



Office of the Deputy Director (EP)/  
Sarsuna Housing Project  
West Bengal Housing Board.

No :- 1044/DD(EP)/SHP/HB.

Dated: -11.09.2018

**NOTICE INVITING TENDER**

NIT No. WBHB/DD(EP)/SHP/NIT-01/2018-19

Deputy Director (EP)/Sarsuna Housing Project under West Bengal Housing Board invites sealed tender in prescribed form from eligible bidders for the works as per particulars below:-

1.	<b>Name of work:</b>	Repairing and rectification work at (G+IV) storied residential Apartment Building (Anusua H P) including all infrastructure civil works at Sarsuna, Behala, District South 24 Parganas, Kolkata – 700091, under West Bengal Housing Board.
2.	<b>Eligibility criteria:</b>	<p>Bonafide &amp; resourceful contractor's working in W.B.H.B. state P.W.D., C.P.W.D., railway, having credentials i) for execution of similar nature/Building works of satisfactory completed works valued at least 40% of estimated amount in a single contract during last five years. Or ii) intending tenders should produced credentials of 2 (Two) similar nature of work, each of the minimum value of 30% of the estimated amount put to tender during 5(Five) years period to the date of issue of the tender notice, or iii) Intending tenderes should produced credentials of one single running work of similar nature which has been completed to the extent of 80% or more and value of which is not less than value . In case of running works, only those tenderers who will submit the certificate of satisfactory running works from the concerned Executive Engineer, or equivalent competent authority will be eligible for the tender, In the required certificate it should be clearly stated that the work is in progress satisfactorily and also that no panel action has been initiated against the executed agency. i.e. the tenderer.</p> <p>N.B. 1) Credential/completion certificate should contain a) Name of work (b) Name and address of Client (c) Amount put to tender, (d) Date of commencement of work (e) Date of completion of work (f) Reason for abnormal delay, if any (g) Final bill amount .</p> <p>2) Credential certificate issued by the Executive Engineer or equivalent competent authority of a state/ central Govt, state / Central Govt, undertaking, statutory, autonomous bodies constituted under the statute of the Central / state Govt. On the executed value of work will only be taken as credential.</p> <p>3) Payment Certificate will not be treated as credential having I.T., vat Regd. No., P. Tax certificate, PAN Card No., service Tax Registration No. P.F. code No.</p>
3.	<b>Name of the Engineer-in Charge</b>	Deputy Director (EP)/ Sarsuna Housing project, under WBHB
4.	<b>Estimated cost of the works:-</b>	Rs. 1,78,681.00
5.	<b>Earnest money:</b>	Rs.3,574.00

<b>6.</b>	<b>Cost of tender documents: (Non-refundable).</b>	During participation, cost towards Tender documents need not required to pay only successful bidder has to be paid cost of three copies of documents for agreement as per norms which will be communicated latter on i.e. through L.O.A.
<b>7</b>	<b>Validity of Tender</b>	120 days from the date of submission of tender
<b>8</b>	<b>Procurement of Tender paper i.e. N.I.T, Bid document, Term &amp; condition etc.</b>	Bid documents will be available in the site (wb housing.gov.in) and in the office of the Deputy Director (EP)/Sarsuna at 3 <sup>rd</sup> Floor in all working days during office hours i.e. from 17.09.2018 to 24.09. 2018.
<b>9</b>	<b>Last date &amp; Time for submission of tender</b>	25.09.2018 up to 2.30 P.M
<b>10</b>	<b>Date &amp; Time for opening of tender:</b>	25.09.2018, AT.3.30 P.M
<b>11</b>	<b>Time allowed for completion</b>	Two months

**12.** Contractor has to submit completion certificate showing details of executed works and time taken for completion including comments on their up to date performance from the respective deptt / Authority.

**13.** Contractor should submit application along with self-attested copies of the following (Original copies for each are to be produced for verification as & when asked for).

- i) Income Tax return with acknowledgement for the current year including PAN Card.
- ii) Professional Tax (PT) latest challan with certificate
- iii) Employees provident Fund (PF) enrollment certificate with code no .
- iv) GST registration certificate.
- vi) Work order and Completion certificate from respective department.
- vii) Valid Trade license from respective Municipality/ Panchayat,
- viii) Power of Attorney/Authority to sign the Tender documents and Articles/Memorandum of Association (in case of companies)
- ix) Partnership Deed- (In case of partnership firm.)

**The Agency will quote the rate (in both words and figures) at percentage below/ above/ or AT PER with the rates shown in the specific priced schedule of probable items with approximate quantities.**

**14. Tender must be accompanied by EMD** specified for the work in the shape of Bank Draft/Pay Order only on a Nationalized **Bank drawn/Scheduled Bank in favor of West Bengal Housing Board payable at Kolkata.** E.M.D. Should be kept in a sealed envelope with a clear description and should accompany the name of work and N.I.T. No.

**15. Tender must be delivered to Deputy Director (EP)/Sarsuna H.P** West Bengal Housing Board or in absence to any authorized officer of West Bengal Housing Board and will be opened on the same day in the presence of bidders or their authorized representatives.

**16. If the office happens to be closed on the date of receipt of tender** as specified in the NIT will be received and opened on the next working day at the same time and venue,

**17. The post tendering negotiation** if required may be made with all the eligible tenderers which may be instant or afterwards.

**18. Contractor shall have to make his /her own arrangement for resource materials** duly certified will only be accepted.

**19. There will be no provision for arbitration** whatsoever in the contract.

**20. Successful tenderer would have to arrange cess registration** certificate with the labour Department, Government of West Bengal located in the area where the construction project/work is to be executed under specific NIT.

**21. Successful tenderer would have to execute an agreement** as specified by the WBHB in non- judicial stamp paper of value Rs. 10/-only before issuing of formal work order by the WBHB

- 22. One percent (1%) cess will be statutorily deducted** from each of contractor's progressive bill.
23. No conditional tender will be accepted.
24. Tenderer should collect the GSTN No. of WBHB before submitting the bill & for deposition of GST to the respective department.
- 25. Tenders will be received only in the tender box** kept in the office chamber of Deputy Director (EP)/Sarsuna at 3<sup>rd</sup> Floor, West Bengal Housing Board.105, S N Banerjee Road, Abasan, Kolkata-700014 and nowhere else,
- 26. Submission of false misleading** and fabricated statement/ documents/information etc found at any point of time will lead to cancellation of the tender.
- 27. Acceptance of tender will rest entirely with the WBHB** which does not bind itself to accept the lowest tender and reserves the right itself the authority to reject any or all the tenders received without assigning any reasons thereof.
28. Joint Venture will not be allowed.
- 29. Further details can be seen in the tender documents itself.**

**Deputy-Director (EP)/  
Sarsuna Housing Project  
West Bengal Housing Board**

No.: 1044 /1(14) DD(EP)/SHP/HB

Dated: - 11.09.2018

Copy forwarded for information to the:

1. Housing Commissioner, West Bengal Housing Board
2. Joint Housing Commissioner, West Bengal Housing Board
3. Director (Engineering), West Bengal Housing Board
4. CA cum AP, West Bengal Housing Board
5. FA cum CAO,/D.F.A. West Bengal Housing Board
6. Asst. Housing Commissioner-I he is requested to please arrange for uploading the NIT the Website forthwith
7. 7-10.Joint Director (EW)-I/II/III/IV/V. West Bengal Housing Board
11. Join Director (EEW) WBHB
12. . A.D Sarsuna Housing Project West Bengal Housing Board.
13. Estimator attached to DD (EP)/Sarsuna H P.West Bengal Housing Board.
- 14 . Notice Board

**Deputy-Director (EP)/  
Sarsuna Housing Project  
West Bengal Housing Board**

ADDITIONAL TERMS AND CONDITIONS TO  
THE N.I.T. CONTRACT DOCUMENTS :-

Contract documents shall consist of the following and tenderers shall have submit one copy of each of the same along with their tenders duly signed by then, without which tenderers are liable to rejection.

- a) The details Notice Inviting Tender hereinafter referred to as the Tender Notice.
- b) General rules and directions and conditions of contract herein after referred to as Tender From
- c) Special Terms and conditions and specification.
- d) Specific priced schedule of probable items with approximate quantities.

2. i) A tenderer is to quoted his rate of figures as well as in words at percentage below/ above/ or AT PER with the rates shown in the specific priced schedule of probable items with approximate quantities.

One of the following is to be in scribed on the pagr-3 of the Tender form.

- a) I/We agree to carry out the work mentioned in the memorandum at per with the rate shown in the specific priced schedule of probable items with approximate quantities.

- b) I/We agree to carry out the work mentioned in the memorandum at .....% ( percent)

Above/ Below then the rates shown in the specific priced schedule of probable items with approximate quantities. The said quotation in the exact of any of the forms (s) and (b) above must be written on pages-3 only of the Tender Form the lower held of page-3 of the Tender Form should be ignored and the quantities in the specified in the specified Form written across, the full width of the pages. The quotation shall be clearly and legibly written and the whole written must be by the hand of the person signing the tender and with the same per and ink. Fail our to do may invalidate the tender.

Erasing or over written shall not be allowed. The condition may be suitable relaxed in case of tender unable to write in English. Correction in the quotation should be avoided and if this becomes unavoidable, the entire rate (and note portion only) shall be scared out and signed (not simply initialed) by the tenderer in token of such cancellation, A fresh rate in one of the specified manner, shall then be corsetry written.

ii)In the event of the tender being submitted by a firm it must be signed by a member or members of the firm having legal Authority to do so, and if called for, legal document in support hereof must be produced for inspection and same in case of firm carried out by one member of a joint family, it must displace that the firm is duly registered under the Indian partnership Act. Any tender signed by a member not holding power of Attorney shall be treated informal. Before submission of the Tender the tenderer must see that the memorandum at page-3 of the tender Form is properly filled in and all particulars given. The tenderer must sign in the space allowed on.....

(2)

Page-4 of the printed Tender Form and the declarative by tender (at Page-10) at the end of the(SPECIAL TERMS AND CONDITION).

The signature on page-4 of the printed Tender form must be properly witnessed in the space allotted for the purpose. The tenderer must also sign at the bottom of each page of the printed tender form and OTHER TENDR DOCUMENTS. OVERWRITING SHALL NOT BE ALLOWED. All corrections, additions, alternations etc. must be duly signed, when tenderer tender in any language other than English, the rate quoted by him shall also be written in the same Language. In addition he shall furnish a certificate to the effect that all the stipulations, of the tender documents have been fully and clearly explained by him to the tenderer.

3) a) Earnest Money as per clause of N.I.T. above deposited in Bank Draft on a Kolkata Bank Drawn in favour of West Bengal housing Board. Must accompany each tender without which tender will not be considered at all.

b) No Cash or cheque or challan or Token will be accepted for Earnest Money.

**4)Deduction of Cess.**

Deduction of CESS from the contractor's Bills for the purpose of the purpose of the Building and other construction worker's (Regulation of Employment and other conditions of Service Act. 1996 will be deducted @ 1% of the cost of construction.

**5)DEDUCTION OF INCOME TAX**

DEDUCTION OF INCOME Tax from contractor's Bills should be made as laid down in Memo No. F No. 275/91972, I.T.O dt. 29.05.72 of Ministry of Finance (Deptt. of Revenue & Insurance), Govt. of India with its amendments, if any.

**6)DEDUCTION OF SALES TAX**

Deduction of sales Tax from contractor's Bills should be made as per relevant acts and rules.

**7)SERVICE TAX**

Service Tax be reimbursed provided the Agency is having service Tax Registration.

8)canvassing in connection with tender is strictly prohibited and the tenders submitted by the contractor's who resort to canvassing, will be liable to rejection.

**9)REJECTION OF TENDER**

Tender which does not fulfill any of the above conditions are incomplete and are liable to rejection.

**10)OPENING OF TENDER.**

The tender which should always be placed in sealed cover with the same of work written on the envelope, will be received by the concerned Jt. Director(EW)- /Dy. Director(EW) W.B.H.B. his office and will be publicly, opened by the authority receiving tenders or by his authorities representatives, fifteen minutes after the closing time of receipt of tender or as soon as possible thereafter in the presence of such tenderers or their authorized representative who may be present.

**11)ACCEPTANCE OF TENDER.**

The acceptance of the tender will rest with West Bengal Housing Board which does not bind itself to accept the lowest tender and reserves to itself the authority to reject any or all the tenders received, without assigning any reason thereof.

(3)

**12) VALIDITY OF TENDER**

The rates quoted by tenderer must remain valid for 120 days from the date of dropping of tender if the tenderer withdraws his offer before that period, he shall be disqualified for submission of any tender to West Bengal Housing Board for minimum period of one year and his earnest Money will be forfeited to the West Bengal housing Board.

**13) COPIES OF AGREEMENT:**

The successful tenderer will have to submit the following copies of the contract documents within 7 (Seven) days from the date of the receipt of letter of Acceptance of tender. Failure to be so within the specified time, will constitute a breach of the contract rendering the contract liable to termination with forfeiture of security to the extent of the amount of the initial earnest money specified in clause of N.I.T. above, without any reference to the tender.

In addition the tenderer will have to execute an agreement with the Board in non-judicial stamp paper of appropriate value in the Form as specified by the Board.

The amount already deposited as Earnest Money will be converted into security deposit.

Four sets of documents, containing all items of (a), (b), (c) and (d) as mentioned in clause-1 (One) above shall have to be submitted to the concerned J.D.(EW)-/D.D.(EW) by the successful tenderer. These will have to be purchased from the office of the concerned J.D.(EW) /D.D.(EW) and price for these sets will be as mentioned in N.I.T.

**14) STARTING OF WORKS:**

The successful tenderer shall have to start the work within a week from the date of issue of order to commence to work.

**15) PROGRAMME OF WORK & CERTIFICATE OF VISIT TO SITE:**

a certificate of visit to site and a programme of works showing completion within the specified period of completion of work is to be furnished under signature of the tenderer as per proforma attached. The purpose of visit to site will mean that the tenderer has appointed himself with the site conditions under which the work is to be executed.

If the successful tenderer whose tender is accepted has not got fixed security in respective class with West Bengal Housing Board as per rules shall within 7 (seven) days of receipt of intimation to that effect through registered post by special Messenger, deposit an additional amount in similar manner which together with the earnest money deposited with the tender would be equivalent to required security deposit of 2% (Two) percent of the tendered amount.

The successful tenderer shall ultimately furnish a total security deposit of 10% (Ten percent) of the value of work to be executed, of this 2% (Two percent) shall be obtained as indicated above and the remaining 8% (Eight percent) shall be obtained by recovered from progressive bills, so that the total recovery in the final bill is adjusted to make the total amount of security deposit retained equivalent to 10% (Ten percent) of the total value of work actually executed.

The percent (10%) recovery shall be made from each progressive bill in case of tenderer who has not fixed security with the West Bengal Housing Board in respective class.

### **Refund of Security Deposit / Retention Money:**

The security deposit / Retention Money shall be refunded to the contractor in the manner provided in clause 17 of the Conditions of Contract of W BHB Tender Form i.e as furnished herein under:-

- (i) **30%** of the security deposit shall be refunded to the contractor on expiry of **one year** after the issuance of certificate of completion/taking over certificate of work;
- (ii) Further **30%** of the security deposit shall be refunded to the contractor on expiry of **two years**;
- (iii) The balance **40%** of the security deposit shall be refunded to the contractor on expiry of **three years**; However, on completion of the whole works, the contractor may substitute Retention Money / Security Deposit with an "on demand" Bank Guarantee in favour of WBHB in the prescribed format.

### **16) Refund of Security Deposit / Retention Money:-**

The security deposit / Retention Money shall be refunded to the contractor in the manner provided in clause 17 of the conditions of contract of WBHB Tender Form i.e. as furnished herein under:-

- i) 30% of the security deposit shall be refunded to the contractor on expiry of one year after the issuance of certificate of completion/taking over certificate of work:
- ii) li) Further 30% of the security deposit shall be refunded to the contractor on expiry of two years;
- iii) lii) The balance 40% of the security deposit shall be refunded to the contractor on expiry of three years; However, on completion of the whole works, the contractor may substitute retention Money / Security Deposit with an "on demand" Bank Guarantee in favour of WBHB in the prescribed format.
- iv) **Explanation :-** As per clause 17

The word 'work' means and includes road work, bridge work, building work, sanitary and plumbing work, electrical work and/or any other work contemplated within the scope and ambit of this contract. The work may be of original or special repair in nature or a combination thereof, or of original or special repair in nature in combination with the work(s) of repair and/or maintenance in nature, provided that in respect of the work of repair or maintenance in nature or a combination thereof, the words **three years** wherever appearing in his Clause shall be deemed to be **one year** and in which case the security deposit of the contractor held with the BOARD

### **17) GENERAL NOTES**

Guiding schedule of rates:- Schedule of rates of P.W.D. (2014- 2015) with effect from 31.07.2014 for Building, Sanitary & Plumbing works, materials and labour and PW(RDS) & for Electrical works P.W.D. Schedule of Rates (2014-2015) effective from April 2014 with latest amendment i.e. Dec. 2015 along with upto date addenda corrigenda will be applicable on the date of issue of this notice. Rate of item which are not available in above Schedule of Rates has been derived by proper analysis of rate based on market price.

Deputy Director(EP)/SHP

West Bengal housing Board

<b>Specific priced schedule of Repairing &amp; rectification work(incl.sanitary &amp; plumbing work ) of ANUSUA H.P.at Sarsuna, Kolkata under west Bengal Housing Board.</b>
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Sl. no.	Description of work	unit	QTY	Rate	Amount
<b><u>(A) BUILDING PART.</u></b>					
1	Dismantling all types of masonry excepting c.c. plain or reinforced, stacking serviceable materials at site and removing rubbish as directed within a lead of 75 m.				
	a)Ground floor.	cum	0.200	447.00	89.40
	b)First floor.	cum	0.200	497.00	99.40
	c)Second floor.	cum	0.200	547.00	109.40
	d)Third floor.	cum	0.200	597.00	119.40
	e)Forth floor.	cum	0.200	647.00	129.40
2	Dismantling R.C. floor ,roof, beam etc.including cutting rods and removing rubbish as directed within a lead of 75m including stacking of steel bars.				
	a)Ground floor.	cum	0.030	1956.00	58.68
	b)First floor.	cum	0.500	2006.00	1003.00
	c)Second floor.	cum	0.300	2056.00	616.80
	d)Third floor.	cum	0.500	2106.00	1053.00
	e)Forth floor.	cum	0.500	2156.00	1078.00
3	75mm. thick Brick work with 1st class bricks set in cement sand mortar (1:4) in ground floor including H.B. netting in alternate layers.				
	a)First floor.	Sqm	9.00	516.00	4644.00
	b)Second floor.	Sqm	9.00	528.00	4752.00
	c)Third floor.	Sqm	9.00	540.00	4860.00
	d)Forth floor.	Sqm	9.00	552.00	4968.00
4	Ordinary Cement concrete (mix 1:1.5:3) with graded stone chips (20 mm nominal size) excluding shuttering and reinforcement if any, in ground floor as per relevant IS codes.(i) Pakur Variety				
	a)Ground floor.	cum	0.030	6241.59	187.25
	b)First floor.	cum	0.500	6336.59	3168.30
	c)Second floor.	cum	0.300	6431.59	1929.48
	d)Third floor.	cum	0.400	6526.59	2610.64
	e)Forth floor.	cum	0.400	6621.59	2648.64
5	Applying epoxy based reactive joining the old concrete with fresh concrete to be applied within manufacturer's specified time as per manufacturers specification.(0.4 Kg/ m <sup>2</sup> of concrete surface).				
		Sqm	11.00	309.00	3399.00



Sl. no.	Description of work	unit	QTY	Rate	Amount
6	Hire and labour charges for shuttering with centering and necessary staging upto 4 m using approved stout props and thick hard wood planks of approved thickness with required bracing for concrete slabs, beams and columns, lintels curved or straight including fitting, fixing and striking out after completion of works (upto roof of ground floor) (a) Steel shuttering or 9mm to 12mm thick approved quality ply board shuttering in any concrete work .				
	a)Ground floor.	sqm	1.00	369.00	369.00
	b)First floor.	sqm	7.00	387.00	2709.00
	c)Second floor.	sqm	5.00	405.00	2025.00
	d)Third floor.	sqm	5.00	423.00	2115.00
	e)Forth floor.	sqm	8.00	441.00	3528.00
7	Plaster (to wall, floor, ceiling etc.) with sand and cement mortar including rounding off or chamfering corners as directed and raking out joints including throating, nosing and drip course, scaffolding/staging where necessary (Ground floor).[Excluding cost of chipping over concrete surface]				
	<u>With 1:4 Cement mortar.</u>				
	<u>(i) 15 mm thick plaster,</u>				
	a)Ground floor.	sqm	0.00	167.00	0.00
	b)First floor.	sqm	6.50	171.00	1111.50
	c)Second floor.	sqm	6.50	175.00	1137.50
	d)Third floor.	sqm	6.50	179.00	1163.50
	e)Forth floor.	sqm	6.50	183.00	1189.50
	<u>(i) 10 mm thick plaster,</u>				
	a)Ground floor.	sqm	0.60	133.00	79.80
	b)First floor.	sqm	11.00	137.00	1507.00
	c)Second floor.	sqm	9.00	141.00	1269.00
	d)Third floor.	sqm	10.00	145.00	1450.00
	e)Forth floor.	sqm	12.00	149.00	1788.00
8	Cutting/ removing Kota stone / marble stone floor upto 50mm thick by chiselling, and also involved manual labour / machine where necessary including removal of rubbish as directed within a lead of 75mm.	Sqm	24.00	78.00	1872.00
9	Strong and rigid stiffened scaffolding with necessary cross bracers and challis as per direction of E.I.C.	Sqm	1750.366	24.61	43076.51

Sl. no.	Description of work	unit	QTY	Rate	Amount
10	18mm to 22mm thick kota stone set in 20mm thick (avg) cement mortar (1:4) in floor ,stair & lobby including pointing in cement slurry with admixture of pigment matching the stone shade, including grinding & polishing as per direction of Engineer in charge to match with the existing work (slurry for bedding @ 4.4kg/sq.m)				
	a)First floor.	Sqm	6.00	1036.00	6216.00
	b)Second floor.	Sqm	6.00	1048.00	6288.00
	c)Third floor.	Sqm	6.00	1060.00	6360.00
	d)Forth floor.	Sqm	6.00	1072.00	6432.00
11	Cleaning compound premises of shurbs , plants , jungles etc. by cutting and removing as directed (specific permission of Engineer in charge prior to execution will be necessary				
		Sqm	720.00	11.00	7920.00
12	Supplying,fitting & fixing 30mm thick Factory made solid panel PVC Door Shutter consisting of outer frame made out of M.S. Tubes of 19 gauge thickness and size 19mm x19mm for style , top and bottom rails, M.S. Frame shall have cost of steel primers of approved make and manufacturer,M.S. frame covered with 5mm th. heat moulded PVC "C" Channel of size 30mm th. 70mm width out of which 50mm shall be flat and 20mm shall be tapered in 45 degree angle on either sides forming styles and 5mm th 95mm wide PVC sheet out of which 75mm shall be flat and 20mm tapered in 45 degree on the inner side to form top & bottom rail and 115mm wide PVC sheet out of which 75mm shall be flat and 20mm shall be tapered on both sides to form lock rail.Top, bottom and lock rails shall be tapered on both sides to form lock rail. Top, bottom and lock rails shall be provided either side of the panel with 10mm (5mmx2) th ,20mm wide cross PVC sheet as gap insert for top rail and bottom rail. Paneling of 5 mm th both side PVC sheet to be fitted in the M.S. frame welded/ sealed to the styles & rails with 7mm (5mm+2mm) th.x 15mm wide PVC sheet beading on inner side and joined together with solvent cement adhesive .An additional 5mm th. PVC strip of 20mm which is to be stuck on the interior side of the "C" channel using PVC solvent adhesive etc. complete excluding all necessary hardwares as per direction of Engineer in Charge.				
		Sqm	2.60	2017.00	5244.20
13	Applying Exterior grade Acrylic primer of approved quality and brand on plastered or concrete surface old or new surface to receive decorative textured (matt finish )or smooth finish acrylic exterior emulsion paint including scraping and preparing the surface throughly ,complete , as per manufacturer's specification and as per direction of Engineer in charge .				
	i)T wo coats.				
	a)Ground floor.	sqm	1.00	45.10	45.10
	b)First floor.	sqm	18.00	45.81	824.58
	c)Second floor.	sqm	16.00	46.52	744.32

Sl. no.	Description of work	unit	QTY	Rate	Amount
	d)Third floor.	sqm	17.00	47.23	802.91
	e)Forth floor.	sqm	19.00	47.94	910.86
14	Prctective and Decorative Acrylic Exterior emulsion paint of approved quality , as per manufacturer's specification and as per direction of Engineer in charge to be applied over acrylic primer as required .the rate includes cost of material, labour , scaffolding and all incidental charges but excluding cost of primer .				
	i)T wo coats.				
	Premium 100% Acrylic emulsion				
	a)Ground floor.	sqm	1.00	84.00	84.00
	b)First floor.	sqm	18.00	84.71	1524.78
	c)Second floor.	sqm	16.00	85.42	1366.72
	d)Third floor.	sqm	17.00	86.13	1464.21
	e)Forth floor.	sqm	19.00	86.84	1649.96

**B) SANITARY & PLUMING WORK.**

- 1 Supplying,fitting, and fixing of UPVC pipes (B Type) conforming to IS - 13592-1992 for above ground work including cost of jointing materials etc. fitting and fixing all necessary specials, cutting pipes ,cutting holes in walls or R.C. floor where necessary and mending good all damages excluding the cost of masonry or concrete work, if necessary ,but including the cost and fitting and fixing holder bat clamps (any floor) .(payment will be made on center line measurement of the total pipeline including specials.)

a) 75mm Dia Pipe	m	17.00	241.00	4097.00
b) Reducing Y -(110x75)- 75mm dia	Each	4.00	145.00	580.00
c) Bend - 75mm dia	Each	8.00	61.00	488.00
d) Door bend- 75mm dia	Each	8.00	125.00	1000.00

Total= 157956.72

Add, GST @12% of total

18954.81

Total 176911.53

Add : Labour welfare cess @ 1 %

1769.12

Total Cost= 178680.64

Say = Rs. 178681.00

(Rupees One lakh seventy eight thousand six hundred and eighty eight Only)

# **WEST BENGAL HOUSING BOARD**

## **SECTION – 3**

### **Special Terms & conditions**

#### **C.1 General :**

Unless otherwise stipulated in the BOQ or Technical Specification of this Tender, all the works are to be done as per general conditions and general specifications as mentioned either in—

a) Public Works Department Schedule of Rates for Building Works and Sanitary & Plumbing Works in force including up-to-date addenda and corrigenda, if any, issued from competent authority as applicable for the working area of concerned Circle at the time of submission of tender, or in

b) Public Works (Roads) Department Schedule of Rates for Road Works, Bridge & Culvert Works and Carriage, etc. in different district of West Bengal for the working area including up-to-date addenda and corrigenda, if any, issued by the Superintending Engineer, Bridge Planning Circle, and in

**Latest editions of the Indian Standard Specifications and codes of practice.**

All electrical works are to be carried out in accordance with the Specifications for PWD schedule of rates for Electrical Works (Volume-I April, 2014)

For items in Bill of Quantities, specification of which are neither available in this document nor in specification books mentioned above should be followed in accordance with good engineering practices.

#### **C.2 Definition of Engineer-in-Charge and commencement of work :**

The word “Engineer-in-Charge” means the Deputy Director(EW), WBHB of the project concerned. The word “Department” appearing anywhere in the tender documents means West Bengal Housing Board, The word “approved” appearing anywhere in the documents means approved by the Engineer-in-Charge. In case, the work is transferred to any other Deputy Director, the Deputy Director under whom the work will be executed should be treated as the Engineer-in-Charge. The work shall have to be taken up within **seven days** of the receipt of the formal work order or otherwise mentioned therein. Failure to do so will constitute a violation of the contract stipulation as regards of proportionate progress and timely completion of work and the contractor will thereby make himself liable to pay compensation or other penal action as per stipulation of the printed tender form.

#### **C.3 Possession of the Site :**

The Engineer-in-charge will give possession of all parts of the site to the contractor by the site possession date stated in Contract Data.

#### **C.4 Co-operation with other agencies and damages and safety of users :**

All works are to be carried out in close co-operation with the Department and other contract or contracts that may be working in the area of work. The work should also be carried out with due regard to the convenience of the road users and occupants of the adjacent locality, if any. All arrangements and programme of work must be adjusted accordingly. All precautions must be taken to guard against chances of injury or accidents to workers, road users,

s of the adjacent locality etc. The opinion of the Engineer-in- Charge

are due to the negligence of the contractor are promptly rectified by the contractor at his own cost and expenses and according to the direction and satisfaction of the Engineer-in-Charge.

#### **C.5 Personnel :**

The Contractor shall employ the key technical personnel named in the Qualification information declaration / NIT or other technical persons approved by the Engineer-in-charge. The Engineer-in-charge will approve any proposed replacement of technical personnel only if their relevant qualifications and abilities are substantially equal to or better than those of the personnel stated in the Qualification information declaration /NIT.

If the Engineer-in-charge 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 Works in the Contract.

#### **C.6 Amenities for Contractors :**

All materials, tools and plants and all labour (skilled and unskilled) including their housing, water supply, sanitation, light, procurement of food for contractors staff and crews, medical aids etc. are to be arranged for by the contractor at his own cost. The cost for transportation of labour, materials and all other incidental items as required for work shall also have to be borne by the Contractor without any extra claim from department.

#### **C.7 Contractor's risk for loss or damage :**

All risk on account of railway or road carriage or carriage by boat including loss or damage of vehicles, boats, barges, materials or labour, if any, will have to be borne by the contractor without any extra claim towards department.

#### **C.8 Authorised Representative of Contractor :**

The contractor shall not assign the agreement or sublet any portion of the work. The contractor, may however, appoint an authorized representative in respect of one or more of the following purpose only.

- a) General day to day management of work.
- b) To attend measurements when taken by the Departmental Officers and sign the records of such measurements in token of acceptance by the contractor.

The selection of the authorised representatives shall be subject to the prior approval of the Engineer-in-Charge concerned and the contractor shall in writing seek such approval of the Engineer-in-Charge giving therein the name of work, Tender No., the Name, Address and the specimen signature of the representative he wants to appoint and the specific purposes as specified here-in-above, which the representative will be authorised for. Even after first approval, the Engineer-in-Charge may issue at any subsequent date, revised directions about such authorised representative and the contractor shall be bound to abide by such directions. The Engineer-in-Charge shall not be bound to assign any reason for his revised directions. Any notice, correspondence etc. issued to the authorised representative or left at his address, will be deemed to have been issued to the contractor.

#### **C.9 Power of Attorney :**

The Provision of the power of attorney, if any, must be subject to the approval of the Department. Otherwise the Department shall not be bound to take cognizance of such attorney.

#### **C.10 Transportation arrangement :**

The contractor shall arrange for all means of transport including railways wagons required for carriage and supply of materials and also the materials required for the construction work. The Department may however, at their own discretion grant necessary certificates, if required, for  
w  
tment to help the contractor in this

respect, the contractor will have to arrange at his own initiative so that progress of work will not hamper and no claim whatever on this ground will be entertained under any circumstances. If railways facilities are not available, the contractor will have to depend on transport of materials by road as necessary to complete the work without claiming any extra payment from department in this regard. The contractor must consider this aspect while quoting rate.

#### **C.11 Arrangement of Land :**

The contractor will arrange land for installation of his Plants and Machineries, his godown, store yard, labour camp etc. at his own cost for the execution of the work. Departmental land, if available and if applied for, may be spared for the purpose on usual charges as fixed by the Competent Authority.

#### **C.12 Use of Government/Board's Land :**

Before using any space in Government/Board's land for any purpose whatsoever, approval of the Engineer-in-charge will be required. Departmental land, if available and if applied for, may be spared for the purpose on usual charges as fixed by the Competent Authority. The contractor shall make his own arrangements for storage of tools, plant, equipments; materials etc. of adequate capacity and shall clear and remove on completion of work any shed, huts etc. which he might have been erected on Government/Board's land. If after such use, the contractor failed to clear the land, Department will arrange to remove those installation and adequate recovery will be made from the dues of the contractor.

#### **C.13 Contractor's Site Office :**

The contractor shall have an office adjacent to the work as may be approved by the Engineer-in-Charge where all directions and notice of any kind whatsoever, which the Engineer-in-Charge or his representative may desire to give to the contractor in connection with the contract, may be left or sent by post to such office or delivered to the contractor's authorised agent or representative. For such intimation to the contractor's site office, it shall be deemed to be sufficient enough to be served upon the contractor.

#### **C.14 Contractor's Godown :**

The contractor must provide suitable godowns for cement and other materials at the site of work. The cement godown is to be sufficient in capacity and it must be water tight with either an elevated floor with proper ventilation arrangement underneath the floor or if solid raised flooring is made, cement is to be stored on bamboo or timber dunnage to the satisfaction of the Engineer-in-Charge. No separate payment will be made for these godowns or for the store yard. Any cement, which is found at the time of use to have been damaged, shall be rejected and must immediately be removed from the site by the contractor as per direction of the Engineer-in-Charge.

#### **C.15 Water and energy :**

The contractor shall have to arrange on his own cost, required energy for operation of equipments and machineries, for operating of pumping set, illuminating work site, office etc. that may be necessary in different stages of execution of work. No facility of any sort will be provided for utilization of the departmental sources of energy existing at site of work. Arrangement for obtaining water for the work should also be made by the contractor at his own cost. All cost for getting energy and / or for any purpose whatsoever will have to be borne by the contractor for which no claim will be entertained.

All materials, tools and plants and all labour (skilled and unskilled) including their housing, water supply, sanitation, light, procurement of food for contractors staff and crews, medical aids etc. are to be arranged for by the contractor at his own cost. The cost for transportation of labour, materials and all other incidental items as required for work shall also have to be borne by the Contractor without any extra claim from department.

#### **C.16 Access Road :**

The Contractor shall provide necessary access roads to the site of work from the nearest public thoroughfare and right of way at his cost unless otherwise provided for in the contract.

**C.17 Site Order Book** The contractor shall within seven days of receipt of the order to take up

work, supply at his own

shall be kept at the site of work under the custody of Assistant Director or his authorised representative. The Site Order Book shall have machine numbered pages in triplicates. Directions or instruction from Departmental officers to be issued to the Contractor will be entered (in triplicate) in the Site Order Book (except when such directions or instructions are given by separate letters). The contractor or his authorised representative shall regularly note the entries made in the work Order Book and also record thereon the action taken or being taken by him complying with the said directions or instruction on any relevant point relating to the work. The contractor or his authorised representative may take away the triplicate page of the Site Order Book for his own record and guidance.

Cases of supplementary items or of claims may not be entertained unless supported by entries in the Site Order Book or any written order from the Tender Accepting Authority.

The first page of the Site Order Book shall contain the following particulars:

- a) Name of the Work
- b) Reference to contract number
- c) Contractual rate in percentage
- d) Date of opening of the Work Order Book
- e) Name and address of the Contractor
- f) Signature of the Contractor
- g) Name and address of the Authorized representative (if any of the contractor authorized by him)
- h) Specific purpose for which the contractor's representatives is authorized to act on behalf of the Contractor.
- i) Signature of the authorized representative duly attested by the Contractor.
- j) Signature of the Assistant Director concerned.
- K) *DATE OF ACTUAL COMPLETION OF WORK.*
- L) *DATE OF RECORDING FINAL MEASUREMENT.*

Entries in (K) and (L) above shall be filled in on completion of the work and before the Site Order Book is recorded in the office of the Deputy Director.

#### **C.18 Programme of work :**

Before actual commencement of work the contractor shall submit a programme of construction of work with methodology clearly showing the required materials, men and equipment. The contractor will submit a programme of construction in the pattern of **Bar Chart or Critical Path Method** and a time table divided into four equal periods of progress of work to complete the work within the specific period for approval of the Engineer-In-Charge who reserves the right to make addition, alterations and substitutions to such programme in consultation with the contractor and such approved programme shall be adhered to by the contractor unless the same is subsequently found impracticable in part or full in the opinion of the Engineer-In-Charge and is modified by him. The contractor must pray in writing, showing sufficient reasons therein for modification of programme. The conditions laid down in **clause 2** of the printed tender form regarding the division of total period and progress to work and the time table thereof as provided in the **Contract Data** shall be deemed to have been sufficiently complied with the actual progress of work and does not fall short of the progress laid down in the approved time table for one fourth, half and three fourth of time allowed for the work.

#### **C.19 Setting out of the work :**

The contractor shall be responsible for the true and perfect setting out of the work and for the correctness of the position, levels, dimensions and alignments of all parts of work, if any rectification or adjustment becomes necessary the contractor shall have to do the same at his own cost according to the direction of the Engineer-in-Charge. During progress of works, if any, error appears or arises in respect of position, level, dimensions or alignment of any part of the work, the contractor shall, at his own cost, rectify such defects to the satisfaction of the Engineer-in-Charge. Any setting out that may be done or checked by either of them shall not in any way relieve the contractor from their responsibility for correctness and rectification thereof.

#### **C.20 Precautions during works :**

The contractor shall carefully execute the work without disturbing or damaging underground or overhead service utilities viz. Electricity, Telephones, Gas, Water pipes, Sewers etc. In case

measures as would be directed  
d expenses of the contractor. If



disturbances of service utilities is found unavoidable the matter should immediately be brought to

the service utilities are damaged or disturbed in any way by the contractor during execution of the work, the cost of rectification or restoration of damages as would be fixed by the Engineer-in-Charge concerned will be recovered from the contractor.

#### **C.21 Safety, Security and Protection of the Environment :**

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 and the works (so far as the same are not completed or occupied by the department),
- (b) provide and maintain at his own cost all lights, guards, fencing, warning signs and watching, when and where necessary or required by the Engineer-in-Charge for the protection of the Works or for the safety and convenience of the public or others,
- (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,
- (d) ensure that all lights provided by the Contractor shall be screened so as not to interfere with any signal light of the railways or with any traffic or signal lights of any local or other authority.

#### **C.22 Clearing Of Site :**

Before starting any work, work site, where necessary, must be properly dressed after cutting clearing all varieties of jungles shrubs, bamboo clusters or any undesirable vegetation from the alignment or site of works. On completion of works all temporary structure or obstruction including some pipes in underground work, if any, must also be removed. All scars of construction shall be obliterated and the whole site shall be left in a clear and neat manner to the satisfaction of the Engineer-In-Charge. Total length (in case of road project) shall be demarcated by proper chainage along with fixing 200m post as per direction of Engineer-in-Charge on both side of the alignment and Bench Marking at desired locations as per direction of Engineer-in-Charge. No separate payment shall be made for all these works, the cost thereof being deemed to have been included in the rates of various items of works quoted by the contractor in the schedule of probable items of works.

#### **C.23 Sundry Materials :**

The contractor must erect temporary pillars, master pillars etc. as may be required in suitable places as directed by the Engineer-In-Charge at his own cost before starting and during the work by which the departmental staff will check levels layout different works and fix up alignment and the contractor shall have to maintain and protect the same till completion of the work. All machineries and equipments like Level Machine, Staff, Theodalite etc. and other sundry material like, pegs, strings, nails flakes instruments etc. and also skill labour required for setting out the levels for laying out difference structures and alignment shall also be supplied by the contractor as per direction of Engineer-in-Charge at his own cost without any extra claim towards the department.

#### **C.24 Covered up works:**

When one item of work is to be covered up by another item of work the latter item shall not be done before the former item has been measured up and has been inspected by the Engineer-in-Charge or Assistant Director, as the authorized representatives of the Engineer-in-Charge and order given by him for proceeding with the latter item of work. If this is not possible for practical reasons, the Sub-Assistant Engineer, if so authorized by the Assistant Director, may do this inspection in respect of minor works and issue order regarding the latter item.

#### **C.25 Drawings :**

- a) The Engineer-in-charge shall supply drawings for all permanent works from time to time to the contractor in duplicate. The contractor shall submit a schedule of requirement of drawings for permanent work, subject to approval of the schedule by the Engineer, well in advance to enable the engineer-in-charge supplying the drawings in time. For temporary and minor works, all design and drawings shall be prepared by the contractor at his own cost and obtain approval from the Engineer-in-charge. Approval by the Engineer-in-charge shall not relieve the contractor of any of his responsibilities under the contract.
- b) One set of Contract document including all approved drawings furnished to the Contractor as aforesaid shall be kept by the Contractor at site and same shall be at all reasonable

times be available for inspection by the Employer and / or the Engineer-in-charge and by any other person authorized by the Engineer-in-charge in writing.

c) Any deviation from working drawings and engineering drawings that may be required by the exigencies of construction, or otherwise, will in all cases be determined and authorized by the Engineer-in-charge in writing.

**C.26 Delay due to modification of drawing and design :**

The contractor shall not be entitled for any compensation for any loss due to delays arising out of modification of the drawing, addition and alterations of specifications and such events shall be governed by the provisions of Clause 12 of Printed Tender Form.

**C.27 Tools and Plants :**

All Tools and Plants required for the work will have to be supplied by the Contractor at his own cost; all cost of fuel and stores for proper running of the Tools and Plants must be borne by the Contractor. The minimum plant and mechanical equipments to be owned by the contractor & deployed in the contract work

**C.28 Equipment for testing of materials & concrete at site laboratory:**

Any equipment for site tests as outlined in BIS and as directed by the Engineer-in-charge.

**C.29 Procurement of materials :**

All materials required to complete execution of the work shall be supplied by the contractor after procurement from authorised and approved source.

**C.30 Issue of Departmental Materials :**

Departmental materials will not be issued under any circumstances.

**C.31 Serviceable Materials :**

The responsibility for stacking the serviceable materials (as per decision of the Engineer-in-Charge) obtained during dismantling of existing structures/roads and handing over the same to the Engineer-in-charge of work of this Department lies with the contractor and nothing will be paid on this account. In case of any loss or damage of serviceable materials prior to handing over the same to this Department, full value will be recovered from the Contractor's bill at rates as will be assessed by the Engineer- in-Charge.

**C.32 Unserviceable Materials:**

The Contractor shall remove all unserviceable materials, obtained during execution at place as directed. The contractor shall dress up and clear the work site after completion of work as per direction of the Engineer-in-Charge. No extra payment will be made on this account.

**C.33 Damaged / Unused Materials :**

Any damaged / unused materials lying at contractor's custody, which is found at the time of use to have been damaged and / or remaining unused, shall be rejected and / or removed immediately from the site by the contractor or disposed of as directed by Engineer-in-Charge at the costs and expenses of the contractor and the contractor shall have no claim for compensation on account of any such materials so damaged / remaining unused as aforesaid.

**C.34 Idle labour and additional cost :**

Whatever may be the reason **no** claim on idle labour, enhancement of labour rate additional establishment cost, cost of Toll and hire and labour charges of tools and plants, railway freight etc. would be entertained under any circumstances.

**C.35 Timely completion of work :**

All the supply and the work must have to be completed in all respects within the time specified in Notice Inviting Tender from the date of commencement as mentioned in work order. Time for completion as specified in the tender shall be deemed to be the essence of the contract.

**C.36 Extension of time :**

For cogent reasons over which the contractor will have no control and which will retard the progress, extension of time for the period lost will be granted on receipt of application from the contractor. No claim whatsoever for idle labour, additional establishment, enhanced cost of materials and labour and hire charges of tools and plants etc. would be entertained under any circumstances. The contractor should consider the above factor while quoting his rate. Applications for such extension of time should be submitted by the contractor in the manner indicated in Clause-5 of the printed form of Printed Tender Form.

**C.37 Terms and Conditions in extended period :**

As Clause 5 of Printed Tender Form as the case may be when an extension of time for completion of work is granted by the Engineer-in-Charge for cogent reasons for which the contractor have no control, it will be taken for granted by the working contractor that the validity of the contract is extended automatically upto the extended period with all terms and conditions, rates etc. remaining unaltered, i.e. the tender is revalidated upto the extended period.

**C.38 Management Meetings :**

- a) 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 in accordance with the requirements in consultation with the concerned persons.
- b) The Engineer-in-charge shall record the business of management meetings and is to provide copies of the record to those attending the meeting and to the Employer. The responsibility of the parties for actions to be taken shall 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..

**C.39 Taking over Certificate :**

When the whole of the Works have been completed and have satisfactorily passed any Tests on Completion prescribed by the Contract, the Contractor may give

a notice to that effect to the  
ied by a written undertaking to

finish with due expedition any outstanding work during the Defects Liability Period. Such notice and undertaking shall be deemed to be a request by the Contractor for the Engineer-in-charge to issue a Taking-Over Certificate in respect of the Works. The Engineer-in-charge shall, within 21 days of the date of delivery of such notice, either issue to the Contractor, with a copy to the Employer, a Taking-over Certificate, stating the date on which, in his opinion, the works were substantially completed in accordance with the contract, or give instructions in writing to the Contractor specifying all the work which, in the Engineer's opinion, is required and shall also notify the Contractor of any defects in the Works affecting substantial completion that may appear after such instructions and before completion of the Works specified therein. The Contractor shall be entitled to receive such Taking-Over Certificate within 21 days of completion, to the satisfaction of the Engineer-in-charge, of the works so specified and remedying any defects so notified.

#### **C.40 Testing of qualities of materials and workmanship :**

All materials and workmanship shall be in accordance with the specifications laid down in the contract and also as per relevant IS codes and the Engineer-In-Charge reserves the right to test, examine and measure the materials/workmanship direct at the place of manufacture, fabrication or at the site of works or any suitable place. The contractor shall provide such assistance, instrument, machine, labour and materials as the Engineer-in-Charge may require for examining, measuring and testing the works and quality, weight or quantity of materials used and shall supply samples for testing as may be selected and required by the Engineer-in-Charge without any extra cost. Besides this, he will carry out tests from outside Laboratory as per instruction of Engineer-in-Charge. The cost of all such tests shall be borne by the agency in accordance with Clause 18 of Printed Tender Form and hence the same must be considered at the time of quoting rate.

#### **C.41 Approval of Sample :**

Samples of all materials to be supplied by the contractor and to be used in the work shall have to be approved by the Engineer-in-Charge and checking the quality of such materials shall have to be done by the concerned Department or as directed by Engineer-in-Charge prior to utilization in the work.

#### **C.42 Rejection of materials :**

All materials brought to the site must be approved by the Engineer-In-Charge. Rejected materials must be removed by the Contractor from the site within 24 hours of the issue of order to that effect. In case of non-compliance of such order, the Engineer-In-Charge shall have the authority to cause such removal at the cost and expense of the contractor and the contractor shall not be entitled to claim for any loss or damage of that account.

#### **C.43 Defect Liability Period and Defect Liability Certificate :**

The defect liability period (as specified in Clause 17 of Printed WBHB Tender Form) calculated from the date of issue of taking over certificate / certificate of completion of work (whichever is later) for whole of the works comprised in the contract.

The contract shall not be considered as completed until a defect liability certificate shall have been signed by the engineer-in-charge and delivered to the employer with a copy to the contractor, stating the date on which the contractor shall have completed his obligations to execute and complete the works and remedy any defects therein to the satisfaction of the Engineer-in-charge.

#### **C.44 Liquidated Damages / Compensation for Delay :**

The time allowed for carrying out the work as entered in the tender shall be strictly observed by the contractor and shall be reckoned from the date of notice to commence work. The work shall throughout the stipulated period of the contract be proceeded with all due diligence (time being deemed to be of the essence of the contract on the part of the contractor). The contractor shall commence works within **7 (seven) days** from the date of notice to commence work and ensure good progress conforming to the milestones achievement of the programme as stated in 'Contract Data'.

If the contractor fails to comply to achieve the milestones of targets stated in Contract Data within specified time period, for such default or delay in execution, the contractor shall be liable to pay as Liquidated Damages/ Compensation for delay as specified in clause 2 of the Conditions of Contract in WBHB Tender Form.

#### **C.45 Tender Rate :**

The contractor should note that the tender is strictly based on the rates quoted by the Contractor on the

priced schedule of probable item of work. The quantities for various other items of works as shown in the priced schedule of probable items of works are based on the drawing and design prepared by the Department. If variations become necessary due to design consideration and as per actual site conditions, those have to be done by the contractor at the time of execution at the rate prescribed in the tender condition. **No conditional rate will be allowed in any case.**

#### **C.46 Incidental and other charges :**

The cost of all materials, hire charges to Tools and plants, labour, Corporation/Municipal Fees for water supply, Royalty or road materials (if any), electricity and other charges of Municipalities or statutory local bodies, ferry charges, Toll charges, loading and unloading charges, handling chargers, overhead charges etc. will be deemed to have been covered by the rates quoted by the contractor inclusive of also GST etc as applicable . All other charges for the execution of the specified work, including supply of materials and related carriage, complete or finished in

all respect upto the entire satisfaction of the Engineer-in-charge of the work. No claim extra claim in this regard beyond the specified rate as per work schedule whatsoever in this respect will be entertained.

#### **C.47 Charges and fees payable by contractor :**

a) The contractor shall pay all fees required to be given or paid by any statute or any regulation or by-law of any local or other statutory authority which may be applicable to the works and shall keep the department immune against all penalties and liabilities of every kinds for breach of such statute regulation or law.

b) The Contractor shall save, harmless and indemnify the department from and against all claims, demands, suit and proceedings for or an account of infringement of any patent rights, design, trade mark of name of other protected write in respect of any constructional plant, machine, work, materials, thing or process used for or in connection with works or temporary works or any of them.

#### **C.48 Implied elements of work in items :**

Except of such items as are included in the Specific Priced Schedule of probable items and approximate quantities no separate charges shall be paid for traffic control measures, shoring, shuttering, dewatering, curing etc. and the rates of respective items of works are to be deemed as inclusive of the same.

#### **C.49 Realization of Departmental claims :**

Any sum of money due and payable to the contractor (including security deposit returnable to him) under this contract may be appropriated by the Government and set off against any claim of Government for the payment of sum of money arising out of this contract or under any other contract made by the contractor with the Government.

#### **C.50 Supplementary / Additional items of Works :**

Notwithstanding the provisions made in the related printed tender form any item of the work which can be legitimately be considered as not stipulated in the specific price schedule of probable items of work but has become necessary as a reasonable contingent item during actual execution of work will have to be done by the Contractor, if so directed by the Engineer-in-Charge and the rates will be fixed with manner as stated below: -

(a) Rate of Supplementary items shall be analyzed in the 1<sup>st</sup> instant extended possible from the rates of the allied items of work appearing in the tender schedule.

(b) Rate of supplementary items shall be analyzed from the rates of the allied items of work appearing in the unified respective Schedule of Rates of Public Works Department of probable items of work forming part of tender document. Rates for the working area enforced at the time of Notice Inviting Tender shall prevail.

(c) If the rates of the supplementary items cannot be computed even after applications of clauses stated above, the same shall be determined by analysis from market rates of material,

labour and carriage cost prevailing at the time of execution of such items work. Profit and overhead charges (both together) at 10% (Ten percent) will be allowed only; the contractual percentage will not be applicable.

Unbalanced market rates shall never be allowed.

Contractual percentage shall only be applicable with regard to the portions of the analysis based on clauses (a) & (b) stated above only.

It may be noted that the cases of supplementary items of claim shall not be entertained unless supported by entries in the Work Order Book or any written order from the tender accepting authority. In the event to any dispute regarding rates determined on analysis for any altered, additional or substituted work under this clause, the decision of the Joint Director shall be final and binding.

The provisions of this clause, in so far as inconsistent with those of clause 12 of Printed Tender Form, shall be deemed to supersede the inconsistent portion of the said clause 12.

#### **C.51 Payment of Bills :**

Any Payment against the Work done by the Contractor under this contract shall be paid to him by WBHB in accordance with and in the manner provided in this contract.

**51.01** Rate quoted shall be inclusive of clearing site including removal of surplus (both serviceable and unserviceable) earth, rubbish, materials etc. as per direction of the Engineer-in-Charge.

**51.02** Rate quoted shall be inclusive of West Bengal Sales Tax, Income Tax, Octroi and all other duties, if any.

**51.03** Display board (Informatory) of size 150cm X 90cm is to be provided at starting and end chainage of the work-site with aluminium plate hoisted on steel tubular pipe/ angle post to a height of 1.5 Metre at the cost of the contractor including fitting, fixing, painting, lettering etc. complete as per direction of Engineer-in-Charge.

**51.04** The Contractor is to display caution board maintaining I.R.C. norms at his own cost as per direction of Engineer-in-Charge.

#### **C.52 Deduction at Source from the contractors' bills :**

**52.01** Labour welfare Cess may be deducted @ 1(one) % of gross bill value as per rule.

**52.02** Income Tax will be deducted from each bill of the contractor as per applicable rate and rules in force.

**52.03.** taxes and duties will be deducted from each bill of the contractor as per applicable rate and rules in force.

**52.04.** The whole work will have to be executed as per Departmental drawings available in this connection at the tender rate.

#### **C.53 Refund of Security Deposit / Retention Money :**

The security deposit / Retention Money shall be refunded to the contractor in the manner provided in clause 17 of the Conditions of Contract of WBHB Tender Form i.e as furnished herein under:-

- (i) **30%** of the security deposit shall be refunded to the contractor on expiry of **3 years** after the issuance of certificate of completion/taking over certificate of work;
- (ii) Further **30%** of the security deposit shall be refunded to the contractor on expiry of **two years**;
- (iii) The balance **40%** of the security deposit shall be refunded to the contractor on expiry of **three years**;

#### **Explanation :-**

The word 'work' means and includes road work, bridge work, building work, sanitary and plumbing work, electrical work and/ or any other work contemplated within the scope and ambit of this contract. The work may be of original or special repair in nature or a combination thereof, or of original or special repair in nature in combination with the work(s)of repair and / or maintenance in nature; Provided that in respect of the work of repair or maintenance in nature or a combination thereof, the words **three years** wherever appearing in this Clause shall be deemed to be **one year** and in which case the security deposit of the contractor held with the BOARD under the provision of **Clause 1** hereof shall be refundable to the contractor on expiry of **one year** after the issuance of certificate of completion of work by the Engineer-in-Charge failing which necessary

Charge.

However, on completion of the whole works, the contractor may substitute Retention Money / Security Deposit with an "on demand" Bank Guarantee in favour of WBHB in the prescribed format.

**C.54 Royalty:**

The Contractor will have to submit the receipt of payment of royalty to the Government for use of sand, stone materials, laterite, Moorum, gravel, etc. to the Engineer-in-Charge before preparation of bill for payment, when they collect the materials directly from the source. If they collect the materials from the authorised quarry holder or commercial establishment who directly or indirectly pay the royalty to the Government, necessary certificate



deduction from the dues of the contractor may be made as fixed by the Engineer-in-Charge.

### **C.55 Night Work:**

The contractor shall not ordinarily be allowed to execute the work at night. The contractor may however, have to execute the work at night, if instructed by the Engineer-in-Charge. For true technical or emergent reasons, the work may require to be executed during the night also according to the instruction of the Engineer-in-Charge. In that case the contractor shall have to arrange for separate set of labour with sufficient and satisfactory lighting arrangement for the night work. No extra payment whatsoever in this respect will be made to the contractor.

### **C.56 ELECTRICAL WORKS :**

(a) The work shall have to be carried out complying in all respects with the requirements of the Indian Electricity Rules in force for the time being.

(b) The work will have to be carried out simultaneously with building work and will have to be continued till it is completed satisfactorily along with the completion of essential portions of the building work. If any alteration is found necessary, the contractor will have to do the same within the tendered rates with prior consent from EIC/ Deputy Director(Electrical)

( c ) The work shall be carried out in the best workmanlike manner.

(d) The contractor shall employ adequate labours to complete the work within the Scheduled time and shall make his own arrangements for housing labour and storing materials etc.. A full time experienced electrical Supervisor having electrical supervisor's license issued by the licensing board of respective state shall be employed by the Contractor who will remain at site of work to receive orders or any other instructions from the Engineer-in-charge. The Contractor shall satisfy the Engineer-in-charge that he has trained labour for doing the intended works. The Engineer – in Charge shall have the right to stop the work if the Contractor's Supervisor is not present when the work is being carried out.

(e) All materials used in the work shall be as per the specifications of relevant item of work and conforming to the relevant specifications of BIS.

(f) For wiring colour code for phases and others should be strictly maintained.

(g) The material of approved make shall be acceptable. If the Contractor wishes to use any material of any other make/ type, he must obtain permission of the Engineer- in- Charge in writing.

(h) The Contractor must possess a valid electrical contractor's license with Electrical Supervisor holding Supervisor competency on the parts 1,2,3,4,5,6(A), 6(B), 7(A), 7(B),9, 11 & 12 issued by the Licensing Board of the concerned State Government for the type of work he shall execute, valid trade license

(i) The work to be provided for by the contractor unless otherwise specified shall include but not limited to the following:-

(I) To furnish all labour, supervision, materials, scaffolding, tools, tackles, consumables and their transportation etc. for proper execution of the work in all respect as per the specifications and schedule of items. Only authorized and qualified persons, competent to undertake such work under the Rules and Regulations of the local electric supply authority shall carry out the electrical installation.

(II) To obtain approvals on the layout drawings/ at site from the Engineer- in- Charge before commencement of the work.

(III) To furnish samples for approval including arranging necessary tests as directed by the Engineer- in Charge in an approved laboratory.

(j) **Safety** : For the work of Lightning Conductor (LC) and EI work in Lift Shat/Hoist way, all necessary precautionary measures must be taken for the safety of workmen doing such work in order to avoid any accident. For the work of Lightning Conductor (LC), all workmen must use safety belt. All workmen doing Lightning Conductor (LC) work must be insured by Insurance company during the period of execution of work and photocopy of the Insurance must be submitted to the Engineer- in- Charge before commencement of the work. Failing to submit the same before the Engineer- in- Charge, the Engineer- in- Charge shall have the right to stop the work.

**Deputy Director (EW) Sarsuna**

**West Bengal Housing Board.**

# WEST BENGAL HOUSING BOARD

## SECTION - 4

### CONTRACT DATA

1. The Employer is WEST BENGAL HOUSING BOARD  
Represented by - Deputy Director (EW)  
West Bengal Housing Board.  
Address "ABASAN"  
105, S.N. Banerjee Road.(4<sup>th</sup> floor)  
Kolkata-700014 , West Bengal
2. The Engineer-in-Charge is - Deputy Director (EW) for Civil work &  
Deputy Director (EEW) for Electrical works  
Sarsuna Housing Project  
,  
Address Sarsuna Housing Project.  
Behala 24 pgs,(S)  
West Bengal
3. The Defects Liability Period As per relevant Clause
4. The Start Date shall be 15 days from the date of issue of 'Notice to  
proceed with the work' (i.e. Work Order).
5. The Intended Completion Date for the whole of Works is 2 months from date  
mentioned in the Work Order as per following Milestones :

**Milestone dates:**

**Physical works to be completed**

Milestone 1 i.e. 25%

Milestone 2 i.e. 50%

Milestone 3 i.e. 75%

**Period from the start date**

35% of the stipulated time

65% of the stipulated time

85% of the stipulated time

6. The Site is located at 24 pgs(S)
7. The works shall consist of Repairing & Renovation works. The works shall, inter alia, include the following,  
as specified or otherwise directed:

**Civil Works :**

Site clearance;

maintaining lines and levels as per supplied drawings, all aspects of quality assurance of various components of the works, rectification of the defects in the completed works during the Defects Liability /Security Period, submission of any other related documents; and other item of work as may be required to be carried out for completing the works in accordance with the drawings and provisions of the contract to ensure safety.

**8 )Other Works :**

Any other items as required to fulfill all contractual obligations as per the Bid documents.

9. The following documents shall form part of the Contract:
  - i) Letter of Acceptance, Notice to proceed with the work(i.e. work order).
  - ii) NIT with all addenda-corrigendum,
  - iii) Instruction to Bidders (Section-1)
  - iv) Filled up forms of Qualification Information(Section-2)
  - v) Special Terms & Conditions(Section-3)
  - vi) Contract Data (section-4)
  - vii) Technical Specification(Section-5)
  - viii) Drawings(Section-6)
  - ix) Contractor's Bid
  - x) Bill of Quantities (BOQ)
  - xi) Any other document forming part of the Contract.
  - xii) Agreement.
10. The law which applies to the Contract is the law of Union of India.
11. The language of the Contract documents is English
12. The Schedule of Key Personnel as per Form-IV, Section

13. The site possession Dates shall be 7 days from the date of issue of Work Order.
14. The period for submission of the work programme for approval of Engineer-in-Charge shall be 21 days from the issue of Letter of Acceptance.
15. The period between programme updates shall be 90 days
16. The currency of the contract is Indian Rupees.
17. The proportion of payments retained (retention money) shall be 8% from each bill subject to a maximum of 10% of final contract price.
18. The following events shall be fundamental breach of contract:
  - a) The contractor has engaged sub-contractor without approval of Engineer-in charge.
  - b) Non-engaging the required key personnel as mentioned in the Contract.

**Deputy Director (EW)- Sarsuna,  
West Bengal Housing Board.**

# **WEST BENGAL HOUSING BOARD**

## **SECTION-5**

### **Technical Specification**

#### **D. 1. General:**

The information given hereafter is without any prejudice. The intending bidders should satisfy themselves regarding the latest conditions of the site and its surroundings by personal check and investigation.

- D. 2. Name of Work:** Repairing and rectification work at (G+IV) storied residential Apartment Building (Anusua H P) including all infrastructure civil works at Sarsuna, Behala, District South 24 Parganas, Kolkata – 700091, under West Bengal Housing Board.

#### **D. 3. Location of Work site:**

The work site is located at 24Pgs(S)

#### **D. 4 Site Condition :**

The contractor before tendering must visit the site and satisfy himself as to the extent of the proposed construction difficulties and problems, if any, to start, to continue and complete the work within the time as stipulated in this tender without dislocation of normal traffics during day as well as to night. No interruption in works due to any site condition shall be engaged as to complete the work in time. The execution of the work should however be planned and phased so that there are no undue hazards to the movement of normal traffic over the road. No additional payment will be entertained on this account. Difficulties and inconveniences in transporting materials over the bad roads, Kutcha roads, incomplete roads and over the weak and damaged culverts should be taken into consideration by the Contractor. The materials for the work may be required to carry over kutcha roads. These approach roads should be maintained by the Contractor at his own cost.

Difficulties in collection of different materials in lot, over the road flank due to insufficient space if there be, be noted by the bidder. No rate or time will be allowed on these accounts as stated. The bidder should quote his rate taking into consideration regarding security of the materials. Nothing would be entertained under any circumstances beyond the respective tendered provisions.

#### **D. 5. Working condition:**

During execution of work, contractor will remain responsible for providing unhindered passage to traffic on road adjacent to site, providing lighting and guarding arrangement during night for safety and no extra cost will be paid on this account.

Work may be required to be executed at night also. Accordingly sufficient lighting arrangement is to be made by the bidder and the cost of such arrangement shall be deemed to have been included in the rates of relevant items.

It is to be noted that there will not be any electrical facility at work site. Bidder should make his own arrangement for water, necessary power of pumps etc. and the cost for such arrangement shall be d lighting, welding, running of

eemed to have been included

in the rates quoted by the bidder.

Work shall have to be executed in accordance with the rules and regulations in vogue of Government of West Bengal and local Authorities.

#### **D. 6. Specifications:**

Details of Specifications to be followed in the Proposed Construction are given here-in-after in the Price Schedule(BOQ). Unless otherwise stipulated in the BOQ or Technical Specification of this Tender, all the works are to be done as per General Specification of "Schedule of Rates" for Building and S&P Works of Public Works Department, Public Works (Roads) Department, and Latest editions of the Indian Standard Specifications and codes of practice. Otherwise, the Latest edition of the book of 'Specification for Road and Bridge Works' of the M.O.R.T. & H., or CPWD Specification – 2009, Vol-I & Vol-II will be followed as mentioned in **Sl. No. C. 1.** of special terms & conditions of contract of this bid documents (Section – 3).

#### **D.7. Codes of Practice:**

Latest editions of the Indian Standard Specifications and codes of practice – some of which are mentioned below and as per departmental schedule of rates as mentioned in Sl. No. C. 1. of special terms & conditions of contract of bid documents (Section – 3) are to be followed during execution of the works.

- (i) IS 456 : Code of Practice for plain and reinforced concrete.
- (ii) IS 800 : Code of practice for general construction in steel.
- (iii) IS 2751 : Code of Practice for Welding of Mild Steel Plain and Deformed Bars for Reinforced Concrete Construction.
- (iv) IS 383 : Specification for coarse and fine aggregates for natural sources for concrete..
- (v) IS 432 : Mild steel and medium tensile steel (Part-I) bars and hard drawn steel wire for concrete reinforcement.
- (vi) IS 4990 : Indian Standard Specification for concrete shuttering works.
- (vii) IS 1904 : Code of practice for design and construction of foundations in soils
- (viii) IS 2750 : Specification for Steel Scaffoldings.
- (ix) IS 1161 : Specification for steel tubes for structural purposes.
- (x) IS 3764 : Safety Code for excavation work.
- (xi) IS 2911(pt-I,Sec-2)-1979 : Code of Practice for design and construction of pile foundations concrete piles bored cast- in-situ bored piles.
- (xii) IS 2911 (pt-4) : Load testing of piles.
- (xiii) IS 1200 (pt-XXII) : Method of measurements of piling
- (xiv) IS 5121 : Safety Code for piling & other deep foundations..

#### **D. 8. Detailed Specification:**

##### **D. 8.1. Materials for civil work / structures:**

All materials to be used for structure must be procured, stored and tested before use conforming to respective Clauses of prevailing codes of practice.

##### **D. 8.1.1. Cement:**



Ordinary Portland cement of 53/43 grade conforming to IS 12269 shall be used for grade of concrete M-35 and above as per guide line of p.w.d schedule of rates 2014- 15

**D. 8.1.2. Coarse aggregate:**

Coarse aggregate shall conform to the specifications laid down in IS 383.

**D. 8.1.3. Fine aggregate:**

Fine aggregate shall conform to the specifications laid down in IS 383.

Samples of coarse and fine aggregates proposed to be used by the Contractor must be deposited with the Engineer-in-Charge for his approval. The Samples shall be fair indications of the general quality and shall be delivered in 3 (three) nos. 450 GMs bottles.

On approval of samples one set will be retained by the Engineer, one set shall be sent to his representative at site of works and the third set shall be returned to the contractor for keeping in his site office. Any consignment which in the opinion of the Engineer-in-Charge does not conform with the approved samples should be, if so directed, immediately removed by the Contractor at his own cost.

**D. 8.1.4. Water:**

Water shall be potable, free from any harmful chemicals or suspended materials.

**D. 8.1.5. Steel Reinforcement:**

All steel reinforcement shall conform to the provisions contained in IS 1786-1987. For reinforced concrete work in any part of the structure the provisions of IS 456-2000 will apply.

**D. 8.1.6. Pre-stressing Steel:**

Pre-stressing steel shall be uncoated stress relieved low relaxation seven ply strand conforming to IS 14268.

**D. 8.1.7. Sheet Pile:**

Sheet Pile shall conform to IS 9527 (Part – 3), IS 2062, IS 2314 - 1983.

**D.8.1.8. Structural Steel work:**

Structural steel shall conform to IS 226.

**D.8.2. Concrete:**

Concrete must be produced and laid conforming to relevant clauses of IS 456. When concrete is specified by strength, it is termed as "Design Mix Concrete" or "Grade of Concrete". Such concrete is that in which the design of mix. i.e. determination of the proportions of cement, aggregates and water is arrived at to have a Target Mean strength for each grade of concrete.

**D. 8.2.1. Mix Design:**

The Mix design shall be done by the contractor as per IS 10262 (Recommended guide lines for mix design) and I.S. SP-23 (S&T) - 1982 (Hand Book on concrete Mix) and I.S. 383-1970.

However, for guidance it is to be noted that the mix and water cement ratio shall be arrived at after preliminary tests which shall be done as per relevant clause of IS 456.

The Engineer-in-Charge will approve the final design and job mix in accordance with stipulations of IS 456. The Contractor shall stick to the job mix formula approved by the Engineer-in-Charge. However, the same may be modified only with specific written permission of the Engineer-in-Charge.

accuracy of measuring devices, criteria laid down below shall have to be followed:

The accuracy of the measuring devices shall fall within the following limits:

Measurement of Cement  $\pm 3\%$  of the quantity of cement in each batch.

Measurement of Water  $\pm 3\%$  of the quantity of water in each batch.

Measurement of Aggregate  $\pm 3\%$  of the quantity of aggregate in each batch.

Measurement of Admixture  $\pm 3\%$  of the quantity of admixture in each batch.

**D. 8.2.3. Admixture:**

To improve the workability of concrete and cement grout, admixtures conforming to I.S. 6925 and I.S. 9103 may be used on specific written permission of the Superintending Engineer. Admixtures generating Hydrogen, Nitrogen etc. shall not be used. The cost of admixtures and labour for mixing the same shall be deemed to have been included in the rates quoted for respective works.

**D. 8.2.4. Transporting, placing and compacting Concrete:**

Concrete shall be transported from Batching Plant to the work site by transit mixture. The same shall then be poured on to the formwork by concrete pump (except in case of piles). **Relevant clauses of IS 456 shall have to be followed for transporting, placing and compacting concrete.** Unless specially permitted by the Engineer-in-Charge, concrete shall not however, be dropped from a height of more than 1.850 M.

**D. 8.2.5. Construction Joint:**

Concreting shall be carried out continuously upto construction joints, the position and arrangements of which shall be predetermined by the Engineer-in-Charge or his representative. Any intermediate rest/pause shall also be subject to his approval. All construction joints shall have to be provided as per relevant clause of IS 456 – 2000.

**D. 9. Concreting at Night:**

All concreting work should be so programmed as not to necessitate the work at night. If for any reason, this becomes imperative, the contractor shall obtain previous permission of the Engineer-in-Charge or his representative and make proper lighting arrangement to his satisfaction without any extra claim thereof.

**D. 10. Record keeping of Concreting:**

A record showing the proportion, type of batching, type of aggregates used, the time and date of placing concrete and the approximate quantity placed (together with other relevant details) in each portion of the structures shall be kept. This record shall be prepared in duplicate by the contractor in the form and manner to be decided by the Engineer-in-Charge. The Contractor shall submit the record promptly to the Engineer-in-Charge or to his representative who will accept the same after verification and retain one copy, the other copy being retained by the Contractor.

**D. 11. Curing of Concrete:**

Concrete shall be cured properly and protected from any harmful effects. Stipulations of relevant Clauses of IS 456 shall be strictly adhered to.

**D.12. Testing of Concrete for R.C.C. / P.S.C. Works:**

te mix and testing the quality

of concrete going into the job.

Test cube shall be prepared as per IS-1199. 150 mm cubes shall be made, cured & tested at 7 days and at 28 days for compressive strength conforming to IS-516. Strength of concrete at 7 days age can be converted to 28 days as per IS: SP-24.

The contractor shall make all arrangements and do everything necessary for proper making and curing the test specimen under the direction, supervision and control of the Engineer-in-Charge or his representatives at their cost.

The Engineer-in-Charge or his representative may at any time direct the contractor to make specimen from the concrete actually going into the job. The contractor shall forthwith comply with that direction.

**D. 13. Acceptance Criteria of Concrete:**

Acceptance criteria shall conform to relevant clauses of IS 456.

Where the cube strength falls below the allowable strength specified and the Engineer-in-Charge on the basis of test results is satisfied that the concrete deficient in strength is acceptable, the Engineer-in-Charge shall have full power in his absolute discretion to reduce the rate as a penal measure.

**D. 14. Reduced Rate for under-specified Concrete:**

The contractor shall remain fully liable for producing concrete of specified strength. In case the concrete is found to be acceptable as under-specified work due to deficiency in strength of concrete and is accepted by the Engineer-in-Charge reduction in rate may be applied as under.

$$\text{Percentage reduction} = \frac{\text{Design Strength} - \text{Observed Strength}}{\text{Design Strength}} \times 100$$

If the deficiency in strength of concrete is beyond tolerable limit the Engineer-in-Charge may at his discretion direct the portion of concrete certified by him so deficient in strength to be replaced by concrete of specified strength at the Contractor's cost.

The Engineer-in-Charge may also at his discretion allow deficient concrete to remain but the deduction on account of such deficiency in strength shall be made above.

**D. 15. Additional Tests of Concrete:**

For any substandard concreting due to bad workmanship, honeycombing, bulging etc. and also due to concreting found deficient in strength, the Engineer-in-Charge may conduct additional tests, if required, in the opinion of the Engineer-in-Charge for testing the flexural strength, durability and other required parameters of the concrete on cored samples or on the newly constructed structure. The following are the examples (not exhaustive) of tests. Any number of the tests may be carried out as decided by the Engineer-in-Charge. The contractor shall arrange for the test and bear the cost of the same, as per direction of the Engineer-in-Charge. If the newly constructed concrete structure fails to attain the desired strength, durability and other properties of the concrete by any one of the tests stated in Cl. No. D. 16.1., the Engineer-in-Charge shall have discretion to get the defective portion replaced or rectified at the contractor's cost. In such cases the decision of the Engineer-in-

**D. 15.1.1. Surface hardness Tests:**

They include the William's Testing Pistol, Frank Spring Hammer, Einbeck Pendulum hammer.

**D. 15.1.2. Rebound Test:**

Schmidt rebound Hammer.

**D. 15.1.3. Penetration Techniques:**

These include the smitz Hammer, Split Pin and Windsor probe.

**D. 15.1.4. Dynamic or Vibration Tests:**

These include resonant frequency and mechanical sonic and ultrasonic pulse velocity methods. They include the Sonometer, the PUNDIT equipment and ultrasonic pulse velocity measuring equipments.

**D. 15.1.5. Magnetic Methods:**

They include the Pachometer and Covermeter.

**D. 15.1.6. Chemical tests to obtain cement content, Aggregate ratio and grading:**

The above tests shall be carried out by any approved laboratory or firm.

**D. 16. Mode of Measurement for Payment of Concrete:**

Payment shall be made on volume of concrete as per recorded measurement. Cost of cement, stone chips, sand and any admixture, cost of transportation of concrete, and its placement using pumps etc. and any other allied items of work, excluding reinforcement, pre-stressing steel and other accessories shall be deemed to have been included in the rate.

**D. 17. Shuttering:**

Form work must conform to Clause Nos.1501 to 1513 under Section 1500 of specification for road and bridge works – 4<sup>th</sup> revision published by I.R.C. Shuttering shall be of approved type with hard wood timber planks true to line with smooth surface and not less than 37.5 mm thick with 4 mm thick plywood lining over the planks. The plywood shall conform to IS 4990–1993. However, as an alternative, sufficiently rigid steel shuttering may be used, if so desired or approved by the Engineer-in-Charge.

All shuttering and framing must be adequately stayed and braced to the satisfaction of the Engineer-in-Charge for properly supporting the concrete during the period of hardening. It shall be so constructed that it may be removed without shock of vibration to the concrete.

Drawings showing shuttering details together with supporting design calculation in detail should be submitted by the contractor to the Engineer-in-Charge for his approval before taking up the work.

Before concrete is placed, the shuttering must be coated with an approved preparation for preventing the adhesion of the concrete to the shuttering and it is to be of such a nature and so applied that the surface of the finished concrete is not stained. Cares should also be taken that such approved preparation shall be kept out of contact with the reinforcements. The interior of all moulds and boxes must be thoroughly washed with a hose pipe or otherwise so as to be properly cleaned and free from all extraneous matter previous to the deposition of concrete.

**D.17.1 Mode of Measurement for Payment:**

Separate payment shall be made for shuttering, if not otherwise mentioned. Wherever necessary, shuttering and staging must be provided. Unless otherwise stated no payment will be made for such shuttering or staging and the cost thereof will be deemed to have been covered by the rate for relevant finished item of work. Where Payment for shuttering has been

specified, the rate shall be deemed to cover the cost of the necessary staging as well. Payment if any, for shuttering will be on the basis of surface area of shuttering in actual contact with concrete.

#### **D. 18. Finishing of Concrete Surface:**

As soon as the shuttering has been removed, the visible surface of the concrete shall be rubbed down to perfectly smooth finish, free from all irregularities. The finish must be produced by using any of the methods specified in the specifications and codes of practice. No separate payment will be made for finishing surfaces.

#### **D. 19. Steel reinforcement for structure:**

This work shall consist of furnishing and placing reinforcement of the shape and dimensions shown on the drawings and as specified in Clause Nos. 1601 to 1609 under Section 1600 of Specifications for Road and Bridge Works 4th – revision published by IRC.

Generally TMT bars of grade Fe 415/500 shall be used for the structure.

The Contractor's rate shall include the cost of reinforcements and cost of carriage for steel materials to work site, labour for cutting the bars to correct length, bending cold to shape, placing and fixing in the position as shown in drawing with black annealed wire of approved gauge securely tied at every inter-section or as directed. The contractor shall without extra charge provide all other support and fixing required and shall take precautions that all such temporary fixings are removed before the concrete is put in the mould. The contractor's rate shall also include any initial straightening of the bars if necessary and removing loose rust or scales, if any, and other incidental works in this connection. It should also include the cost of supply of black annealed wire of approved gauge required for tying reinforcement. Cost of spot or running welding as and when provided as per direction of the Engineer-in-Charge for lap splice shall be included in the rate.

#### **D. 19.1. Mode of Measurement for Payment:**

Payment shall be made on weight of reinforcement steel including quantity for laps and splices.

#### **D. 20. Earth Work in excavation:**

D. 20.1. Specification laid down in PWD schedule of rates shall be followed.

D. 20.2. Mode of Measurement for Payment:

Payment shall be made on the volume of earth excavated. The rate shall include cost of dumping the excavated earth within a lead of 50 M.

#### **D. 21. Welding:**

Welding shall conform to the specifications laid down in relevant IS codes of practice.

N.B. Specifications of any item of works not covered here in above shall be guided by the P.W.D. / P.W. (Roads) Directorate's Schedule of Rates in force at the time of N.I.T. and latest edition of relevant Indian Standard Specifications and Codes of Practice. In case of non-availability of item specification in the said Schedule of Rates, the Latest edition of the book of 'Specification for Road and Bridge Works' of the M.O.R.T. & H., or CPWD Specification – 2009, Vol-I & Vol-II will be followed.



### **D.22.7 Concreting Materials**

Unless otherwise stated herein all aspects of the concrete work including materials, specifications, preliminary mix designs, workmanship and inspection testing stipulated in specifications of "plain and reinforced concrete" shall apply.

Ordinary Portland cement of 53/43 grade conforming to IS 12269 shall be used for grade of concrete M-35 and above as per guide line of p.w.d schedule of rates 2014- 15 unless specified otherwise.

Maximum size of aggregates shall be 20 mm.

. Three of the six cubes constituting one test shall be tested on the 7th day from casting the cubes and the remaining three cubes shall be tested on the 28th day after casting.

ENGINEER - IN – CHARGE reserves the right to reject any concrete work of deficient concrete strength. Such rejected concrete shall be replaced by the contractor at his own cost

ENGINEER - IN – CHARGE also reserves the right to order change in the mix design and/or water cement ratio to obtain the specified strength or workability.

#### **D.22.8 Reinforcement**

- a) All reinforcement for use in the concrete work shall be as per drawing, duly tested

**Deputy Director (EW)-Sarsuna,  
West Bengal Housing Board.**