



CSIR-NATIONAL GEOPHYSICAL RESEARCH INSTITUTE
(Council of Scientific & Industrial Research)
Uppal Road, Hyderabad - 500 007



ENVELOPE-I

NGRI No. 03/09/2017-Wks

Dated:21-08-2017

CHECK LIST-I

Note: This sheet with as per this list of documents should be put in the **envelope-I**.

Name of the work: “**Part A: Water proofing Treatment of Main Building at CSRI-NGRI, Hyderabad. Part B: Water proofing Treatment of Library Building at CSIR-NGRI, Hyderabad.**”

Sl.No.	Description	No. of Pages enclosed	Yes/No
01.	Valid Registration		
02.	DD of Tender cost		
03.	DD of EMD		
04.	PAN Card		
05.	Self-attested copies of experience certificates		

Stamps & Signature of Tenderer



CSIR-NATIONAL GEOPHYSICAL RESEARCH INSTITUTE
(Council of Scientific & Industrial Research)
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ENVELOPE-II

NGRI No. 03/09/2017-Wks.

Dated:21-08-2017

Tender Schedules for the work of “**Part A: Water proofing Treatment of Main Building at CSRI-NGRI, Hyderabad. Part B: Water proofing Treatment of Library Building at CSIR-NGRI, Hyderabad.**” COST OF TENDER PAPERS RECEIVED Rs. 500/- (Rupees Five Hundred only).

Vide D.D. No. Dt: Bank.....

TENDER TO BE SUBMITTED TO THE DIRECTOR, NGRI, Hyderabad

Tender Issued to Shri / M/S.
.....
.....

Signature of the Issuing Authority

CONTENTS		
Sl.No.	Description	No. of Pages
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06	Additional Conditions of Cement, Steel & Bitumen	2
07.	Special Conditions	1
08	Additional Special Conditions	1
09	Abstract of Cost	1
10	Schedule of Quantities.	1
11.	Special Conditions & General Conditions of Contract CPWD Specifications Vol-1&2 etc. and Drawing	Can be seen in the office of Sr.SE (Civil) CSIR-NGRI, during office hours.

EARNEST MONEY DEPOSIT INFORMATION

Earnest money of **Rs. 40,100/-** (Rupees Forty Thousand One Hundred only) deposited with the Director, NGRI, Hyderabad, Vide Demand Draft No..... Dt..... drawn in favour of The Director, NGRI, Hyderabad, on (name of the Bank).

Date:

Cell No:

e-mail ID:

(If any)

Stamp & Signature of Tenderer



CSIR-NATIONAL GEOPHYSICAL RESEARCH INSTITUTE
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NGRI No.03/09/2017 –Wks.

Dated: 21-08-2017

NOTICE INVITING TENDERS

Sealed tenders are hereby invited for the work of “**Part A: Water proofing Treatment of Main Building at CSIR-NGRI, Hyderabad. Part B: Water proofing Treatment of Library Building at CSIR-NGRI, Hyderabad.**” from the contractors of appropriate class of CPWD, Railways, MES, State PWD and/or also from those who have carried out similar types of works for CSIR/Institutes or for Govt./Semi Govt./Autonomous Bodies/PSU/Govt. Companies/Govt. Department to the tune of 80% of one work or 60% of two works or 40% of three works i.e. for an amount of Rs. 16.012/12.009/8.006 (all in lakh) respectively during the last 5 years. Similar type of works means, water proofing treatment done with APP materials.

1. Tender document may be obtained from Cash Section Room No. 20, Extension building, CSIR-NGRI, Uppal Road, Hyderabad from 10.00 A.M. to 12.30 P.M. during working days only on payment of Rs. 500/- for each by means of D.D.(Non-refundable) drawn in favour of “Director, NGRI, Hyderabad”, with attested copies certificates of valid registration, experience. Tender documents are also available on CSIR-NGRI website i.e www.ngri.org.in.
2. The tender documents are to be submitted in three sealed envelopes system as detailed below:
 - (a). In case of purchase of tender documents from Cash Section, CSIR-NGRI

Envelope I: 1. Checklist-I, 2. DD for EMD (DDs should be issued by the scheduled Banks in the name of the Director, CSIR-NGRI), 3. Self-attested copies of certificates similar type of works done with valid registration, if any, copy of PAN card and Experience.

Envelope II: Tender Schedules / Price Bid

Envelope III: Envelope I and II
 - (b). In case of down loaded from CSIR-NGRI web site i.e www.ngri.org.in :

Envelope I : 1. Checklist-I, 2. Demand Draft for Cost of tender Document, 3. DD for EMD (DDs should be issued by the scheduled Banks in the name of the Director, CSIR-NGRI),4. Self-attested copies of certificates similar type of works done with valid registration, if any, copy of PAN card, and Experience.

Envelope II : Tender Schedules /Price Bids

Envelope III : Envelope I and II

Each Envelope is to be superscribed clearly with the NIT NO., dated, name of work, the details of documents in it and date & time of opening. The date of DD should be after the date of NIT.

3. Tender (s) received without EMD and not fulfilling the requirement of Check List-I will be treated as cancelled and will not be opened.
4. Each page of the tender document is to be signed by the tenderer with seal.
5. If any documents found to be fake/incorrect at any stage, the tender/work will be cancelled. In that case the same work will be executed through another firm at risk & cost of first awardee/firm/contractor. The firm/contractor will be black listed and the same will be intimated to other public sector organizations also.
6. **Estimated cost is Rs. 20.015 Lakhs (Rupees Twenty Lakh One Thousand Five Hundred only).**
7. Time for carrying out the work for rate contract for 2 Months and the date of commencement shall be reckoned from the day of issue of the award letter.

Stamp & Signature of Tenderer

8. Complete contract documents to be compiled with by the Tenderer whose tender may be accepted, can be seen at the office of the Director, N.G.R.I., Hyderabad
9. Tenders should be submitted in double sealed covers super scribed with the name of the work, date and time of opening written both on the inner and outer envelopes. Tenders will be received in the office of the Director, N.G.R.I., Hyderabad. The completed Tenders should be dropped in the Tender Box before the closing date and time indicated. In case these are sent by post these should be sent by Regd. Post / Speed post addressed to the **Director, N.G.R.I., Hyderabad-500007**. Tenderers are to ensure that they post the tender well in advance so as to reach us before the closing time and date indicated.
- A. Last date to receive request & to issue tender document: **From 24/8/17 to 4/9/17**
- B. Last date of Submission of Tender and Time: **6/9/17 Up to 2.30 P.M.**
- C. Date and Time of opening of Tender: **6/9/17 @ 3.00 P.M.**
10. Earnest Money amounting to **Rs. 40,100/-** (Rupees Forty Thousand One Hundred Only) as demand draft of a scheduled Bank and drawn in favour of The **Director, N.G.R.I., Hyderabad** along with copies of Registration certificate, experience in similar type of works, Income tax clearance certificate etc. are to be submitted while requesting for the tender schedule.
11. The Employer does not bind himself to accept the lowest or any tender and reserves to himself the right of accepting the whole or any part of the tender and the tenderer shall be bound to perform the same at the rates quoted.
12. Canvassing in connection with the tenders is prohibited and the tenders submitted by the contractor who resort to canvassing are liable for rejection.
13. The tenderer shall not be permitted to tender for works in the concerned unit of CSIR in which relative is posted in the grade between Controller of Administration and Junior Engineer, (both inclusive). He shall also intimate the name of persons who are working with him in any capacity subsequently employed by him and who are relatives as mentioned above.
- NOTE: A person shall be deemed to be a relative of another if, and only if, (a) they are members of a Hindu Undivided Family, or (b) they are husband and wife, or (c) the one is related to the other in the following manner: Father, Mother (including step mother), Son(including step son), Son's Wife, Daughter (Including step daughter) Father's father, Son's Son, Son's Son's wife, Son's daughter, Son's daughter's husband, Daughter's husband, Daughter's son, Daughter's Son's wife, Daughter's daughter, Daughter's daughter's husband, Brother (including step brother), Brother's wife, Sister (including step sister), Sister's husband.
14. Tender submitted shall remain valid for 90 days from the date of opening for the purpose of acceptance and award of work, validity beyond 90 days from the date of opening shall be by mutual consent.
15. The Tenderer shall quote rates both in figures and words. He shall also workout the amount for each item of work and write in both figures and words. On check, if there are differences between the rates quoted by the tenderer in words and in figures or in the amount worked out by him, the following procedure shall be followed:
- I. When there is a difference between the rates in figures and in words, the rates which correspond to the amounts worked out by the tenderer shall be taken as correct.
- II. When the amount of an item is not worked out by the tenderer or it does not correspond with the rate written either in figures or in words the rate quoted by the tenderer in words shall be taken as correct.
- III. When the rate quoted by the tenderer in figures and in words tallies, but the amount is not worked out correctly, the rate quoted by the tenderer shall be taken as correct and not the amount.

Stamp & Signature of Tenderer

16. The tenderer should see drawings and in case of doubt, obtain required particulars, which may in any way influence his tender from the Engineer as no claim whatsoever will be entertained for any alleged ignorance thereof.
17. Before tendering, the tenderer shall inspect the site to fully acquaint himself about the condition in regard to accessibility of site, nature and extent of ground, working condition of site and locality including stacking of material, installations of tools and plants (T & P), etc., conditions affecting accommodation and movement of labour, etc., required for the satisfactory execution of the contract. No claim whatsoever on such account shall be entertained by the employer in any circumstances.
18. Earnest money will be forfeited, if the contractor fails to commence the work as per letter of award work.
19. Except writing rates and amount, the tenderer should not write any conditions or make any changes, additions, alterations and modifications in the printed form of tenders. Tenderers who are desirous to offer rebate, the same should be brought out separately in the covering letter and submitted along with the tender.
20. Some of the provisions of general conditions of contract are given below. Interpretations, however, shall be as given in the general conditions of the contract.
 - a) **DEFECTS LIABILITY PERIOD:** Twelve months from the date of completion as certified by the Employer.
 - b) **MINIMUM VALUE OF WORK FOR THE INTERMEDIATE CERTIFICATE:**
Rs. 8.006 lakhs (Rupees Eight Lakh Six Hundred only) Intermediate certificate for a lesser amount can not be admitted for payment at the discretion of the Engineer.
21. **SECURITY DEPOSIT:** A sum @ 10% of the gross amount of the bill shall be deducted from each running bill of the contractor till the sum along with the sum already deposited as earnest money, will amount to security deposit of 5% of the tender value of the work. In addition, the contractor shall be required to deposit an amount equal to 5% of the tenderd value of the contract as Performance Security within the period prescribed for commencement of work in the letter of award issued to contractor/firm.
22. **COMPENSATION:** Contractor shall pay as compensation an amount equal to one per cent or such smaller amount as the Employer (Whose decision in writing shall be final) may decide on the cost of the whole work as shown in the agreement, for every week that the work remains un commenced or unfinished or due quantity of work remains incomplete after the proper dates. Compensation to be paid shall not exceed Ten per cent of the estimated cost of the work as shown in agreement.
23. **Tax deduction at source:**
 - i. TDS 1%.
 - ii. GST of 18% to be deducted from the bills of contractor.
 - iii. If any other statutory taxes be reimbursed to contractor on submission of claim with original proof of details.
24. The required building material, if any, is to be procured by the contractor including steel and cement (ACC/Raasi/Orient /L&T/UltraTech/ Maha) and the quality of material be tested by the Engineer-in-charge. The testing charges will be borne by the contractor.

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COMPLIANCE TO LABOUR LAWS & APPRENTICE ACT

The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, Contract Labour (Regulation and Abolition) Act, 1970, and rules and orders framed there under and other labour laws affecting contract labour and Apprentice Act, 1961 and the rules and orders framed there under that may be in force or brought into force from time to time. Contractor shall obtain a valid license under Contract Labour (R&A) Act 1970 and Contract Labour (R&A) Central Rules 1971 before commencing work and which should be valid till the completion.

I. CONTRACTOR'S SITE SUPERINTENDENCE

Staff to be employed by contractor on works:

The contractor shall employ the following technical staff during execution of works:

- (a) For building and road works
- (i) One graduate Engineer, when the tendered cost of work exceeds Rs.10 lakhs
 - (ii) One qualified Diploma holder (overseer) with experience not less than 3 years when the tendered cost of work exceeds Rs.5 lakhs but less than Rs.10 lakhs
 - (iii) One qualified Diploma holder when the tendered cost of work is more than Rs.2 lakhs but less than Rs.5 lakhs
- (b) For sanitary and water supply works:
- One qualified diploma holder with experience of not less than 5 years, out of which one year should be in sanitary and water supply works when the tendered cost of work is more than Rs.50,000/-
- (c) For electrical works
- (i) One qualified Graduate Engineer possessing Degree in Electrical Engineering from recognized university with an experience of not less than 3 years or a Diploma holder in Electrical Engineering with an experience of not less than 7 years when the tendered cost of the work is not less than Rs.1.5 lakhs
 - (ii) One Graduate Electrical Engineer with two years experience or a Diploma holder in Electrical Engineering with experience of not less than 3 years, when the tendered cost of the work is more than Rs.75,000/- but less than Rs.1.5 lakhs.
 - (iii) One Diploma holder in Electrical Engineering with experience of not less than 3 years when tendered cost of work is more than Rs.37,000/- but less than Rs.1.5 lakhs
 - (iv) One licensed Supervisor with experience of not less than 3 years when the tendered cost of work is more than Rs.7,500/- and less than Rs.37,000/-
1. In case the contractor fails to employ the technical staff as aforesaid, he shall be liable to pay reasonable amount not exceeding the amount shown below for each month of default. These recoveries are subject to modifications from time to time by CSIR based on CPWD:-
- (i) In case when a Graduate Engineer is to be employed
..... Rs.3,000/-
 - (ii) In case when a qualified Diploma holder is required to be employed
..... Rs.1,500/-
 - (iii) In case when a technical Supervisor is required to be employed
..... Rs.750/-

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ADDITIONAL CONDITIONS OF CEMENT, STEEL & BITUMEN**CONDITIONS FOR CEMENT:**

1. The contractor shall procure 33 grade (Conforming to IS: 269) or 43 grade (Conforming to IS: 8112) ordinary Portland cement, as required in the work, from reputed manufactures of cement having a production-capacity of one million tones per annum or more such as ACC, L & T, J.P, Rewa, Vikram, Shri Cement, Birla Jute and Cement Corporation of India etc, as approved by Ministry of Industry, Government of India, and holding license to use ISI certification mark for their product whose name shall be got approved from Engineer-in-Charge. Supply of cement shall be taken in 50 Kg. bags bearing manufacture's name and ISI marking, samples of cement arranged by the contractor shall be taken by the Engineer-in-Charge and got tested in accordance with provisions of relevant BIS codes. In case test results indicate that the cement arranged by contractor does not conform to the relevant BIS codes, the same shall stand rejected and shall be removed from the site by the contractor at his own cost within a week's time of written order from the Engineer-in-Charge to do so.
2. The cement shall be brought at site in bulk supply of approximately 50 tones or as decided by the Engineer-in-Charge.
3. The cement godown of the capacity to store a minimum of 2000 bags of cement shall be constructed by the contractor at site of work for which no extra payment shall be made. Double lock provisions shall be made to the door of the cement godown. The keys of one lock shall remain with the Engineer-in-Charge or his authorized representative and the key of the other lock remain with the contractor. The contractor shall be responsible for the watch and ward and safety of the cement godown. The contractor shall facilitate the inspection of the cement godown by the Engineer-in-Charge at any time.
4. The contractor shall supply free of charge the cement required for testing. The cost of tests shall be borne by the contractor.
5. The actual issue and consumption of cement on work shall be regulated and proper accounts maintained as provided in Clause 6 of the contract. The theoretical consumption of cement shall be worked out as per procedure prescribed in Clause 6 of the contract and shall be governed by conditions laid therein.
6. Cement brought to site and cement remaining unused after completion of work shall not be removed from without written permission of the Engineer-in-Charge.

CONDITIONS FOR STEEL:

1. The contractor shall procure steel reinforcement bars conforming relevant BIS codes from main producers as approved by the ministry of steel. The contractor shall have to obtain and furnish test certificate to the Engineer-in-Charge in respect of all supplies of steel brought by him to the site of work. Samples shall also be taken and got tested by the Engineer-in-Charge as per the provisions in this regard in relevant BIS codes. In case the test results indicate that the steel arranged by the contractor does not confirm to BIS codes, the same shall stand rejected and shall be removed from the site of work by the contractor at his cost within a week's time from written orders from the Engineer-in-Charge to do so.
2. The steel reinforcement shall be brought to the site in bulk supply of 10 tonnes or more as decided by the Engineer-in-Charge.

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3. The steel reinforcement shall be stored by the contractor at site of work in such a way as to prevent Distortion and corrosion and nothing extra shall be paid on this account. Bars of different size and lengths shall be stored separately to facilitate easy counting and checking.
4. For checking nominal mass, tensile strength, bend test, re-bend test etc., specimen of sufficient length shall be cut from each size of the bar at random at frequency not less than that specified below:

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

5. The contractor shall supply free of charge the steel required for testing. The cost of tests shall be borne by the contractor.
6. The actual issue and consumption of steel on work shall be regulated and proper accounts maintained as provided in clause 6 of the contract. The theoretical consumption of steel shall be worked out as per procedure in clause 6 of the contract and shall be governed by conditions laid therein.
7. Steel brought to site and steel remaining unused shall not be removed from site without the written permission of the Engineer-in-charge.

CONDITIONS FOR BITUMEN

1. The contractor shall bring the required grade of Bitumen as specified in the item of works in sealed Drums of ISI mark & standard company / Refinery of ISI grade.
2. The contractor shall tests the bitumen free of charge in the standard approved. Laboratory as per ISI & CPWD practice for its quality.
3. The quality of Bitumen to be collected as per relevant codes of work as specified in ISI & CPWD practice.
4. In case the road work is done by Hot Mix Plant with mineral aggregate or at site the necessary relevant test of mix for quality and proportion of Bitumen to be carried out by the contractor on his own expenditures as per ISI codes & CPWD practice of the concerned works.

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CSIR-NATIONAL GEOPHYSICAL RESEARCH INSTITUTE

HYDERABAD-500 007

ADDITIONAL SPECIAL CONDITIONS

Plastic Emulsion and oil bound washable distemper & synthetic Enamel paint:

Material should be used of 1st quality manufactured by reputed firms like M/s Jenson & Nicholson, M/s ICI, M/s Asian Paints. Once the material is approved it shall be brought to site in original sealed tins/drum directly from the supplier and shall be held at the joint custody of all the contractor and Engineer-in-charge from the Department at site. Supply in part or broken containers will not be accepted for the work. Empty tins/drums should be removed from site only when passed/ordered by the Engineer-in-charge.

Paints shall generally conform in the chemical composition and other characteristics to the relevant British standards or I.S. specifications.

II External Paint: Manufacture of M/s Asian Paints

III a) Storing of Paint: All the materials shall be kept properly when not actually in use. Lids of container shall kept closed and the surface of the paint in open or partially open containers shall be covered with a thick layer of turpentine to prevent the formation of skin. Materials which in the opinion of the Engineer-in-charge have become stale or fat shall not be used on the work and shall be removed from the site of the work forthwith.

b) Preparation of the surface: Surface shall be thoroughly cleaned of all dust, stains etc. All cracks, crevices and unevenness shall be made good by applying enamel putty, allowing it to dry and then papering the same to give a smooth and even surface.

c) Application: After the preparation of surface and having got the area approved by the Engineer-in-charge paint shall be applied.

IV) a) Necessary cleaning of floors, doors windows and glass panes etc., after painting is to be done by the contractor, no extra payment will be made for such cleaning and washing of floors etc.

b) Contractor shall fully cover the house hold article with polythene sheet/cloth while painting inside the quarter.

c) Contractor shall clean sanitary and electrical installation including fans and also make good the damages if caused operation to any of the installations.

d) Contractor should quote rate for carrying out work up to any height as per scope of work and the location of the buildings in the campus.

e) All the Painting application have to carried out only be suitable paint brush/ Roller/Spray as required.

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Additional Conditions-02 (Water Proofing Treatment with APP materials)

1. All the living/dead plants/peeples trees etc are to be removed with roots by dismantling RCC, CC, Brick masonry etc. and to make them good with necessary cement mortar from the building wherever it exists.
2. All the materials to be got tested from the Labs of at Osmania University, /JNTU before incorporating in works as directed by Superintending Engineer . Designing of CC Mix of required grades to be designed from the labs of Osmania University,/JNTU as per letter issued by Superintending Engineer and Report to be submitted to the him for approval before incorporating in work.
3. Cement Stores to be constructed as per CPWD specifications for keeping cement. This Store cannot be permitted to use as joint/combined works.
4. Contractor should incorporate material only after taking written approval from Sr. Superintending Engineer. Contractor has to bring the material in advance, considering time required for testing of material, collecting of test reports etc.
5. Testing of the all the materials to be got done by the Contractor at his own cost by taking the letter from the Office of NGRI before incorporating them.
6. Contractor has to arrange error free levelling instruments, levelling staff, surveyor, etc. He has to submit the levels in required intervals of the ground / area where the work is earmarked to the Superintending Engineer.
7. Contractor has to take levels of the work to be completed in writing from the Superintending Engineer, before commencement of the work.
8. Expansion joint, etc. to be made/done as per instructions of the Sr. Superintending Engineer.
9. Contractor has to safe-guard the waterlines, power lines, supply lines, sewer lines etc. including those in underground. In case of damage the Contractor has rectify/restore with his own cost immediately without any further delay. No drawings are available, to know where the concealed services lines are passing.
10. Time of Completion of work is essence of the contract. If the Contractor fails to complete the work within stipulated time, penalty will be imposed as per relevant clauses of Agreement.
11. The Contractor has to get the lives of concerned workers sufficiently insured at least 7 workers and 8 skilled technicians/masons etc. or more before commencement of the work, failing which he shall be personally responsible. NGRI/CSIR will not be responsible for any such lapse.
12. For centring and shuttering M.S steel pipes with jack system, steel shuttering plates etc. are to be used.
13. The contractor has to submit the BAR Chart/PERT chart along the stamp how the materials are arranging, by showing the time schedule of different items along with stamp for making the agreement.
14. Different works are there as a parts in one tendering. All the works to be started at time. BAR/PERT charts to be submitted accordingly. The office has right to postpone/to stop/restart any of work/s.
15. 80% of work to be completed to the period of 70% time given to complete.

I read the CSIR Works Agreement Conditions also and work will be completed according to rules, conditions, additional conditions, special conditions, CPWD specifications, etc. and I will not claim for any additional amount over and above quoted rates to do the work including above conditions.

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HYDERABAD 500 007

ABSTRACT OF COST

S.NO.	NAME OF THE WORK	TOTAL COST
1.	Total brought forward from the Last page of tender schedule of Quantities:	
	PART-A	Rs. _____
	PART-B	Rs. _____
	GRAND TOTAL:	Rs. _____ _____

(Rupees

Only)

All the materials shall be quality specified and approved by our engineer. The Contractor should inspect the site, examine specifications, drawings, schedules of quantities and tender their rates. The rates given in the schedule of quantities will be deemed to include all the necessary materials, T & P labour required for satisfactory completion of work as shown in the drawings, specifications, schedule of work.

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CSIR-NATIONAL GEOPHYSICAL RESEARCH INSTITUTE
Uppal Road, Hyderabad - 500 007
Part "A"

Work: Water proofing treatment of Main Building at NGRI, Hyderabad

S.No	Description of Work	Qty.	Unit	Rate (In Figure and Words)	Amount
1	Demolishing cement concrete manually/ by mechanical means including disposal of material within 200 metres lead as per direction of Engineer - in - charge.	25.00	Cum		
	Nominal concrete 1:3:6 or richer mix (l/c equivalent design mix) or lime concrete carefully without damaging shell roof.				
2	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including dumping in along the compound wall of NGRI a place in proper maner levelling to complete as instruction given by Engineer-in-charge.	10.00	Sqm		
3	Plaster of thickness 12mm to 25mm or more including cutting the patch in proper shape raking out joints and preparing and plastering the surface of the walls complete including dumping in a place in proper maner as instruction given by Engineer-in-charge.				
	With cement mortar 1:4 (1 cement : 4 fine sand)	10.00	Sqm		
4	Demolishing of Terrace treatment thick layer of bitumen was laid. Chipping/removing of bitumen by using chipping hammer of small size/ cleaning with kerosene oil to expose the surface of RCC roof slab as per instruction of Engineer-in-charge including dumping in a place in proper maner as instruction given by Engineer-in-charge. The work to be done very carefully without damaging shell roof.	208.00	Sqm		

Total Amount

Signature of Contractor with Stamp

5	Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer 3 mm thick water proofing membrane make of Leaksheld or equivalent, black finished reinforced with non-woven polyester matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufacture of density at 25°C, 0.87-0.89 kg/litre and viscosity 70-160 cps. 2nd and 4th coat of bonding material @ 1.2 Kg/Sqm, which shall consist of blown type bitumen of grade 85/25 conforming to IS 702 (Over the primer coat providing and applying a bitumin coat shall be applied i.e 2nd coat.) After the bitumin coat the layer of membrane shall be laid using Butane Torch and sealing all joints etc, and preparing the surface complete.(After laying APP sheet, providing and applying a bitumen coat shall be applied on the top surface of APP sheet i.e 4th coat.) The vital physical and chemical parameters of the membrane shall be as under : Joint strength in longitudinal and transverse direction at 23°C as 650/450N/5cm.				
	Tear strength in longitudinal and transverse direction as 300/250N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with ASTM, D - 5147. The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane :				
	(a) Guarantee Bond to be furnished for 10 years warranty and performance Bank Guarantee for additional 10% of value of this item to be furnished before drawal of final bill and to be extended every year till the guarantee period of 10 years.				
	(b) Provision of Pond test:- The contractor / applicator have to provide for the pond test on the terrace after the completion of sealing of joints for 72 hours. The water level will be a minimum depth of 100 mm at the junction of terrace and parapet wall i.e. the highest point on the terrace.				
	3mm thick	2332.00	Sqm		
6	Removing of old waterproofing sheet/tarfelt/membrane by using manpower/mechanical/removing or rubbing with soaked cotton to complete removing and disposed the unserviceable materials out the camps.	2332.00	sqm		
7	Finishing the waterproofing treatment with a coat of solar reflecting Bituminous Aluminum paint @ 150 gms/sqm.	2332.00	sqm		

Total Amount

Signature of Contractor with Stamp

8	Extra for providing and mixing water proofing material (Conplast X421 IC make of Fosroc) in cement plaster work in proportion recommended by the manufacturers:	20.00	Ltr		
9	Grading roof for water proofing treatment with				
9.1	Cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5 / 6 mm nominal size)	25.00	Cum		
9.2	Cement mortar 1:4 (1 cement : 4 coarse sand) including making of chequered of size 300x300 mm with 3 to 5 mm width and deep	4.00	Cum		
10	Cutting of existing holes up to 15 cm dia to increase the dia including finishing in and making good the same:				
	In RCC Wall	70.00	Each		
11	Removing the old earthing strip/pati and refixing of old earthing strip by using S.S. clips every 1200 mm or less space, S.S. screws including providing of new clamps screws etc in proper maner to complete as per instructions of engineer-in-charge.	220.00	Mtr		
12	Supply of Recron 3S Reliance in the packet of 900 gms.	30.00	Each		

G.Total

Total Amount

Signature of Contractor with Stamp

CSIR-NATIONAL GEOPHYSICAL RESEARCH INSTITUTE
Uppal Road, Hyderabad - 500 007
Part "B"

Work: Water proofing treatment of Library Building at NGRI, Hyderabad

S.No.	Description of Work	Qty.	Unit	Rate (In Figure and Words)	Amount
1	Providing and laying APP (Atactic Polypropylene Polymer) modified prefabricated five layer 3 mm thick water proofing membrane make of Leaksheid or equivalent, black finished reinforced with non-woven polyester matt consisting of a coat of bitumen primer for bitumen membrane @ 0.40 litre/sqm by the same membrane manufacture of density at 25°C, 0.87-0.89 kg/litre and viscocity 70-160 cps. 2nd and 4th coat of bonding material @ 1.2 Kg/Sqm, which shall consist of blown type bitumen of grade 85/25 conforming to IS 702 (Over the primer coat providing and applying a bitumin coat shall be applied i.e 2nd coat.) After the bitumin coat the layer of membrane shall be laid using Butane Torch and sealing all joints etc, and preparing the surface complete.(After laying APP sheet, providing and applying a bitumen coat shall be applied on the top surface of APP sheet i.e 4th coat.) The vital physical and chemical parameters of the membrane shall be as under : Joint strength in longitudinal and transverse direction at 23°C as 650/450N/5cm.				
	Tear strength in longitudinal and transverse direction as 300/250N. Softening point of membrane not less than 150°C. Cold flexibility shall be upto -2°C when tested in accordance with ASTM, D - 5147. The laying of membrane shall be got done through the authorised applicator of the manufacturer of membrane :				
	(a) Guarantee Bond to be furnished for 10 years warranty and performance Bank Guarantee for additional 10% of value of this item to be furnished before drawal of final bill and to be extended every year till the guarantee period of 10 years.				
	(b) Provision of Pond test:- The contractor / applicator have to provide for the pond test on the terrace after the completion of sealing of joints for 72 hours. The water level will be a minimum depth of 100 mm at the junction of terrace and parapet wall i.e. the highest point on the terrace.				
	3mm thick	582.00	Sqm		
2	Removing of old waterproofing sheet/tarfelt/membrane by using manpower/mechanical/removing or rubbing with soaked cotton to complete removing and disposed the unserviceable materials out the camps.	582.00	Sqm		

Total Amount

Signature of Contractor with Stamp

3	Finishing the waterproofing treatment with a coat of solar reflecting Bituminous Aluminum paint @ 150 gms/sqm.	582.00	Sqm		

G.Total

Total Amount

Signature of Contractor with Stamp