer in accordance with the following manner.

34.1 If the tenderer has quoted below the estimated rates, the Additional Performance

Security shall be paid additionally as mentioned below.

If the offer submitted is below cost put to tender by more than 1% but less than 10% of the estimated cost put to tender	1% of the estimated cost put to tender
If below by more than 10% of the estimated cost put to tender.	1% of the estimated cost put to tender plus an amount equal to the percentage by which the offer is below 10% of the estimated cost put to tender, (eg. if the offer is 14.31% below, the Performance Security will be $1\%+(14.31-10) = 5.31\%$ of the estimated cost put to tender
If below by more than 15% of the estimated cost put to tender	1% of the estimated cost put to tender plus an amount equal to the percentage by which the offer is below 10% plus an amount double to the percentage by which the offer is below 15% of the estimated cost put to tender, (eg. if the offer is 16% below, the Performance Security will be $1\%+(15-10)*1\%+(16-15)*2\% = 8\%$ of the estimated cost put to tender

f) This Performance Security will be released within 3 months after successfully completion of work.

35 Advance Payment and Security - Deleted

36. Dispute Review Expert - Deleted

37. Corrupt or Fraudulent Practices

37.1. The Employer will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question and will declare the firm ineligible. either indefinitely or for a stated period of time, to be awarded a contract with National Highways Authority of India / State PWD and any other agencies, if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for the contractor, or in execution.

37.2. Furthermore, Bidders shall be aware of the provision stated in Sub-Clause 23.2 and Sub-Clause 59.2 of the Conditions of Contract.

Maintenance and Repairs to New Administrative Building of PCNTDA including painting, repairing paving blocks, Developing new parking, Garden work, Electrical repairs etc.

1. Name of the Employer is : **Pimpri Chinchwad New Town Development Authority**
Address: **New Administrative Building, Near Akurdi Railway station, Pune-411 044 .Tel :- 020-27652934 Fax : 020-27652935 [Cl. 1.1]**

Description of work-

New Administrative Building of PCNTDA is constructed near Akurdi railway station. This building is P + seven storied having height up to 35.00 m. This building is ECO FRAINDLY with five star rating. There are four sloping slabs up to top floor height.

- 1) Removing damaged glass and Providing and fixing of laminated glass glazed sky-light
- 2) Internal plaster, C.C. M-15, BB masonry for damaged parts, ceramic tiles, granite for flooring, Shera boards on external walls etc. is considered in the estimate.
- 3) Providing and fixing 450 mm x 550 mm size superior type Belgium mirror
- 4) Providing and laying in walls/ ceilings/ floors 50 millimeter diameter medium grade galvanized iron pipes
- 5) Providing and fixing false ceiling in gypsum board, aluminum louvered windows, SS chrome finish perforated Dustbins, repairs to structural steel work, center lock to wooden doors, floor spring machine to doors, grill gate to open duct, weather shed to ventilators of lifts, Removing old polycarbonate roofing over canteen and providing colour coated Zincalume (R) AZ150 (Min 150 gms. / sq.mt. total on each sides) profiled sheets for roofing etc. are proposed as per requirement.
- 6) External and internal painting to the building.
- 7) Providing and applying French polish to wooden doors.
- 8) Providing C.C. M-15 for retaining wall on west and south side.
- 9) Providing spreading and compacting hard murum for levelling and raising the ground.
- 10) Providing Granular Sub Base.
- 11) Providing and fixing heavy duty interlocking concrete coloured paving blocks of 100 mm thick in M-40 grade.
- 12) Landscape work - Preparing lawn, edging, ground cover, shrubbery, flower bed, planting large flowering shady trees, flowering plants, maintenance of garden till three years from completion of work including watering, supplying manure, pesticides etc.
- 13) Refixing of polycarbonate sheets for roofing of new parking area, obtained from removing from canteen roof on second floor.

2. The last five years

2013 - 2014

2014 - 2015

2015 -2016

2016 -2017

2017-2018

3. This annual financial turn over amount is Rs. 144.12 Lacs. [Cl. 4.5A(a)]
Rs One Crore Forty Four Lacs Twelve Thousand only (in words)
4. Value of work is Rs. 1,92,15,024/-[Cl. 4.5A(b)]
Rupees One crore Ninety Two Lacs Fifteen Thousand Twenty Four only. (in words)
5. Quantities of work are: [Cl. 4.5A(c)]

Painting work	27841.50 Sqm.
Paving Blocks	3645.31 Sqm.
Supplying Murum	1824.00 Cum.
Garden Work	2492.23 Sqm
6. The cost of electric work is Rs. 7,39,657/- [Cl. 4.5A(d)]
Seven Lacs Thirty Nine thousand Six Hundred Fifty Seven only (in words)
7. The cost of water supply / sanitary works is Rs. Nil [Cl. 4.5A(e)]
8. Liquid assets and/or availability of credit facilities is **Rs. Nil** [Cl. 4.5B(c)]
9. Price level of the financial year 2017-18 [Cl. 4.7]
10. The pre-bid meeting will take place at PCNTDA, Office, New Administrative Building, Akurdi, Pune 411044. [Cl. 9.2.1]
(address of the venue) on(time and date)
11. The technical bid will be opened at - As Above
(address of the venue) on(time and date) **As per NIT**
12. Address of the Employer **Pimpri Chinchwad New Town Development Authority**
Address: **New Administrative Building, Near Akurdi Railway station, Pune-411 044 .Tel :- 020-27652934 Fax : 020-27652935** [Cl. 4.5(a)]
13. Identification: CI. 19.2(b)]
 - Bid for(name of Contract)
 - Bid reference No.(insert number)
 - Do not open before..... (time and date)
14. The bid should be submitted latest by(date and time) [Cl. 20.1(a)]
15. The bid will be opened at..... [Cl. 23.1]
(place) on..... (time and date).
16. The Bank guarantee of 1% of . Nationalized bank Payable at Pimpri-Chinchwad for tender period plus DLP plus 60 days [Cl. 34.1]
17. Addl. Performance Security [Cluase34.A]

18. EMD Amt Rs. 1,50,000/-

[Clause 16.1]

19. Special Note for Bidder :- H- frame steel scaffolding is necessary for external painting. No extra payment will be made for this scaffolding. Before starting painting work, it is contractor's responsibility to shift the furniture or what ever may be abstract for the painting work, after completion painting. No extra claim will be entertain on this account.

ANNEXURE-I

List of Key Plant & Equipment to be deployed on Contract Work

[Reference Cl. 4.5 (B) (a)]

Deleted

ANNEXURE-II

List of Key Personnel to be deployed on Contract Work

[Reference Cl. 4.5 (B) (b)]

Deleted

SECTION 2

QUALIFICATION INFORMATION

QUALIFICATION INFORMATION

The information to be filled in by the Bidder in the following pages will be used for purposes of post qualification as provided for in Clause 4 of the Instructions to Bidders. This information will not be incorporated in the Contract.

1. For Individual Bidders

1.1. Constitution or legal status of Bidder

[Attach copy]

Place of registration:

Principal place of business:

Power of attorney of signatory of Bid

[Attach]

1.2. Total value of Civil Engineering construction 20.....20B
 work performed in the last five years** 20.....20
 (in Rs. Million) 20.....20

1.3.1. Work performed as prime contractor, work performed in the past as a nominated sub contractor will also be considered provided the sub-contract involved execution of all main items of work described in the bid document, provided further that all other qualification criteria are satisfied (in the same name) on works of a similar nature over the last five years. **

Project Name	Name of the Employer *	Description of work	Contract No.	Value of Contract (Rs.crore)	Date of issue of work order	Stipulated period of completion	Actual date of completion*	Remarks explaining reasons for delay & work Completed

*Attach certificate(s) from the not below rank of Executive Engineer.

** immediately preceding the financial year in which bids are received.

B Attach certificate from Chartered Accountant.

#1.3.2. Quantities of work executed as prime contractor, work performed in the past as a nominated sub-contractor, will also be considered provided the sub-contract involved execution of all main items of work described in the bid document, provided further that all other qualification criteria are satisfied (in the same name and style) in the last five years: **

Year	Name of the work	Name of the Employer*	Name Quantity of work performed (cum)@ Remarks						
			Cement Concrete(including (RCC& PCC)	Masonry	Earth Works	WBM	WMM	Bituminous Work	Remarks * (indicate contract Ref)
20....20....									
20....20....									
20....20....									
20....20....									
20....20....									

1.4. Information on Bid Capacity (works for which bids have been submitted and works which are yet to be completed) as on the date of this bid.

(A) Existing commitments and on-going works:

Description of works	Place & State	Contract No.	Name & Address of Employer	Value of Contract (Rs Cr)	Stipulated Period of Completion	Value of works*remaining to be completed (Rs Cr)	Anticipated date of completion
1	2	3	4	5	6	7	8

*Attach certificate s) from the not below rank of Executive Engineer.

@The item of work for which data is requested should tally with that specified in ITB clause 4.5A(c).

** immediately preceding the financial year in which bids are received.

Delete. if prequalification has been carried out

(B) Works for which bids already submitted:

Description of works	Place & State	Name & Address of Employer	Estimated value of works (Rs Cr)	Stipulated period of completion	Date when decision is expected	Remarks, if any
1	2	3	4	5	6	7

1.5. Availability of key items of Contractor's Equipment essential for carrying out the Works [Ref. Clause 4.5(B)(a)]. The Bidder should list all the information requested below. Refer also to Sub Clause 4.3 (d) of the Instructions to Bidders.

Item of Equipment	Requirement		Availability proposals			Remarks (from whom to be purchased)
	No	Capacity	Owned/Leased to be procured	Nos./Capacity	Age / Condition	

1.6. Qualifications and experience of key personnel required for administration and execution of the Contract [Ref. Clause 4.5(B)(b)]. Attach biographical data. Refer also to Sub Clause 4.3 (e) of instructions to Bidders and Sub Clause 9.1 of the Conditions of Contract.

Position	Name	Qualification	Year of Experience (General)	Years of experience in the proposed position
Project Manager				
Etc.				

1.7. Proposed sub-contracts and firms involved. [Refer **ITB** Clause 4.3 (k)]

Deleted

Attach copies of certificates on possession of valid license for executing water supply / sanitary work / building electrification works [Reference Clause 4.5(d) & Clause 4.5 (e)]

*1.8. Financial reports for the last five years: balance sheets, profit and loss statements, auditors' reports (in case of companies/corporation), etc. List them below and attach copies.

1.9. Evidence of access to financial resources to meet the qualification requirements: cash in hand, lines of credit. etc. List them below and attach copies of support documents.

1.10. Name, address, and telephone, telex, and fax numbers of the Bidders' bankers who may provide references if contacted by the Employer.

1.11. Information on litigation history in which the Bidder is involved.

Other Party (ies)	Employer	Cause of Dispute	Amount involved by each party		Remarks showing Present Status

1.12. Statement of compliance under the requirements of Sub Clause 3.2 of the instructions to Bidders.

1.13. Proposed work method and schedule. The Bidder should attach descriptions, drawings and charts as necessary to comply with the requirements of the Bidding documents. [Refer ITB Clause 4.1 & 4.3 (I)]

1.14. Programme

1.15. Quality Assurance Programme

2. Deleted

Additional Requirements

3.1 Bidders should provide any additional information required to fulfill the requirements of Clause 4 of the Instructions to the Bidders, if applicable.

(i) Affidavit

(ii) Undertaking

***(iii) Update of original prequalification application

***(iv) Copy of original prequalification application

*** (v) Copy of prequalification letter

* Delete, if prequalification has been carried out

** Fill the Name of Consultant.

*** Delete, if prequalification has not been carried out.

**SAMPLE FORMAT FOR EVIDENCE OF ACCESS TO OR
AVAILABILITY OF CREDIT FACILITIES**

(CLAUSE 4.2 (i) OF ITB)

BANK CERTIFICATE

This is to certify that *M/s*..... is a reputed company with a good financial standing.

If the contract for the work, namelyis awarded to the above firm, we shall be able to provide overdraft/credit facilities to the extent of Rs.to meet their working capital requirements for executing the above contract during the contract period.

(Signature)

Name of Bank

Senior Bank Manager

Address of the Bank

AFFIDAVIT

1. I, the undersigned, do hereby certify that all the statements made in the required attachments are true and correct.
2. The undersigned also hereby certifies that neither our firm M/s.....have abandoned any work nor any contract awarded to us for such works have been rescinded, during last five years prior to the date of this bid.
3. The undersigned hereby authorise(s) and request(s) any bank, person, firm or corporation to furnish pertinent information deemed necessary and requested by the Department to verify this statement or regarding my (our) competence and general reputation.
4. The undersigned understand and agrees that further qualifying information may be requested, and agrees to furnish any such information at the request of the Department /Project implementing agency.

(Signed by an Authorized Officer of the Firm)

Title of Officer

Name of Firm

DATE

UNDERTAKING

I, the undersigned do hereby undertake that our firm M/s.would invest a minimum cash up to 25% of the value of the work during implementation of the Contract.

(Signed by an Authorized Officer of the Firm)

Title of Officer

Name of Firm

DATE

SECTION 3
CONDITIONS OF CONTRACT

Conditions of Contract

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CONDITIONS OF CONTRACT

A. GENERAL

1. Definitions

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

Bill of Quantities means the priced and completed Bill of Quantities forming part of the Bid.

The Completion Date is the date of completion of the Works as certified by the Engineer in accordance with Sub Clause 55.1.

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

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

The Contractor is a person or corporate body whose Bid to carry out the Works has been accepted by the Employer.

The Contractor's Bid is the completed Bidding document submitted by the Contractor to the Employer and includes Technical and Financial bids.

The Contract Price is the price stated in the Letter of Acceptance and there after as adjusted in accordance with the provisions of the Contract.

A "Rs." **Rupees** The official currency of the Republic of India.

"**CSD**" shall mean Common Set of Deviation. The amendment /addendum /clarifications / addition / deletion / modification / correction means information provided by the PCNTDA related to queries or its own there to facilitate to the tenderer.

Days are calendar days; months are calendar months.

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

The Defects Liability Period is the period named in the Contract Data and calculated from the Completion Date.

The Employer is the party who will employ the Contractor to carry out the, Works. The expression "**Department/Client/Owner/Employer**" as used in the tender papers shall mean Pimpri Chinchwad New Town Dev. Authority, Nigdi.

"**Chief Executive Officer**" as used anywhere in the tender papers shall mean "Chief Executive Officer" of the Pimpri Chinchwad New Town Dev. Authority, Nigdi who is designated as such for the time being in whose jurisdiction the work lies or the officer to whom the function of the Chief Executive Officer may be subsequently transferred.

“Chief Executive Officer’s representative” shall mean an assistant of the Chief Executive Officer notified in writing to the Contractor by the Chief Executive Officer.

The Engineer is the person named in the Contract Data (or any other competent person appointed and notified to the contractor to act in replacement of the Engineer) who is responsible for supervising the Contractor, administering the Contract, certifying payments due to the Contractor.

Equipment is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.

The Initial Contract Price is the Contract Price listed in the Employer's Letter of Acceptance.

The Intended Completion Date is the date on which it is intended that the Contractor shall complete the Works. The Intended Completion Date is specified in the Contract Data. The Intended Completion Date may be revised only by the Engineer by issuing an extension of time.

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

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

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

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

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

The Start Date is given in the Contract Data. It is the date when the Contractor shall commence execution of the works. It does not necessarily coincide with any of the Site Possession Dates.

A Subcontractor is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract which includes work on the Site.

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

“Urgent works” shall mean any measures, which in the opinion of the Engineer, become necessary during the progress of the works to obviate any risk or accident or failure or which become necessary for security of the work or the persons working, thereon.

The Works are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the Contract Data.

“Drawing” shall mean the drawings referred to in specifications and any modifications of such drawings approved in writing by engineers and such other drawings as may from time to time be furnished or approved

Utility shall mean the services provided for the public.

2. Interpretation

2.1. In interpreting these Conditions of Contract, singular also means plural, male also means female or neuter, and the other way around. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Engineer will provide instructions clarifying queries about the Conditions of Contract.

2.2. If sectional completion is specified in the Contract Data, references in the Conditions of Contract to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion date for the whole of the Works).

2.3. The documents forming the Contract shall be interpreted in the following order of priority:

- (1) Agreement
- (2) Letter of Acceptance, notice to proceed with the works
- (3) Contractor's Bid
- (4) Contract Data
- (5) Conditions of Contract including Special Conditions of Contract
- (6) Specifications
- (7) Drawings
- (8) Bill of quantities and
- (9) any other document listed in the Contract Data as forming part of the Contract.

3. Language and Law

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

A “**Language**” Correspondence language should be only Marathi & English.

4. Engineer's Decisions

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

5. Delegation

5.1. The Engineer may delegate any of his duties and responsibilities to other people after notifying the Contractor and may cancel any delegation after notifying the Contractor.

6. Communications

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

7. Sub-contracting

7.1. The Contractor may sub-contract electrical part and land scaping part of work, up to a limit specified in Contract Data, with the approval of the Engineer but may not assign the Contract without the approval of the Employer in writing. Sub-contracting does not alter the Contractor's obligations.

8. Other Contractors

8.1. The Contractor shall co-operate and share the Site with other contractors, public authorities, utilities, and the Employer between the dates given in the Schedule of other Contractors. The Contractor shall as referred to in the Contract Data, also provide facilities and services for them as described in the Schedule. The employer may modify the schedule of other contractors and shall notify the contractor of any such modification.

9. Personnel

9.1. The Contractor shall employ the key personnel named in the Schedule of Key Personnel as referred to in the Contract Data to carry out the functions stated in the Schedule or other personnel approved by the Engineer. The Engineer will approve any proposed replacement of key personnel only if their qualifications, abilities, and relevant experience are substantially equal to or better than those of the personnel listed in the Contract Data. If the personal stated in the contract data are not deployed on site by the contractor, it will be treated as breach of contract and action will be taken

9.2. If the Engineer asks the Contractor to remove a person who is a member of the Contractor's staff or his work force stating the reasons the Contractor shall ensure that the person leaves the Site within seven days and has no further connection with the work in the Contract.

10. Employer's and Contractor's Risks

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

11. Employer's Risks

11.1. The Employer is responsible for the excepted risks which are (a) in so far as they directly affect the execution of the Works in India, the risks of war, hostilities, invasion, act of foreign enemies, rebellion, revolution, insurrection or military or usurped power, civil war, riot commotion or disorder (unless restricted to the Contractor's employees), and contamination from any nuclear fuel or nuclear waste or radioactive toxic explosive, or (b) a cause due solely to the design of the Works, other than the Contractor's design.

12. Contractor's Risks

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

13. Insurance

13.1. The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles stated in the Contract Data for the following events which are due to the Contractor's risks:

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

13.2. Policies and certificates for insurance shall be delivered by the Contractor to the Engineer for the Engineer's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

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

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

13.5. Both parties shall comply with any conditions of the insurance policies.

14. Site Investigation Reports

14.1. The Contractor, in preparing the Bid, shall rely on any site Investigation Reports referred to in the Contract Data, supplemented by any information available to the Bidder.

15. Queries about the Contract Data

15.1. The Engineer will clarify queries on the Contract Data.

16. Contractor to Construct the Works

16.1. The Contractor shall construct and install the Works in accordance with the Specification and Drawings.

17. The Works to be Completed by the Intended Completion Date

17.1. The Contractor may commence execution of the Works on the Start Date and shall carry out the Works in accordance with the programme submitted by the Contractor, as updated with the approval of the Engineer, and complete them by the Intended Completion Date.

18. Approval by the Engineer

18.1. The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Engineer, who is to approve them if they comply with the Specifications and Drawings.

18.2. The Contractor shall be responsible for design of Temporary Works.

18.3. The Engineer's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

18.4. The Contractor at his own cost shall obtain approval of third parties to the design of the Temporary Works where required.

18.5. All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Engineer before their use.

19. Safety

19.1. The Contractor shall be responsible for the safety of all activities on the Site.

20. Discoveries

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

21. Possession of the Site

21.1. The Employer shall give complete possession / partial possessions of the Site to the Contractor from the date of signing of agreement.

22. Access to the Site

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

23. Instructions

23.1. The Contractor shall carry out all instructions of the Engineer pertaining to works which comply with the applicable laws where the Site is located.

23.2. The Contractor shall permit the Employer to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Employer, if so required by the Employer.

24. Disputes

24.1. Dispute resolution will be as per Cl. 25 below.

25. Procedure for Disputes

25.1. All disputes and differences of any kind whatever arising out of or in connection with the contract or the carrying out of the work (whether during progress of the works or after their completion and whether before or after the determination, abandonment or breach of the contract) shall be referred to the Engineer. If the Contractor within 21 days of reference is not satisfied with the decision or non-decision by Engineer, he should refer such dispute as stated below.

The Contractor in writing shall refer the dispute along with the decision / non-decision of the Engineer to the Chief Executive Officer of the Development Authority, Chief Executive Officer, offer its decision within 21 days of such reference .

If the contractor is not satisfied with the decision of Chief Executive Officer of the Development Authority, he may refer the dispute to the development Authority (D.A) committee headed by the Chairman with the members. This D.A. committee shall hear the dispute from contractor, the Engineer and the Chief Executive Officer, The D.A. committee may give the final decision on such dispute within 60 days of such hearing.

The decision of the D A committee is final and binding on the contractor and the Engineer.

26. Replacement of Dispute Review Expert

26.1. Deleted

B. TIME CONTROL

27. Programme

27.1. The Engineer shall issue the indent of work in stages specifying the time limit for the same as and when required. The Contractor shall submit to the Engineer for approval a programme showing the general methods, arrangements, order, and timing for all the activities in the Works, along with monthly cash flow forecasts, using software programmes like MS Project / Primavera.

27.2. An update of the Programme shall be a programme showing the actual progress achieved on each activity and the effect of the progress achieved on the timing of the remaining work including any changes to the sequence of the activities.

27.3. The Contractor shall submit to the Engineer, for approval, an updated Programme at intervals no longer than the period stated in the Contract Data. If the Contractor does not submit an updated Programme within this period, the Engineer may withhold the amount stated in the Contract Data from the next payment certificate and continue to withhold this amount until the next payment after the date on which the overdue Programme has been submitted.

27.4. The Engineer's approval of the Programme shall not alter the Contractor's obligations. The Contractor may revise the Programme and submit it to the Engineer again at any time. A revised Programme is to show the effect of Variations and Compensation Events.

28. Extension of the Intended Completion Date

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

28.2. The Engineer shall decide whether and by how much to extend the Intended Completion Date within 35 days of the Contractor asking the Engineer for a decision upon the effect of a Compensation Event or Variation and submitting full supporting information. If the Contractor has failed to give early warning of a delay or has failed to co-operate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

28.3. The Engineer shall within 14 days of receiving full justification from the contractor for extension of Intended Completion Date refer to the Employer his decision. The Employer shall in not more than 21 days communicate to the Engineer the acceptance or otherwise of the Engineer's decision. If the Employer fails to give his acceptance, the Engineer shall not grant the extension and the contractor may refer the matter to as explained in Clause 24.1.

29. Deleted

30. Delays Ordered by the Engineer

30.1. The Engineer may instruct the Contractor to delay the start or progress of any activity within the Works.

31. Management Meetings

31.1. Either the Engineer or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

31.2. The Engineer shall record the business of management meetings and is to provide copies of his record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken is to be decided by the Engineer either at the management meeting or after the management meeting and stated in writing to all who attended the meeting.

32. Early Warning

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

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

C. QUALITY CONTROL

33. Identifying Defects

33.1. The Engineer shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect

34. Tests

34.1. The contractor shall be solely responsible for :

- a. Carrying out the mandatory tests prescribed in the specification of Ministry of Shipping, Road Transport and Highways, State PWD, MJP and
- b. For the correctness of the test results, whether preformed in his laboratory or elsewhere.

34.2 If the Engineer instructs the Contractor to carry out a test not specified in the Specification to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples.

35. Correction of Defects

35.1. The Engineer shall give notice to the Contractor of any Defects before the end of the Defects Liability Period, which begins at Completion and is defined in the Contract Data. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

35.2. Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Engineer's notice. If the contractor is in default the Engineer shall cause the same to be made good by other workmen and deduct the expense from any sums that may be due to the contractor.

36. Uncorrected Defects

36.1. If the Contractor has not corrected a Defect within the time specified in the Engineer's notice, the Engineer will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

D. COST CONTROL

37. Bill of Quantities

37.1. The Bill of Quantities shall contain items for the construction, installation, testing, and commissioning work to be done by the Contractor.

37.2. The Bill of Quantities is used to calculate the Contract Price. The Contractor is paid for the quantity of the work done at the rate in the Bill of Quantities for each item.

38. Changes in the Quantities

38.1. Deleted.

38.2. Deleted.

38.3. If requested by the Engineer, the Contractor shall provide the Engineer with a detailed cost breakdown of any rate in the Bill of Quantities.

39. Variations

39.1. All Variations shall be included in updated Programmes produced by the Contractor.

40. Payments for Variations

40.1. If the final quantities of the work exceed by more than 25 per cent of the items specified in the Schedule B, the Contractor shall carry out such work at the same rate mentioned in Schedule B.

40.2. Deleted.

41. Cash Flow Forecasts

41.1. When the Programme is updated, the contractor is to provide the Engineer with an updated cash flow forecast.

42. Payment Certificates

42.1. The Contractor shall submit to the Engineer duly signed monthly statements of the estimated value of the work completed less the cumulative amount certified previously supported with detailed measurement of the items of work executed.

42.2. The Engineer shall check the Contractor's monthly statement within 14 days and certify the amount to be paid to the Contractor after taking into account any credit or debit for the month in question

42.3. The value of work executed shall be determined by the Engineer.

42.4. The value of work executed shall comprise the value of the quantities of the items in the Bill of Quantities completed.

42.5. The value of work executed shall include the valuation of Variations and Compensation Events.

42.6. The Engineer may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

42.7 The final bill shall be submitted by the contractor within three month of the actual date of completion of the work; otherwise the Engineers certificate of the measurement and of the total amount payable for work accordingly shall be final and payment made accordingly within a period of sixty days as far as possible.

43. Payments

43.1. Payments shall be adjusted for deductions for advance payments, retention, other recoveries in terms of the contract and taxes at source, as applicable under the law. The Employer shall pay the Contractor the amounts certified by the Engineer within 28 days of the date of each certificate.

43.2. Deleted

43.3. Items of the Works for which no rate or price has been entered in will not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

44. Compensation Events

44.1. Deleted

44.2. Deleted

44,3. Deleted

44.4. Deleted

45. Tax

45.1, The rates quoted by the Contractor shall be deemed to be inclusive of the sales, Central and State Governments, local bodies and authorities and other taxes that the Contractor will have to pay for the performance of this Contract. The Employer will perform such duties in regard to the deduction of such taxes at source as per applicable law,

46. Currencies

46.1, All payments shall be made in Indian Rupees.

47. Price Adjustment Deleted .

48. Retention

48.1. The Employer shall retain from each payment due to the Contractor the proportion stated in the Contract Data until Completion of the whole of the works.

48.2. Deleted

48.3. On completion of the whole works, the contractor may substitute retention money with an “ on demand” Bank guarantee.

49. Liquidated Damages

49.1. The Contractor shall pay liquidated damages to the Employer at the rate per day stated in the Contract Data for each day that the Completion Date is later than the Intended Completion Date (for the whole of the works or the milestone as stated in the contract data). The total amount of liquidated damages shall not exceed the amount defined in the Contract Data. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages does not affect the Contractor's liabilities.

49.2. If the Intended Completion Date is extended after liquidated damages have been paid, the Engineer shall correct any over payment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the over payment calculated from the date of payment to the date of repayment at the rates specified in Sub Clause 43.1.

49.3. If the contractor fails to comply with the time for completion as stipulated in the tender, then the contractor shall pay to the employer the relevant sum stated in the Contract Data as Liquidated damages for such default and not as penalty for everyday or part of day which shall elapse between relevant time for completion and the date stated in the taking over certificate of the whole of the works on the relevant section, subject to the limit stated in the contract data.

The employer may, without prejudice to any other method of recovery deduct the amount of such damages from any monies due or to become due to the contractor. The payment or deduction of such damages shall not relieve the contractor from his obligation to complete the works on from any other of his obligations and liabilities under the contract.

49.4. If, before the Time for Completion of the whole of the Works or, if applicable, any Section, a Taking - Over Certificate has been issued for any part of the Works or of a Section, the liquidated damages for delay in completion of the remainder of the Works or of that Section shall, for any period of delay after the date stated in such Taking-Over Certificate, and in the absence of alternative provisions in the Contract, be reduced in the proportion which the value of the part so certified bears to the value of the whole of the Works or Section, as applicable. The provisions of this Sub-Clause shall only apply to the rate of liquidated damages and shall not affect the limit thereof.

50. Bonus

50.1. Deleted

51. Advance Payment

51.1. Deleted

51.2. Deleted

51.3. Deleted

51.4. **Secured Advance** Deleted

52. Securities

52.1. The Performance Security (including additional security for unbalanced bids) shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank or surety acceptable to the Employer, and denominated in Indian Rupees. The Performance Security shall be valid until a date 28 days from the date of expiry of Defects Liability Period and the additional security for unbalanced bids shall be valid until a date 28 days from the date of issue of the certificate of completion.

53. Deleted

54. Cost of Repairs

54.1. Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. FINISHING THE CONTRACT

55. Completion

55.1. The Contractor shall request the Engineer to issue a Certificate of Completion of the Works and the Engineer will do so upon deciding that the Work is completed.

56. Taking Over

56.1. The Employer shall take over the Site and the Works within seven days of the Engineer issuing a certificate of Completion.

57. Final Account

57.1. The Contractor shall supply to the Engineer a detailed account of the total amount that the Contractor considers payable under the Contract before the end of the Defects Liability Period. The Engineer shall issue a Defect Liability Certificate and certify any final payment that is due to the Contractor within 56 days of receiving the Contractor's account if it is correct and complete. **If** it is not, the Engineer shall issue within 56 days a schedule that states the scope of the corrections or additions that are necessary. **If** the Final Account is still unsatisfactory after it has been resubmitted, the Engineer shall decide on the amount payable to the Contractor and issue a payment certificate, within 56 days of receiving the Contractor's revised account.

58. Operating and Maintenance Manuals

58.1. If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in the Contract Data. The Engineer shall modify the maintenance manuals if required and approve within 15 days of such

submission by contractor.

58.2. If the Contractor does not supply the Drawings and/or manuals by the dates stated in the Contract Data, or they do not receive the Engineer's approval, the Engineer shall withhold the amount stated in the Contract Data from payments due to the Contractor.

59. Termination

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

59.2. Fundamental breaches of Contract include, but shall not be limited to the following:

- (a) the Contractor stops work for 28 days when no stoppage of work is shown on the current Programme and the stoppage has not been authorized by the Engineer;
- (b) if the Contractor fails to set up a field laboratory with the prescribed equipment, within 15 days of the work order
- (c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (d) Deleted
- (e) the Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;
- (f) the Contractor does not maintain a security which is required;
- (g) the Contractor has delayed the completion of works by the number of days for which the maximum amount of liquidated damages can be paid as defined in the Contract data; and
- (h) if the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

For the purpose of this paragraph: "corrupt practice" means the offering, giving, receiving or soliciting of any thing of value to influence the action of a public official in the procurement process or in contract execution. "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition."

(i) any other fundamental breaches as specified in the Contract Data.

59.3. When either party to the Contract gives notice of a breach of contract to the Engineer for a cause other than those listed under Sub Clause 59.2 above, the Engineer shall decide whether the breach is fundamental or not.

59.4. Notwithstanding the above, the Employer may terminate the Contract for convenience.

59.5. If the Contract is terminated the Contractor shall stop work immediately, make the Site safe, clean and secure and leave the Site ,as soon as reasonably possible.

60. Payment upon Termination

60.1. If the-Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer shall issue a certificate for the value of the work done less advance payments received up to the date of the issue of the certificate, less other recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law and less the percentage to apply to the work not completed as indicated in the Contract Data. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor the difference shall be a debt payable to the Employer.

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

61. Property

61.1. All materials on the Site, Plant, Equipment, Temporary Works and Works are deemed to be the property of the Employer, if the Contract is terminated because of a Contractor's default.

62. Release from Performance

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

F. SPECIAL CONDITIONS OF CONTRACT

1. LABOUR:

The Contractor shall, unless otherwise provided in the Contract, make his own arrangements for the engagement of all staff and labour, local or other, and for their payment, housing, feeding and transport. The Contractor shall, if required by the Engineer, deliver to the Engineer a return in detail, in such form and at such intervals as the Engineer may prescribe, showing the staff and the numbers of the several classes of labour from time to time employed by the Contractor on the Site and such other information as the Engineer may require.

2. COMPLIANCE WITH LABOUR REGULATIONS:

During continuance of the contract, the Contractor and his sub-contractors shall abide at all times by all existing labour enactments and rules made thereunder, regulations, notifications and bye laws of the State or Central Government or local authority and any other labour law (including rules), regulations, bye laws that may be passed or notification that may be issued under any labour law in future either by the

State or the Central Government or the local authority. Salient features of some of the major labour laws that are applicable to construction industry are given below. The Contractor shall keep the Employer indemnified in case any action is taken against the Employer by the competent authority on account of contravention of any of the provisions of any Act or rules made thereunder, regulations or notifications including amendments. If the Employer is caused to pay or reimburse, such amounts as may be necessary to cause or observe, or for nonobservance of the provisions stipulated in the notifications l bye laws/Acts/Rules/regulations including amendments, if any, on the part of the Contractor, the Engineer l Employer shall have the right to deduct any money due to the Contractor including his amount of performance security. The Employer/Engineer shall also have right to recover from the Contractor any sum required or estimated to be required for making good the loss or damage suffered by the Employer.

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

3. **SITE OFFICE:-**

Providing and maintaining site office for the supervisory staff of PCNTDA. The cost of the same will be borne by the contractor only and no separate payment will be made on this account. The all furniture listed provide following below-

i	Steel Almarih	1980 mm X 915 mm X 485 mm – Make – Godrej Model No. 1 Storewel plain or equivalent.	2 No
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SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK.

- a) Workmen Compensation Act 1923 :-The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) Payment of Gratuity Act 1972 :- Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed 5 years service or more on death, the rate of 15 days wages for every completed year of service. The Act is applicable to all establishments employing 10 or more employees.
- c) Employees P.P. and Miscellaneous Provision Act 1952:The Act Provides for monthly contributions by the employer plus workers @ 10%or 8.33%. The benefits payable under the Act are:
 - (i) Pension or family pension on retirement or death, as the case may be.
 - (ii) Deposit linked insurance on the death in harness of the worker.
 - (iii) Payment of P.P. accumulation on retirement/death etc.
- d) Maternity Benefit Act 1951:-The Act provides for leave and some

other benefits to women employees in case of confinement or miscarriage etc.

e) Contract Labour (Regulation & Abolition) Act 1970:- The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The Principal Employer is required to take Certificate of Registration and the Contractor is required to take licence from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer, if they employ 20 or more contract labour.

f) Minimum Wages Act 1948 :- The Employer is supposed to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act, if the employment is a scheduled employment. Construction of Buildings, Roads, Runways are scheduled employments.

g) Payment of Wages Act 1936:- It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of the workers.

h) Equal Remuneration Act 1979 :- The Act provides for payment of equal wages for work of equal nature to Male and Female workers and for not making discrimination against Female employees in the matters of transfers, training and promotions etc.

Payment of Bonus Act 1965 :- The Act is applicable to all establishments employing 20 or more employees. The Act provides for payments of annual bonus subject to a minimum of 8.33% of wages and maximum of 20% of wages to employees drawing Rs.3500/-per month or less. The bonus to be paid to employees getting Rs.2500/- per month or above up to Rs.3500/- per month shall be worked out by taking wages as Rs.2500/-per month only. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. Some of the State Governments have reduced the employment size from 20 to 10 for the purpose of applicability of this Act.

j) Industrial Disputes Act 1947 :- The Act lays down the machinery and procedure for resolution of Industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.

k) Industrial Employment (Standing Orders) Act 1946 :-It is applicable to all establishments employing 100 or more workmen (employment size reduced by some of the States and Central Government to *SO*). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get the same certified by the designated Authority.

l) Trade Unions Act 1926 :- The Act lays down the procedure for registration of trade unions of workmen and employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.

m) Child Labour (Prohibition & Regulation) Act 1986 :- The Act

prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulation of employment of children in all other occupations and processes. Employment of Child Labour is prohibited in Building and Construction Industry.

n) Inter-State Migrant workmen's (Regulation of Employment & Conditions of Service) Act 1979 :- The Act is applicable to an establishment which employs 5 or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as housing, medical aid, travelling expenses from home up to the establishment and back, etc.

o) The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996 :- All the establishments who carry on any building or other construction work and employs 10 or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the Building or construction work and other welfare measures, such as Canteens, First-Aid facilities, Ambulance, Housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

p) Factories Act 1948:- The Act lays down the procedure for approval of plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing 10 persons or more with aid of power or 20 or more persons without the aid of power engaged in manufacturing process.

3. ARBITRATION

Deleted.

SECTION 4
CONTRACT DATA

**Clause Reference
with respect
to section 3**

Maintenance and Repairs to New Administrative Building of PCNTDA including painting, repairing paving blocks, Developing new parking, Garden work, Electrical repairs etc.

Items marked "N/A" do not apply in this Contract.

1. The Employer is [Cl. 1.1]
Name: **Pimpri Chinchwad New Town Development Authority**
Address: **New Administrative Building, Near Akurdi Railway station,
Pune-411 044 .Tel :- 020-27652934 Fax : 020-27652935**
Name of authorized Representative (Will be intimated later)
2. The Engineer is Executive Engineer.
Name of Authorized Representative:
4. The Defects Liability Period is 1 Year from the date of completion. Maintenance period for landscape work is three years after Defects Liability Period. After that whole security deposit will be released or will be converted in Bank Guarantee. [Cl. 1.1&35]
5. The Start Date shall be work order date for the work [Cl.1.1]
6. The Intended Completion Date for the whole of the Works is 12 (Twelve) months after start of work with the following milestones: [Cl.1.1, 17&28]
Milestone dates : Physical works to be completed Period from the start date
[Cl.2.2 & 49.1]
Milestone 1 i.e.,_ 3 months. 30% work.
Milestone 2 i.e.,... 6 months. 66% work.

Milestone 3 i.e., 12 months. 100% work.

7. The Site is located at Akurdi D. C. [Cl. 1.1]
8. The name and identification number of the Contract is: [Cl. 1.1]
9. The works consist of Maintenance and Repairs to New Administrative Building of PCNTDA including painting, repairing paving blocks, Developing new parking, Garden work, Electrical repairs etc.

The works include the following, as specified or as directed.

- 1) Removing damaged glass and Providing and fixing of laminated glass glazed sky-light
- 2) Internal plaster, C.C. M-15, BB masonry for damaged parts, ceramic tiles, granite for flooring, etc is considered in the estimate.
- 3) Providing and fixing 450 mm x 550 mm size superior type Belgium mirror.
- 4) Providing and laying in walls/ ceilings/ floors 50 millimeter diameter medium grade galvanized iron pipes
- 5) Providing and fixing false ceiling in gypsum board, aluminum louvered windows, SS chrome finish perforated Dustbins, repairs to structural steel work, center lock to wooden doors, floor spring machine to doors, grill gate to open duct, weather shed to ventilators of lifts, Removing old roofing over canteen and providing colour coated Zincalume (R) AZ150 (Min 150 gms/ sq.mt. total on each sides) profiled sheets for roofing etc. are proposed as per requirement.
- 6) External and internal painting to the building.
- 7) Providing and applying French polish to wooden doors.
- 8) Providing C.C. M-15 for retaining wall on west and south side.
- 9) Providing spreading and compacting hard murum for levelling and raising the ground.
- 10) Providing Granular Sub Base.
- 11) Providing and fixing heavy duty interlocking concrete coloured paving blocks of 100 mm thick in M-40 grade.
- 12) Landscape work - Preparing lawn, edging, ground cover, shrubbery, flower bed, planting large flowering shady trees, flowering plants, maintenance of garden till three years from completion of work including watering, supplying manure, pesticides etc.
- 13) Refixing of polycarbonate sheets for roofing of new parking area ,obtained from removing from canteen roof on second floor.

(D) Other Items

Any other items as required to fulfill all contractual obligations as per the [Cl. 1.1J] Bid documents.

10. The following documents also form part of the Contract: [Cl. 2.3(9)]

- i) Letter of Acceptance
- ii) Notice to proceed with the works;
- iii) Contractor's Bid
- iv) Condition of Contract: General and Special
- v) Contract Data
- vi) Additional condition
- vii) Drawings
- viii) Bill of Quantities and
- ix) Any other documents listed in the Contract Data as forming part of the Contract.

11. The law which applies to the Contract is the law of Union of India
law of Jurisdiction, Pimpri Chinchwad, Pune. [Cl .3.1]
12. The language of the Contract documents is English [Cl. 3.1]
For Correspondence Language English and Marathi.
13. Limit of subcontracting 10% of the Initial Contract Price [Cl. 7.1]
14. The Schedule of Other Contractors [Cl. 8]
15. The Schedule of Key Personnel As per Annex-II to Section I [Cl. 9]
16. The minimum insurance cover for physical property, injury and death [Cl. 13]
is Rs.5 lakhs per occurrence with the number of occurrences limited to
four. After each occurrence, contractor will pay additional premium
necessary to make insurance valid for four occurrences always.
17. Site investigation report [Cl.14]
18. The Site Possession Dates shall be date of the work order. [Cl.
21]
19. Deleted.
20. Deleted.
21. The period for submission of the programme for approval of Engineer [Cl. 27.1]
shall be 15 days from the issue of Work Order.
22. Deleted. [Cl. 27.3]
23. The amount to be withheld for late submission of an updated [Cl. 27.3]
programme shall be Rs. 2 lakhs.
24. Deleted.
25. The currency of the Contract is Indian Rupees. [Cl. 46]

26 . Price Variation :

As per G R No CAT-2017/pra.kra.8/bldg-2/ Dated 12/04/2017 clause 2.11 page 9
No price variation is applicable for works having 100 % finance available.
The tendered work is having 100% grant. For this work 100 % funds are available.

27. The proportion of payments retained (retention money) shall be 6 % [Cl.48]
from each bill subject to a maximum of 5 % of final contract price.
28. Amount of liquidated damages for For Whole of work [Cl. 49]
delay in completion of works (1/20000)th of the Initial Contract Price,
rounded off to the nearest Thousand, per day.
29. Maximum limit of liquidated 10 per cent of the [Cl. 49]
damages for delay in completion of work Initial Contract Price rounded off to
the nearest thousand.
30. Deleted.
31. Deleted.
32. Deleted.
33. Deleted.
34. Deleted.

35. The Securities shall be for the following minimum amounts equivalent as a
percentage of the Contract Price: [CCI.52]
Performance Security for 5 per cent of contract price plus Rs (to be decided
after evaluation of the bid) as additional security in terms of **ITB** Clause 29.5.

The standard form of Performance Security acceptable to the Employer
shall be an unconditional Bank Guarantee of the type as presented in
Section 8 of the Bidding Documents.
36. Deleted
37. The date by which "as-built" drawings (in scale as directed) in 2 sets are
required is within 28 days of issue of certificate of completion of whole
or section of the work, as the case may be. [CCI.58]
38. The amount to be withheld for failing to supply "as built" drawings by
the date required is Rs. 2 Lakhs. [CCI.58]
39. The following events shall also be fundamental breach of contract: [CCI.59.2]
"The Contractor has contravened Sub-clause 7.1 and Clause 9 of GCC."
40. The percentage to apply to the value of the work not completed [3, Cl. 60]
representing the Employer's additional cost for completing the Works
shall be 20 per cent.

SECTION 5
TECHNICAL SPECIFICATIONS

Attach Separately

SECTION 6
FORM OF BID

FORM OF BID

Description of the Works:

.....
.....
.....
.....

BID

To :

Address :

1. We offer to execute the Works described above and remedy any defects therein in conformity with the conditions of Contract, specification, drawings, Bill of Quantities and Addenda for the sum(s) of

.....
.....
(.....)

2. We undertake, if our Bid is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Engineer's notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the document.

3. We agree to abide by this Bid for the period of *..... days from the date fixed for receiving the same, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

4. Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.

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

Dated this,..... day of20.....

Signature.....in the capacity of.....
duly authorized to sign bids for and on behalf of.....
.....

(in block capitals or typed)

Address

.....
.....

Witness

.....
.....

Address

.....
.....

Occupation

.....
.....

SECTION 7

BILL OF QUANTITIES

BILL OF QUANTITIES

Preamble

1. The Bill of Quantities shall be read in conjunction with the Instructions to Bidders, Conditions of Contract, Technical Specifications and Drawings.
2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices tendered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
3. The rates and prices tendered in the priced Bill of Quantities shall, except in so far as it is otherwise provided under the Contract, include all constructional plant, labour, supervision, materials, erection, maintenance, insurance, profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract.
4. The rates and prices shall be quoted entirely in Indian Currency.
5. A rate or price shall be entered against each item in the Bill of Quantities, whether quantities are stated or not. The cost of Items against which the Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.
6. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities, and where no Items are provided the cost shall be deemed to be distributed among the rates and prices entered for the related Items of Work.
7. General directions and descriptions of work and materials are not necessarily repeated or summarized in the Bill of Quantities. References to the relevant sections of the contract documentation shall be made before entering rates or prices against each item in the Bill of Quantities.
8. The method of measurement of completed work for payment shall be in accordance with the specification for Road and Bridge Works published by the Ministry of Surface Transport (edition).
9. Errors will be corrected by the Employer for any arithmetic errors pursuant to

- Clause 29 of the Instructions to Bidders.
10. Rock is defined as all materials which, in the opinion of the Engineer, require blasting' or the use of metal wedges and sledgehammers, or the use of compressed air drilling for its removal, and which cannot be extracted by ripping with a tractor of at least 150 kw with a single rear mounted heavy duty ripper.

BILL OF QUANTITIES

Schedule A Attached

Schedule B Attached

Schedule C Attached

	BASIC TEST OF CEMENT.	Up to date record shall be maintained by contractor and time to time submit for approval from engineer-in-charge Payment shall be done at the rate given under this item only after producing documentary evidence.
1	Standard Consistency Fineness, Specific Gravity, Setting Time (Initial & Final), Compressive Strength, Soundness	
	BASIC TEST OF AGGREGATE.	
2	Water Absorption, Specific Gravity, Impact Value /Crushing Value.	
3	Sieve Analysis.	
4	Abrasion Value.	
5	Flakiness Index & Elongation Index.	
6	Bulk Density.	
	MIX DESIGN.	
7	GSB Mix Design.	
	FINE AGGREGATES.	
8	Fineness Modulus (Sieve Analysis),Silt & Clay Content	
9	Silt Factor.	
	CONCRETE	
10	Compressive Strength OF C.C. Cube(Set of 3 cubes).	
11	Concrete Mix Design (With all Tests on basic materials)*	
	CONCRETE PAVING BLOCKS	
12	Compressive Strength , Water Absorption,(Set of 8 Blocks)	
	SOIL / MURUM	
13	Sieve Analysis.	
14	Field moisture Content.	
15	Liquid limit & plastic Limit.	
16	Compaction Test (Proctor Density).	
	STEEL BAR TESTING	
17	Up to 16 mm (Set of 3 Bars)	
18	Above 16 mm (Set of 3 Bars)	

1. Where there is a discrepancy between the rate in figures and words, the rates in words will govern. [ITB Clause 27.1(a)]

4. Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by quantity, the unit rate quoted shall govern [ITB Clause 27.1(b)].

5. When quantities exceed more than 25%, the exceed quantities shall be paid by Existing DSR rate (DSR at time of Tender quoted) or rate quoted by the contractor which ever is less .

6. For Section VI - Contractor shall not depend on whatever he has quoted rate in his offer. Payment shall be done at the rate given under this item only after producing documentary evidence.

7. Note for Royalties: - Section VII

As per Government of Maharashtra, Revenue and Forest Departments Gazette No.67 Dtd.15 May 2015, States that the Royalty charges of Rs.400/Brass(i.e. Rs.141.34/Cum.) are considered.

In DSR for items of supply of Rubble, Murum, soil, 60mm/40mm metal (Hand broken), royalty charges are not included in the rates. Royalty charges shall be separately considered while preparing estimate and shall be part of tender.

In Future if the Rates of Royalty charges are revised by the Revenue Department, The difference in Royalty charges shall be considered while preparing the estimate.

4.6 As Royalty charges for bricks, sand and crushed metal are already paid by the quarry owner/manufacturer, same shall not be considered in the rate analysis while preparing the estimate.

Payment under this item shall be made to the contractor only when he produces documentary evidence to the concerned Executive Engineer. As regards payments made by the Contractor to appropriate Revenue Authority towards Royalty charges. If such documentary evidence is not produced, the component of Royalty Charges as contemplated in the items shall not be paid to the Agency.

For Section VII - Paying or not paying to the Contractor shall not depend on whatever he has quoted rate in his offer. Payment / not payment shall be done at the rate given under this item only. Any complication arising out payment and or non-payment shall be contractor's responsibility.

SECTION 8

SECURITIES AND OTHER FORMS

BID SECURITY (BANK GUARANTEE)

WHEREAS,[name of Bidder] (hereinafter called "the Bidder") has submitted his Bid dated[date] for the construction of..... [name of Contract hereinafter called "the Bid"].

KNOW ALL PEOPLE by these presents that We [name of Bank] of..... [name of country] having our registered office at(herein after called "the Bank") are bound unto[name of Employer] (herein after called "the Employer") in the sum of* for which payment well and truly to be made to the said Employer the Bank itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank thisday of, 20.....

THE CONDITIONS of this obligation are:

(1) If after Bid opening the Bidder withdraws his bid during the period of Bid validity specified in the Form of Bid;

OR

(2) If the Bidder having been notified to the acceptance of his bid by the Employer during the period of Bid validity:

(a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or

- (b) fails or refuses to furnish the Performance Security, in accordance with the Instructions to Bidders: or
- (c) does not accept the correction of the Bid Price pursuant to Clause 27.

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

This Guarantee will remain in force up to and including the date** days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE..... SIGNATURE

WITNESS..... SEAL.....

[Signature, name and address]

* The Bidder should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 16.1 of the Instructions to Bidders.

** 45 days after the end of the validity period of the Bid. Date should be inserted by the Employer before the Bidding documents are issued.

PERFORMANCE BANK GUARANTEE

To

..... [name of Employer]
.....[address of Employer]
.....

WHEREAS [.....name and address of Contractor] (hereafter called "the Contractor") has undertaken, in pursuance of Contract No. dated..... to execute [name of Contract and brief description of Works] (hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the Contractor shall furnish you with a Bank Guarantee by a recognized bank for the sum specified therein as security for compliance with his obligation in accordance with the Contract;

AND WHEREAS we have agreed to give the Contractor such a Bank Guarantee:

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you on behalf of the Contractor, up to a total of [amount of guarantee] *(in words), such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of [amount of guarantee] as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

We hereby waive the necessity of your demanding the said debt from the contractor before presenting us with the demand.

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

This guarantee shall be valid until 28 days from the date of expiry of the Defect Liability Period.

Signature and Seal of the guarantor
Name of Bank
Address

Date.....

* An amount shall be inserted by the Guarantor, representing the percentage the Contract Price specified in the Contract including additional security for unbalanced Bids, if any and denominated in Indian Rupees.

Letter of Acceptance
(Letterhead paper of the Employer)
..... (Date)

To
.....(Name and address of the Contractor)
.....
.....

Dear Sirs,

This is to notify you that your Bid datedfor execution of the (name of the contract and identification number, as given in the Instructions to Bidders) for the Contract Price of Rupees(.....) (amount in words and figures), as corrected and modified in accordance with the Instructions to Bidders! is hereby accepted by our agency.

We accept / do not accept that..... be appointed as the Adjudicator", You are hereby requested to furnish Performance Security, in the form detailed in Para 34.1 of ITB for an amount equivalent to Rs.within 21 days of the receipt of this letter of acceptance valid up to 28 days from the date of expiry of defects Liability Period i.e. up toand sign the contract, failing which action as stated in Para 34.3 of ITB will be taken.

Yours faithfully,

Authorized Signature
Name and title of Signatory
Name of Agency

¹ Delete "corrected and" or "and modified" if only one of these actions applies. Delete

as corrected and modified in accordance with the Instructions to Bidders, if corrections or modifications have not been affected. ?

² To be used only if the Contractor disagrees in his Bid with the Adjudicator proposed by the Employer in the "Instructions to Bidders".

Issue of Notice to proceed with the work

(Letterhead of the Employer)

.....(Date)

To

.....(Name and address of the Contractor)

.....

.....

Dear Sirs,

Pursuant to your furnishing the requisite security as stipulated in ITB Clause 34.1 and signing of the Contract for the construction of
at a Bid Price of Rs.

You are hereby instructed to proceed with the execution of the said works in accordance with the contract documents.

Yours faithfully,

(Signature, name and title of signatory authorized
to sign on behalf of Employer)

Agreement Form

Agreement

This agreement, made theday of..... between..... (name and address of Employer) [hereinafter called "the Employer] and (name and address of contractor) hereinafter called "the Contractor" of the other part.

Whereas the Employer is desirous that the Contractor execute (name and identification number of Contract) (hereinafter called "the Works") and the Employer has accepted the Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein , at a cost of Rs.....

NOW THIS AGREEMENT WITNESSETH as follows:

1. In this Agreement, words and expression shall have the same meanings as are respectively assigned to them in the conditions of contract hereinafter referred to and they shall be deemed to form and be read and construed as part of this Agreement.
2. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all aspects with the provisions of the contract.
3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying the defects wherein Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.
4. The following documents shall be deemed to form and be ready and construed as part of this Agreement viz.
 - i) Letter of Acceptance
 - ii) Notice to proceed with the works;
 - iii) Contractor's Bid
 - iv) Condition of Contract: General and Special

- v) Contract Data
- vi) Additional condition
- vii) Drawings
- viii) Bill of Quantities and
- ix) Any other documents listed in the Contract Data as forming part of the Contract.

In witnessed whereof the parties there to have caused this Agreement to be executed the day and year first before written.

The Common Seal of
was hereunto affixed in the presence of :

Signed, Sealed and Delivered by the said
.....

in the presence of :

Binding Signature of Employer
Binding Signature of Contractor

SECTION 9
DRAWINGS

SECTION 10

DOCUMENTS TO BE FURNISHED BY BIDDER

Appendix –B

Addendum of General Condition of Contract

SALIENT FEATURES OF SOME MAJOR LABOUR LAWS APPLICABLE TO ESTABLISHMENTS ENGAGED IN BUILDING AND OTHER CONSTRUCTION WORK.

- a) **Workmen Compensation Act 1923:** -The Act provides for compensation in case of injury by accident arising out of and during the course of employment.
- b) **Payment of Gratuity Act 1972:** - Gratuity is payable to an employee under the Act on satisfaction of certain conditions on separation if an employee has completed the prescribed minimum years (say, five years) of service or more or on death the rate of prescribed minimum days' (say, 15 days) wages for every completed year of service. The Act is applicable to all establishments employing the prescribed minimum number (say, 10) or more employees.
- c) **Employees P.F. and Miscellaneous Provision Act 1952:** The Act Provides for monthly contributions by the Employer plus workers at the rate prescribed (say, 10% or 8.33%). The benefits payable under the Act are:
 - i. Pension or family pension on retirement or death as the case may be.
 - ii. Deposit linked insurance on the death in harness of the worker.
 - iii. Payment of P.F. accumulation on retirement/death etc.
- d) **Maternity Benefit Act 1951:** - The Act provides for leave and some other benefits to women employees in case of confinement or miscarriage etc.
- e) **Contract Labour (Regulation & Abolition) Act 1970:** - The Act provides for certain welfare measures to be provided by the Contractor to contract labour and in case the Contractor fails to provide, the same are required to be provided, by the Principal Employer by Law. The principal Employer is required to take Certificate of Registration and the Contractor is required to take license from the designated Officer. The Act is applicable to the establishments or Contractor of Principal Employer if they employ prescribed minimum (say 20) or more contract labour.
- f) **Minimum Wages Act 1948:** - The Employer is to pay not less than the Minimum Wages fixed by appropriate Government as per provisions of the Act if the employment is a scheduled employment. Construction of buildings, roads, runways are scheduled employment.
- g) **Payment of Wages Act 1936:** - It lays down as to by what date the wages are to be paid, when it will be paid and what deductions can be made from the wages of

- the workers.
- h) **Equal Remuneration Act 1979:** - The Act provides for payment of equal wages for work of equal nature to male and female workers and for not making discrimination against female employees in the matters of transfers, training and promotions etc.
 - i) **Payment of Bonus Act 1965:** - The Act is applicable to all establishments employing prescribed minimum (say, 20) or more workmen. The Act provides for payments of annual bonus within the prescribed range of percentage of wages to employees drawing up to the prescribed amount of wages, calculated in the prescribed manner. The Act does not apply to certain establishments. The newly set-up establishments are exempted for five years in certain circumstances. States may have different number of employment size.
 - j) **Industrial Disputes Act 1947:** - The Act lays down the machinery and procedure for resolution of industrial disputes, in what situations a strike or lock-out becomes illegal and what are the requirements for laying off or retrenching the employees or closing down the establishment.
 - k) **Industrial Employment (Standing Orders) Act 1946:** - It is applicable to all establishments employing prescribed minimum (say, 100, or 50). The Act provides for laying down rules governing the conditions of employment by the Employer on matters provided in the Act and get these certified by the designated Authority.
 - l) **Trade Unions Act 1926:** - The Act lays down the procedure for registration of trade unions of workmen and Employers. The Trade Unions registered under the Act have been given certain immunities from civil and criminal liabilities.
 - m) **Child Labour (Prohibition & Regulation) Act 1986:** - The Act prohibits employment of children below 14 years of age in certain occupations and processes and provides for regulations of employment of children in all other occupations and processes. Employment of child labour is prohibited in building and construction industry.
 - n) **Inter-State Migrant Workmen's (Regulation of Employment & Conditions of Service) Act 1979:** - The Act is applicable to an establishment which employs prescribed minimum (say, five) or more inter-state migrant workmen through an intermediary (who has recruited workmen in one state for employment in the establishment situated in another state). The Inter-State migrant workmen, in an establishment to which this Act becomes applicable, are required to be provided certain facilities such as Housing, Medical-Aid, Travelling expenses from home up to the establishment and back etc.
 - o) **The Building and Other Construction workers (Regulation of Employment and Conditions of Service) Act 1996 and the Cess Act of 1996:** - All the establishments who carry on any building or other construction work and employs the prescribed minimum (say, 10) or more workers are covered under this Act. All such establishments are required to pay cess at the rate not exceeding 2% of the cost of construction as may be modified by the Government. The Employer of the establishment is required to provide safety measures at the building or construction work and other welfare measures, such as canteens, first-

aid facilities, ambulance, housing accommodations for workers near the work place etc. The Employer to whom the Act applies has to obtain a registration certificate from the Registering Officer appointed by the Government.

- p) **Factories Act 1948:** - The Act lays down the procedure for approval of plans before setting up a factory, health and safety provisions, welfare provisions, working hours, annual earned leave and rendering information regarding accidents or dangerous occurrences to designated authorities. It is applicable to premises employing the prescribed minimum (say, 10) persons or more with aid of power or another prescribed minimum (say, 20) or more persons without the aid of power engaged in manufacturing process.

(SECTION-IV)
CONDITIONS OF CONTRACT
(PART-II SPECIALCONDITIONS OF CONTRACT)

Section IV. Special Conditions of Contract

(These conditions are to be read with the Conditions of Contract set out in Section-IV)

2.3 Amended as under

The documents forming the Contract shall be interpreted in the following order of priority.

- (1) Agreement,
- (2) Notice to Proceed with the Work,
- (3) Letter of Acceptance,
- (4) Contractor's Bid,
- (5) Contract Data,
- (6) Implementation Manual & Maintenance Intervention level
- (7) Part II, Special Conditions of Contract
- (8) Part I, General Conditions of Contract
- (9) Specifications,
- (10) Bill of Quantities,
- (11) Drawings, and
- (12) Any other document listed in the Contract Data.

- 7.2** The Contractor shall not be required to obtain any consent from the Employer for:
- a. The sub contracting of any part of the Works for which the Sub-Contractor is named in the Contract;
 - b. The provision for labour, or labour component.
 - e.g. the purchase of Materials which are in accordance with the standards specified in the Contract.

- 7.3** Beyond what has been stated in clauses 7.1 and 7.2 if the Contractor proposes sub contracting any part of the work during execution of the Works, because of some unforeseen circumstances to enable him to complete the Works as per terms of the Contract, the Employer will consider the following before according approval:
- a. The Contractor shall not sub contract the whole of the Works.
 - b. The Contractor shall not sub contract any part of the Work without prior consent of the Employer. Any such consent shall not relieve the Contractor from any liability or obligation under the Contract and he shall be

responsible for the acts, defaults and neglects of any his sub contractor, his agents or workmen as fully as if they were the acts, defaults or neglects of the Contractor, his agents and workmen.

- 7.4 The Engineer should satisfy himself before recommending to the Employer whether.
- a. The circumstances warrant such sub contracting; and
 - b. The sub contractor so proposed for the Work possess the experience qualifications and equipment necessary for the job proposed to be entrusted to him in proportion to the quantum of Works to be sub contracted.

8.2 Deleted

ARBITRATION – Deleted.

6. SECURITY DEPOSIT AND INDEMNITY BOND:

6.1 Security Deposit

The security deposit shall be returned to the contractor without any interest when the contractor ceases to be under any obligations under the contract i.e. after completion of defect liability and maintenance period of 3 years.

6.2 Loss or Damage Indemnity Bond

The contractor shall be responsible during the progress as well as during maintenance period for any liability imposed by law for any damage to the work or any part thereof or to any of the materials or other things used in performing the work or for injury to any person or persons or for any property damaged in or outside the work limit. The contractor shall indemnify and declare that the owner and the ENGINEER are in no way responsible against any and all liability, claims, loss or injury, including costs, expenses, and attorney's fees incurred in the defense of same, arising from any allegation/ litigation, whether groundless or not, of damage or injury to any person or property resulting from the performance of the work or from any material used in the work or from any condition of the work or work site, or from any cause whatsoever during the progress of the work & during defect liability and maintenance period of 5 years.

7. SUPERVISION AND SUPERINTENDENCE

7.1 Contractor's Supervision

The Contractor shall supervise & direct the works efficiently & with his best skill & attention. He shall be solely responsible for means, methods, techniques, procedures & sequences of construction. The Contractor shall co-ordinate all parts of the work and shall be responsible to see that the finished work complies fully with the contract documents, & such instructions & variation orders as the ENGINEER may issue during the progress of the works.

7.2 Resident Engineer of the Contractor (REC)/ Project Manager (PM)

The Contractor shall keep on the work at all times during its progress a competent Resident Engineer (REC) to the satisfaction of ENGINEER, who shall not be replaced without ten (10) days written notice to the ENGINEER except under extra-ordinary circumstances. The Resident Engineer (REC)/Project Manager (PM) shall be the Contractor's representative at the site and shall have authority to act on behalf of the contractor. All communications, instructions and directions given to the REC/Project Manager (PM) shall be binding as if given to the Contractor by the ENGINEER not otherwise required to be in writing will be given or confirmed in writing upon request of the Contractor. The Resident Engineer (REC)/Project Manager (PM) shall be experienced and shall have executed similar type of work. Resident Engineer (REC)/Project Manager (PM) shall be B.E. and have experience of Civil Engineering work for 10 years out of which 5 years shall be in Building Works.

The contractor shall keep on the work at all times the other personnel named in contract data.

8. CARE AND USE OF SITE

The Contractor shall not commence operations on land allotted for work except without prior approval of the ENGINEER. If these lands are not adequate the Contractor may have to make his own arrangements for additional lands required for his use.

The contractor shall not demolish, remove or alter any of the structures, trees or other facilities on the site without prior approval of the ENGINEER. All the area of Contractor's operations shall be cleared before returning the same to the ENGINEER.

9. OVERLOADING

No part of the work or new & existing structures, scaffolding, shoring, sheeting, construction machinery and equipment, or other permanent & temporary facilities shall be loaded more than its capacity. The Contractor shall bear the cost of correcting damage caused by loading or abnormal stresses or pressures.

10. USE OF EXPLOSIVES

No blasting is permitted under this document.

11. MANUFACTURER'S INSTRUCTIONS

The Contractor shall compare the requirements of the various manufacturer's instructions with requirements of the contract documents, shall promptly notify to the ENGINEER in writing of any difference between such requirements and shall not proceed with any of the works affected by such difference until an

interpretation or clarification is issued pursuant to article. The contractor shall bear all costs for any error in the work resulting from his failure to the various requirements and notify the owner of any such difference.

12. PROTECTION

The contractor shall note that traffic will be playing on adjoining roads during construction and special precautions are required to be taken. The contractor shall take all precautions and furnish and maintain protection to prevent damage, injury or loss to other persons who may be affected thereby, all the works and all materials and equipment to be incorporated therein whether in storage on or off the site, under the care, custody or control of the contractor or any of his sub-contractors and other improvements and property at the site or where work is to be performed including building, trees and plants, pole lines, fences, guard rails, guide posts, culvert & project markers, sign structures, conduits, pipelines & improvements within or adjacent to streets, right-of-way, or easements, except those items required to be removed by the Contractor in the contract documents. The Contractors protection shall include all the safety precautions and other necessary forms of protection, and the notification of the owners of utilities and adjacent property.

The contractor shall protect adjoining site against structural, decorative and other damages that could be caused by the execution of works and make good at his cost any such damages that could be caused by the execution of works and make good at his cost any such damages within reasonable time. Contractor shall take necessary insurance policy to cover the risk of accident and loss to work, or any other persons or properties and indemnify the employer.

13. UTILITIES AND SUB-STRUCTURES

The contractor has to carry out shifting of utilities and services as per direction of ENGINEER. If any utility of service is found not covered under BOQ, the contractor has to carry out the work as per direction of ENGINEER including necessary co-ordination with concerned services provider, payment for the same will be made as per provision in this contract. EMPLOYER will assist him in the matter. Some of the utilities to be shifted are included in the Schedule-B some of utilities are unknown, with permission of EMPLOYER & user department Contractor may be asked to remove the services at accepted rate.

14. WORKMEN

The contractor shall at all times enforce strict discipline and good order among his employees and shall not employ on the works any unfit person or anyone not skilled and experienced in the assigned task. The Contractor shall in respect of labour employed by him comply with or cause to be complied with the provisions of various labour law and rules and regulations as applicable to them in regard to all matters provided therein and shall indemnify the owner in respect of all claims that may be made against the owner for non-compliance thereof by the

Contractor. In the event of the contractor committing a default or breach of any provisions of labour laws and rules and regulations, the Contractor shall without prejudice to any other liability under the acts pay the owner a sum as decided by the ENGINEER.

14.1 Work During Night Or On Sundays And Holidays

Unless otherwise provided, none of the permanent works shall be carried out during night, Sunday or authorized holidays without permission in writing. However, when work is unavoidable or necessary for the safety of life, priority of works, the Contractor shall take necessary permission immediately & advise the ENGINEER accordingly. While working at night sufficient lighting arrangements should be on site, special care & precautions should be taken to avoid accidents.

14.2 Workmanship

14.2.1 The quality of workmanship produced by skilled knowledgeable and experienced workmen, machines and artisans shall be excellent. Particular attention shall be given to the strength, appearance and finish of exposed work. All concrete work shall be form finished.

14.2.2 Contractor shall appoint experienced structural engineer for preparing design and detailing of formwork, centering etc. and shoring and strutting etc. and supervise the work of preparation and providing formwork, centering, shoring strutting etc. All designs shall be got approved from the Engineer. The structural engineer C.V. shall be got approved. Structural engineers shall have experience of minimum 10 years and have carried out such work in the field and design office.

14.3 Aesthetics - Deleted

15. MATERIALS AND EQUIPMENT

All materials and equipment incorporated in the work shall be new and of best quality. Materials and equipment not covered by detailed requirements in the contract documents shall be of the best commercial quality suitable for the purpose intended and approved by the owner prior to use in the work. The cement provided shall be of 43 / 53 grade cement from Rajshree/ L&T / Gujarat Ambuja / Birla Super / Modi and ACC Cement. All materials shall be got tested from laboratory and got approved from Engineer.

15.1 Optional Materials

Only one brand, kind or make of material and equipment shall be used for each specific purpose through-out the works, notwithstanding that similar material or equipment of two or more manufacturers or proprietary items may be specified for the same purpose.

16. Use of approved substitutions or equals : Deleted

17. LAWS AND REGULATIONS:

- a. **Governing Law**
The contract documents shall be governed by the laws and by-laws of India, the State of Maharashtra and the local bodies in this region.
- b. **Resolving the disputes:**
In case of disputes, between a Contractor and the field officers and ENGINEER, regarding this tender, decision of the Committee comprising of Divisional Commissioner, Pune, The Chief Engineer, PWD Pune Region and The Chief Engineer, Pune, of Maharashtra Jeevan Pradhikaran, shall be the final and binding. No arbitration shall be allowed.

18. PERMITS, FEES, TAXES & ROYALTIES

Unless otherwise provided in the contract documents, the contractor shall secure and pay for all permits, Government fees and licenses necessary for the execution and completion of the works. The contractor shall pay all duties including excise duty, sales tax, works contract tax, local taxes, income tax, octroi and other taxes Govt. Royalties and any other levies required by law including all taxes. The Employer will not take any responsibility of refund of such taxes/fees and in case of disputes between taxing authority and the contractor, the EMPLOYER & Engineer and its officers shall be indemnified by the Contractor. Any violation, in the legal provisions of taxes, duties, permits and fees, carried out by the Contractor and detected subsequently shall be the sole responsibility of the Contractor and his legal heirs.

19. BURIED AND CONCEALED WORK

The contractor shall help in recording the precise location of all piping, conduits, ducts cables and any other work that is buried, embedded in earth or concrete or masonry, or concealed in wood or metal frame walls and structures at the time such work is installed and prior to concealment. If the contractor should cover or bury such work before such recording takes place, he shall uncover the unrecorded work to the extent required by the ENGINEER and shall satisfactorily restore and reconstruct the removed work with no change in the contract price or the contract time without any extra cost to EMPLOYER.

20. INSPECTION

- i) The contractor shall inform the ENGINEER in writing when any portion of the work is ready for inspection giving him sufficient notice to enable him to inspect the same without affecting the further progress of the work. The work shall not be considered to have been completed in accordance with the terms of the contract until the Engineer shall have certified in writing to that effect. No approval of materials or workmanship or approval of part of the work during the progress of execution shall bind the ENGINEER or in any way affect him even to reject the work which is alleged to be completed and to suspend the issue of his certificate of completion until such alternations and modifications or reconstruction have been affected at the cost of the contractor as shall enable him to certify that the work has been completed to his satisfaction.

- ii) The contractor shall provide at his cost necessary ladders and such arrangement as to provide necessary facilities and assistance for proper inspection of all parts of the work at his own cost.

The contractor after completion of work shall have to clean the site of all debris and remove all unused materials other than those supplied by the Employer and all plant and machinery, equipment, tools etc. belonging to him within one month from the date of completion of the work, or otherwise the same shall be removed by the Department at his cost and contractor shall not be entitled for payment of any compensation for the same.

21. SAFETY PRECAUTIONS AND EMERGENCIES AND PROTECTION OF ENVIRONMENT

21.1 Contractor's Responsibility for Safety

The contractor shall be solely responsible notwithstanding any stipulations by owner or ENGINEER for initiating, maintaining and supervising all safety precautions and programmes, in connection with the work and shall comply with all laws, ordinance, code rules, regulations and lawful orders of any public authority having jurisdiction for the safety of persons or property or to protect them from damages, injury or loss during the entire contract period including non-working hours.

On the occurrence of an accident arising out of the works which result in death or which is so serious as to be likely to result in death, the contractor shall within one hour of such accident intimate in writing to the ENGINEER the facts stating clearly and with sufficient details the circumstances of such accidents and subsequent action taken by him. The matter should also to be reported to the local police station immediately. All other accidents on the works involving injuries to the persons or property other than that of the contractor shall be promptly reported to the ENGINEER clearly and with sufficient details the facts of such accidents and the action taken by the contractor.

21.2 The Contractor shall, throughout the execution and completion of the works and the remedying of any defects therein:

- a) Have full regard for the safety of all persons entitled to be upon the site and keep the site (so far as the same is under his control) and the works (so far as the same are not completed or occupied by the Employer) in an orderly state appropriate to the avoidance of danger to such persons.
- b) Provide and maintain at this own cost all lights, guards, fencing, warning signs and watching, when and where necessary or required by the ENGINEER or by any duly constituted authority, for the protection of the works or for the safety and convenience of the public or others, and

- c) Take all reasonable steps to protect the environment on and off the site and to avoid damage or nuisance to persons or to property of the public or others resulting from pollution, noise or other causes arising as a consequence of his methods of operation.

21.3 Care of Works

The Contractor shall take full responsibility for the care of the works and material & plant for incorporation therein from the commencement date until the date of issue of the Taking-Over Certificate for the whole works when the responsibility for the said care shall pass to the Employer provided that:

If the ENGINEER issues a Taking-Over Certificate for any Section or part of the Permanent Works the Contractor shall cease to be liable for the care of that section or part from the date of issue of the Taking-Over Certificate, when the responsibility for the care of that Section or part shall pass to the Employer, & The Contractor shall take full responsibility for the care of any outstanding works and material and plant for incorporation therein which he undertakes to finish during the Defects Liability Period until such outstanding Works have been completed.

If any loss or damage happens to the works, or any part thereof, or materials or plant for incorporation therein, during the period for which the Contractor is responsible for the care thereof, from any cause whatsoever, other than the excepted risk, the Contractor shall, at his own cost, rectify such loss or damage so that the Permanent Works conform in every respect with the provisions of the Contract to the satisfaction of the ENGINEER. The Contractor shall also be liable for any loss or damage to the works occasioned by him in the course of any operations carried out by him for the purpose of complying with his obligations under this agreement and during defect liability and maintenance period of 5 years.

The Contractor shall, without limiting his or the Employer's obligation and responsibilities under Clause – 21.3 ensure -

- a) The works, together with materials and plant for incorporation therein, to the full replacement cost (the term "cost" in this context shall include profit).
- b) An additional sum of 15 per cent of such replacement cost, to cover any additional costs of and incidental to the rectification of loss or damage including professional fees and the cost of demolishing and removing any part of the works and of removing debris of whatsoever nature, and

The Contractor's Equipment and other, things brought onto the Site by the Contractor, for a sum sufficient to provide for their replacement at the Site,

21.4 Scope of Cover

The insurance in paragraphs (a) and (b) of Clause – 21.3 shall be in the joint names of the Contractor and the Employer and shall cover;

- a) The Employer and the Contractor against all loss or damage from whatsoever cause arising, other than as provided in Clause – 21.6, from the start of work at

the Site until the date of issue of the relevant Taking-Over Certificate in respect of the Works or any Section or part thereof as the ease may be, and

b) The Contractor for his liability

During the Defects Liability and Maintenance Period of 3 years for loss or damage arising from a cause occurring prior to the commencement of the Defects Liability and Maintenance Period of 5 years, and

For loss or damage occasioned by the Contractor in the course of any operations carried out by him for the purpose of complying with his obligations under this agreement and during defect liability and Maintenance Period of 5 years.

Responsibility for amount not recovered

Any amounts not insured or not recovered from the insurers shall be borne by the Contractor in accordance with their responsibilities under Clause – 21.3.

21.6 Exclusions

There shall be no obligation for the insurance in to include loss or damage cause by (accepted risk) War, hostilities (whether was be declared or not), invasion, act of foreign enemies, Rebellion, revolution, insurrection, or military or usurped power, or civil war, Ionising radiations, or contamination by radio-activity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radio-active toxic explosive or other hazardous properties of any explosive nuclear assembly or nuclear component thereof, or Pressure waves cause by aircraft or other aerial devices traveling at sonic or supersonic speeds. Damage to persons and properties

The Contractor shall, indemnify the Employer against all losses and claims in respect of :

a) Death of or injury to any person, or

b) Loss of or damage any property (other than the works).

Which may arise out of or in consequence of the execution and completion of the works & the remedying of nay defects therein, & against shall claims, proceedings, damages, costs, charges & expenses whatsoever in respect thereof or in relation thereto, subject to the exceptions defined in Clause–22.2.

21.7 Third party insurance including employers property

The Contractor shall, without limiting his or the Employer’s obligations and responsibility under Clause –21.7, insure, in the joint names of the Contactor and the Employer, against liabilities for death of or injury to any person (other than the works) arising out of the performance of the Contract.

21.8 Minimum amount of insurance

Minimum amount of third party insurance of y) minimum per occurrence with number of occurrence shall not be less than (5) five. After each occurrence the number of occurrence to be brought back to minimum of (5) five.

21.9 Cross liability

The insurance policy shall include a cross liability clause such that the insurance shall apply to the Contractor and to the Employer & Engineer as separately insured.

21.10 Accident or injury to work man

The employer shall not be liable for or in respect of any damages or compensation payable to any workman or other person in the employment of the Contractor or any Sub-contractor, other than death or injury resulting from any act or default of the Employer, his agents or servants. The Contractor shall indemnify and keep indemnified the Employer against all such damages and compensation, other than those for which the Employer is liable as aforesaid, and against all claims, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

21.11 Insurance against accident to work man

The Contractor shall insure against such liabilities and shall continue such insurance during the whole of the time that any persons are employed by him on the works, provided that in respect of any persons employed by any Sub-contractor, the Contractor's obligations to insure as aforesaid under this sub-clause shall be satisfied if the Sub-Contractor shall have insured against the liability in respect of such persons in such manner that the Employer & Engineer are indemnified under the policy, but the Contractor shall require such Sub-contractor to produce to the Employer, when required, such policy of insurance and the receipt for the payment of the current premium.

21.12 Evidence and Terms of Insurance

The Contractor shall provide evidence to the Employer prior to the start of work at the Site that the insurances required under the Contract have been effected and shall, within 84 days of the Commencement Date, provide the insurance policies to the Employer, the Contractor shall notify the ENGINEER of so doing. Such insurance policies shall be consistent with the general terms agreed prior to the issue of the Letter of Acceptance. The Contractor shall effect all insurances for which he is responsible with insures and in terms approved by the Employer.

21.13 Adequacy of Insurance

The Contractor shall notify the insurers of charges in the nature, extent or programme for the execution of the works and ensure the adequacy of the insurances at all times in accordance with the terms of the Contract and shall, when required, produce to the Employer the insurance policies in force and the receipts for payment of the current premiums.

21.14 Remedy on Contractor's failure to insurance

If the Contractor fails to effect and keep in force any of the insurance required under the Contract, or fails to provide the policies to the Employer within the period required by

clause – 21.16 then and in any such case the Employer may effect and keep in force any such insurances and pay any premium as may be necessary for that purpose due or to become due to the Contractor, or recover the same as a debt due from the Contractor.

21.15 Compliance with policy conditions

In the event that the Contractor fails to comply with conditions imposed by the insurance policies affected pursuant to the Contract shall indemnify the employer & Engineer all losses and claims arising from such failure.

21.16 Compliance with Statutes, regulations

The Contractor shall conform in all respects, including by the giving of all notices and the paying of all fees, with the provisions of:

a) Any National or State Statute, Ordinance, or other law, or any regulations, or bye-law of local or other duly constituted authority in relation to the execution and completion of the works and remedying of any defects therein, and

b) The rules and regulations of all public bodies and companies whose property or rights are affected or may be affected in any way by the works.

and the Contractor shall keep the Employer indemnified against all penalties and liability of every kind for breach of any such provisions. Provided always that the Employer shall be responsible for obtaining any planning, zoning or other similar permission required for the works to proceed and shall indemnify the Contractor in accordance with clause – 22.3.

21.17 In all cases, the contractor shall indemnify the ENGINEER against all losses or damages, resulting directly from the contractor's failure to report in the manner aforesaid. This includes the penalties or fines, if any, payable by the owner as a consequence of failure to give notice under Workmen's Compensation Act or otherwise to conform to the provisions of the said Act in regard to such accidents.

21.18 In the event of an accident in respect of which compensation may become payable by the contractor, such sum of money as may, in the opinion of the ENGINEER, be sufficient to meet such liability will be kept in deposit. On the receipt of award from the Labour Commissioner in regard to the quantum of compensation, the difference in the amount will be adjusted.

The contractor shall take a Contractors All Risk Insurance Policy (CAR) from the Govt. of Maharashtra approved Insurance company for the works and keep it in force throughout the work period. The CAR policy shall also cover accident that may occur to the vehicle plying on the adjoining bridge / approach road, cross road and slip roads etc.

22. WARNINGS AND BARRICADES

Widening & construction of road shall be done in half width. Proper traffic diversion is the responsibility of the contractor.

The contractor shall provide and maintain MS sheet barricades as per drawing, guards, guard rails, temporary bridges and walkways, watchmen, headlights and danger signals illuminated from sunset to sunrise and all other necessary appliances such as

blinkers, signals, red light and safeguards to protect the work, life, property, the public, excavations, equipment and materials. Barricades shall be substantial construction and shall be painted such as to increase their visibility at night. For any accident arising out of the neglect of above instructions, the contractor shall be bound to bear the expenses of defense of every suit, action or other legal proceedings, at law, that may be brought by any person for injury sustained owing to neglect of the above precautions & to pay all damages and costs which may be awarded in any such suit, action or proceedings to any such person or which may with the consent of the contractor be paid in compromising any claim by any such person.

23. ENGINEER'S STATUS DURING CONSTRUCTION AND AUTHORITY OF THE ENGINEER:

The ENGINEER shall have the authority to enforce compliance with the contract documents. On all questions relating to quantities, the acceptability of materials, equipment, or works, the adequacy of the performance of the work and the interpretation of the drawings and specifications, the decision of the ENGINEER shall be final and binding and shall be precedent to any condition under the contract agreement unless otherwise provided in the contract documents. The ENGINEER shall have the authority to stop / suspend the work or any part thereof as may be necessary to ensure the proper execution of the work, disapprove or reject the works which is defective, to require the uncovering and inspection or testing of the works to require re-examination of the works, to issue interpretations and clarifications, to order changes or alterations in the works, and other authority as provided elsewhere in the contract documents.

The ENGINEER shall not be liable for the results of any ruling, interpretation or decision rendered, or request, demand, instruction, or order issued by him in good faith. The contractor shall promptly comply with requests, demands, instructions and order from the ENGINEER.

The whole of the works shall be under the directions of the ENGINEER, whose decision shall be final, conclusive & binding on all parties to the contract, on all questions relating to the construction & meaning of plans, working drawings, sections & specifications connected with the work. The ENGINEER shall have the power & authority from time to time & at all times make and issue such further instructions and directions as may appear to him necessary or proper for the guidance of the contractor and the good and sufficient execution of the works according to the terms of specifications and the contractor shall receive, execute, obey and be bound by the same according to the true intent and meaning thereof; fully and effectually. ENGINEER may order any of the works contemplated thereby to be omitted, with or without the substitution of any other works in lieu thereof, or may order any works or any portion of works executed or partially executed, to be removed, changed or altered and if needful,

may order that other works shall be substituted instead thereof and the difference of expenses occasioned by any such diminution or alteration so ordered and directed shall be deducted from or added to the amount of this contract.

In case the progress of the Contractor is found to be less than the programme given by him at any point of time and if the ENGINEER is convinced that the Contractor cannot execute the balance work within the balance period of time, a notice of 30 days will be issued to improve the progress. In case there is no improvement a further notice of seven days will be given and thereafter a part or whole of the work will be withdrawn from the Contractor and will be got done at the risk and cost of the Contractor. The right of ENGINEER in this respect shall be unquestionable. On expiry of the seven days notice, as above, the Contractor shall remove his materials, men, equipment's, plant and management from the site, within seven days so that the new agency can take over immediately. Failing to this, the Employer will remove the aforesaid things at the risk and cost of the Contractor.

24. DUTIES OF ENGINEER'S REPRESENTATIVE

The Engineer's representative is the person notified by the Engineer to carry on his duties and obligation stated in this contract. The duties of the representative of the ENGINEER are to check, inspect and supervise the work and to get testing of any materials to be used or workmanship employed in connection with the works. He shall furnish the drawings and information to the contractor, approve the contractor's drawings recommend and approve the interim certificates and taking over certificates after thorough checking and inspection and recommend extra work required and extension of time.

Approval for or acceptance of any work or material or failure to disapprove any work or material by the representative of the ENGINEER shall not prejudice the power of the ENGINEER thereafter to disapprove such work or material and to order removal or modification thereof. If the contractor shall be dissatisfied with any decision of the representative of the ENGINEER, he shall be entitled to refer the matter to the technical committee headed by District Collector, who shall thereupon confirm, reverse or vary such decision.

25. DEFECTS AND RECTIFICATION

For period specified as the "Defect Liability and Maintenance Period of 3 years" for the work starts from the date of issuance of the completion certificate or issuance of completion certificate for the project work whichever is later in accordance with para "Final Inspection and Acceptance" contractor shall remain liable for any of the works or parts thereof or equipment and fittings supplied which in the opinion of the ENGINEER fail to comply with the requirements of the contract or are in any way unsatisfactory or defective.

To the extent that the works and each part thereof shall at or as soon as practicable after the expiry of the above period be taken over by the ENGINEER in the condition required by the contract to the satisfaction of the ENGINEER. The contractor shall finish the work (if any) outstanding at the date of completion as soon as may be

practicable after such date and shall execute all such work of repair, amendment, reconstruction, rectification and making good of defects imperfections, shrinkages or other faults as may during the period of maintenance or after its expiry be required of the contractor in writing by the ENGINEER as a result of an inspection made by or on behalf of the ENGINEER prior to the expiry of the period. All such work shall be carried out by the contractor at his own expenses if the necessity thereof shall in the opinion of the ENGINEER be due to the use of materials or to the neglect or failure on the part of the contractor to comply with any obligation expressed or implied on the contractor's part under the contract. If the contractor fails to do any such work as entitled to carry out such work in which the contractor should have carried out at the contractor's own cost, the ENGINEER shall be entitled to recover from the contractor the cost thereof or may deduct the same from the moneys that become due to the contractor. Notwithstanding the aforesaid, if the contractor remains in default, one calendar month after the ENGINEER has given written instructions in writing, the Security Deposit shall become payable to the Employer who will deduct the cost plus overhead expenses of such works as have been necessary to rectify the contractor's default and the balance, if any, shall be disbursed. The Contractor shall submit the operation and maintenance manual for the fruitful operation of the works. The Contractor will have to carry out the inspection as per given frequency in the contract and maintenance within a specified time as stated in the contract during the defect liability and Maintenance Period of 3 years and as stated in Schedule L of this document.

26. RIGHT TO WITHHOLD

The ENGINEER may refuse to approve to any payment, or because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously approved and paid to such extent as may be necessary in the opinion of the ENGINEER to protect him from loss because (a). The work is defective, (b) Third party claims have been filed or there is reasonable evidence indicating probable filing of such claims, (c) of the Contractor's failure to make payment properly to sub-contractors or for labour, materials or equipment, (d) of damage to another Contractor, or to the property of other caused by the Contractor, (e) of reasonable doubt that the work cannot be completed for the unpaid balance of the contract price, (f) of reasonable indication that the work will not be completed within the contract time, (g) of the Contractor's neglect or unsatisfactory prosecution of the work including failure to clean up, (h) to carry out the duties and responsibilities during defect liability and Maintenance Period of 5 years. Once the reasons that enable or require the ENGINEER to withhold such payments are removed, payment will be made for amounts withheld because of them to the extent the contractor is entitled to.

27. FINAL INSPECTION AND ACCEPTANCE

Upon written notice from the contractor, that the entire work required by the contract documents is complete and that all submittals required by him are made, and after the Contractor has delivered the bonds, certificates of inspection, guarantees, warranties, releases and other documents, as required by the contract documents or by

law, the ENGINEER will make a final inspection, and he will notify the Contractor in writing of any particulars in which this inspection reveals that the work is defective, and will also notify the Contractor in writing of any deficiencies in the submittals and the document required from him.

The Contractor shall promptly make such corrections as are necessary to remedy all defects or deficiencies. After completion of external and internal painting, the contractor shall clean all chairs, tables and other furniture in existence in PCNTDA building. After the Contractor has completed any such corrections to the satisfaction of the owner, the ENGINEER will issue a written Taking-Over certificate of the work and file any notice and completion required by law or otherwise.

28. CONTINUING OBLIGATION OF THE CONTRACTOR

The Contractor's obligation to perform and complete the work in accordance with the contract documents is and shall be absolute. Neither the observation during construction and final inspection of the work by the ENGINEER, nor any payment to the Contractor under the Contract documents, nor any use or occupancy of the work or any part thereof by the ENGINEER, nor any act of acceptance of the defective work by the ENGINEER shall constitute acceptance of work not in accordance with the contract documents.

29. INCOME TAX AND WORK CONTRACT TAX

Income Tax and Work Contract Tax as applicable on gross value of each running account bill shall be deducted towards income tax and Work Contract Tax and a certificate to that extent shall be issued by EMPLOYER.

30. FORCE MAJEURE

Neither party shall be liable to the other for any loss or damage occasioned by or arising out of the acts of God and in particular unprecedented floods, volcanic eruptions, earthquake or other conclusion of nature and other acts such as, but not restricted to, invasion, act of foreign countries, hostilities or warlike operations before or after declaration of war, rebellion, military or unsurpassed power which prevent performance of the contract and which could not have been foreseen or avoided by a prudent person, such as Earthquake of magnitude more than for which the structures are designed.

31. RECORDS AND MEASUREMENTS

The ENGINEER, shall except stated therein, determine by measurement the value in accordance with the contract of works done in accordance therewith.

All items having a financial value shall be entered in a measurement book, level book, computerized systems etc. as prescribed by the ENGINEER so that a complete record is obtained of all work performed under the contract. Measurements shall be

checked & confirmed by the ENGINEER or his authorized representative and by the Contractor or his authorized representative. Before taking measurement of any work the ENGINEER or the person deputed by him for the purpose shall give reasonable notice to the contractor. If the contractor fails to attend or send an authorized representative for measurement after such notice or fails to countersign or record the objection within a week from the date of measurement, then in any such event measurements will be taken by the ENGINEER, or by the person deputed by him shall be taken to be correct measurements of the works and shall be binding on the contractor. There shall be absolutely no doubt regarding measurements, the contractor must know the departmental practices developed as per the manuals and standard specifications. The Contractor shall, without any extra charge, provide assistance with every appliance and other things necessary for measurements, such as levelling instruments (Auto setting), Total Station of approved make. The Total Station shall be made available by the Contractor from the beginning of the work till the completion of the work, along with tapes, staves, video cameras/camera, paints, brushes and required labour etc.

Measurements shall be signed and dated by both the parties each day (for taking measurement) on the site on completion of measurements. The Contractor shall take up still colour photographs and video graphs at intervals during the execution of works so that a history of development and each activity of the project is maintained.

Set of dated photographs and video graphs, in three copies of each photographs, shall be submitted to the Engineer every month. This generation of record shall provide the used methodology of working and highlight the quality of material and workmanship. The cost of the said work shall be borne by the Contractor. It shall be the property of the Corporation and shall not be used for campaigning, advertising without the permission of the Corporation.

The contractor shall submit the following before any part of the work is started.

- i) Cross section of road as directed by the ENGINEER.
- ii) All levels along the L-section & cross section as directed & duly verified by ENGINEER.
- iii) Methodology of construction for each part of work.
- iv) Bar bending schedules for each component of the work and get the same approved.
- v) Detailed measurement of concrete & steel quantities shall be given on weekly basis.
- vi) Detail measurement of excavation in each strata,
- vii) Test reports of materials to be used for each part of work in the prescribed format.
- viii) Cement consumption statement
- ix) Quarried material such as metal, sand, murum etc.

Contractor has also maintain and to update information / records of site and work progress on website as

- (i) The Contractor shall maintain and update all the project work and work process related information (in website format) at a location specified by the Employer.
- (ii) The contractor shall arrange for separate space on the Server for all the EMPLOYER data (for all ongoing projects) as specified by the Engineer.
- (iii) The contractor shall arrange for maintenance of the entire EMPLOYER project data of all ongoing projects (hardware, Software personnel) on the Server connected to EMPLOYER website for the entire contract period of xxx months and additional 3 months (Total of xxx months).
- (iv) The Contractor shall be responsible for updating of all project related information (specific to this work) on the website daily until 11.00 am of the next working day with due authentication from Engineer.
- (v) All the costs for hardware, software and Server space shall be borne by the Contractor and no separate payment shall be made for the same.

32. WRITTEN NOTICE

Written notice shall be deemed to have been duly served or delivered in person to the individual or member of the firm or to an officer of the corporation for whom it was intended, or if delivered at or sent by registered or certified mail to the last business address known to him who gives the notice. The notice on the Fax Message/E-Mail shall be deemed to have been duly served. The address given in the contractor's tender on which all notices,

letters & other communications to the contractor shall be mailed or delivered, except that said address may be changed by the Contractor by notifying the owner in writing. This shall not preclude the service of any notice, letter or other communication upon the Contractor personally.

33. USE OF COMPLETED PORTIONS

The owner shall have the right, upon written notice to the Contractor, to take possession or occupancy of, & use any completed or partially completed portions of the work, notwithstanding that the time for completing the entire work or such portions may not have expired but such taking possession or occupancy and use shall not be deemed to waive of any requirement of the contract documents or a waiver or acceptance of any work not completed in accordance with the contract documents.

34. CLEANING UP

The contractor shall at all times during the work keep the site and premises, adjoining property and public property free from accumulations of waste materials, rubbish, and other debris resulting from the works, and at the completion of the work shall remove all waste materials, rubbish and debris from and about the site and premises as well as all tools, construction equipment and machinery and surplus materials, and shall leave the site and premises, clean, tidy and ready for occupancy by the owner. The Contractor shall restore to their original condition those portions of the site not designated for alteration by the contract documents paved ways, parking areas

and roadways disturbed by the construction shall be redone by filling the excavation, if any, by sand compacted material and bringing it to its original shape as directed and approved by the ENGINEER. No waste material shall be buried or disposed off on the owner's property unless so approved in writing by the Engineer. Before the Contractor applies for final inspection and acceptance of the work, all items of work shall be complete, ready to operate, and in a clean condition as determined by the ENGINEER. All slip roads and adjoining area must be kept free of metal / sand and to that extent regular sweeping of the road shall be done by the contractor at his cost.

35. OWNER'S RIGHT TO CLEAN UP

If the Contractor fails to satisfactorily clean up or if a dispute arises between the Contractors or in several Contractors as to their responsibility for cleaning up, the ENGINEER may get the same cleaned up and charge the cost thereof to the Contractor for his failure, as the ENGINEER shall determine to be just.

36. FOSSILS ETC

All fossils, coins, articles of value of antiquity and structures or other remains or things of geological or archaeological interest discovered on the site shall be deemed to be the property of the owner and the Contractor shall take reasonable precautions to prevent his workmen or any other person from removing or damaging any such article or thing and shall immediately upon discovery thereof and before removal acquaint the ENGINEER of such discovery and carry out at the expenses of the ENGINEER's order as to the disposal of the same.

37. LABOUR RULES

The contractor will have to produce to the satisfaction of the accepting authority a valid and current license issued in his favour under the provision of Contract Labour (Regulation and Abolition) Act 1970, before starting the work, otherwise the Contractor shall have to face the further consequences.

The contractor shall have to comply with the Apprentices Act 1961, and the rules and orders issued there under from time to time. If he fails to do so, his failure will be breach of contract and the Employer, may in his discretion, cancel the contract, the Contractor shall also be liable, for any pecuniary liability arising on account of any violation of the provisions of this act, by him.

38. STATUTORY INCREASE IN DUTIES, TAXES ETC

All the taxes and duties levied by the State and Central Govt. and by Local Bodies at the prevailing rates applicable on the date of receipt of tender shall be fully borne by the Contractor and shall not be reimbursed to him on any account. The tender shall be inclusive of all taxes levies, octroi etc. including the tax leviable in respect of work contract under the provision of Maharashtra Sales Tax as transfer of property in goods involved in the execution of Work Contract Act 1985 and its further amendments (Maharashtra ACT XIX of 1985) to be paid by the Contractor.

Further EMPLOYER shall not honor any claim arising out of any increase in any of the prevailing statutory duties, taxes, levies, octroi, etc. as the same are inter-alia covered under the Price Variation Clause. At the time of quoting/bidding contractor should bear the above fact in mind.

39. INSPECTION, TESTING FEES

As specified in this document.

40. SITE TEST

The various works envisaged in the tender needs to be tested at site during/after completion of the individual work. This testing is to be done as per the standard procedure laid down in the relevant IRC / MORTH / I.S. or any other standard being followed. The detailed specification shall also be taken into consideration while carrying out the testing. The frequency and type of test on various material and completed item shall be as per MORTH specifications for road and bridge latest edition. The sub-work wise testing required is given in Note shall be as below, which is only indicative:

SITE TESTING

Sr. No.	Materials	Type of Test
1.	Cement	Physical and chemical tests, Adulteration in Cement, Setting property and Compressive test ,chemical analysis etc.
2.	Coarse aggregate	Sieve Analysis, Density, water absorption etc. moisture content. Flakiness Index
3.	Fine Aggregates	Sieve Analysis, Silt Content, Organic impurities etc. and moisture content.
4.	Reinforcement for R.C.C. work	Cold bend test, tension, elongation, Bond etc.
5.	Cement Concrete	Slump test, Compression test, permeability test.
6.	Other site tests	As when required by the ENGINEER/E-I-C

Note : Coarse & Fine Aggregates should also be tested for Aggregate – Alkali reactivity from an approved laboratory.

Contractor shall provide all facilities to conduct various test as per MoRT&H / IS on site as specified at per his own cost &no extra payment shall be maid.

41. IMPORT LICENSE AND PROCUREMENT OF IMPORTED MATERIALS

The Contractor shall quote for the indigenous equipment only, as far as possible for the work contracted. Foreign exchanges and import licenses, if any, required shall have to be arranged by the Contractor himself, independently. Delay in getting any material, will

not be entertained for neither extension of time limit nor the risk of foreign exchange variation will be covered by the Employer.

42. MACHINERY REQUIRED

All machinery required for erection / execution purposes such as concrete batching plant, hot-mix plant, excavator with rock breaker unit, cranes, trucks, etc. shall be arranged by the Contractor. Employer / P M C will not take any responsibility for providing such machinery even on rental basis. Execution of any item will be allowed only after the required machinery as directed by the ENGINEER is made available in working condition.

43. DISCREPANCIES AND OMISSIONS

The tender drawings and specifications, shall be considered as complimentary and explanatory, of each other and together shall form the technical requirements and stipulations of tender documents. Detailed drawings shall have preference over small-scale drawings. Similarly, detailed specifications shall have preference over general specifications. Should any discrepancy arise as to the meaning, intent or interpretation of any specification or drawing the decision of the ENGINEER shall be final and binding on the Contractor.

44. NO INTEREST ON DUES

No interest shall be payable by the Corporation on amounts, due to contractors pending final settlement of claim. Further, no interest shall be payable by EMPLOYER on any delayed amount / payment. No interest shall be payable on security deposit or withheld amount.

45. Note for Leveling: -

For Leveling Contractor should arrange for Total Station for all leveling items in this contract. He should submit soft copy along with hard copy of the results. Contractor shall arrange soft or hard copy of Longitudinal Section, Cross Section required for calculation of quantities after carrying out leveling works. Cost of hiring of Total Station and taking levels along with PCNTDA Engineers shall be borne by the Contractor. If PCNTDA Engineer is required to be trained for Total Station it should be borne by the Contractor.

50 Inauguration

Deleted

51 No extra payment will be made for scaffolding required for painting architectural designed work up to top floor level. While painting outside, contractor shall use H – framed steel scaffolding. Use of bamboo for scaffolding is not allowed. Any damage or nailing to the structure while scaffolding is not allowed.

(SECTION-V)
TECHNICAL SPECIFICATIONS

Note: The detail technical specifications are stated in CSD Volume II of bid document.

6.1 PREAMBLE:

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

6.2 GENERAL REQUIREMENTS

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

6.2.1 PART – I – GENERAL TECHNICAL SPECIFICATIONS

The General Technical Specifications shall be the “SPECIFICATIONS FOR BUILDING WORKS” (FOURTH REVISION, August 2001) issued by the Ministry of Road Transport & Highways, Government of India and published by the Indian Roads Congress, hereinafter referred to as MORT&H Specifications and the Standard Specifications published by PWD, Maharashtra and Maharashtra Jeevan Pradhikaran in conjunction to the specifications stated in CSD Volume II of the bid document.

6.2.2 PART – II – SUPPLEMENTARY TECHNICAL SPECIFICATIONS

LINE OUT

The contractor shall construct required masonry and concrete pillars for marking of proper lines and levels with precision “Total Station “ instrument and establish locations of columns and bench marks etc. as directed. The contractor shall make available at site the “Total Station “instrument for full time from starting till completion of the

work. The contractor shall employ a qualified Engineer for the line out of the project and for complete survey work before taking up the work in hand and till completion of the work. The Total station shall be kept in custody of ENGINEER.

3. PROGRAMME AND PROGRESS SCHEDULE

A broad mile stone oriented programme, in the form of Bar chart, is given in the Tender Document. This Bar Chart takes into consideration the priority of works, desired by EMPLOYER, as well as the programme felt necessary to complete the work. The Contractor shall submit his own programme with the tender, in the form of Bar Chart, indicating critical activities and PERT programme including phase wise deployment of man and machinery, power, cash flow etc. in Envelope No. I. This programme shall, nowhere, be less than the programme proposed by EMPLOYER. The programme shall be based on latest software like Primavera/MS Project and taking into account the available resources and allocation etc. Simultaneous with the execution of the Contract Agreement, the Contractor shall submit to the Engineer his item-wise monthly programme, which shall be program based on latest software like primavera / Microsoft projects & taking into account resource allocations, nothing but detailing of the programme/Bar Chart submitted during the Tender. The programme shall also provide the information as to required approvals to methodology, drawing, samples, materials, equipment's & their time of submissions to the Corporation. The adequate commissioning & trial run period shall be incorporated in the programme/Bar Chart. The progress report shall be submitted by the Contractor vis-à-vis programme every month. The project team of the Contractor shall be so motivated to know the balance work at the end of each week & the rate required in the balance period to complete the work & therefore, shall endeavor to complete the task assigned for each week timely. In case, where the updated programme & revised schedule is required, the same shall be submitted to the owner for approval.

The programme shall indicate and give details of physical and financial implication including men, materials and machinery requirements.

In case the progress is less than the stipulated progress, contractor shall increase the resources i.e. machinery and labour to achieve the targeted progress at no extra cost.

4. INTENT AND INTERPRETATION OF CONTRACT DOCUMENTS

4.1 The contract documents are complementary and what is called for by one is as binding as if called for by all. Any work that may be reasonably inferred from the drawings or specifications as being required to produce the intended result shall be provided by the contractor whether or not it is specifically called for.

The contractor shall furnish and pay for all labour, supervision, materials, equipment, transportation, construction, equipment and machinery tools, appliances, water, fuel, power, energy, light, heat, utilities, telephone, storage, protections, safety provisions, and all other facilities, services and incidentals of any nature whatsoever necessary for the satisfactory and acceptable execution, testing, initial operation (two months) and completion of the work in accordance with the contract documents, ready for use and operation by the owner. The cost of all these arrangements shall be deemed to be

included in the contract offer and no separate payment shall be admissible therefore.

4.2 Interpretations

Written clarifications or interpretations necessary for the proper execution or progress of the work, in the form of drawings or otherwise, will be issued with reasonable promptness by the ENGINEER and in accordance with any schedule agreed upon. Such clarifications or interpretations shall be consistent with or reasonably inferable from the intent of the contract documents and shall become a part thereof. Where, there is a discrepancy between the drawings and the specifications, the contractor shall obtain the ENGINEER's interpretation, which shall be binding on the Contractor.

4.3 Drawings

The contract drawings (G.A.D) provided are for tendering purpose only. This tender document shall be used for reference and guidance only. Figured dimensions on drawings shall only be followed and detailed drawings shall govern over general drawings. The structural drawings for execution will be supplied by the Engineer in duplicate progressively. The contractor shall keep approved set of drawings at site of work and copies of the approved drawings shall be made available to ENGINEER or his representative for checking record etc.

4.3.1 Signed Drawings

Signed drawings alone shall not be deemed to be in order for work unless it is entered in the agreement or schedule of drawings under proper attestation of the Contractor and the ENGINEER or unless it has been sent to the contractor by the ENGINEER with a covering letter confirming that the drawing is an authority for work in the contract.

4.3.2 Technical Words

Work, materials or equipment described in works, which so applied, have a well-known trade or technical meaning shall be deemed to refer to such recognized meanings.

4.3.3. Mistakes in Drawings

The Contractor shall be responsible for any discrepancies, errors or omissions in the drawings and other particulars, supplied by him, whether such drawings and particulars have been approved by the ENGINEER or not, provided that such discrepancies, errors or omissions be not due to inaccurate information or particulars furnished in writing to the contractor by the ENGINEER.

4.3.4 The work specified in this contract shall include all general work, preparatory to the construction of said road like constructing temporary approach roads etc. & any kind of work necessary for the due & satisfactory construction and completion of the captioned road.

4.3.5 Being semi urban roads, many structures like box type subways, culverts & other

concrete works are part of the project. The design for centering & form work with material shall be prepared by the contractor from an expert & to get approved from the ENGINEER in charge well in advance.

4.3.6 Contractor shall appoint an experienced structural engineer for preparing the design of centering and various formwork and getting it approved from Engineer. He shall also prepare design of shoring and strutting etc. required for excavation work. The work of centering and formwork, shoring and strutting shall be done under supervision of the structural engineer of the contractor and get it approved from the ENGINEER. The cost of such structural engineer is incidental to work and deemed to be included in the rate. No claim in this regard shall be paid by employer.

5. LAND, CONDITIONS AND LAYOUT

5.1 No land is available with the EMPLOYER to be given to contractor for his establishment. The contractor has to make his own arrangements. The contractor shall obtain consent from property owners, make all arrangement and pay all costs for the land, areas of access and right of way without any liability to the EMPLOYER. The owner will furnish and pay for the land, easements and right of way for the land required for the grade separator work.

5.2 Sub-Surface Conditions

The Contractor shall promptly notify the owner in writing of any surface or latent physical conditions at the site differing materially from those indicated in the contract documents or of any unusual nature differing materially from those ordinarily encountered and generally recognized as inherent in constructions of the character provided for in the contract documents. The ENGINEER will investigate those conditions and obtain such additional tests and surveys, as he may deem necessary. If the ENGINEER finds that the conditions differ significantly from those indicated in the contract documents or from those inherent in the construction, a variation order may be issued to incorporate the necessary revisions unless otherwise provided in the contract documents. Contractor shall satisfy himself about strata conditions before submission of detailed proposal and methodology of construction.

5.3 Line out of the Work

5.3.1 Deleted

5.3.2 Deleted

5.3.3 Deleted.

5.3.4 Laboratory & Related Requirement

The contractor shall provide and maintain adequately equipped laboratory (at main site office location) as required for control on the quality of materials and the works. It shall have 50 Sqm area and shall be located and equipped as directed by the ENGINEER. It shall be provided with amenities like water supply, electrical supply etc. In addition to this main laboratory, basic test equipment as mentioned in list below for contractor at each ongoing site location shall provide carrying out routine tests. The

contractor shall engage a well experienced Lab-in-charge (bio-data to be approved by Engineer) for conducting day-to-day test as per MORT&H & B.I.S. specifications at the main laboratory and also at each ongoing site location. All necessary codes shall be kept in the main laboratory. These provisions shall be incidental to work & no separate payment will be made by EMPLOYER. After completion contractor should demolish laboratory structure and remove all the equipment's as per directions of ENGINEER.

List of Equipment's required for Laboratory at main site office location are given below

S. No.	Description	Unit	Specification	Qty.
	<i>Main laboratory at SITE OFFICE</i>		B Clause 121	
	A) General Equipment			
1	Balance ordinary, 10 Kg with weights	Nos		2
2	Balance ordinary, 20 Kg with weights	Nos		2
3	Electronic Balance 5Kg	Nos		1
4	Glassware, spatulas, wire glazes.... etc	Nos		1
5	Set of IS sieve			
a	GI Sieve, 450mm Dia. Set of 20 Sieves.	Nos		1
b	Brass Sieves, 200mm Dia Set of 10 Sieves.	Nos		1
6	Water Testing kit for pH value, Sulphur etc.	Nos		1
7	First aid box	Nos	B Clause 121	1
	B) For Soils and aggregate			
8	Rifle box	Nos		1
9	Atterberg limit apparatus	Nos		1
10	Compaction test equipment (Modified Proctor), 2250 cc mould & steel rammer	Nos		1
11	Dry bulk density test app.			
a	Sand replacement method, 100mm Dia. Cylinder Tray with hole & calibration equipment	Nos		2
b	Sand replacement method, 200mm Dia. cylinder Tray with hole & calibration equipment	Nos		2
12	Speedy moisture meter,..	Nos		2
13	Standard measures of 30,15 and 3 litres..	Nos		1

S. No.	Description	Unit	Specification	Qty.
14	Specific gravity - 50ml Bottle	Nos	B Clause 121	1
	C) For Cement and Cement Concrete			
15	Vicat apparatus for testing setting time	Nos		1
16	Slump testing apparatus and Air Meter.	Nos		3
17	Needle vibrator 40mm	Nos		1
18	Cube Testing Machine 100T Cap.	Nos		1
19	Sieve shaker, electrically operated for 20cms & 45cms sieves.	Nos		1
20	Concrete cube moulds..150 x 150 x 150	Nos		18

List of Equipment to be made available at each individual ongoing site

S. No.	Description	Unit	Qty.
	<i>Individual Ongoing Site - Test Equipment</i>		
2	Electronic Balance 5Kg	Nos	1
4	Set of IS sieve		
5	GI Sieve, 450mm Dia. set of 20 Sieves.	Nos	1
6	Brass Sieves, 200mm Dia Set of 10 Sieves.	Nos	1
7	First aid box	Nos	1
8	Dry bulk density test app.		
9	Sand replacement method, 100mm Dia. cylinder Tray with hole & calibration equipment	Nos	1
10	Sand replacement method, 200mm Dia. cylinder Tray with hole & calibration equipment	Nos	1
15	Vicat apparatus for testing setting time	Nos	1
16	Slump testing apparatus	Nos	1
17	Needle vibrator 40mm	Nos	1
18	Concrete cube moulds..150 x 150 x 150	Nos	10

The above listed equipment conforming to relevant I. S. Specifications are required to be supplied by the contractor and installed at the main site office laboratory and provided on individual ongoing site. The field laboratory shall be manned by the adequately qualified technical staff. The field laboratory shall be provided with amenities like water supply, electric supply etc. The cost of the equipment and also the salaries of the personnel manning the laboratory shall be considered, as incidental to the work and no separate payment will be made for the same to the contractor. The contractor has to setup and establish the main site laboratory within 3 weeks from the date of work order, failing which non-refundable penalty of Rs. 5000/- per day will be imposed on contractor.

- (i) All materials to be used on work shall be got approved in advance from the Engineer & shall pass the test and or analysis required by him, which will be:

- (a) as specified in the specification for the items concerned and or as specified by the Indian Road Congress (IRC) Standard Specification or M o R T & H Specification
 - (b) Code of Practice for Road and Bridges or
 - (c) I.S.I. Specifications (whichever and wherever applicable) or
 - (d) Such recognized specifications accepted to Engineer as equivalent thereto or in absence of such recognized specifications.
 - (e) Such requirement test and or analysis as may be specified by the Engineer in order of precedence given above.
- (ii) The contractor shall at his risk and cost make all arrangement and/or shall provide for all such facilities as the Engineer may require for collecting preparing required number of samples for tests or for analysis at such time and to such place or places may be directed by the ENGINEER and bear all charges and cost or testing. Such samples shall also be deposited with the Engineer.
 - (iii) The contractor shall if and when required submit at his cost the samples of materials to be tested or analysis and if, so directed shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and the materials, finally accepted by the Engineer.
 - (iv) The contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of & as a result of testing of the materials.
 - (v) The contractor or his authorised representative will be allowed to remain present in the departmental laboratory while testing samples furnished by him. However the results of all the tests carried out in the departmental laboratory in the presence or absence of the contractor or his authorised representative will be binding on the contractor. Cost of routine day-to-day quality control testing charges for tests required as per specifications will be borne by contractor by sending the same to the concerned laboratories or by establishing laboratory at site. The cost required for inspection including conveyance of ENGINEER's representative shall be borne by the contractor, the cost of which is deemed to be included in the price bid. However 10% of various tests will be carried out in the laboratory of Applied Mechanics Department, COE, Pune, and the cost of testing charges will be borne by the contractor. No extra payment will be made to the contractor on this account. However the cost of testing of material as directed by Engineer for approving a particular material as laid down in para 2.10 (i) to (vi) will have to be borne by the contractor. If in the opinion of the Engineer, any additional field or laboratory test is important for fulfilling Engineering criteria / for determination of suitability and same is required to be conducted from in-house or outside laboratory, the cost of such test shall be borne by the contractor and deemed to have been included in the offer given by the contractor.
 - (vi) The contractor shall provide a separate website for hosting and updating of all

project related information as per the specifications provided by ENGINEER. The contractor shall arrange for daily updating of all project related information, after due authentication from ENGINEER. The contractor shall be solely responsible for the credibility of the project information on the project website.

(SECTION-VI)

**IMPLEMENTATION MANUAL AND
MAINTENANCE INTERVENTION LEVELS**

SECTION – VI
Operation and Maintenance Requirement
(Applicable to the items executed under the contract)

- Utilities Management - Providing access to agencies operating utility services, agencies that have services provided in utility ducts & providing adequate arrangement for undertaking such utility repairs.
- Providing access to utilities operated and maintained by Contractor, as instructed by EMPLOYER/ENGINEER during Defect Liability and Maintenance period.

Utility maintenance – This includes routine maintenance, major maintenance, periodic preventive maintenance, disaster maintenance and inspections; of street lights, traffic signals, blinkers, water supply lines, sewerage lines, valves, chambers, specials and misc. utilities like litter bins, drinking water kiosks, toilets, bus stops and advt. Gantries etc.

Operation and Maintenance Stage

2.6.1. This is applicable for the entire Operations Period for the Project during the entire Defect Liability and Maintenance Period. Various important activities to be carried out during this stage are:

a) Regular periodic maintenance activities:

- i) Deleted;
 - ii) Deleted
- b) Deleted

3.4. The Contractor shall programme inspections of the Project for its smooth operations in terms of the Contract Agreement classified in the following categories:

- Visual Inspection
- Close Inspection
- Thorough Inspection and described herein under

3.5. Visual Inspection Deleted

3.6. Close Inspection Deleted

3.7. Thorough Inspection Deleted

3.8. Frequency of Inspections

The inspection frequency of various items of Project has been indicated in the Table L-1 hereunder. The frequency of inspection can be suitably revised in consultation with the ENGINEER if the emergencies so warrant.

Table L-1: Objective and Frequency of Inspection

(The objective and minimum frequency of inspections under normal circumstances shall be as under. If some exigencies arise the interval of inspection may be reduced)

Object	Item	Daily	Monthly	Quarterly	Before & after rainy season
Water supply		1	2	3	4
Sewage		1	2	3	4
Utility		1	2	3	4

LEGEND

1 visual inspection

2 close inspection

3 thorough inspections

4 visual inspections during rainy season only

4.2. Maintenance Section of Maintenance Manual

The Section II Maintenance, of the Operation and Maintenance Manual, shall include the activities described herein under amongst other activities required for the regular and preventive maintenance of the equipment during the Operations Period, so that the Project along with utilities is maintained in a manner that at all times it complies with the specifications and standards and at the time of Divestment of Rights and Interests by the Contractor in terms of Clause 33 of this Agreement it is in sound, durable and functional condition.

4.2.1. Regular Maintenance

It consists of the routine maintenance and periodic maintenance throughout the Defect Liability and Maintenance Period and extension thereof, if any, for all elements of the Project Building along with utilities.

4.2.1.1 Routine Maintenance

The Contractor is required to perform all routine maintenance activities along the project building along with utilities.

All maintenance activities are to be carried out in accordance with relevant IRC Codes, Guidelines and Special Publications as are applicable to National Highways, MORT&H specifications and Technical circulars with all updates. In the absence of any definite provisions on any particular issue related to the specifications and/or standards, reference may be made to the latest codes and specifications of the Bureau of Indian Standards (BIS), AASHTO, ASTM, British Standards or any other International Standards. But where even these are silent, the work shall conform to sound engineering

practice with the approval of the ENGINEER. The requisite Quality Control Tests as per specifications and codes are to be carried out by the Contractor at his cost as per the directions of the ENGINEER.

Routine Maintenance broadly includes:

- (i) Maintenance of turfed areas.
- (ii) Maintenance of landscaping
- (iii) Cleaning, maintenance of buildings within Contract limits.

4.3. Periodic Maintenance of Pavement, streetlights, water supply systems, sewage, utilities Deleted

4.3.1. Pavement Riding Quality Deleted

4.3.2. Structural Condition of the Pavement Deleted

4.3.3. Preventive Maintenance

Preventive Maintenance shall include the activities related to each element and the system as a whole of the Project Building including utilities to ensure that during the Defect Liability and Maintenance Period and at its end, it is in sound, durable and functional condition.

4.3.4. Special Repairs

Damages occurring due to natural calamities like heavy floods, sand storms, hurricanes, cyclones, and earthquakes to any element or system of the Project Building along with utilities shall be rectified and the system restored to function as per programme prepared in consultation with ENGINEER. All such activities shall fall under 'Maintenance' and shall form a part of the said Maintenance Manual.

4.4. Minimum Requirements of Maintenance Activities

4.4.1. Major Breaches in the Roadway

Deleted

4.4.2. Minor cuts, rutting or blockage

Deleted

4.4.3. Deleted.

4.4.4. Deleted.

4.4.5. Drainage/Side Drains. Deleted

4.4.6. Cross Drainage Works & Other Structures

Deleted

4.4.7. Pavement

As part of pavement maintenance the pavement shall be treated for various distresses occurring as described below.

4.4.7.1. Cracking

Cracking of bituminous pavements shall include all types of cracks such as hairline, alligator, and longitudinal, transverse, shrinkage, reflective and edge cracking, linear and slippage etc. For any 50 m section of the pavement, the cracked area should not be more than 10% of the pavement surface of that section and/or the cracked area shall not exceed 0.5 sq.m at a place. The treatment shall be completely done within 7 days after their detection. The treatment shall be followed as described below:

- i.** If the width of the cracks is less than 3mm and resulting into settlement of pavement up to 10 mm in depth and exceeding in area more than 0.5 sq.m. at a place, such cracking shall be sealed by fog sealing in accordance with the MORT&H Specification 3004.
- ii.** If the width of the cracks is more than 3mm and resulting into settlement of pavement up to 10 mm in depth and exceeding in area more than 0.5 sq.m. at a place, such cracked surface shall be repaired by slurry sealing in accordance with MORT&H Specification 516.
- iii.** If the cracked portion has settled more than 10mm and its area exceeds 0.5 sqm, such areas shall be repaired by patching as per MORT&H Specification 3004.
- iv.** In case of alligator cracks, the permanent repair by full depth patching shall be carried out. Removing the affected bituminous layer and replacing it with surface patch shall repair the slippage cracks.

4.4.7.2. Rutting

For any 50 m section of the pavement, there shall not be ruts deeper than 10 mm and/or the length of rutting should not be more than 5m. The treatment shall be completely done within 8 days after their detection. The pavement surface shall be rectified/corrected as per directions laid out in IRC 82-1982 and based on sound engineering practice at such locations.

4.4.7.3. Corrugations and Shoving

If corrugations and shoving in the pavement area exceeds 1 sq. m at any place and depth / height of corrugation / shoving exceeds 10mm, the same shall be rectified/corrected within 2 days after its detection, as per directions laid out in IRC 82-1982 and based on sound engineering practice.

4.4.7.4. Settlement or Grade Depressions

If the settlements and grade depressions exceed 1 sqm in area and their depth is within 10mm, such defects shall be treated within 3 days after detection as per directions laid out in IRC 82-1982 and based on sound engineering practice.

4.4.7.5. Upheaval or Swell

For any 50 m section of the pavement, there shall not be upheaval or swell that exceeds 0.5 sq. m in area; if its height is more than 10mm, the same shall be treated within 7 days after its detection as per as per directions laid out in IRC 82-1982 and based on sound engineering practice.

4.4.7.6. Raveling Deleted

4.4.7.7. Potholes Deleted

4.4.7.8. Skid Hazards Deleted

4.4.7.9. Bleeding or Flushing Deleted

4.4.7.10. Edge deformation/Breaking Deleted

4.4.7.11. Loss of Cover Aggregate Deleted

4.4.7.12. Longitudinal / Transverse Streaking Deleted

4.4.8. If any defects other than those mentioned above occur on the pavement of the Project Highway, the same shall be rectified/corrected by the Contractor as per directions laid out in IRC 82-1982 and based on sound engineering practice.

4.4.9. The above stated minimum requirements of maintenance activities are applicable to bridges, structures & flyovers.

4.5. Other Maintenance Activities

4.5.1. Deleted.

4.5.2. Maintenance of Electrification / Street Lighting System and safeguarded against electrical accidents.

4.5.2.1. Maintenance of all lighting installations and related appurtenances shall be as per relevant clauses of IS : 1944 (Part I-V) 1981.

4.5.2.2. Lighting wherever provided shall be maintained by the Contractor in a condition nearly similar to original condition.

4.5.2.3. The faults shall be repaired instantly and lighting restored. Missing and damaged items shall be replaced instantly.

4.5.2.4. Cleaning shall be done at regular intervals to be mentioned in the Maintenance Manual to ensure that lighting level is not below the specified standard.

4.5.2.5. All installations shall be safeguarded against weathering, electrical accidents and ageing effects by repainting and other preventive measures.

4.5.2.6. The servicing of stand-by power generation units and power transmission units shall be carried out in accordance with the manufacturer's instructions.

4.5.3. DELETED.

4.5.4. DELETED.

4.5.5. DELETED

4.5.6. DELETED

4.5.7. DELETED

4.5.8. DELETED.

4.5.9: DELETED.

IMPLEMENTATION MANUAL AND MAINTENANCE INTERVENTION LEVEL

6.1 Introduction

6.1.1 Deleted

6.1.2 Deleted

6.2 Maintenance Procedures

6.2.1 The complete maintenance programme shall be spread over the initial base period of three months. There are eight significant procedural areas:

- Maintenance Programme Planning
- Resource Estimation
- Identification of Priorities
- Work Scheduling
- Work Management
- Work Control and Quality Assurance
- Deleted.
- Records & Documentation

6.1 Maintenance Programme Planning

6.1.1 The maintenance programme planning shall be in two stage

- a. First Stage: Within 28 days of issuance of Letter of Commencement by the Employer. Contractor & Engineer shall identify the activities of Routine Maintenance, which shall have to be taken up immediately who check the further deterioration of paved and unpaved surface of carriageway separately. To identify these activities formal field inspection shall be carried out by technical

staff of Contractor & Engineer. A management meeting shall then be called within 7 (seven) days of inspection to scrutinize the identified works and then these works shall be quantified. Engineer shall then issue indent to contractor for execution of these works specifying quantity to be executed at different locations, amount of works calculated on the bases of the unit rates quoted by contractor and date of completion. This part of work shall certainly be commenced not later than stipulated date of commencement.

- b. Finalization of yearly maintenance programme: This activity shall begin with the stipulated date of commencement. The various steps proposed to be taken under this activities are as under :
 - i. to carryout present state inspection of entire stretch of Highway by Contractor & Engineer.
 - ii. To identify defects as per various available engineering characteristics of road & measurement of all defects in each sub-section (length of subsection shall be 200 m) based on representative measurements for 25 m length in each sub section. The extent of defects shall be recorded in forms finalized in consultation with NHAI for paved road, unpaved road and structure / furniture. All Defects with its extent shall assessed in term of length & area of the sub section, mentioning chainage (locations) in order to have exact estimate of work.
 - iii. A comprehensive documentation shall be prepared separately by Engineer and Contractor mentioning their assessment of various types of defects in each km of road.
 - iv. Management meetings shall be called within 15 days of inspection to finalize and then to quantify the defects after comparison of measured condition of road and maintenance intervention levels set out at Section VII in this volume on commonly acceptable basis. This shall be followed by identification of particular maintenance work proposed to be carried out at site to make good the defects noted above, out of various alternatives available in BOQ.

6.1 Resource Estimation

- 6.1.1 The Engineer shall workout the yearly requirement of funds based on unit prices rates quoted by Contractor and quantities of various items proposed to be executed. A tentative programme shall be drawn on the basis of resources available with the contractor at different times of maintenance period including available establishment, equipment and labour availability with him. Cash flow available with the contractor shall also be basic input to determine proposed maintenance programme.

6.2 Identification of Priorities

- 6.2.1 The Engineer shall work out order of priority, judiciously in order that jobs that have the stronger claim or resources placed at the heads of the list and those having least claim are placed at the end.

6.2.2 The maintenance activities by order of importance shall be reckoned in the following order or as deemed proper to Engineer:

- a. Urgent Works: Emergency repairs, removal of road blockade, repair to road breach, removal of accidental vehicles and dead animals, immediate repairs to CD works.
- b. Recurrent Works: Blading and grading of unpaved surface, spot gravelling of unpaved surfaces, clearing of drains before rains, patch repair local sealing and repair to pot holes.
- c. Periodic Works: Re-gravelling shoulders, major repair to defective carriageway, road surface markings resealing and repair to CD works.
- d. Other Periodic Works: Laying overlays and reconstruction

6.1.1 The activities mentioned under Routine Maintenance shall be carried out on continuous basis as does not fall in order of priority.

6.1.2 Seasonal variation in the year shall also be influencing factor to decide order of priority of maintenance works.

6.2 Work Scheduling

6.2.1 The maintenance and rehabilitation work of road is of unpredictable nature so quantities shown against each item or work are only representative. It is expected that they would be consumed during the entire base period of works but employer would not be responsible to pay any compensation etc. in case there is variation to any extent in quantity of actual execution of particular item of work with respect to representative quantity shown in BOQ for that particular work.

6.2.2 Scrutinized work proposals shall be negotiated by the Engineer with Contractor for quantity and time to complete that particular activities and accordingly they shall be classified to two groups:

Group – I: Works of short duration of completion (up to 2 months)

Group – II: Works of larger duration of Completion (more than 2 months)

6.2.3 For works under Group I quarterly indents shall be issued and for works classified under Group 2 bi-yearly indents shall be issued by the Engineer. These indents shall mean to identify, quantity the various works which contractor is expected to execute on this unit rates quoted by him at specified locations within the time period assigned in the indents. Each indent shall be treated as part of the work for which contractor has submitted Bids. The terms & conditions applicable in bid document shall also be applicable to these indented works.

6.2.4 In case of urgency requiring immediate actions to remove road blockade to construct temporary bypass or urgent preventive measures to reduce extent of expected damages or to make precautionary arrangements to handle emergencies. Engineer shall issue interim indents for such works / arrangements to be complied with by the contractor in responsible manner without loss of time.

6.2.5 The price of any such work which are not covered with items mentioned in priced bid, the rates and prices in the contract shall be used as the basis for valuation of reasonable rates, failing which after due consultation by the Engineer with the Employer and the Contractor; suitable rates or prices shall be agreed upon

between the Engineer and the Contractor.

6.3 Work Management

- 6.3.1 The success of Contract maintenance system lies with good work management. The contractor shall draw activities which shall be accomplished by in house crew and portion of the work to be accomplished with sub contractors.
- 6.3.2 For execution of maintenance works at scattered locations contractor should adopt concept of “MOBILE MAINTENANCE UNITS”. The basic ingredients of “MOBILE MAINTENANCE UNITS” have been explained at **Annexure-A**.
- 6.3.3 For execution of maintenance works the list of equipment at **Annexure – B** is required to be deployed.
- 6.3.4 The system of quarterly reports such as budget reports, resources utilization report, quality control and status of base maintenance programme (planned versus actual) has to be generated in order to evaluate working of contract maintenance system and to work out upgradation / modification required in the programme. The modification to finalized maintenance programme can be made with mutual consent of both the contractor and engineer to derive best results.
- 6.3.5 The contractor can also consider to introduce walkie talkie system on the Highway for better and efficient management of site.

6.8 Work Control & Quality Assurance

6.8.1 The Engineer shall adopt random sampling procedures to ensure quality control. Engineer shall carry out in process inspections and end product inspections to collect samples and shall carry out testing in order to determine the degree of adherence to the maintenance standards of delivered or constructed material. Any testing / checking of works by Engineer shall not absolve the contractor from his responsibility to execute works strictly in accordance of MOST / IRC / IS specifications or laid down standards in bid document.

6.8.2 A quality control laboratory equipped with all instruments required to perform tests as indicated in MOST / IRC / IS specifications at frequency mentioned therein shall have to be provided by the contractor. Contractor shall ensure that testing of all material delivered or constructed is regularly carried out by his filed staff as per standard norms and results of these tests are recorded in specified manner and made available to Engineer whenever required by him. The contractor shall provide the QC laboratory, as incidental to work and no separate payment shall be made for this item. The QC lab shall also be made available to Engineer for conducting tests of his own.

6.8.3 In process inspections shall be carried out by the Engineer to witness and / or to verify the quality / quantity of work, when activity is in process with aim to judge justification of payment. Engineer shall carry out end product inspections after completion of the activity to provide satisfactory evidence about acceptability of the contractors work.

6.8.4 The results of in process inspections, end product inspections and quality

control tests shall form basis of acceptance of completed works and issuance of non – conformance Report. Items of Works or unit of material or the end product do not meet the specifications / standards shall be identified by “Non-Conformance-Report” and can become basis of rejection of work on establishing the authorised disposition.

6.8.5 Non Conformance Report: No defective or uncompleted work shall be paid. Such work shall also be notified to the Contractor within 10 days of submission of bill through non-conformance report (NCR). The NCR shall clearly identify the item of work that is non – conforming either to specification or to a specific requirement in the contract document. Once NCR is identified, it shall be evaluated and of the dispositions would be established.

- a. “Do” Identifies the work which has not been done at all at site within specified time limit. An NCR issued with “Do” disposition for the work should immediately be undertaken by contractor.
- b. “Re-Do” Identified the work, that is non conforming of all quality aspects. Such works be totally removed & redone.
- c. “Re-work” Requires part of particular item identified in this category be reworked to bring it to the quality required.
- d. “Use-as-is” Applied where Engineer accepts work “as-is” notwithstanding the fact that it does not exactly conform to the contract requirements. This work shall be accepted only for agreed reduced rates with respect to unit rates quoted in financial bid by the contractor otherwise shall be re-classified under disposition “Do” or “Re-Do”.

6.9 Payment Procedures – Deleted

6.9.1 Rate – Deleted.

6.10 Records & Documentation

6.10.1 The results of all inspection shall be documented. The test results containing documentary evidence of activities and data relevant to the quality of work and performances of the contractor shall also be documented. The field dairy to be filled by Site Engineer of Contractor shall be a basic form of documentation. The activities to be entered in daily dairy are

- The description of day’s activities, number and type of crew on job, equipment on job weather and temperature
- Any measurement made to determine pay quantities
- Daily summary of material issued in the job
- A record of significant conversations with and direction given to the contractor
- A record of bottlenecks with the progress or execution of the work
- A record of material testing in lab

- Details of visit by officials

6.10.2 Deleted

ADDITIONAL MAINTENANCE STANDARDS

5.5.1 Maintenance standard for cleaning, clearing and repairing roadside lined drains

Deleted

5.5.2 Maintenance standard for cleaning, clearing, deepening and reshaping of roadside unlined drains

Deleted

5.5.3 Maintenance standard for routine maintenance of road signs and delineators

Deleted

5.5.4 Maintenance standard for replacing road signs, delineators mounted on single post/more than one post

Deleted

5.5.5 Maintenance standard for treatment of bleeding bituminous surface

Deleted

5.5.6 Maintenance standard for treatment of closely spread cracks at scattered locations by slurry sealing

Deleted

5.5.7 Maintenance standard for treatment of rutted bituminous surface

Deleted

5.5.8 Maintenance standard for treatment for bituminous hungry /stripped bituminous surface

Deleted

5.5.9. Maintenance standard for treatment & repair of potholes

Deleted

ANNEXURE - A

MOBILE MAINTENANCE UNIT

Deleted

EQUIPMENT TO BE DEPLOYED AT SITE – as stated in contract data**MAINTENANCE INTERVENTION LEVELS
(Applicable to items executed under this contract)**

Following criteria shall be adopted by the Engineer while indenting the works.

Sl. No.	Defects	Criteria / Extent (% of sub section length)	Treatment / Action	Type of maintenance
1	Safety barriers, fencing	Any	Repair & repaint	Periodic
2	Pavement markings	a. Up to 30		Recurring
		b. More than 30		Periodic
3	Settlements & upheaval	a. <20	Remove the weak / defective fill up to base & redo.	Recurrent
		b. >20	i. Remove the work / defective fill up to base & redo ii. Strengthen the crust by providing additional layers	Periodic
4	Paver Blocks	Settlement and breakage	Reconstruct	Periodic

Affidavit (on Rs.500/- Stamp Paper)

I age
address..... (Authorized signatory to sign the contract), hereby submit, vide this
affidavit in truth, that I am the owner of the contracting firm/
authorized signatory and I am submitting the documents in envelope no.1 for the
purpose of scrutiny of the contract. I hereby agree to the conditions mentioned below :-

1. I am liable for action under Indian Penal Code for submission of any false /
fraudulent paper / information submitted in envelope no.1.
2. I am liable for action under Indian Penal Code if during contract period and
defect liability period, any false information, false bill of purchases supporting
proof of purchase, proof testing submitted by my staff, subletting company or
by myself, I will be liable for action under Indian Penal Code.
3. I am liable for action under Indian Penal Code if my paper are found false/
fraudulent during contract period and even after the completion of contract
(finalization of final bill).

(Signature of Contractor)
(seal of company)

SECTION 11

Financial Offer

SECTION 11

TENDER FOR WORKS

<p>* In figures as well as in words.</p>	<p>I/We hereby tender for the execution, for the PCNTDA (hereinafter and hereinafter referred to as “ PCNTDA “ of the work specified in the underwritten memorandum within the time specified in such memorandum at (In words) (percent below/above) the estimated rates entered in Part A of Schedule – B (memorandum showing items of works to be carried out) and in accordance in all respects with the specifications, design, drawings, and instructions, in writing referred to in Rule-1 hereof and in Clause-12 of the annexed conditions of the contract and agree that when materials for the works are provided by the PCNTDA such material the rates to be paid for them shall be as provided in Schedule “A” hereto.</p>
	<p style="text-align: center;">MEMORANDUM</p> <p style="text-align: center;">General Description :</p>

Name of work :- Repairs to New Administrative Building of PCNTDA including painting, repairing blocks,
Developing new parking, Garden work etc.

paving

SCHEDULE -A

Schedule showing (approximately) the materials to be supplied from the Public Works Stores for work contracted to be executed and preliminary and Ancillary works and the Rates at which they are to be charged for.

Sr.No.	Particulars	Quantity	Unit	Rates at which the material will be charged to the contractor		Place of Delivery
				In Figure	In Words	
1	2	3	4	5	6	7
		Nil				

Deputy Engineer

**Executive Engineer
Engineering Division B**



Name of work :- Repairs to New Administrative Building of PCNTDA including painting, repairing paving
Developing new parking, Garden work etc.

blocks,

SCHEDULE B

Sr.	Quantity	Item of Work	Estimated Rate	Unit	Amount
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			In figures	In Words		
1	2	3	4	5	6	7
		PART - A				
		I) Repairs to Main Building				
1	10.00	Providing internal cement plaster 12mm thick in single coat in cement mortar 1:3 without neeru finish to concrete or brick surfaces, in all position including scaffolding and curing etc. complete.	244.30	Rs Two Hundred Forty Four and Paise Thirty Only	Square Meter	2443.00
2	22.71	Providing and fixing of laminated glass glazed sky light. frame made in grid pattern from M.S. epoxy painted rectangular tube of appropriate size for both vertical and horizontal section welded to each other frame fixed to the slab/sofit with M.S.base plate and anchor fastness skylight section made from 2.5 mm thick silver anodised aluminium skylight section for the M.S.structure with screws.fixing over it laminated glass comprising of 6 mm clear H.S. glass +0.76 mm PVB Lamination + 6 MM Clear H.S. glass with EPDM gasket and silver anodised aluminium pressure plate sealing the periphery with weather silicone sealent complete.	6542.10	Rs Six Thousand Five Hundred Forty two and Paise ten only	Square Meter	148571.09
3	10.00	Providing and laying Cast in situ/ Ready Mix cement concrete M-15 of trap/ granite/ quartzite/ gneiss metal for coping to plinth or parapet, moulded or chamfered as per drawing or as directed including steel centering, plywood/ steel formwork compacting, roughening them if special finish is to be provided, finishing uneven and honeycombed surface and curing etc. complete. The Cement Mortar 1:3 plaster is considered for rendering uneven and honeycombed surface only. Newly laid concrete shall be covered by gunny bag, plastic, tarpaulin etc. (Wooden centering will not be allowed).	5647.30	Rs Five Thousand Six Hundred Forty Seven and Paise thirty only	Cubic Meter	56473.00
4	10.00	Providing second class Burnt Brick masonry with conventional/ I.S. type bricks in cement mortar 1:6 in superstructure including striking joints, raking out joints, watering and scaffolding etc. Complete	6088.30	Rs Six Thousand Eighty Eight and Paise thirty only	Cubic Meter	60883.00
5	7.62	Providing and laying ceramic tiles having size 30 cm. x 30 cm. conforming I.S.15622/2006 (group D II-A) and 7 to 8 mm. thick for flooring in required position laid on a bed of 1:4 cement mortar including cement float, filling joint with white/ colour cement slurry cleaning curing etc. complete.	1036.85	Rs One Thousand thirty Six and Paise Eighty Five only	Square Meter	7900.80

6	13.44	Providing and fixing machine cut machine polished 18 mm. to 20 mm. thick telephone black/ Amba White/ Cat bary brown/ Ruby Red/ Ocean Brown granite stone for treads and risers of steps and staircases of approved colour and shade with rounded moulding and three grooved line for the treads on bed of 1:4 Cement mortar including float filling joints with neat cement slurry curing polishing and cleaning etc. complete.	3695.95	Rs Three Thousand Six Hundred Ninety Five and Paise Ninety Five only	Square Meter	49673.57
7	105.00	Providing and fixing 450 mm.x550 mm. size superior type Belgium mirror with 16 mm diameter nickel plated towel rod etc. complete.	655.00	Rs Six Hundred fifty five and Paise Nil only	Number	68775.00
8	50.00	Providing and laying in walls/ ceilings/ floors 50 mm diameter medium grade having embossed as ISI Mark galvanised iron pipes of 5.17 kg/metre necessary fitting remaking good the demolished portion with filling trenches and with primer of anti-corrosive oil paint, 2 coats complete.	634.20	Rs Six Hundred Thirty Four and Paise Twenty only	Running Meter	31710.00
9	10.00	Providing and applying two coats of flat oil paint of approved colour to the old structural steel work and iron work previously painted in building including scaffolding, if necessary, cleaning and preparing the surface (excluding primer coat) etc. complete.	66.15	Rs Sixty six and Paise Fifteen only	Square Meter	661.50
10	20.00	Supply and fixing SS chrome finish perforated Dustbins as per Workstation area, meeting ,rooms , record room, as per the instruction of Architect /Engineer -in-charge.	1050.00	Rs One Thousand fifty and Paise Nil only	Number	21000.00
11	2.00	Providing and fabricating structural steel work in rolled sections like joists, channels, angles, tees etc. as per detailed design and drawings or as directed including cutting, fabricating, hoisting, erecting, fixing in position making riveted / bolted /welded connections without connecting plates, braces etc. and including one coat of anticorrosive paint and over it two coats of oil painting of approved quality and shade etc. complete.	74564.70	Rs Seventy four Thousand Five Hundred sixty four and Paise seventy only	Metric Tonne	149129.40
12	14.28	Providing and fixing in position powder coated aluminium louvered windows / ventilator of various sizes with powder coating as per detailed drawing and specifications including aluminium frames 80 x 38 mm x 1.22 mm box type, 5 mm thick sheet glass louvers, of approved quality etc. complete.	2905.00	Rs Two Thousand nine Hundred five and Paise nil only	Square Meter	41483.40
13	33.29	Providing and fixing false ceiling in gypsum board on GI frame 22 guage horizontally in 600x600 grid with proper filling of joint in the line and level etc. including all leads and lifts complete.	12500.00	Rs Twelve thousand five hundred and Paise nil only	Square Meter	416125.00

14	10.00	Providing and fixing centre lock to wooden doors of dorma or godrej make.	3500.00	Rs Three Thousand five Hundred and Paise nil only	Number	35000.00
15	25.00	Providing and fixing floor spring machine of capacity 150 kg dorma or godrej to wooden /glass	16500.00	Rs Sixteen thousand five hundred and Paise nil only	Number	412500.00
16	20.00	Providing resetting /servicing to wooden/glass door.	3000.00	Rs Three Thousand and Paise nil only	Number	60000.00
17	1.82	Providing and fixing mild steel grill gate as per the detailed drawing including hinges, locking arrangements and painting in three coats of oil paint of approved colour and shade etc. complete.(weight 18 kg. to 20 kg. Per Sq.m.)	1543.50	Rs One Thousand Five Hundred Forty three and Paise fifty only	Square Meter	2809.17
18	0.05	Providing and fixing in position C.C.T.W. brackets for weather sheds of section 70 x 45 mm with mortise and tenon joinery at 1.2 to 1.5 metre center to center or as directed and teak wood battens of required section, including fixing three numbers of iron nut and bolts to each bracket, necessary scaffolding and two coats of painting to wood work etc. complete.	113475.60	Rs One lakh thirteen Thousand four Hundred seventy five and Paise sixty only	Cubic Meter	5673.78
19	3.60	Providing and fixing 22 B.W.G. plain galvanised iron sheets on top of weather shed, including scaffolding, fixing by means of nut and bolts or as directed etc. complete. (Brackets of 70 x 45 mm to be paid separately)	762.30	Rs Seven Hundred sixty two and Paise thirty only	Square Meter	2744.28
20	5.18	Providing and fixing nameplates in foamboard to various staff of PC-NTDA at various places in new administrative building (foam sheet with ecosolvent printing with lamination and designing installing pasted on 3mm foam sheet) as per directed by engineer-in-charge.	2664.00	Rs two Thousand Six Hundred sixty four and Paise nil only	Square Meter	13799.52
21	19.44	Supply and fixing of shera Board 12mm fixed on External wall with Necessary screws as per the design and elevation details as mentioned in the drawing. The rates inclusive of supply, fixing, Painting and necessary scaffoldings .Etc. complete	986.00	Rs nine Hundred eighty six and Paise nil only	Square Meter	19167.84
22	284.00	Providing and fixing 84C linear metal false ceiling of super-sil make in RAL pure white shade as per specification : including all leads and lift complete.	2188.80	Rs Two Thousand one Hundred eighty eight	Square Meter	621619.20

				AND Paise eighty only		
23	310.80	Removing G.I. or A.C. sheet or polycarbonate sheet roofing including purlins, principal rafters etc. including sorting serviceable and unserviceable materials, stacking the same as and where directed in the compound including scaffolding etc. complete.	66.15	Rs sixty six and Paise fifteen only	Square Meter	20559.42
24	336.96	Providing and fixing of colour coated Zinalume (R) AZ150 (Min 150 gms/ sq.mt. total on each sides) profiled sheets for roofing. Including fasteners Zinc-Tin alloy coated, Hex head, self-drilling screw etc. complete. (Weight of profile 4.52 Kg/Sqm).	738.15	Rs seven Hundred thirty eight and Paise fifteen only	Square Meter	248727.02
25	12.00	Providing and fixing Turbo ventilator 24 inch dia on roof Including fasteners Zinc-Tin alloy coated, Hex head, self-drilling screw etc. complete.	9768.65	Rs nine Thousand seven Hundred sixty eight and Paise sixty five only	Number	117223.80
26	495.00	Providing leak proof treatment by Injection grouting method to old floor without removing tiles of W.C., bath, with cement sand proportion of 1:1.5 and waterproofing compound at 2 kg/bag of cement mixed in 35 liters of water including drilling holes in required position grouting with above mixed solution and ceiling etc. complete.	29.40	Rs twenty nine and Paise forty only	Liter	14553.00
27	477.17	Providing and applying French polish for required finish on previously polished wood including knotting, preparing the surfaces, scaffolding etc. complete as directed	95.55	Rs ninety five and Paise fifty five only	Square Meter	45593.59
28	27.30	Providing STAGE SCAFFOLDING using steel scaffolding pipes frames made of 40 mm dia MS pipe and bracings with scaffold boards etc. and cost and conveyance of all other consumable accessories, taxes etc complete for finished item of work for PLAN AREA. (This item is applicable only for repairs to the Gypsum board false ceiling in atrium only.)	1094.00	Rs one Thousand ninety four and Paise nil only	Square Meter	29866.20
		II) Painting Work				
29		Providing and applying pearl/ luster finish paint of approved colour and shade to the existing plaster surface including scaffolding, preparing the surface, applying the acrylic wall putti etc. complete.				



	4657.56	Ground Floor	160.65	Rs one hundred sixty and paise sixty five only	Square Meter	748237.01
	3642.07	First Floor	162.20	Rs one hundred sixty two and paise twenty only	Square Meter	590743.75
	2006.57	Second Floor	163.70	Rs one hundred sixty three and paise seventy only	Square Meter	328475.51
	815.57	Third Floor	165.25	Rs one hundred sixty five and paise twenty five only	Square Meter	134772.94
	771.82	Fourth Floor	166.75	Rs one hundred sixty six and paise seventy five only	Square Meter	128700.99
	928.42	Fifth Floor	168.30	Rs one hundred sixty eight and paise thirty only	Square Meter	156253.09
	784.73	Sixth Floor	169.85	Rs one hundred sixty nine and paise eighty five only	Square Meter	133286.39
	970.29	Seventh Floor	171.35	Rs one hundred seventy one and paise thirty five only	Square Meter	166259.19
30		Providing and applying two coats of exterior white weather shield paint of approved manufacture and of approved colour to the plastered surfaces including cleaning, preparing the plaster surface, applying primer coat, scaffolding if necessary and watering the surface for two days complete.				



	3598.56	Ground Floor	203.70	Rs two hundred three and paise seventy only	Square Meter	733026.67
	1795.63	First Floor	205.65	Rs two hundred five and paise sixty five only	Square Meter	369271.31
	1191.91	Second Floor	207.60	Rs two hundred seven and paise sixty only	Square Meter	247440.52
	1301.85	Third Floor	209.50	Rs two hundred nine and paise fifty only	Square Meter	272737.58
	1281.19	Fourth Floor	211.45	Rs two hundred eleven and paise forty five only	Square Meter	270907.63
	1274.87	Fifth Floor	213.40	Rs two hundred thirteen and paise forty only	Square Meter	272057.26
	1230.62	Sixth Floor	215.35	Rs two hundred fifteen and paise thirty five only	Square Meter	265014.02
	1589.81	Seventh Floor	217.30	Rs two hundred seventeen and paise thirty only	Square Meter	345465.71
		III) Repairs to damaged paving blocks				
31	122.15	Excavation for foundation in earth, soil of all types, sand, gravel and soft murum, including removing the excavated material up to a distance of 50 m. beyond the building area and stacking and spreading as directed, de-watering, preparing the bed for the foundation and necessary back filling, ramming, watering including shoring and strutting etc complete. (Lift upto 1.5 m) By Mechanical Means	150.15	Rs one hundred fifty and paise fifteen only	Cubic Meter	18340.82



32	1245.31	Providing pick and roll surface by picking the old WBM surface to the required standard, adding 30% of 40mm size metal and required quantity of murum including laying sectioning, watering, compacting with static roller with thin layer of murum blindage on carrageway, watering and compacting by static roller, including cost of all materials, loading, unloading, stacking and labour etc. complete.	87.15	Rs eighty seven and paise fifteen only	Square Meter	108528.77
33	122.15	Conveying materials obtained from road cutting including all lifts, for a lead of over 5.0 km. from the site of excavation to the site of deposition as directed.	205.85	Rs two hundred five and paise eighty five only	Cubic Meter	25144.58
34	1245.31	Providing and fixing factory made Hydraulically pressed Mechanically vibrated and compacted precast inter locking coloured / cement concrete paving blocks 100 MM thick in M-40 grade of approved size and shape for City streets, small /medium market roads,low volume roads, utility cuts on arterial roads etc. as specified and as per IS 15658:2006 including cost of all materials, manufacturing, curing, transportation of blocks to work site including loading, unloading and stacking as directed, laying paving blocks in position over prepared bed of natural sand / crushed sand of 50 mm thickness including necessary excavation in all stratas, spreading blindge of fine sand over the prepared bed, compacting blocks by plate vibrator etc. complete.	861.00	Rs eight hundred sixty one and paise nil only	Square Meter	1072211.91
IV) Open parking on west side of the office						
35	214.65	Excavation for foundation in earth, soil of all types, sand, gravel and soft murum, including removing the excavated material up to a distance of 50 m. beyond the building area and stacking and spreading as directed, dewatering, preparing the bed for the foundation and necessary back filling, ramming, watering including shoring and strutting etc complete. (Lift upto 1.5 m) By Mechanical Means	150.15	Rs one hundred fifty and paise fifteen only	Cubic Meter	32229.70
36	81.00	Providing dry/ trap/ granite/ quartzite/ gneiss rubble stone soling 15 cm to 20 cm thick including hand packing and compacting etc. complete.	1309.55	Rs one thousand three hundred nine and paise fifty five only	Cubic Meter	106073.55

37	29.48	Providing and laying Cast in situ/Ready Mix cement concrete in M15 of trap/ granite/quartzite/gneiss metal for bed blocks, foundation blocks and such other items including bailing out water, Steel centering, form-work, laying/ pumping, compacting, roughening them if special finish is to be provided, finishing uneven and honeycombed surface and curing etc. complete. The Cement Mortar 1:3 plaster is considered for rendering uneven and honeycombed surface only. Newly laid concrete shall be covered by gunny bag, plastic, tarpaulin etc. (Wooden centering will not be allowed.), without SCADA etc. complete. With fine aggregate (Natural Sand / Crushed sand VSI Grade finely washed etc)	5238.95	Rs five thousand two hundred thirty eight and paise nighty five only	Cu- bic Meter	154444.25
38	104.09	Providing and laying in situ /Ready Mix cement concrete M-20 of trap / granite /quartzite/ gneiss metal for R.C.C. work in foundations like raft, strip foundations, grillage and footings of R.C.C. columns and steel stanchions etc. including bailing out water, Steel centering form-work, laying/pumping cover blocks, compaction and curing roughening the surface if special finish is to be provided (Excluding reinforcement and structural steel) etc. complete, without SCADA etc. complete. With fine aggregate (Natural Sand / Crushed sand VSI Grade finely washed etc)	5757.75	Rs five thousand seven hundred fifty seven and paise seventy five only	Cubic Meter	599324.20
39	5.20	Providing and fixing in position TMT - FE - 500 bar reinforcement of various diameters for R.C.C. pile caps, footings, foundations, slabs, beams columns, canopies, staircase, newels, chajjas, lintels pardis, copings, fins, arches etc. as per detailed designs, drawings and schedules. including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required complete.	67193.70	Rs sixty seven thousand one hundred ninety three and paise seventy only	Metric tone	349407.24
40	1824	Supplying hard murum/ kankar at the road site, including conveying and stacking complete.	626.00	Rs six hundred twenty six and paise nil only	Cubic Meter	1141824.00
41	1824	Spreading hard murum/ soft murrum/ gravel or kankar for side width complete	59.85	Rs fifty nine and paise eighty five only	Cubic Meter	109166.40
42	2400.00	Compacting the hard murum side widths including laying in layers on each side with vibratory roller including artificial watering etc. complete.	16.80	Rs sixteen and paise eighty only	Square Meter	40320.00



43	480.00	Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader/ Paver on prepared surface and compacting with vibratory roller to achieve the desired density, complete as per clause 401 -- Plant Mix Method and Grading - I Material	1950.25	Rs one thousand nine hundred fifty and paise twenty five only	Cu-bic Meter	936120.00
44	2400.00	Providing and fixing factory made Hydraulically pressed Mechanically vibrated and compacted precast inter locking coloured / cement concrete paving blocks 100 MM thick in M-40 grade of approved size and shape for City streets, small /medium market roads,low volume roads, utility cuts on arterial roads etc. as specified and as per IS 15658:2006 including cost of all materials, manufacturing, curing, transportation of blocks to work site including loading, unloading and stacking as directed, laying paving blocks in position over prepared bed of natural sand / crushed sand of 50 mm thickness including necessary excavation in all stratas, spreading blindge of fine sand over the prepared bed, compacting blocks by plate vibrator etc. complete.	861.00	Rs eight hundred sixty one and paise nil only	Square Meter	2066400.00
45	75.00	Providing and erecting chain link fencing 1.6 M. height with G.I. chain link of size 50 x 50 mm, 8 gauge thick and fixed 75 mm above ground level on vertical M.S. Angles of 40 x 40 x 6 mm size, including excavating pits for foundation and embedded in C.C. block of 1:4:8 mix of size 450 x 450 x 670 mm. at 1.75 M. c/c with iron bar 16mm dia as hold fast including welding link with angle frame at 30 cm c/c with nuts and bolts and horizontal M.S. Angles at top and bottom of 25 x 25 x 5 mm size and vertical M.S. flat 35 x 5 mm and 25 x 5 mm horizontal including cross support of 40 x 40 x 6 mm angles both side at every corner or bend embedded in concrete blocks of 1:4:8 of size 450 x 450 x 670 mm including 3 coats of oil painting etc. complete.	1850.10	Rs one thousand eight hundred fifty and paise ten only	Running meter	138757.50
46	310.80	Refixing G.I. or A.C. sheet or polycarbonate sheet roofing including purlins, principal rafters etc. including sorting serviceable and unserviceable materials, stacking the same as and where directed in the compound including scaffolding etc. complete.	84.00	Rs eighty four and paise nil only	Square Meter	26107.20

47	6.79	Providing, fabricating and erecting at site of work the tubular steel structure (shed) as per standard design and specifications having various spans in between trusses and in multiples of standard length of bays as specified as per standard specifications, inclusive of cost of steel tubular trusses, tubular columns purlins, tie runners, foundation bolts, base plates, nuts and bolts, welding wherever required etc. as per detailed drawing inclusive of one coat of anticorrosive paint and two coats of oil painting of approved quality and shade etc. complete.	82824.00	Rs eighty two thousand eight hundred twenty four and paise nil only	Metric tone	562374.96
<u>V) Repairs to Garden</u>						
48	1660.45	Preparing lawn (20 cms. Depth) :- Excavating the ground to a required depth of 20 cms, removing & conveying unwanted stuff to a distance as directed. Filling fresh garden soil/silt & nzure in excavated area in 3:1 proportion to a height of 20 cms. -Mixing soil and manure thoroughly well, levelling, veatering on previous night. Planting required variety of lawn grass as and maintaining till well established by watering, weeding, clipping, rolling, etc. complete.	527.10	Rs five hundred twenty seven and paise ten only	Square Meter	875223.20
49	157.25	Preparing Edging or Border :- Excavating the ground to a required depth of 20 cm in required area, removing and conveying unwanted stuff, rubbish to a required distance as directed. Filling the excavated part with fresh soil and manure in 3:1 proportion to a height of 20 cm. Mixing, levelling, watering the same. Planting rooted edging/border plants at a distance of 20 cm apart by watering weeding, stirring of soil replacing casualties, pruning if necessary etc complete.	452.55	Rs four hundred fifty two and paise fifty five only	Square Meter	71163.49
50	202	Preparing ground covers:- Excavating the ground to a required depth of 20 cms. Removing & conveying unwanted stuff, rubbish to the required distance as directed. Filling the Excavated area with fresh garden soil & F.Y. Manure in 3:1 proportion to a height of 20 cms. Mixing, levelling, watering the same on previous night. Planting suitable ground covers as directed in staggering pattern distance between two rows 25 cms., watering & maintaining till well established.	597.45	Rs five hundred ninety seven and paise forty five only	Square Meter	120684.90

51	172	Planting large flowering / Shady trees: (Minimum Height to 2 Ma.)- Digging pit with size 0.9 m x 0.9 m x 0.9 m removing and conveying unwanted stuff to a required distance as directed. Filling the pit with approved excavated material up to a height of 0.30 m. and remaining height of 0.60 m. with fresh garden soil and manure in 3:1 proportion. Mixing soil & manure thoroughly well, levelling, as directed, watering previous night, planting two to three year old, minimum 2.0 mtr. height, healthy trees sapling as per specifications. Maintaining till well established by watering, weeding, stirring of soil staking replacing of casualties etc. complete	851.55	Rs eight hundred fifty one and paise fifty five only	number	146466.60
52	280	Planting small and medium size ornamental [Flowering plant:- Digging pit with size 0.6 m x 0.6 m x 0.6 m, removing and conveying unwanted stuff to a required distance as directed. Filling the pit with fresh garden soil & Fam Yard Manure upto a height of 0.60 m. in 3:1 proportion. Mixing soil and Manure thoroughly well, levelling, watering on previous night. Planting one to two year old healthy plant saplings as per specifications. Maintaining till well established by watering, stirring, of soil and manure, replacing casualties, etc. complete	433.65	Rs four hundred thirty three and paise sixty five only	number	121422.00
53	257	Mogra Plant /Creepers/Climbers:- Excavating the pit with size 0.3 m x 0.3 m x 0.3,m removing and conveying unwanted stuff to a required distance as directed. Filling the pit with approved excavated material upto a height of 0.15 mtr. and remaining height of 0.15 mtr. with fresh garden soil and manure in 3:1 proportion. Mixing soil and manure thoroughly well, levelling, watering, on previous night. Planting one or two year old healthy plant as per specifications. Maintaining till well established by watering, weeding, pruning, stirring, replacing casualties. etc. complete.	158.55	Rs one hundred fifty eight and paise fifty five only	number	40747.35
54	343.44	Preparing Shrubbery :- Excavating the ground to a required depth of 30 cm, removing and conveying unwanted stuff to a required distance as directed. Filling fresh garden soil and manure in excavated area in 3:1 proportion to a required height of 30 cm. Mixing garden soil and manure thoroughly well, levelling, watering on previous night. Planting well developed shrubs plants 0.50 M height, 0.45 M apart as directed and maintaining till well established by watering, weeding, stirring replacing of casualties etc complete.	580.65	Rs five hundred eighty and paise sixty five only	Square Meter	199418.44

55	129.09	Preparing flower Bed:- Excavating the ground to the required depth of 30 cms, Removing and conveying unwanted stuff to a required distance as directed, Filling fresh garden soil & manure in excavated area in 3:1 proportion to a required height of 30 cms Mixing garden soil and manure thoroughly well, levelling, watering on previous night.Planting seedlings of required annuals 25 cms. apart Maintaining till well established by watering, weeding, Stirring replacing of casualties etc, Complete.	635.25	Rs six hundred thirty five and paise twenty five only	Square Meter	82004.42
56	484.49	Supplying on site Garden soil well sieved 90% to pass through IS sieve of 10 mm size free from stones rubbish like dried grass roots and other such materials. The soil should be fresh from quarry. The colour of the soil generally be red. The soil will be measured by measuring box.	665.00	Rs six hundred sixty five and paise nil only	Cubic Meter	322185.85
57	161.50	Supplying on site Farm yard manure well decayed, well dried, well powdered, without clods and free from stones, dried grass and other rubbish materials. The colour of the manure generally be black. The manure will be measured by measuring box.	775.00	Rs seven hundred seventy five and paise nil only	Cubic Meter	125162.50
58	104.52	Providing and casting in situ or precast tapering R.C.C. M-20 Barrier type Kerb without gutter (as per IRC 86 1983) embedded 125mm below ground level over M-10 PCC finished neatly with C.M. 1:2, setting the same in C.M. 1:2, including the required excavation in any strata and removing the excavated stuff any where in city and redoing the surface as specified and directed by Engineering In-charge. Using Concrete Batching and Mixing Plant	424.20	Rs four hundred twenty four and paise twenty only	Running meter	44337.38
59	25.00	Providing and laying in position flooring of telephone black / Amba White / Cat bary brown / Ruby red / Ocean Brown granite stone of approved shade and size 18 mm to 20 mm thick on bed 1:6 cement mortar including cement floats striking joints, pointing in C.M. 1:3 curing and cleaning etc. complete.	3651.90	Rs three thousand six hundred fifty one and paise ninety only	Square Meter	91297.50
60	2492.23	Maintenance of garden for three years including watering, weeding, hoeing, cultivation operation, supplying pesticide and fertilizer, application of pesticide and fertilizer etc complete.	223.90	Rs two hundred twenty three and paise ninety only	Square Meter	558010.30
TOTAL CIVIL WORK						18152214.13
VI) ELECTRICAL WORK						
1	32.00	Supplying and erecting square shaped CRCA /die-cast aluminium powder coated housing LED Panel light (slim edge-lit) 600X600mm suitable for 36 W-40W with provision for plane front frame with translucent cover fixed to the	2568.00	Rs two thousand five hundred sixty eight and paise nil only	Each	82176.00

		housing complete. (CSR 2018-19 Item No. : 2-5-12)				
2	156.00	Supplying and erecting LED square / circular 16 to 20W downlighter having pressure die-cast aluminium housing, opal translucent cover, mounting arrangement with board for surface type or spring loaded mounting clips for flush type complete. (CSR 2018-19 Item No. : 2-1-5)	1212.00	Rs One thousand Two hundred Twelve and paise nil only	Each	189072.00
3	29.00	Supplying and erecting LED street light fitting suitable for above 75 - 90W lamp, including lamp, with PF > 0.95 class IP 65 and above Housing of pressure die cast aluminium alloy and heat sink extruded aluminium complete per specification No. FG-ODF/FLS2 (CSR 2018-19 Item No. : 2-5-7)	7115.00	Rs Seven thousand One hundred Fifteen and paise nil only	Each	206335.00
4	30.00	Supplying and erecting corridor/Passage light fitting (2 feet) including 18W LED lamp, comprises of extruded channel in plastic silver grey colour & with same plastic end cap on provided PVC block / wooden board(CSR 2018-19 Item No. : 2-1-20)	689.00	Rs Six hundred Eighty Nine and paise Nil only	Each	20670.00
5	4.00	Rewinding motor of the 1200/1400 mm ceiling fan and overhauling including minor repairs lubricating of ball bearings & bush bearing, and replacing condenser, screws etc. Testing of fan for original speed and consumption with guarantee for one year. (CSR 2018-19 Item No. : 18-1-3)	489.00	Rs Four hundred Eighty Nine and paise Nil only	Each	1956.00
6	22.00	Supplying and erecting Exhaust fan medium duty 230 V A.C. 50cycles 225 mm. 1400RPM with condenser complete erected in position with necessary materials. Fan motor with moisture proof treatment and 'E' class insulation and marking Sr. No. & date of erection.(CSR 2017-18 Item No. : 2-12-15)	1623.00	Rs One thousand Six hundred Twenty Three and paise nil only	Each	35706.00
7	8.00	Providing replacement of remote of indoor unit for A/C unit (CSR 2017-18 Item No. : 3-10-22)	3157.00	Rs Three thousand One hundred Fifty Seven and paise nil only	Each	25256.00
8	4.00	Supplying and erecting Electronic Type cordless call bell erected on T.W. board having portable bell push working on 9V. D.C.battery and (Effective range upto 45 meter) bell on 250 V A.C. supply.(CSR 2017-18 Item No. : 2-4-15)	499.00	Rs Four hundred Ninety Nine and paise Nil only	Each	1996.00
9	20.000	Supplying and erecting mushroom shaped integral 12W-16W LED decorative bollard upto 680mm with IP65 protection on	6222.00	Rs Six thousand Two hundred	Each	124440.00

		provided foundation complete.(CSR 2017-18 Item No. : 2-5-25)		Twenty Two and paise nil only		
10	20.00	Providing cement concrete foundation including excavation for the poles (45 cm x 45 cm x 1.2 m) deep in 1:3:6 cement concrete (20 to 25 mm stone metal) and 45 cm x 45 cm x 45 cm / 45 cm dia. x 45 cm height plinth duly plastered and with necessary curing and finishing in an approved manner. (for 6 M pole) (CSR 2017-18 Item No. : 16-3-2)	1162.00	Rs One thousand One hundred Sixty Two and paise nil only	Each	23240.00
11	1.00	Supplying and erecting regular/ standard model Ceiling fan of 600mm. sweep complete erected in position as per specification no. FG-FN/CF (CSR 2017-18 Item No. : 2-12-1)	1667.00	Rs One thousand Six hundred Sixty Seven and paise nil only	Each	1667.00
12	1.00	Supplying and erecting Centrifugal water pump (Monoblock), 230V, Single phase 50 cycles A.C. supply of 1.5 KW/2 HP with discharge 7.16/4.16 Litres per second (LPS) for head of 12/21 m & 50 mm suction/ 50 mm delivery pipe on provided C.C. foundation as per specification no. WP-CGP (CSR 2017-18 Item No. : 12-1-4)	11598.00	Rs Eleven thou- sant Five hun- dred Ninety Eight and paise nil only	Each	11598.00
13	1.00	Supplying and erecting D. O. L. Starter suitable for 250V. single phase, 50 cycles with overload element with necessary materials and connected to supply upto 3 H.P. (CSR 2017-18 Item No. : 12-4-1)	956.00	Rs Nine hundred Fifty Six and paise Nil only	Each	956.00
14	5.00	Supplying and erecting Street light bracket made from 25 mm. dia 'B' class G.I. Pipe, 0.6m. in length along with pole cap of 300 mm length and 80 mm dia duly welded with provided Leads as per specification no.FG-BKT/BPC (CSR 2017-18 Item No. : 2-9-1)	527.00	Rs Five hundred Twenty Seven and paise Nil only	Each	2635.00
15	10	Rewinding the motor of the ceiling fan 1200 mm / 1400 mm of all types and makes and over hauling including minor repairs lubricating of ball bearings & bush bearing, and replacing condensor, screws etc. & testing for original speed And consumption with guarantee for one year. (CSR 2017-18 Item No. : 18-1-3)	489.00	Rs Four hundred Eighty Nine and paise Nil only	Each	4890.00
16	4.00	Supplying & erecting integral post top lantern fixtures (light house type) suitable upto LED 18 W Lamp consisting of combination of spun aluminium canopy & clear acrylic top cover, cast aluminium pole cap on	1766.00	Rs One thousand Seven hundred Sixty Six and	Each	7064.00

		provided pole/ bracket as per specification no. FG-ODF/PTL (CSR 2018-19 Item No. : 2-6-5)		paise nil only		
		TOTAL ELECTRICAL WORK				739657.00
		GRAND TOTAL FOR PART - A				18891871.00
		<u>PART - B</u>				
1	Lump sum	Re-embursement made to contractor for laboratory testing charges for material wherever required on the basis of testing frequency and charges fixed by vegelance and quality control circle, Pune or Govt. lab that is college of Engineering/Govt. Polytechnique for current year after producing govt receipt.				53900.00
2	1905.00	Making Reimbursement to contractor against roylyt charges of natural materials like sand, all types of murum, metal, rubble, etc. After producing the necessary receipts and no dues certificate of royalty charges from competant revenue authority bye the contractor.	141.34	Rs One hundred Forty One and paise Thirty Four only		269252.70
		GRAND TOTAL FOR COMPLETE WORK			Rs	19215024.00

In words – Rs. One Crore Ninety Two lacs Fifteen Thousand Twenty Four only.

Name of work :- Repairs to New Administrative Building of PCNTDA including painting, repairing paving blocks, Developing new parking, Garden work etc.

SCHEDULE C

Sr. No	Item of Work	Std Specifications	
		Item No.	Additional Specifications
1	2	3	4
	PART - A		
	<u>I) Repairs to Main Building</u>		
1	Providing internal cement plaster 12mm thick in single coat in cement mortar 1:3 without neeru finish to concrete or brick surfaces, in all position including scaffolding and curing etc. complete.	Bd.L. 2 Page No.368	1. The surface to be plastered shall be first cleaned and thoroughly wetted for 24 hours and got checked form Engineer in Charge before starting the new plaster. 2. Item includes roughening of all internal and external junctions corners, jambs etc. as directed by the Engineer in Charge. 3. Finishing shall be plain and in line, level and plumb. 4. Curing shall be done by sprinkling water on the surface for minimum period of fourteen days.

2	<p>Providing and fixing of laminated glass glazed skylight. frame made in grid pattern from M.S. epoxy painted rectangular tube of appropriate size for both vertical and horizontal section welded to each other frame fixed to the slab/soffit with M.S. base plate and anchor fastness skylight section mode from 2.5 mm thick silver anodized aluminum skylight section for the M.S. structure with screws. fixing over it laminated glass comprising of 6 mm clear H.S. glass +0.76 mm PVB Lamination + 6 MM Clear H.S. glass with EPDM gasket and silver anodized aluminum pressure plate sealing the periphery with weather silicone sealant complete.</p>		<p>Sample shall be got approved by Executive Engineer before fixing. No extra payment will be given for removing the broken / damaged sheets and stacking or disposing As directed by Engineer In-charge.</p>
3	<p>Providing and laying Cast in situ/ Ready Mix cement concrete M-15 of trap/ granite/ quartzite/ gneiss metal for coping to plinth or parapet, moulded or chamfered as per drawing or as directed including steel centering, plywood/ steel formwork compacting, roughening them if special finish is to be provided, finishing uneven and honeycombed surface and curing etc. complete. The Cement Mortar 1:3 plaster is considered for rendering uneven and honeycombed surface only. Newly laid concrete shall be covered by gunny bag, plastic, tarpaulin etc. (Wooden centering will not be allowed).</p>	<p>Bd.E.3/page no. 288/I.S.456(2000)</p>	<ol style="list-style-type: none"> 1.The appropriate mix design shall be got prepared from the approved government laboratory well in advance and got approved from Engineer in charge before starting the work. 2. Cement from the same stock sent for design shall be used for concreting work. 3. The rate of consumption of cement in mix design are considered for the work as per general practice in actual design ,if the cement consumption is less than that shown in item, the rate will be reduced accordingly .If the rate as per mix design for cement consumption is more than that as per item ,the extra cement will have to be brought by the contractor at his own cost. 4. Before concreting work, cement form each consignment shall be got tested .if the strength of fresh cement available in stock and concreting work shall be done accordingly to modified mix design. 5. The minimum strength of reinforced cement concrete to ensure durability shall as per Indian standard as per IS 456-2000 with latest amendment . 6. For each consignment of cement a sample should be got tested as per norms and frequency of Vigilance and Quality Control circle, laboratory. It will be entire responsibility of contractor for testing of cement and no extra payment will be



made against these testing charges.

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4	Providing second class Burnt Brick masonry with conventional/ I.S. type bricks in cement mortar 1:6 in superstructure including striking joints, raking out joints, watering and scaffolding etc. Complete	Bd.G.5 page no.315	<p>1. The bricks shall be got tested before use the Government laboratory at the rate of 1 batch of 15 bricks for every 50,000 bricks or part thereof at contractors cost for the following:</p> <p>a) Crushing Strength :</p> <p>i) Dry Conditions : 5 Bricks</p> <p>ii) Wet condition : 5 bricks</p> <p>b) Water Absorption 5 bricks</p> <p>2. In addition bricks shall be tested for size, shape and soundness</p> <p>3. The proportion of cement mortar shall be 1:6</p> <p>4. Minimum two drums of water shall be provided to masons for soaking of bricks at each place where masons are working</p> <p>5. For mixing of mortar still forms of required size only shall be use. For mixing of mortar steel trough or back platform shall be used.</p> <p>6. The brick work shall be cured for a minimum period of 14 days.</p> <p>7. The joints on both faces shall be raked to a depth of not less than the thickness of joints for affording good bond for plaster.</p> <p>8. Holdfast for door or window frames shall be embedded in cast in situ 1:2:4 cement concrete block of required size without any etc. Cost.</p>
5	Providing and laying ceramic tiles having size 30 cm. x 30 cm. conforming I.S.15622/2006 (group D II-A) and 7 to 8 mm. thick for flooring in required position laid on a bed of 1:4 cement mortar including cement float, filling joint with white/ colour cement slurry cleaning curing etc. complete.	Bd.M.12 page no.385	<p>1) The work shall be carried out as directed by Engineer in charge.</p> <p>2) Sample of tiles shall be got approved from the competent authority.</p>

6	Providing and fixing machine cut machine polished 18 mm. to 20 mm. thick telephone black/ Amba White/ Cat bary brown/ Ruby Red/ Ocean Brown granite stone for treads and risers of steps and staircases of approved colour and shade with rounded moulding and three grooved line for the treads on bed of 1:4 Cement mortar including float filling joints with neat cement slurry curing polishing and cleaning etc. complete.	Bd.M.22 B/ page no. 390	As directed by Engineer in charge. The Sample of granite slab shall be got approved before fixing.
7	Providing and fixing 450 mm.x550 mm. size superior type Belgium mirror with 16 mm diameter nickel plated towel rod etc. complete.		As directed by Engineer In-charge
8	Providing and laying in walls/ ceilings/ floors 50 mm diameter medium grade having embossed as ISI Mark galvanised iron pipes of 5.17 kg/meter necessary fitting remaking good the demolished portion with filling trenches and with primer of anti-corrosive oil paint, 2 coats complete.	Bd.v.5 page no.551	As directed by Engineer In-charge
9	Providing and applying two coats of flat oil paint of approved colour to the old structural steel work and iron work previously painted in building including scaffolding, if necessary, cleaning and preparing the surface (excluding primer coat) etc. complete.	Bd.0.6 page no.406	As directed by Engineer In-charge
10	Supply and fixing SS chrome finish perforated Dustbins as per Workstation area, meeting ,rooms , record room, as per the instruction of Architect /Engineer -in-charge.		As directed by Engineer In-charge
11	Providing and fabricating structural steel work in rolled sections like joists, channels, angles, tees etc. as per detailed design and drawings or as directed including cutting, fabricating, hoisting, erecting, fixing in position making riveted / bolted /welded connections without connecting plates, braces etc. and including one coat of anticorrosive paint and over it two coats of oil painting of approved quality and shade etc. complete.	Bd.C.2 page no.275	

12	Providing and fixing in position powder coated aluminium louvered windows / ventilator of various sizes with powder coating as per detailed drawing and specifications including aluminium frames 80 x 38 mm x 1.22 mm box type, 5 mm thick sheet glass louvers, of approved quality etc. complete.		As directed by Engineer In-charge got approved by Executive Engi- Sample shall be neer before fixing
13	Providing and fixing false ceiling in gypsum board on GI frame 22 gauge horizontally in 600x600 grid with proper filling of joint in the line and level etc. including all leads and lifts complete.		As directed by Engineer In-charge Sample shall be got approved by Executive Engineer before fixing
14	Providing and fixing center lock to wooden doors of Dorma or godrej make.		As directed by Engineer In-charge Sample shall be got approved by Executive Engineer before fixing
15	Providing and fixing floor spring machine of capacity 150 kg Dorma or godrej to wooden /glass		As directed by Engineer In-charge Sample shall be got approved by Executive Engineer before fixing
16	Providing resetting /servicing to wooden/glass door.		As directed by Engineer In-charge
17	Providing and fixing mild steel grill gate as per the detailed drawing including hinges, locking arrangements and painting in three coats of oil paint of approved colour and shade etc. complete.(weight 18 kg. to 20 kg. Per Sqm.)	Bd.W.6 Page No. 585	As directed by Engineer in charge
18	Providing and fixing in position C.C.T.W. brackets for weather sheds of section 70 x 45 mm with mortise and tenon joinery at 1.2 to 1.5 meter center to center or as directed and teak wood battens of required section, including fixing three numbers of iron nut and bolts to each bracket, necessary scaffolding and two coats of painting to wood work etc. complete.	BDT	As directed by Engineer In-charge
19	Providing and fixing 22 B.W.G. plain galvanised iron sheets on top of weather shed, including scaffolding, fixing by means of nut and bolts or as directed etc. complete. (Brackets of 70 x 45 mm to be paid separately)	BDT	As directed by Engineer in charge

20	Providing and fixing nameplates in foamboard to various staff of PCNTDA at various places in new administrative building (foam sheet with ecosolvent printing with lamination and designing installing pasted on 3mm foam sheet)as per directed by engineer-in-charge.		As directed by Engineer in charge
21	Supply and fixing of Shera Board 12mm fixed on External wall with Necessary screws as per the design and elevation details as mentioned in the drawing. The rates inclusive of supply, fixing, Painting and necessary scaffoldings. Etc. complete		As directed by Engineer In-charge
22	Providing and fixing 84C linear metal false ceiling of super-sil make in RAL pure white shade as per specification : including all leads and lift complete.		As directed by Engineer Incharge
23	Removing G.I. or A.C. sheet or polycarbonate sheet roofing including purlins, principal rafters etc. including sorting serviceable and unserviceable materials, stacking the same as and where directed in the compound including scaffolding etc. complete.	BDR	As directed by Engineer Incharge. Contractor shall remove the sheets carefully. Damaged or broken sheets will be recovered from the contractor.
24	Providing and fixing of colour coated Zinalume (R) AZ150 (Min 150 gms/ sq.mt. total on each sides) profiled sheets for roofing. Including fasteners Zinc-Tin alloy coated, Hex head, self-drilling screw etc. complete. (Weight of profile 4.52 Kg/Sqm).	BDR	As directed by Engineer Incharge Sample shall be got approved by Executive Engineer before fixing
25	Providing and fixing Turbo ventilator 24 inch dia on roof Including fasteners Zinc-Tin alloy coated, Hex head, self-drilling screw etc. complete.		As directed by Engineer Incharge

26	Providing leak proof treatment by Injection grouting method to old floor without removing tiles of W.C., bath, with cement sand proportion of 1:1.5 and waterproofing compound at 2 kg/bag of cement mixed in 35 liters of water including drilling holes in required position grouting with above mixed solution and ceiling etc. complete.	BDJ	<p>1) The work shall be carried out as per direction of Engineer in charge.</p> <p>2) The amount of 10% of the total cost of the completed item shall be retained as retention money for the full guarantee period of 10 years.</p> <p>3) The recoupment of the damages if any found and communicated to the contractor in writing is not made good with in two weeks from the date of receipt or of such communication by him, the same shall be carried out departmentally on his behalf and cost thereof shall be met with from sum withheld as aforesaid. In case the sum recoverable from the contractor is more than that of the sum withheld amount, the difference shall stand recoverable as arrears of land revenue from the contractor under Clause 20 of original contract.</p> <p>4) The mode of measurements shall be on Square Meter basis. As directed by Engineer in charge.</p>
27	Providing and applying French polish for required finish on previously polished wood including knotting, preparing the surfaces, scaffolding etc. complete as directed	Bd. N. 13 Page no. 399	As directed by Engineer In-charge
28	Providing STAGE SCAFFOLDING using steel scaffolding pipes frames made of 40 mm dia MS pipe and bracings with scaffold boards etc. and cost and conveyance of all other consumable accessories, taxes etc complete for finished item of work for PLAN AREA.		As directed by Engineer in charge. This item is only for repair to false ceiling in atrium.
II) Painting Work			

29	Providing and applying pearl/ luster finish paint of approved colour and shade to the existing plaster surface including scaffolding, preparing the surface, applying the acrylic wall putti etc. complete.	BDO	Before starting painting work, it is contractor's responsibility to shift the furniture or what ever may be obstacle for the painting work, and resetting the same after completion painting. No extra payment will be made for scaffolding required for painting architectural designed work up to top floor level. . After completion of external and internal painting, the contractor shall clean all chairs, tables and other furniture in existence in PCNTDA building. After the Contractor has completed any such corrections to the satisfaction of the owner, the ENGINEER will issue a written Taking-Over certificate of the work and file any notice and completion required by law or otherwise. Also item includes cleaning lovers, windows, glass etc. as directed by Engineer In-charge.
	Ground Floor to Seventh Floor		
30	Providing and applying two coats of exterior white / approved colour weather shield paint of approved manufacture and of approved colour to the plastered surfaces including cleaning, preparing the plaster surface, applying primer coat, scaffolding if necessary and watering the surface for two days complete.	BDO	Before starting painting work, it is contractor's responsibility to shift the furniture or what ever may be obstacle for the painting work, and resetting the same after completion painting. No extra payment will be made for scaffolding required for painting architectural designed work up to top floor level. . After completion of external and internal painting, the contractor shall clean all chairs, tables and other furniture in existence in PCNTDA building. After the Contractor has completed any such corrections to the satisfaction of the owner, the ENGINEER will issue a written Taking-Over certificate of the work and file any notice and completion required by law or otherwise. Also item includes cleaning lovers, windows, glass etc. as directed by Engineer In-charge.
	Ground Floor to Seventh Floor		
<u>III) Repairs to damaged paving blocks</u>			

31	Excavation for foundation in earth, soil of all types, sand, gravel and soft murum, including removing the excavated material up to a distance of 50 m. beyond the building area and stacking and spreading as directed, dewatering, preparing the bed for the foundation and necessary back filling, ramming, watering including shoring and strutting etc complete. (Lift up to 1.5 m) By Mechanical Means	Bd.A.1 Page No.259	The useful excavated materials shall be utilised as directed by the Engineer In Charge.
32	Providing pick and roll surface by picking the old WBM surface to the required standard, adding 30% of 40mm size metal and required quantity of murum including laying sectioning, watering, compacting with static roller with thin layer of murum blindage on carrageway, watering and compacting by static roller, including cost of all materials, loading, unloading, stacking and labour etc. complete.	RD	As directed by Engineer In-charge
33	Conveying materials obtained from road cutting including all lifts, for a lead of over 5.0 km. from the site of excavation to the site of deposition as directed.	MORT&H Clause No.305 Page 63-77	As directed by Engineer In-charge
34	Providing and fixing factory made Hydraulically pressed Mechanically vibrated and compacted precast inter locking coloured / cement concrete paving blocks 100 MM thick in M-40 grade of approved size and shape for City streets, small /medium market roads, low volume roads, utility cuts on arterial roads etc. as specified and as per IS 15658:2006 including cost of all materials, manufacturing, curing, transportation of blocks to work site including loading, unloading and stacking as directed, laying paving blocks in position over prepared bed of natural sand / crushed sand of 50 mm thickness including necessary excavation in all strata, spreading blindage of fine sand over the prepared bed, compacting blocks by plate vibrator etc. complete.	IRC-SP-63	As directed by Engineer In-charge
IV) Open parking on west side of the office			

35	<p>Excavation for foundation in earth, soil of all types, sand, gravel and soft murum, including removing the excavated material up to a distance of 50 m. beyond the building area and stacking and spreading as directed, dewatering, preparing the bed for the foundation and necessary back filling, ramming, watering including shoring and strutting etc. complete. (Lift up to 1.5 m) By Mechanical Means</p>	Bd.A.1 Page No.259	<p>The useful excavated materials shall be utilised as directed by the Engineer In-Charge.</p>
36	<p>Providing dry/ trap/ granite/ quartzite/ gneiss rubble stone soling 15 cm to 20 cm thick including hand packing and compacting etc. complete.</p>	Bd.A.12 Page no. 264	As directed by Engineer In-charge
37	<p>Providing and laying Cast in situ/Ready Mix cement concrete in M15 of trap/ granite/quartzite/gneiss metal for bed blocks, foundation blocks and such other items including bailing out water, Steel centering, formwork, laying/ pumping, compacting, roughening them if special finish is to be provided, finishing uneven and honeycombed surface and curing etc. complete. The Cement Mortar 1:3 plaster is considered for rendering uneven and honeycombed surface only. Newly laid concrete shall be covered by gunny bag, plastic, tarpaulin etc. (Wooden centering will not be allowed.), without SCADA etc. complete. With fine aggregate (Natural Sand / Crushed sand VSI Grade finely washed etc)</p>	Bd.E.4 Page no.289 and b-7,Page no.38	<ol style="list-style-type: none"> 1.The appropriate mix design shall be got prepared from the approved government laboratory well in advance and got approved from Engineer in charge before starting the work. 2. Cement from the same stock sent for design shall be used for concreting work. 3. The rate of consumption of cement in mix design are considered for the work as per general practice in actual design ,if the cement consumption is less than that shown in item, the rate will be reduced accordingly .If the rate as per mix design for cement consumption is more than that as per item ,the extra cement will have to be brought by the contractor at his own cost. 4. Before concreting work, cement form each consignment shall be got tested .if the strength of fresh cement available in stock and concreting work shall be done accordingly to modified mix design. 5. The minimum strength of reinforced cement concrete to ensure durability shall as per Indian standard as per IS 456-2000 with latest amendment . 6. For each consignment of cement a sample should be got tested as per norms and frequency of Vigilance and Quality Control circle, laboratory. It will be entire responsibility of contractor for testing of cement and no extra payment will be made against these testing charges.

38	<p>Providing and laying in situ /Ready Mix cement concrete M-20 of trap / granite /quartzite/ gneiss metal for R.C.C. work in foundations like raft, strip foundations, grillage and footings of R.C.C. columns and steel stanchions etc. including bailing out water, Steel centering formwork, laying/pumping cover blocks, compaction and curing roughening the surface if special finish is to be provided (Excluding reinforcement and structural steel) etc. complete, without SCADA etc. complete. With fine aggregate (Natural Sand / Crushed sand VSI Grade finely washed etc)</p>	Bd.F.3 Page no.298 and B.7,Page no.38	<p>1.The appropriate mix design shall be got prepared from the approved government laboratory well in advance and got approved from Engineer in charge before starting the work.</p> <p>2. Cement from the same stock sent for design shall be used for concreting work.</p> <p>3. The rate of consumption of cement in mix design are considered for the work as per general practice in actual design ,if the cement consumption is less than that shown in item, the rate will be reduced accordingly .If the rate as per mix design for cement consumption is more than that as per item ,the extra cement will have to be brought by the contractor at his own cost.</p> <p>4. Before concreting work, cement form each consignment shall be got tested .if the strength of fresh cement available in stock and concreting work shall be done accordingly to modified mix design.</p> <p>5. The minimum strength of reinforced cement concrete to ensure durability shall as per Indian standard as per IS 456-2000 with latest amendment .</p> <p>6. For each consignment of cement a sample should be got tested as per norms and frequency of Vigilance and Quality Control circle, laboratory. It will be entire responsibility of contractor for testing of cement and no extra payment will be made against these testing charges.</p>
39	<p>Providing and fixing in position TMT - FE - 500 bar reinforcement of various diameters for R.C.C. pile caps, footings, foundations, slabs, beams columns, canopies, staircase, newels, chajjas, lintels pardi, copings, fins, arches etc. as per detailed designs, drawings and schedules. including cutting, bending, hooking the bars, binding with wires or tack welding and supporting as required complete.</p>	BDF 17, Page no. 306	<p>1.As per Indian standard 1786/1985 with latest amendments.</p> <p>2.Various diameters of TMT Fe-500 bars brought on site for the work shall be got tested category wise and lot wise as directed by the Engineer in Charge .</p>

40	Supplying hard murum/ kankar at the road site, including conveying and stacking complete.	MORT&H Clause No.408 Page 139-142	As directed by Engineer In-charge
41	Spreading hard murum/ soft murrum/ gravel or kankar for side width complete	MORT&H Clause No.408 Page 139-142	As directed by Engineer In-charge
42	Compacting the hard murum side widths including laying in layers on each side with vibratory roller including artificial watering etc. complete.	MORT&H Clause No.408 Page 139-142	The contract rate shall be for one square meter instead of one kilometer as mentioned in specification.
43	Construction of granular sub-base by providing close graded Material, mixing in a mechanical mix plant at OMC, carriage of mixed Material to work site, spreading in uniform layers with motor grader/ Paver on prepared surface and compacting with vibratory roller to achieve the desired density, complete as per clause 401 -- Plant Mix Method and Grading - I Material	MORT&H Clause No.401 Page 109	As directed by Engineer in charge. Metal shall be supplied at site only after screening it on Mechanical Vibratory Screening Unit.
44	Providing and fixing factory made Hydraulically pressed Mechanically vibrated and compacted precast inter locking coloured / cement concrete paving blocks 100 MM thick in M-40 grade of approved size and shape for City streets, small /medium market roads, low volume roads, utility cuts on arterial roads etc. as specified and as per IS 15658:2006 including cost of all materials, manufacturing, curing, transportation of blocks to work site including loading, unloading and stacking as directed, laying paving blocks in position over prepared bed of natural sand / crushed sand of 50 mm thickness including necessary excavation in all strata, spreading blindage of fine sand over the prepared bed, compacting blocks by plate vibrator etc. complete.	IRC-SP-63	As directed by Engineer In-charge

45	<p>Providing and erecting chain link fencing 1.6 M. height with G.I. chain link of size 50 x 50 mm, 8 gauge thick and fixed 75 mm above ground level on vertical M.S. Angles of 40 x 40 x 6 mm size, including excavating pits for foundation and embedded in C.C. block of 1:4:8 mix of size 450 x 450 x 670 mm. at 1.75 M. c/c with iron bar 16mm dia. as hold fast including welding link with angle frame at 30 cm c/c with nuts and bolts and horizontal M.S. Angles at top and bottom of 25 x 25 x 5 mm size and vertical M.S. flat 35 x 5 mm and 25 x 5 mm horizontal including cross support of 40 x 40 x 6 mm angles both side at every corner or bend embedded in concrete blocks of 1:4:8 of size 450 x 450 x 670 mm including 3 coats of oil painting etc. complete.</p>	BDW	As directed by Engineer In-charge
46	<p>Refixing G.I. or A.C. sheet or polycarbonate sheet roofing including purlins, principal rafters etc. including sorting serviceable and unserviceable materials, stacking the same as and where directed in the compound including scaffolding etc. complete.</p>	BDR	As directed by Engineer In-charge
47	<p>Providing, fabricating and erecting at site of work the tubular steel structure (shed) as per standard design and specifications having various spans in between trusses and in multiples of standard length of bays as specified as per standard specifications, inclusive of cost of steel tubular trusses, tubular columns purlins, tie runners, foundation bolts, base plates, nuts and bolts, welding wherever required etc. as per detailed drawing inclusive of one coat of anticorrosive paint and two coats of oil painting of approved quality and shade etc. complete.</p>	B-18 Page no.78	As directed by Engineer In-charge
<u>V) Repairs to Garden</u>			

48	Preparing lawn (20 cm. Depth) :- Excavating the ground to a required depth of 20 cm, removing & conveying unwanted stuff to a distance as directed. Filling fresh garden soil/silt & manure in excavated area in 3:1 proportion to a height of 20 cm. -Mixing soil and manure thoroughly well, levelling, watering on previous night. Planting required variety of lawn grass as and maintaining till well established by watering, weeding, clipping, rolling, etc. complete.		As directed by Engineer In-charge
49	Preparing Edging or Border :- Excavating the ground to a required depth of 20 cm in required area, removing and conveying unwanted stuff, rubbish to a required distance as directed. Filling the excavated part with fresh soil and manure in 3:1 proportion to a height of 20 cm. Mixing, levelling, watering the same. Planting rooted edging/border plants at a distance of 20 cm apart by watering weeding, stirring of soil replacing casualties, pruning if necessary etc. complete.		As directed by Engineer In-charge
50	Preparing ground covers:- Excavating the ground to a required depth of 20 cm. Removing & conveying unwanted stuff, rubbish to the required distance as directed. Filling the Excavated area with fresh garden soil & F.Y. Manure in 3:1 proportion to a height of 20 cm. Mixing, levelling, watering the same on previous night. Planting suitable ground covers as directed in staggering pattern distance between two rows 25 cm., watering & maintaining till well established.		As directed by Engineer In-charge
51	Planting large flowering / Shady trees: (Minimum Height to 2 Ma.)- Digging pit with size 0.9 m x 0.9 m x 0.9 m removing and conveying unwanted stuff to a required distance as directed. Filling the pit with approved excavated material up to a height of 0.30 m. and remaining height of 0.60 m. with fresh garden soil and manure in 3:1 proportion. Mixing soil & manure thoroughly well, levelling, as directed, watering previous night, planting two to three year old, minimum 2.0 mtr. height, healthy trees sapling as per specifications. Maintaining till well established by watering, weeding, stirring of soil staking replacing of casualties etc. complete		As directed by Engineer In-charge

52	<p>Planting small and medium size ornamental [Flowering plant:- Digging pit with size 0.6 m x 0.6 m x 0.6 m, removing and conveying unwanted stuff to a required distance as directed. Filling the pit with fresh garden soil & Fam Yard Manure up to a height of 0.60 m. in 3:1 proportion. Mixing soil and Manure thoroughly well, levelling, watering on previous night. Planting one to two year old healthy plant saplings as per specifications. Maintaining till well established by watering, stirring, of soil and manure, replacing casualties, etc. complete</p>		As directed by Engineer In-charge
53	<p>Mogra Plant /Creepers/Climbers:- Excavating the pit with size 0.3 m x 0.3 m x 0.3,m removing and conveying unwanted stuff to a required distance as directed. Filling the pit with approved excavated material up to a height of 0.15 mtr. and remaining height of 0.15 mtr. with fresh garden soil and manure in 3:1 proportion. Mixing soil and manure thoroughly well, levelling, watering, on previous night. Planting one or two year old healthy plant as per specifications. Maintaining till well established by watering, weeding, pruning, stirring, replacing casualties. etc. complete.</p>		As directed by Engineer In-charge
54	<p>Preparing Shrubbery :- Excavating the ground to a required depth of 30 cm, removing and conveying unwanted stuff to a required distance as directed. Filling fresh garden soil and manure in excavated area in 3:1 proportion to a required height of 30 cm. Mixing garden soil and manure thoroughly well, levelling, watering on previous night. Planting well developed shrubs plants 0.50 M height, 0.45 M apart as directed and maintaining till well established by watering, weeding, stirring replacing of casualties etc. complete.</p>		As directed by Engineer In-charge

55	<p>Preparing flower Bed:- Excavating the ground to the required depth of 30 cm, Removing and conveying unwanted stuff to a required distance as directed, Filling fresh garden soil & manure in excavated area in 3:1 proportion to a required height of 30 cm Mixing garden soil and manure thoroughly well, levelling, watering on previous night. Planting seedlings of required annuals 25 cm. apart Maintaining till well established by watering, weeding, Stirring replacing of casualties etc., Complete.</p>		As directed by Engineer In-charge
56	<p>Supplying on site Garden soil well sieved 90% to pass through IS sieve of 10 mm size free from stones rubbish like dried grass roots and other such materials. The soil should be fresh from quarry. The colour of the soil generally be red. The soil will be measured by measuring box.</p>		As directed by Engineer In-charge
57	<p>Supplying on site Farm yard manure well decayed, well dried, well powdered, without clods and free from stones, dried grass and other rubbish materials. The colour of the manure generally be black. The manure will be measured by measuring box.</p>		As directed by Engineer In-charge
58	<p>Providing and casting in situ or precast tapering R.C.C. M-20 Barrier type Kerb without gutter (as per IRC 86 1983) embedded 125mm below ground level over M-10 PCC finished neatly with C.M. 1:2, setting the same in C.M. 1:2, including the required excavation in any strata and removing the excavated stuff any where in city and redoing the surface as specified and directed by Engineering In-charge. Using Concrete Batching and Mixing Plant</p>		As directed by Engineer In-charge
59	<p>Providing and laying in position flooring of telephone black / Amba White / Cat bary brown / Ruby red / Ocean Brown granite stone of approved shade and size 18 mm to 20 mm thick on bed 1:6 cement mortar including cement floats striking joints, pointing in C.M. 1:3 curing and cleaning etc. complete.</p>		As directed by Engineer In-charge

60	Maintenance of garden for three years including watering, weeding, hoeing, cultivation operation, supplying pesticide and fertilizer, application of pesticide and fertilizer etc. complete.		As directed by Engineer In-charge. Contractor shall maintain the garden for three years.
PART - B			
61	Re-embursement made to contractor for laboratory testing charges for material wherever required on the basis of testing frequency and charges fixed by vigilance and quality control circle, Pune or Govt. lab that is college of Engineering/Govt. Polytechnique for current year after producing govt receipt.		Up to date record shall be maintained by contractor and time to time submit for approval from engineer-in-charge. Payment shall be done at the rate given under this item only after producing documentary evidence.
62	Making Reimbursement to contractor against royalty charges of natural materials like sand, all types of murum, metal, rubble, etc. After producing the necessary receipts and no dues certificate of royalty charges from competent revenue authority by the contractor.		Royalty shall be paid by PCNTDA to Govt. competent revenue authority. Payments towards Royalty charges against material such as murum, rubble, etc. as per PWD DSR current rate list.

ADDITIONAL SPECIFICATIONS FOR ELECTRICAL WORK

1. All the electrical work should be carried out by the licensed Electrical Contractor
2. All the electrical work should be carried out as per standard specification of red book of PWD and as per direction given by Executive Engineer Electrical.
3. The choice of make/brand and type of required accessories, material, fixtures etc will be decided by PCNTDA. The decision of PCNTDA will be binded to contractor.
4. All electrical works are to be carried out by authorized person only and strictly as per relevant Indian Electricity Act and Rules with prior approval of PCNTDA.
5. The contractor should provide 5 years replacement warranty for the LED fittings provided by him.
6. It is responsibility of the contractor to carry out all the liasaning work with related authority like PCMC, MSEDCL.
7. It is responsibility of contractor to carry out the maintenance till the DLP period of the project to keep the electrical system in working condition.

8. The Electrical contractor should demonstrate having successfully completed and in use single work of same type

anywhere in India costing not less than 30% of estimated cost put in this tender for this work.

Detailed Technical Specifications

Item No.of Schedule-B	Specification code	Technical Specification
3,9		<p>Specification No (FG-ODF/FSL2) Supplying & erecting Energy efficient T-5 2X14 & 2X24 Street Light fitting suitable for specified wattage of T-5 lamp complete with serrated acrylic diffuser & gasket, with necessary control gear and erected on provided bracket. Material: Fitting: ISI marked Energy efficient T-5 2X14 & 2X24 Street Light fitting complete with electronic ballast, transparent cover made out of 3mm thick acrylic sheet, gear cum reflector tray, canopy and lamp holder duly wired for use on 240 volt AC single phase 50 Hz without T-5 lamp. Canopy shall be made of Aluminum sheet of width 3” minimum per lamp. Gear cum reflector tray (GCRT) shall be made of either CRCA sheet of 0.8 mm thick or Aluminum sheet of 1.25 mm thick. Fitting shall be suitable for mounting up to a height of 15 meters and shall be able to withstand wind load test. It shall conform to class-1 of IS: 10322 (part 5/sec 3)/87 with amendment 1 and IP-65 protection i) Various components of fittings shall conform to IS specification as noted below.</p> <p>a) Electronic ballast (EB) to IS: 13021: Part-1:1991 with Amendment No.1, IS: 13021: Part-2:1991 with Amendment Nos.1 and 2 and additional requirement as per the b) Bi-pin lamp holders to IS: 3323/80 with amendment No.1/ c) PVC cables to IS: 694/90 with amdt.No.1 & 2.</p> <p>ii) Surface of CRCA Steel and Aluminum sheets used shall be properly phosphatized and stove enameled white on the reflector side, tray side and other surface stove enameled grey.</p> <p>iii) The street light fittings shall be required with socket bore of 30mm or 40 mm or 50mm for side entry/top entry type fittings. The socket bore, however, will be specified by the indenters at the time of placement of supply order.</p> <p>iv) All wire leads to be adequately covered with sleeves for protection against accidental contacts.</p> <p>v) All hardware parts used should be zinc coated or nickel/chromium plated so as to be corrosion resistant.</p> <p>vi) Fitting shall be wired with multi-stranded copper wire terminating on suitable connectors. The wiring shall be properly clamped.</p> <p>Method of Construction: The complete fitting with all the above accessories shall be erected with provided bracket, on wall/street light pole or at any place as directed by Site engineer, duly connected and giving necessary testing.</p> <p>Mode of Measurement: Executed quantity shall be counted on number basis. (i.e. each)</p>
6,11	FG-FN	<p>Specification No. (FG-FN/CF) Supplying and erecting Ceiling fan of specified sweep with all accessories and necessary materials, erected in provided hook/clamp. Material: Ceiling Fan: Electric Ceiling fan capacitor type with double ball bearing complete</p>

	<p>with capacitor, 300 mm down rod, canopies, shackles, reel insulator, half threaded bolts of 9.53 mm (3/8”) dia 62.5 mm (2-1/2”) to 88mm (3-1/2”) long and 7.94 mm (5/16”) dia 44.5 mm (1-3/4”) to 57 mm (2- 1/4”) long with nuts, with lock type split pin, spring & plate washers, etc.; three number blade made of Aluminum alloy, suitable for single phase, AC 210 volts, 50 Hz supply and conforming to class I of IS : 374/1979 with amendment no 1 to 6 except for performance parameters to the extent modified as details in general requirements. The down rod shall be capable to withstand a tensile load of 1000 kg without breakdown and a torsion load of 500 kg.cm without breakage as per Clause 10.14.1 of IS: 374/1979 with amendment no.1 to 6. Electrical motor should be single phase permanent capacitor type with no. of poles 12/14/16/18 (As per sweep), Class-I with basic insulation. Class of insulation shall be B class. The winding wire used for fan should be synthetic enameled of 30 to 38 SWG. Connection wire: Flat / round Two core flexible stranded copper wire cord 24/0.2mm ISI marked. Paint: <u>Method of construction:</u> Blades of ceiling fan shall be properly fixed. Down rod, clamp shall be carefully fixed with nut bolt and split pin. Canopies shall be tightened on down rod keeping sufficient clearance. Wiring connections shall be made with required wire leads. Regulator of fan shall be erected on provided switchboard with required wire leads. <u>Testing:</u> After erection fan shall be tested by connecting to supply at all positions of regulator. Also steadiness of fan shall be checked at full speed, so that there is no wobbling. <u>Mode of Measurement:</u> Executed quantity shall be counted on number basis. (i.e. each)</p>
12	<p><u>Centrifugal Pump (CGP)</u> General: This part of the specifications deals with providing, installing, testing & commissioning of Centrifugal pump. All material shall conform to relevant standard as per BIS and shall carry ISI mark. Work shall be carried out as per the method of construction as specified by BIS/Chapter 16 of P.W. Dept. Handbook/NEC. Scope: Specification No (WP-CGP) Providing, installing, testing & commissioning of ISI mark Centrifugal water pump (Monobloc), of required HP with specified discharge and head with required size of suction & delivery, foundation bolts grouted in provided cement concrete. (As Per IS: 9079 specifications) The following list records those Indian Standards, which are acceptable as good practice, and accepted standards. SP 30: 1984 : National Electrical Code SP 7 (Group 4): 2005 : National Building Code Material: Pump Body: Cast iron Grade FG 200 of IS 210 -1978 Impeller: Cast iron Grade FG 200 of IS 210 -1978 Shaft: High grade carbon steel Grade C-40 of IS 2073 Bearings: Stainless Steel Motor: Squirrel cage induction. Protection class: IP 55 TEFC with Class “F” insulation, with copper windings operated on Single phase, 250 V / Three phase 415 V, 50 Hz, AC, Supply, with 2900 RPM. IS: 325 Base plate: Mild steel Foundation Nut Bolts: Mild steel</p>

		<p>Shaft seal: Fitted with high quality mechanical seal ensuring zero leakage Method of Construction: Pump mounted with motor on base plate, shall be placed on provided foundation with perfect alignment, proper leveling. The pump should be connected to suction & delivery in an approved manner, with provided MS / CI flange. (Refer drawing no.WP-1 (Fig.1)) After the completing the erection of pump ,it shall be run continuously for minimum 2 hours, and following tests shall be carried out for its performance: a) Alignment, b) Bearing noise, c) Discharge, d) Current Mode of Measurement: Executed quantity will be counted on number basis. (Each) Dismantling: Dismantling of pump along with/without pipeline shall be done with utmost care with required tools / shackles, machinery, if any. The dismantled pump and the pipeline shall be store in a safe place or shall be transported to the place as per the direction of Engineer-in-charge. Mode of Measurement: Executed quantity will be counted on number basis. (Each)</p>
14		<p><u>Bracket welded to Pole Cap (BKT/BPC)</u> Scope: Specification No (FG-BKT/BPC) Fabrication of Street light bracket of specified diameter ‘B’ class G.I. Pipe, of specified length welded to pole cap erected on top of the pole for erection of either single /double, side entry WP fluorescent/CFL/MV/MH/SV fitting(s), duly painted with one coat of red oxide & one coat of Aluminum paint, and erecting the same with provided leads. Material: GI Pipe: GI Pipe of specified diameter as per (CW-PLB/GP) mentioned in chapter 17.5 Pole Cap: Pole cap fabricated from 4 mm thick MS Sheet, of 30 cm in length. Corner support: 3 mm thick MS flat / sheet Set screws: MS bolts, nuts of 6 mm dia. Paint: Red oxide & Aluminum paint. Method of Construction: The bracket shall be fabricated as per drawing No(s) BKT-1 (Fig.1 Fig.3), BKT-2 (Fig.4, Fig.5) and shall be placed on the pole cap. Inner diameter of pole cap shall be as per the outer diameter of pole with sufficient clearance, so as to facilitate easy placing of the cap on top of pole. Two holes of minimum 6 mm diameter shall be drilled to pole cap. The nuts shall be placed on the pole cap duly aligned with the hole, and shall be butt welded. Bolts shall then be tightened through the nut so as to hold the bracket in vertical position. Mode of Measurement: Executed quantity shall be counted on number basis. (i.e. each)</p>
16		<p><u>Specification No (FG-ODF/PTL)</u> Supplying and erecting Gate light fitting suitable for specified wattage of HPMV/SV/MH lamp/lamps, complete with control gear, duly wire and erected on provided pipe/pole or at any other place, as directed by site engineer. Material: Fitting: The fitting comprising of a control gear capsule made of die cast aluminium alloy and shall have provision for fixing of control gear. Fitting shall have acrylic bowl with ushroom/round shape bowl of specified diameter, and shall be fixed on the top of the capsule. The bowl shall be adequately gasketed for weather proofness. The inner diameter of control gear capsule base shall be suitable for pipe of 50 mm to 77 mm O.D. Fitting shall have entry for termination of cable.</p>

		<p>The control gear capsule shall have IP 43 protection class. (Refer drawing no.ODF-2 (Fig.5))</p> <p>Ballast: As per (FG-FG/AS5) specified in chapter 2.4</p> <p>Ignitor: As per (FG-FG/AS6) specified in chapter 2.4</p> <p>Condenser: As per (FG-FG/AS7) specified in chapter 2.4</p> <p>Terminal connector: As per (FG-FG/AS10) specified in chapter 2.4.</p> <p>Method of Construction: The complete fitting with all the above accessories shall be erected with provided pole/pipe or at any place as directed by Site engineer, duly connected and giving necessary testing.</p> <p>Mode of Measurement: Executed quantity shall be counted on number basis. (i.e.each)</p>
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Quality Assurance Plan For Road Works

MATERIAL – TABLE NO. 1

Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
						CON	PMC	PCNTDA	
AGGREGATE :									
COURSE AGGREGATE: Gradation requirement are stated in individual items	1) Los Angles abrasion value	Lab test	IS:2386(part 4)-1963	1) Concrete = 35% 2) AC 40% 3) DBM 40% 4) LBM / BM 40% 5) WMM 40% 6) WBM 40% 7) GSB = 40%	1 per source per work 1 per 50 Cum. 1 per 100 Cum. 1 per 150 Cum. 1 per 200 Cum. 1 per 200 Cum. 1 per 200 Cum.	- - - - - - -	R R R R R R R	A A A A A A A	Aggregate source approval before commencement of work shall be carried out as directed by PCNTDA engineer incharge
	2) Impact value	Lab test	IS:2386(part 4) – 1963	1) Concrete = 30% 2) AC 30%	1 per source per work 1 per 50 Cum.	- -	R R	A A	

				3) DBM 30%	1 per 150 Cum.	-	R	A	
				4) LBM / BM 30%	1 per 200 Cum.	-	R	A	
				5) WMM 30%	1 per 250 Cum.	-	R	A	
				6) WBM 30%	1 per 250 Cum.	-	R	A	
				7) GSB = 30%	1 per 250 Cum.	-	R	A	
	3) Deleterious constituents	Lab test	IS:2386(part 2)-1963	1) Concrete=0.50% of SO 3	1 per source per work	-	R	A	
				2) AC - Nil	Nil				
				3) DBM - Nil	Nil				
				4) LBM / BM - Nil	Nil				
				5) WMM - Nil	Nil				
				6) WBM - Nil	Nil				
				7) GSB - Nil	Nil				

R-Review, W-Witness, A – Acceptance

Quality Assurance Plan For Road Works

MATERIAL – TABLE NO. 1

Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
						CON	PMC	PCNTDA	
COURSE AGGREGATE Gradation requirement are stated in individual items	4) Chloride content in aggregate.	Lab test	BIS:812(PART 17)	1) Concrete = 0.065%	1 per source per work	-	R	A	
				2) AC - Nil	Nil				
				3) DBM - Nil	Nil				
				4) LBM / BM - Nil	Nil				
				5) WMM - Nil	Nil				
				6) WBM - Nil	Nil				
				7) GSB = - Nil	Nil.				
	5) Soundness in sodium sulphate.	Lab test	IS:2386(part 5) – 196	1) Concrete = 12%	1 per source per work	-	R	A	
				2) AC 12%	1 per source per work	-	R	A	
				3) DBM 12%	1 per source per work	-	R	A	
				4) LBM / BM 12%	1 per source per work	-	R	A	

6) Water	Lab test	IS:2386(part 3)-196	5) WMM 12%	1 per source per work	-	R	A
			6) WBM 12%	1 per source per work	-		
7) Alkaline	Lab test	IS:2386(part 7)-	7) GSB = 12%	As directed by	-	R	A A A A A A A A A A
			1) Concrete=2%	1 per 50 Cum.	-	R	
			2) AC – 1%	1 per 75 Cum.	-	R	
			3) DBM – 2%	1 per 100 Cum.	-	R	
			4) LBM / BM – 2%	1 per 200 Cum.	-	R	
			5) WMM – 2%	1 per 200 Cum.	-	R	
			6) WBM – 2%	1 per 200 Cum.	-	R	
			7) GSB - 2%	1 per source per work	-	R	
			1) Concrete = Non	Nil			
			2) AC – Nil	Nil			
3) DBM – Nil	Nil						
4) LBM / BM – Nil	Nil						
5) WMM – Nil	Nil						
6) WBM – Nil	Nil						
7) GSB - Nil	Nil						

R-Review, W-Witness, A – Acceptance

Quality Assurance Plan For Road Works

MATERIAL – TABLE NO. 1

Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
						CON	PMC	PCNTDA	
COURSE AGGREGATE Gradation requirement are stated in individual items	8) Flakiness & Elongation Index (Total)	Lab test	IS:2386(part 1) - 196	1) Concrete = 30%	1 per 100 Cum.	-	R	A	
				2) AC – 30%	1 per 50 Cum.	-	R	A	
				3) DBM - 30%	1 per 75 Cum.	-	R	A	
				4) LBM / BM - 30%	1 per 100 Cum.	-	R	A	
				5) WMM - 30%	1 per 200 Cum.	-	R	A	
				6) WBM - 30%	1 per 200 Cum.	-	R	A	
				7) GSB = - 30%	1 per 200 Cum.	-	R	A	
	9) Coating & stripping	Lab test	IS:8241 – 1971	1) Concrete = Nil	Nil				
				2) AC Min 95%retained	1 per 50 Cum.	-	R	A	
				3) DBM-Min 95%retained	1 per 50 Cum.	-	R	A	
				4) LBM / Min	1 per 50 Cum.	-	R	A	



	10) Stone Polish valuer	Lab test	BIS:812(part 114)	95%retained 5) WMM -Nil 6) WBM - Nil 7) GSB = - Nil 1) Concrete=Nil 2) AC – 55% 3) DBM – 55% 4) LBM / BM – 55% 5) WMM – Nil 6) WBM – Nil 7) GSB - Nil	Nil Nil Nil Nil 1 per source per work 1 per source per work 1 per source per work Nil Nil Nil	- - -	R R R R	A A A A	
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R-Review, W-Witness, A – Acceptance

Quality Assurance Plan For Road Works

MATERIAL – TABLE NO. 2

Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
						CON	PM C	PCNTDA	

FINE AGGREGATE/SAND Gradation requirement are stated in individual items	1) Los Angles abrasion value	Lab test	IS:2386(part 4) - 196	1) Concrete = 35% 2) AC – 40% 3) DBM - 40% 4) LBM / BM - 40% 5) WMM - 40% 6) WBM - 40% 7) GSB = - 40%	1 per source per work 1 per 50 Cum. 1 per 100 Cum. 1 per 150 Cum. 1 per 200 Cum. 1 per 200 Cum. 1 per 200 Cum.	- - - - - - -	R R R R R R R	A A A A A A A	
	2) Fineness Modulus	Field/Lab test	As per clause No.A 6 of Red Book	1) Concrete = 2.6 to 2) AC - Nil 3) DBM - Nil 4) LBM / BM -Nil 5) WMM -Nil 6) WBM - Nil 7) GSB = - Nil	As directed by Nil Nil Nil Nil Nil Nil	P	R/W	A	
	3) Soundness in sodium	Lab test	IS:2386(part 4) - 196	1) Concrete=10% 2) AC – 12% 3) DBM –12% 4) LBM/BM – 12% 5) WMM – 12% 6) WBM – 12% 7) GSB - 12%	1 per source per work 1 per source per work 1 per source per work 1 per source per work 1 per source per work 1 per source per work 1 per source per work	- - - - - - -	R R R R R R R	A A A A A A A	

R-Review, W-Witness, A – Acceptance

Quality Assurance Plan For Road Construction Works For PCNTDA, Nigdi, Pune-44.

MATERIAL – TABLE NO. 2

Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
						C	PMC	PCNTDA	PCNTDA

4) Deletrious constituents	Lab test	IS:2386(part 2) - 196	1) Concrete = coal &lignite =1% clay/lumps = 1% soft fragment = 3% shell = 1% Total of all =Max 5% 2) AC – Nil 3) DBM - Nil 4) LBM / BM - Nil 5) WMM - Nil 6) WBM - Nil 7) GSB = - Nil	1 per source per work Nil Nil Nil Nil Nil Nil Nil	-		R	A
5) material passing through 75 Micron	Field/Lab	IS:2386(part 1)- 196	1) Concrete = Max 3% for sand & 15% for crushed sand 2) AC - Nil 3) DBM - Nil 4) LBM / BM -Nil 5) WMM -Nil 6) WBM - Nil 7) GSB = - Nil	As directed by Nil Nil Nil Nil Nil Nil	P		R/W	A
6) Water	Field/Lab	IS:2386(part 3) - 196	1) Concrete=2% 2) AC – 1% 3) DBM –2% 4) LBM/BM – 2% 5) WMM – 2% 6) WBM – 2% 7) GSB - 2%	As directed by 1 per 50 Cum 1 per 75 Cum 1 per 100 Cum 1 per 200 Cum 1 per 200 Cum 1 per 200 Cum	P P P P P P		R/W R/W R/W R/W R/W	A A A A A

R-Review, W-Witness, A – Acceptance

Quality Assurance Plan For Road Works

MATERIAL – TABLE NO. 1

Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
						CON	PMC	PCNTDA	


7) Surface	Field/Lab	IS:2386(part 3)-196	1) Concrete = is to be	On regular basis	-	R/W	A
8) Chloride content in aggregate	Lab test	BIS:812(part 17)	1) Concrete = 0.06% 2) AC - Nil 3) DBM - Nil 4) LBM / BM - Nil 5) WMM - Nil 6) WBM - Nil 7) GSB = - Nil	1 per source per work Nil Nil Nil Nil Nil Nil	-	R	A
9) Sulphate content (for concrete only)	Lab test	IS:2386(part 18)	1) Concrete = 25%ma	1 per source per work	-	R	A
10) Alkaline	Lab test	IS:2386(part 7)-196	1) Concrete = Non-reactive 2) AC - Nil 3) DBM - Nil 4) LBM / BM - Nil 5) WMM - Nil 6) WBM - Nil 7) GSB = - Nil	As directed by Nil Nil Nil Nil Nil Nil	-	R	A
11) Sand equivalent	Lab test	IS:2720(part 5)-196	1) Concrete = Nil 2) AC –Min 50 3) DBM–Min 50 4) LBM / BM – Nil 5) WMM – Nil 6) WBM – Nil 7) GSB = - Nil	1 per source per work 1 per source per work 1 per source per work 1 per source per work 1 per source per work 1 per source per work 1 per source per work	- - - - - - -	R R	A A

R-Review, W-Witness, A – Acceptance

Quality Assurance Plan For Road Works

MATERIAL – TABLE NO. 1

Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
						CON	PM	PCNTDA	

							C		
	12) Plasticity Index	Lab test	IS:2720(part 37)-19	Concrete = Nil 2) AC - 6 3) DBM - 6 4) LBM / BM - 6 5) WMM - 6 6) WBM - 6 7) GSB = - 6	Nil 1 per 2000 Cum 1 per 2000 Cum 1 per 2000 Cum 1 per 200 Cum 1 per 200 Cum 1 per 200 Cum		R R R R R R	A A A A A A	
	13) Liquid limit	Lab test	IS:2386(part 5)-196	1) Concrete = Nil 2) AC - Nil 3) DBM - Nil 4) LBM / BM - Nil 5) WMM - Nil 6) WBM – below 20% 7) GSB = - Nil	Nil Nil Nil Nil Nil 1 test per 25 Cum of b Nil		R	A	
	14) Liquid limit (for aggregate passing through 425 micron sieve)	Lab test	IS:2386(part 5)	1) Concrete = Nil 2) AC – Nil 3) DBM– Nil 4) LBM / BM – Nil 5) WMM – below 20% 6) WBM – below 20% 7) GSB = - below 20%	Nil Nil Nil Nil 1 per 200 Cum. 1 per 200 Cum. 1 per 200 Cum.		R R R	A A A	

R-Review, W-Witness, A – Acceptance

Quality Assurance Plan For Road Works

MATERIAL – TABLE NO. 4

Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
						CON	PMC	PCNTDA	

	1) Finess of Grading	Lab test	For 43 Gr-IS:8112-1989 For 53 Gr-IS 12269-1987 IS:8112/1978-1987 IS 2386(part 4)-1963	Min 10%	One per source of supply & for load stored properly & stored as directed by Engineer in charge.	-	R	A
	2) Compressive strength (cement + sand) a) Three days	Lab test	For 43 Gr-IS:8112-1989 For 53 Gr-IS 12269-1987 IS:8112/1978-1987 IS 2386(part 4)-1963	23 N/sq.mm	One per source of supply & for load stored properly & stored as directed by Engineer in charge.	-	R	A
	b) Seven days	Lab test	For 43 Gr-IS:8112-1989 For 53 Gr-IS 12269-1987 IS:8112/1978-1987 IS 2386(part 4)-1963	33 N/sq.mm	One per source of supply & for load stored properly & stored as directed by Engineer in charge.	-	R	A

R-Review, W-Witness, A – Acceptance

Quality Assurance Plan For Road Works

MATERIAL – TABLE NO. 4

Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
						CON	PMC	PCNTDA	

3)	Setting time	Lab test	For 43 Gr-IS:8112-1989 For 53 Gr-IS 12269-1987 IS:8112/1978-1987 IS 2386(part 4)-1963	Min 10 mint.	One per source of supply & for load stored properly & stored as directed by Engineer in charge.	-	R	A
	a) Initial							
	b) Final							
	4) Soundness	Lab test	For 43 Gr-IS:8112-1989 For 53 Gr-IS 12269-1987 IS:8112/1978-1987 IS 2386(part 4)-1963	Max. 10 mm.	One per source of supply & for load stored properly & stored as directed by Engineer in charge.	-	R	A

R-Review, W-Witness, A – Acceptance

Quality Assurance Plan For Road Works

MATERIAL – TABLE NO. 5

Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
						CON	PMC	PCNTDA	

MURUM	1) Soil Classification	Lab test	IS:1498-1970	Other than OL., OI, OH or Pt soils.	One test per source	-	R	A	Murum source approval before commencemen t of work shall be carried out as directed by PCNTDA engineer incharge.
	2) Free swell Index.	Lab test	IS 2720 Part 40 – 1986	Less than 50%	One test per source	-	R	A	
	3)Liquid limit	Lab test	IS 2720 Part 5 - 1985	Not more than 70%	One test per source	-	R	A	
	4)Plasticity Index	Lab test	IS 2720 Part 5 - 1985	Not more than 45%	One test per source	-	R	A	
	5) Visual Inspection	Visual	--	Murum should not contain swamps, marshes, bogs, vegetation debris, frozen, combustible and saiy materials.	During visit of source approval	-	W	A	
	6) Moisture content	Lab test	IS:2720 Part 2-1973	Should not more than OMC+1%	One test per source	-	R		
	7) Maximum Particle size	Field test	IS:2720 Part 4 - 1985	Should not more than 75mm.	Frequency	P	W		Random check/witness by SGS.

R-Review, W-Witness, A – Acceptance

Quality Assurance Plan For Road Works

MATERIAL – TABLE NO. 5

Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
						CON	PMC	PCNTDA	
	8) CBR Value	Lab test	IS 2720 Part 16	Should not less than 7%	One test per source	-	R	A	
	9) Soluble	Lab test	BS : 1377 Part	Max. 1.9 gm. Per litre	As directed by	-	R	A	
	10) Total sulphate	Lab test	BS : 1377	Max 0.5% by mass	As directed by	-	R	A	

R-Review, W-Witness, A – Acceptance

Quality Assurance Plan For Road Works

MATERIAL – TABLE NO. 6

Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
						CON	PMC	PCNTDA	
WATER	1) PH Value	Lab /Field test		Min 6	One test per source	P	R/W	A	
	2) Alkalinity limit by titration	Lab test	IS 3025 - 1964	Max 10 ml H ₂ SO ₄ To neutralize 200 ml water	One test per source	-	R	A	
	3) Acidity limit by titration	Lab test	IS 3025 - 1964	Max 2 ml NaOH To neutralize 200 ml water	One test per source	-	R	A	
	4) Solids in water	Lab test	IS 3025 - 1964	Max limits per litre 1)Organic – 200 mg 2) In-Organic – 300 mg 3) Sulphate – 500 mg 4) Chloride – 500 mg 5) Suspended matter – 200 mg	One test per source	-	R	A	

R-Review, W-Witness, A – Acceptance

Quality Assurance Plan For Road Works

MATERIAL – TABLE NO. 7

Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
						CON	PMC	PCNTDA	
REINFORCEMENT	1) Tensile strength (2% of proof stress)	Lab test	IS 1766 1985	Min 415 N/sq mm	One test for each batch	-	R	A	
	2) Percentage of elongation	Lab test	IS 1766 1985	Min 14.6%	One test for each batch	-	R	A	
	3) Bend Rebend Test	Lab test	IS 1766 1985	Physical observation of crack	One test for each batch	-	R	A	

R-Review, W-Witness, A – Acceptance

Quality Assurance Plan For Road Works

ACTIVITY:

GRANULAR SUB BASE

Sr. No.	Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks	
							CON	PMC	PCNTDA		
1.	GSB material JOB MIX	Gradation test	Lab Test	MORTH	MORTH Table 400—1 grading 1 OMC variation + 1 to 2% at the time of compaction	As per change in source	p	R	A	Material as per table No.1 & 2 of material approval. Table 400-1 Close Graded GSB grading 1 IS Sieve mm % by wt. Passing	
										75	100
										53	80-100
										26.5	55-90
										9.5	35-65
										4.75	25-55
										2.36	20-40
										0.425	10-25
										0.075	3-10
		CBR Test	Lab/Field Test	MORTH Table Spec. 400-1	Min 30%	As directed by Engineer incharge	P	R/W	A		
2.	GSB Methodology Preparation of sub-grade Spreading & compacting	Checking of Levels	Field test	MORTH CI.401.4.1 MORTH CI401.4.2	+20 to -25 Layer thk. Should not exceed 225 mm.	100% Till reqd. density CBR & surface finish are achieved	P P	- -	A A		
	Arrangement of traffic			MORTH Spec CI No.112			P	-	A		

NTE: The approved gradation (stated above) within these limits shall be well graded from coarse to fine and shall not vary from the low limit on one sieve to high limit on adjacent sieve and vice versa.

Quality Assurance Plan For Road Works

ACTIVITY:

Contractor PMC No. of Correction

GRANULAR SUB BASE

PCNTDA

Sr. No.	Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
							CON	PMC	PCNTDA	
3.	GSB Tests	Gradation test	Lab/Field Test	MORTH400 1 & IS 2720 part 5	As per Job Mix	1 test for 200 Cum	P	R/W	A	
		Atterberg Limit (LL & PI)	Lab test	MORTH400 1 & IS 2720 part 5	LL – 25 & PI – 6	1 test for 200 Cum	-	R/W	A	
		Moisture content	Field test	IS 2720 PART 2 & 8	+1 TO -2	1 test for 500 Cum	P	W	A	
		Density (MOD)	Field test	IS 2720 part 8	98%	1 test for 500 Cum	P	W	A	
		CBR	Field test	IS 2720 part 16	30 min for 2.5 mm	As Directed by engineer incharge	P	W	A	
		Deleterious constituents	Lab/Field test	MORTH		As directed by engineer incharge	P	R/W	A	
		L-profile & C/S profile	Field test	MORTH 900-1	+10 TO -20 mm	100%	P	W	A	Grid of 6.25 m (L) & 3.5m (Cross)

P – PERFORM, R – REVIEW, W- WITNESS, A – ACCEPTANCE

Quality Assurance Plan For Road Works

ACTIVITY:

Contractor PMC No. of Correction

PCNTDA

SECTION – 4 CONCRETE

ACTIVITY:

SECTION – 4 CONCRETE

Sr. No.	Item	Tests to be Performed	Method of Test	Reference Document	Permissible Limit	Frequency	Agency			Remarks
							CON	PMC	PCNTDA	
	Transportation, Placing, Compacting & Curing Sampling and strength of designed concrete mix.			Cl. 13 of IS 456 – 2000 Cl. 15 of IS 456-2000	Max. free foil of concrete 1.5m Curing time is 14 days. 28 days required compressive strength as per table 2 of IS 456-2000 is the only criterion for acceptance or rejection of the concrete. The test results of the sample is avg. strength of 3 specimens 7 individual variation within + 15 to -15.				Mechanical vibrator to comply IS 2505, IS 2506, IS 2514 & IS 4656. Use of vibrators is mandatory. If individual variation is more than +15 to -15% of avt. Strength of sample, the results of the sample are invalid.	
					Quality of concrete in the work cum.	Number of samples				
					1 – 5	1				
					6 – 15	2				
					16 - 30	3				
					31 – 50	4				
					51 & above	4 plus one additional sample for each additional 50cum or part thereof				
	Acceptance criterion Inspection & Testing of Structure			Cl. 16 of IS 456-2000 Cl. 17 of IS 456-2000	As per 16.1, 16.2, 16.3, 16.4, 16.5 & 16.6 of IS 456					