



भारतीय रिज़र्व बैंक
परिसर अनुभाग
कोच्ची

कार्य का नाम: भारतीय रिज़र्व बैंक, कोच्ची के कार्यालय भवन में अग्निशमन (वेट रेजर) प्रणाली की आपूर्ति, स्थापना, परीक्षण और कमीशनिंग

भाग-1: तकनीकी- वाणिज्यिक बोली

ई.निविदा सं.: आरबीआई/कोच्ची/संपदा/267/19-20/ईटी/495

निविदाकार का नाम

पता व संपर्क संख्या

1	निविदा जारी करने की तारीख	29 मई 2020
2	निविदा की वैधता	निविदा का भाग-1 खोलने की तारीख से 90 दिन
3	प्री-बिड बैठक की तारीख	12 जून 2020 को पूर्वाह्न 11.00 बजे
4	प्रस्तुत करने की नियत तारीख	22 जून 2020 को अपराह्न 14.00 बजे से पहले
5	निविदा का भाग-1 खोलने की तारीख	22 जून 2020 को अपराह्न 15.00 बजे

Tender for Supply, Installation, Testing and Commissioning of Fire Fighting (Wet Riser) System for Bank's Office Building at KOCHI

Reserve Bank of India, Kochi invites two-part tender by e-tender mode for Supply, Installation, Testing and Commissioning of **Fire Fighting (Wet Riser) System** for Bank's Office Building at Kochi. The tendering would be done through the e-Tendering portal of MSTC Ltd (<http://mstcecommerce.com/eprochome/rbi>). All interested companies/agencies/ firms must register themselves with MSTC Ltd through the above mentioned website to participate in the tendering process.

The Schedule of e-Tender is as follows:

a. E-Tender No.	RBI/Kochi/Estate/267/19-20/ET/495
b. Name of work:	Supply, Installation, Testing and Commissioning of Fire Fighting (Wet Riser) System for Bank's Office Building at KOCHI.
c. Mode of Tender	e-Procurement System Online (Part I – Techno-Commercial Bid and Part II - Financial Bid through MSTC portal https://www.mstcecommerce.com/eprochome/rbi)
d. Date of NIT available to the parties to download / View Tender Time	11:00 Hrs of May 29, 2020 onwards
e. Date and venue of the Pre-Bid Meeting (Offline)	11:00 hrs. on June 12, 2020, at Premises (Estate) section, Reserve Bank of India, Kochi.
f. Uploading the outcome of Pre-bid meeting on to RBI website in the form of addendum, corrigendum, etc.	On or before June 15, 2020
g. Estimated cost of work (for an year)	₹ 22,70,935/- (Rupees Twenty two lakh seventy thousand nine hundred and thirty five only) inclusive of GST, but exclusive of Rebate for Buy-back / Rebate towards the salvage value of materials, taking away by the contractor, which are dismantled
h. Earnest Money Deposit (EMD)	₹ 45,420/- (Rupees Forty five thousand four hundred and Twenty only) as DD in favour of 'Reserve Bank of India' payable at Kochi / Irrevocable Bank Guarantee (as per Annexure-V) / NEFT in favour of Reserve Bank of India to be delivered in physical form (DD/BG in original form) at Premises Section, Reserve Bank of India, Kochi

	<p>on or before 14.00 hrs on June 22, 2020</p> <p><u>Details of NEFT:</u></p> <p>Beneficiary Name: KOCHIESTATE<space>Your Firm's Name</p> <p>Beneficiary Account Number: 8614038</p> <p>Beneficiary IFSC: RBIS0KCPA01</p> <p>Remarks: Wet Riser System</p>
i. Last date of submission of DD/BG/NEFT for EMD	Till 14.00 hrs on June 22, 2020
j. Bidding start date of Techno- Commercial Bid and Financial Bid at https://mstcecommerce.com/eprochome/rbi	10:00 Hrs. of June 16, 2020
k. Last date of submission of Pre-Qualification Documents	Till 14.00 hrs on June 17, 2020
l. Date of closing of online e-Tender for submission of Techno-Commercial Bid & Financial Bid	14:00 Hrs. of June 22, 2020
m. Date & time of opening of Part-I (i.e. Techno-Commercial Bid)	15:00 Hrs. of June 22, 2020
n. Date & Time of opening of Part- II (Financial Bid)	Opening of Financial Bid shall be intimated separately
o. Transaction Fee	Amount as advised by M/s MSTC Ltd.

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Important instructions for E-procurement

Bidders are requested to read the terms & conditions of this tender before submitting your online tender.

1	<p><u>Process of e-Tender :</u></p> <p>A) Registration: The process involves vendor's registration with MSTC E-procurement portal which is free of cost. Only after registration, the vendor(s) can submit his/their bids electronically. Electronic Bidding for submission of Technical Bid as well as Commercial Bid will be done over the internet. The Vendor should possess Class III signing type digital certificate. Vendors are to make their own arrangement for bidding from a P.C. connected with Internet. MSTC is not responsible for making such arrangement. (Bids will not be recorded without Digital Signature).</p> <p>SPECIAL NOTE: THE TECHNICAL BID AND THE COMMERCIAL BID HAS TO BE SUBMITTED ON-LINE AT www.mstcecommerce.com/eprochome/rbi</p> <p>1). Vendors are required to register themselves online with www.mstcecommerce.com → e-Procurement → PSU/Govt depts → Select RBI Logo → Register as Vendor → Filling up details and creating own user id and password → Submit.</p> <p>2). Vendors will receive a system generated mail confirming their registration in their email which has been provided during filling the registration form. In case of any clarification, please contact RBI/MSTC, (before the scheduled time of the e-tender).</p> <p>Contact person (RBI, KOCHI):</p> <ol style="list-style-type: none">1. Sachin B More (AM-Tech) 9619869805 (Sachinmore@rbi.org.in)2. Jose J Njarukulam (AM- Prem) 09447602672 (josejjarukulam@rbi.org.in)3. Harikrishnan P. M. (Asst) – 9447338527 (pmharikrishnan@rbi.org.in)4. Bineesh Bhasi (JE-Elect) – 09496333603 (bineeshbhasi@rbi.org.in)5. G. Chockalingam (JE – Civil) – 09497479804 (chockalingamg@rbi.org.in) <p>Contact person (MSTC Ltd):</p> <ol style="list-style-type: none">1. Mr. Remil Rashid, Branch Manager – rrashid@mstcindia.co.in – Mobile: 09946473645 Office Address: 1st Floor, Forest Central Library Building, Kerala Forest Head Quarters, Vazhuthacaud, KOCHI – 6950142. Mr. Sushil Nale, Asst. Manager – sushil@mstcindia.co.in Mobile- 099877584603. Ms. Archana, Asst. Manager- archana@mstcindia.co.in Mobile- 099906736984. Ms. Rupali Pandey, Executive- rpandey@mstcindia.co.in Ph- 022 228862685. Mr. Tejas V, Executive tejasv@mstcindia.co.in Ph-022 22822789 <p>Google hangout ID- (for text chat)- mstceproc@gmail.com</p>
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	<p>B) System Requirement:</p> <p>i) Windows 7 or above Operating System ii) IE-7 and above Internet browser.</p> <p>iii) Signing type digital signature iv) Latest updated JRE 8 (x86 Offline) software to be downloaded and installed in the system.</p> <p>To disable “Protected Mode” for DSC to appear in The signer box following settings may be applied.</p> <ul style="list-style-type: none"> ➤ Tools => Internet Options =>Security => Disable protected Mode, if enabled- i.e, Remove the tick from the tick box mentioning “Enable Protected Mode”. Other Settings: ➤ Tools => Internet Options => General => Click on Settings under “Browsing history/Delete Browsing History” => Temporary Internet Files => Activate “Every time I Visit the Webpage”. ➤ To enable ALL active X controls and disable ‘use pop up blocker’ under Tools →Internet Options→ custom level (Please run IE settings from the page https://www.mstcecommerce.com once)
2	The Techno-commercial Bid and the Price Bid shall have to be submitted online at https://www.mstcecommerce.com/eprochome/rbi .Tenders will be opened electronically on specified date and time as given in the Tender.
3	All entries in the tender should be entered in online Technical & Commercial Formats without any ambiguity.
4	<p>Special Note towards Transaction fee:</p> <p>The vendors shall pay the transaction fee using “Transaction Fee Payment” Link under “My Menu” in the vendor login. The vendors have to select the particular tender from the event dropdown box. The vendor shall have the facility of making the payment either through NEFT or Online Payment. On selecting NEFT, the vendor shall generate a challan by filling up a form. The vendor shall remit the transaction fee amount as per the details printed on the challan without making change in the same. On selecting Online Payment, the vendor shall have the provision of making payment using its Credit/ Debit Card/ Net Banking. Once the payment gets credited to MSTC’s designated bank account, the transaction fee shall be auto authorized and the vendor shall be receiving a system generated mail.</p> <p>Transaction fee is non-refundable. A vendor will not have the access to online e-tender without making the payment towards transaction fee. NOTE: Bidders are advised to remit the transaction fee well in advance before the closing time of the event so as to give themselves sufficient time to submit the bid.</p>
5	Information about tenders /corrigendum uploaded shall be sent by email only during the process till finalization of tender. Hence the vendors are required to ensure that their corporate email I.D. provided is valid and updated at the time of registration of vendor with MSTC. Vendors are also requested to ensure validity of their DSC (Digital Signature Certificate).
6	<u>E-tender cannot be accessed after the due date and time mentioned in NIT.</u>
7	<p>a) The process involves Electronic Bidding for submission of Technical and Commercial Bid.</p> <p>b) The vendor(s) who have submitted transaction fee can only submit their Technical Bid and Commercial Bid through internet in website: https://www.mstcecommerce.com → e-procurement →PSU/Govt depts→ Login under RBI → My menu→ Auction Floor Manager→ live event →Selection of the live Event.</p> <p>c) The vendor should allow running JAVA application. This exercise has to be done</p>

	<p>immediately after opening of Bid floor. Then they have to fill up Common Terms/Commercial specification and save the same. After that click on the Technical bid. If this application is not run then the vendor will not be able to save/submit his Technical bid.</p> <p>d) After filling the Technical Bid, vendor should click 'save' for recording their Technical bid. Once the same is done, the Commercial Bid link becomes active and the same has to filled up and then vendor should click on "save" to record their Commercial bid. Then once both the Technical bid & Commercial bid has been saved, the vendor can click on the "Final submission" button to register their bid.</p> <p>e) Vendors are instructed to use <i>Attach Doc button</i> to upload documents. Multiple documents can be uploaded.</p> <p>f) In all cases, vendor should use their own ID and Password along with Digital Signature at the time of submission of their bid.</p> <p>g) During the entire e-tender process, the vendors will remain completely anonymous to one another and also to everybody else.</p> <p>h) The e-tender floor shall remain open from the pre-announced date & time and for as much duration as mentioned above.</p> <p>i) All electronic bids submitted during the e-tender process shall be legally binding on the vendor. Any bid will be considered as the valid bid offered by that vendor and acceptance of the same by the Buyer will form a binding contract between Buyer and the Vendor for execution of supply.</p> <p>j) It is mandatory that all the bids are submitted with digital signature certificate otherwise the same will not be accepted by the system.</p> <p>k) Buyer reserves the right to cancel or reject or accept or withdraw or extend the tender in full or part as the case may be without assigning any reason thereof.</p> <p>l) No deviation of the terms and conditions of the tender document is acceptable. Submission of bid in the e-tender floor by any vendor confirms his acceptance of terms & conditions for the tender.</p>
	Any order resulting from this tender shall be governed by the terms and conditions mentioned therein.
	<u>No deviation to the technical and commercial terms & conditions are allowed.</u>
	The tender inviting authority has the right to cancel this e-tender or extend the due date of receipt of bid(s) without assigning any reason thereof.
	Vendors are requested to read the vendor guide and see the video in the page https://www.mstcecommerce.com/eprochome/rbi to familiarize them with the system before bidding.

Important Note

In the Online price bid, due to number of words limitation of 1000 characters, complete description could not be accommodated and description given thereof is brief. Before quoting rates online, all the contractors must read the complete details of each items given in the un-priced bill of quantities (BOQ) given in Part-I of the tender document. For execution and rate purpose, the details given in Unpriced Bill of Quantities in Part-I of the tender document will be implemented.

FORM OF TENDER

(To be duly filled and uploaded in the e-tendering portal)

Place:

Date:

Shri.Kamal P.Patnaik
CGM Officer -in-Charge
Reserve Bank of India
Premises section,
Kochi Office.

Dear Sir,

Having read and examined the Notice Inviting e-Tender, Specifications & designs,, Drawings, Schedule of Quantities, various schedules, General conditions of contract and, Special conditions of contract, General rules and instructions to bidders, clauses and all other contents in the tender document for the work specified in the memorandum hereinafter set out and having examined the site of the works and having acquired the requisite information relating thereto as affecting the tender, I/We hereby offer to execute the works specified in the said memorandum within the time specified in the said memorandum at the rates mentioned in the attached schedule of quantities and in accordance in all respects with the specifications & designs, drawings and instructions in writing referred to in General Conditions of Contract, the Articles of Agreement, Special Instructions, Schedule of Quantities and Special Conditions of Contract and with such materials as are provided for, by and in all other respects in accordance with such conditions so far as they may be applicable.

Memorandum

Description of work	<u>Supply, Installation, Testing & commissioning of fire fighting (wet riser) system in the Bank's office Building at Kochi.</u>
Estimated cost (₹)	Rs. 22,70,935.00(Rupees Twenty two lakh seventy thousand nine hundred and thirty five only) excluding of buyback/rebate value
Time allowed for completion of the work	50 days from 10th day of issue of work order
Earnest Money Deposit (₹)	Rs. 45,420/- (Rupees forty five thousand four hundred and twenty only).

Performance Bank Guarantee	Bank Guarantee from any Scheduled Bank for an amount equal to 5% of the Contract Amount
Retention Money (RM) to be deducted from each bill as	5 %
Bank guarantee towards DLP and CAMC	10% of contract value
Time allowed for completion of the work	50 days from 10th day of issue of work order

2. Should this tender be accepted , I/ we hereby agreed to abide by and fulfill the terms and provisions of the said Conditions of Contract annexed hereto so far as they may be applicable or in default thereof to forfeit and pay to the RESERVE BANK OF INDIA the amount mentioned in the said conditions.

I/we have deposited a sum of **Rs. 45,420/- as Earnest Money** with Reserve Bank Of India, which amount is not to bear any interest. If I/We, fail to furnish the prescribed performance bank guarantee within the prescribed period, I/We agree that the Reserve Bank of India or its successors, in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money deposit absolutely. Further, if I/We fail to commence work as specified, I/ We agree that Reserve Bank of India or its successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said performance guarantee absolutely. The said Performance Guarantee shall be a guarantee to execute all the works referred to in the tender document upon the terms and conditions contained therein.

3. Further, I/We agree that in case of forfeiture of Earnest Money Deposit or Performance Bank Guarantee as aforesaid, I/We shall be debarred from participation in the re-tendering process of the work.

4. I/We undertake and confirm that eligible similar work(s) has/have not been got executed through another contractor on back to back basis. Further that, if such a violation comes to the notice of Reserve Bank of India, then I/We shall be debarred from tendering in Reserve Bank of India in future. Also, if such a violation comes to the notice of Reserve Bank of India before date of start of work, the Engineer-in-Charge shall be free to forfeit the entire amount of Earnest Money Deposit/Performance Guarantee.

5. I/We hereby declare that I/We shall treat the tender documents, drawings and other records connected with the work as secret/confidential documents and shall not communicate information/derived therefrom to any person other than a

person to whom I/We am/are authorized to communicate the same or use the information in any manner prejudicial to the safety of the Reserve Bank of India.

- 6. Should this tender be accepted, I/We hereby agree to abide by and fulfill the terms and provisions of the said Conditions of Contract annexed hereto so far as they may be applicable or in default thereof to forfeit and pay to the Reserve Bank of India the amount mentioned in the said conditions.
- 7. The tender is submitted online through e-Tendering portal. Part-I contains all commercial terms and conditions and Technical particulars and Part-II contains only the price bid in the Bank's Proforma.
- 8. Our bankers are (Name and full address)

(i)	
(ii)	

The names of partners of our firm are:

(i)	
(ii)	

Name of the partner of the firm authorized to sign	
OR	
Name of person having power of Attorney to sign the Contract (certified true copy of the Power of Attorney should be attached)	

Yours faithfully,

Signature of the Bidder with seal

Signatures and addresses of witnesses

	Signature	Address
(i)		
(ii)		

ARTICLES OF AGREEMENT

(To be submitted by successful tenderer only)

ARTICLES OF AGREEMENT made the ___ day of _____ between the Reserve Bank of India having its Central Office at Bombay 400001(hereinafter called "the Employer") of the one part and (hereinafter called "the Contractor") of the other part.

WHEREAS the Employer is desirous of getting executed and completed the work of **"Supply, Installation, Testing & Commissioning of Fire Fighting (Wet Riser) System at Bank's Office Building at Kochi"** and has caused drawings and specifications describing the works to be done to be prepared by employer.

AND WHEREAS the said Specifications and the Schedule of Quantities have been signed by or on behalf of the parties hereto.

AND WHEREAS the Contractor has agreed to execute upon and subject to the Conditions set forth herein and to the Conditions set forth in the Special Conditions and in the Schedule of Quantities and Conditions of Contract (all of which are collectively hereinafter referred to as "the said Conditions") the works shown upon the said Drawings and/or described in the said Specification and included in the Schedule of Quantities at the respective rates therein set forth amounting to the sum as therein arrived at or such other sum as shall become payable there under (hereinafter referred to as 'the said Contract Amount').

NOW IT IS HEREBY AGREED AS FOLLOWS:

1. In consideration of the said Contract Amount to be paid at the times and in the manner set forth in the said conditions, the Contractor shall upon and subject to the said Conditions execute and complete the work shown upon the said Drawings and described in the said Specifications and the Schedule of Quantities.
2. The Employer shall pay the Contractor the said Contract Amount or such other sum as shall become payable, at the times and in the manner specified in the said Conditions.

3 The Reserve Bank of India will administer and directly arrange for supervision of works, certification of bills, making payments and implementation of various terms, conditions and stipulations of the contract regarding executions of work, quality of work, quality of materials, progress and completion of the project shall mean the Chief General Manager(Officer-in-Charge) or any other person designated for the purpose by the Reserve Bank of India.

4. The said Conditions and Appendix thereto shall be read and construed as forming part of this Agreement, and the parties hereto shall respectively abide by, submit themselves to the said Conditions and perform the agreements on their part respectively in the said Conditions contained.

5. The plans, agreement and documents mentioned herein shall form the basis of this Contract.

6. This Contract is neither a fixed Lump sum Contract nor a Piece Work contract but is a Contract to carry out the work in respect of the entire work of Fire Fighting (wet riser) to be paid for, according to actual measured quantities at the rates contained in the Schedule of Rates and Probable Quantities or as provided in the said Conditions.

7. The Contractor shall afford every reasonable facility for movement of vehicles in the premises, any other regular functions of the Bank and also works performed by other agencies engaged by the Bank.

8. The Employer reserves to itself the right of altering the Drawings and nature of the work by adding to or omitting any items of work or having portions of the same carried out without prejudice to this Contract.

9. Time shall be considered as the essence of this Contract and the Contractor hereby agrees to commence the work soon after the site is handed over to him or from tenth day after the date of issue of formal work order as provided for in the said Conditions, whichever is later and to complete the entire work within 6 months subject nevertheless to the provisions for extension of time.

10. All payments by the Employer under this contract will be made only at Kochi.

11. All disputes arising out of or in any way connected with this agreement shall be deemed to have arisen at Kochi and only Courts in Kochi shall have jurisdiction to determine the same.

12. That the several parts of this Contract have been read by the Contractor and fully understood by the Contractor. The Contractor shall not be entitled for the payment for the quantities beyond the tendered quantities unless ordered for by specific written instructions from the Employer.

13. The Contractor shall not disclose directly or indirectly any information, materials and details of the Bank's infrastructure / systems / equipment etc., which may come to the possession or knowledge of the Contractor during the course of discharging its contractual obligations in connection with this agreement, to any third party and shall at all times hold the same in strictest confidence. The Contractor shall treat the details of the contract as private and confidential, except to the extent necessary to carry out the obligations under it or to comply with applicable laws. The Contractor shall not publish, permit to be published, or disclose any particulars of the works in any trade or technical paper or elsewhere without the previous written consent of the Employer. The Contractor shall indemnify the Employer for any loss suffered by the Employer as a result of disclosure of any confidential information. Failure to observe the above shall be treated as breach of contract on the part of the Contractor and the Employer shall be entitled to claim damages and pursue legal remedies. The Contractor shall take all appropriate actions with respect to its employees to ensure that the obligations of non-disclosure of confidential information under this agreement are fully satisfied.

IN WITNESS WHEREOF the employer and the Contractor have set their respective hands to these presents and two duplicates hereof on the day and year first herein above written.

IN WITNESS WHEREOF the Employer has set its hands to these presents through its duly authorized official and the Contractor has caused its common seal to be affixed hereunto and the said two duplicates and caused these presents and the said two duplicates hereof to be executed on its behalf, the day and year first herein above written.

SIGNATURE CLAUSE

SIGNED AND DELIVERED by the Reserve
Bank of India by the hand of

Shri _____
(Name and Designation)

In the presence of

(1) _____
Address _____

(2) _____
Address _____

Witnesses

SIGNED AND DELIVERED by

on behalf of all the partners.
In the presence of

If the party is a partnership firm or an individual should be signed by all or

In the presence of

(1)

(2)

Directors who have signed these
Presents in token thereof in the
Presence of

If the Contractor signs under its common seal the signature clause should tally with the sealing clause in the Articles of association

(1)

(2)

SIGNED AND DELIVERED by
Shri _____
and duly constituted attorney

If the Contractor is signing by the hand of power of attorney, whether a company or individual

PRE- BID QUALIFICATIONS, GENERAL INSTRUCTIONS TO CONTRACTORS & SPECIAL CONDITIONS

Supply, Installation, Testing and Commissioning of Fire Fighting (Wet Riser) Systems for the Bank's Office Building at Kochi	
1.	Tenders by e-tendering process are invited for the " <u>Supply, Installation, Testing and Commissioning of Fire Fighting (Wet Riser) Systems for the Bank's Office Building at Kochi</u> ". The work is estimated to cost Rs.22,70,935/- and is to be completed within 50 days .
2.	All pre-Qualification documents shall be uploaded with Techno-commercial bid (Part-I) on MSTC portal. Those who do not upload the Pre-qualification documents would not be considered for this tender process. Further, the contractor should submit the original of the documents to the Bank when demanded to qualify for further tendering process.
3.	Only those firms who are GST registered and have minimum 5 years of experience in the field of work of similar nature (i.e. Supply, Installation, Testing and Commissioning (SITC) of wet Riser system in large commercial building) and have executed – <ul style="list-style-type: none"> • Three or more similar works individually costing not less than 40% of the estimated cost "OR" • Two works costing not less than 50% of the estimated cost "OR" • One work costing not less than 80% of the estimated cost during the last 5 years (Corresponding Work orders justifying Work experience must be dated after 01.05.2015) and have a minimum yearly turnover of 100% of the estimated cost' during the last 3 years (2018-2019, 2018-17 and 2017-16) are eligible for tender.
4.	Only those contractors will be considered eligible who will invariably furnish, at the time of applying for e-tender, the following information to satisfy the Bank about their eligibility for participating in the tendering process. The contractors shall submit the following information/ documents to Premises Section, Reserve Bank Of India, Kochi through e-mail/ hardcopies on or before 14.00 Hrs, June 17, 2020 to satisfy the Bank about their eligibility.

4.(a)	Composition of the firm	Full particulars (whether contractor is an individual, or a partnership firm, or a company etc.) of the composition of the firm of contractors in detail should be uploaded along with name(s) and address (es) of the partners, copy of the Articles of Association / Power of Attorney / any other relevant document. (Annexure-I to be filled and uploaded in the e-tendering portal)
4.(b)	Work experience & Completion of similar works of specified value during the specified period.	Copies of the detailed work order indicating date of award, value of awarded work, time given for completing the work, etc. and the corresponding completion certificates indicating actual date of completion and actual value of executed similar works should be uploaded in proof of the work experience (Annexure-II to be filled and uploaded in the e-tendering portal along with the above specified documents)
		The details along with documentary evidences of previous experience, if any, of carrying out works for the Reserve Bank of India at any center should also be given.
4.(c)	Creditworthiness of the contractor & their Turn over during the specified period.	Copies of the Income Tax Clearance Certificates / Income Tax Assessment Orders along with the latest final accounts of the business of the contractor duly certified by a Chartered Accountant should be uploaded in proof of their creditworthiness and turnover for last three years. (To be uploaded in the e-tendering portal)
4.(d)	Service Set-up	Certificate from the manufacturers / any other valid document in support of having a full-fledged service setup at Kochi should be uploaded . (To be uploaded in the e-tendering portal).
4.(e)	Name(s) & address (es) of the Bankers and their present contact executives	Written information about the names and addresses of their bankers along with full details, like names postal addresses, e-mail IDs, telephone (landline and mobile) nos. fax nos., etc., of the contact executives (i.e. the persons who can be contacted at the office of their banker by the Bank in case it is so needed) should be uploaded .
4.(f)	Details of bank accounts	Full particulars of their bank accounts, like account No., type, when opened, etc., should be given.

4.(g)	Name (s) & address (es) of the Clients and their present contact executives	Information about the names and addresses of their clients along with full details, like names postal addresses, e-mail IDs, telephone (landline and mobile) nos. fax nos., etc., of the contact executives (i.e. the persons who can be contacted at the office of their banker by the Bank in case it is so needed) should be furnished.
4.(h)	Details of completed works	The Client-wise names of work(s), year(s) of execution of work(s) , awarded and actual cost(s) of executed work(s), completion time stipulated in the contract (s) and actual time taken to complete the work (s), name(s) and full contact-details of the officer / authorities / departments under whom the work (s) was / were executed should be furnished.
4.(i)	Client Certificates	The tenderers are advised to upload the Client Certificate as per enclosed Proforma (Annex-III) from at least two of
		their clients for whom they have carried out eligible works in terms of eligibility (Pre-qualification) criteria described in the notice inviting tenders. Client Certificates shall be accepted by the applicant / tender inviting authority of Reserve Bank of India only when the same are signed by an official of the rank of Executive Engineer or equivalent in respect of a Government / Semi Government organization or a PSU and only when they are supported by adequate proof of payment received by the tender for the work done by them. The client certificate issued by the private organization shall also accompany Tax Deducted at source (TDS) certificate. Applications / tenders received without the specified certificates in specified format shall be rejected and the Bank shall have the right to independently verify the submitted certificates
4.(j)	Banker's certificate	The tenderers are advised to upload the Banker's certificate from their banker / bankers as per (Annex-IV). Such certificate shall be addressed to the application / Tender inviting Authority of the Reserve Bank of India and shall be submitted along with their application / tender.
4.(k)	Details of office setup	Address and contact details of the office
4.(l)	Details of registration and copies of registration certificate/ documents for	PAN GST Micro and Small Enterprises (MSE) GOI, if applicable, Office of Labour Commissioner, if applicable

5.	<p>The scanned copy of EMD should be uploaded with Techno Commercial Bid (Part-I) on the MSTC portal.</p> <p>It is to be duly noted that the tender process shall be executed on the MSTC portal through e-Tendering.</p>
6.	<p>In the event of intending tenderers' failure to satisfy the Bank; the Bank reserves the right to refuse their participation.</p>
	<p>Tenders form will be available for downloading w.e.f. May 29, 2020 from 11.00 hrs. A pre-bid meeting (Off-line mode) of the intending bidders will be held on June 12, 2020 at 11:00 Hrs in the Premises section , 1st floor, Reserve bank Of India, Kochi. The duly filled in tender documents shall be uploaded on MSTC site till 14:00 Hrs of June 22, 2020.</p>
7.	<p>Interested vendors/firms can participate in e – Tender after getting registration with (www.mstcecommerce.com/eprocurement/rbi). Online Part I – Techno-Commercial Bid and Part II – Price Bid shall be opened through (www.mstcecommerce.com/eprocurement/rbi) and applicable transaction charges have to be paid by the firm.</p>
8.	<p>Tender in prescribed format shall be uploaded on MSTC website. Part-I of tender will contain the Bank's standard technical and commercial conditions for the proposed work, tenderers' covering letter, the EMD of Rs. 45,420/- should be submitted through NEFT or a demand draft issued by a Scheduled Bank in favor of 'Reserve Bank of India, Kochi' Or in the form of an irrevocable bank guarantee issued by a scheduled bank in the Bank's standard proforma (Annexure-V) which is available in the tender-form along with pre-Qualification documents. The documents pertaining to EMD should be scanned and uploaded with the pre-Qualification documents.</p> <p>Part-II of the tender will contain <u>no conditions</u> but Tenderer's Price Bid, Bank's Schedule of quantities, tender drawings, if any, only.</p> <p>The EMD of successful tenderer shall be released on acceptance of the tender and on production of a new Bank Guarantee called "Performance Bank Guarantee (PBG)" from any scheduled bank towards security deposit for due fulfilment of the contract.</p>
9.	<p>Part-I of the tenders will be submitted by the Tenderers in MSTC portal. The same will be opened by RBI on June 22, 2020 at 15:00 Hrs. Those tenderers who would like to depute their representatives, may depute their representatives to Premises Section, 1st floor, Reserve Bank of India, Banerji Road, Ernakulam (North), Kochi, Kerala-682018 for the same. Part II (price-bid) shall be opened of the eligible bidders on a subsequent date. Due intimations will be given for the same.</p>
	<p>The client's certificate shall be accepted only when the same is signed by an Official of the rank of Executive Engineer/ Superintendent or equivalent in respect of Government/ semi government organization or PSU and only when they are supported by adequate proof of payment received by the contractor for the work done by him. The client certificate issued by the private organizations shall also accompany Tax Deducted at Source (TDS) certificates. Applications/Tenders uploaded without the above certificates may be rejected. The bank shall have right to independently verify these certificates.</p>

10.	The Bank shall obtain reports on the past performance of the tenderer from his clients and bankers. The Bank shall evaluate the said reports before opening of the Part-II of the tenders. If any tenderer is not found to possess the required eligibility for participating in the tendering process at any point of time and / or his performance reports received from his clients and / or his bankers and found unsatisfactory, the Bank reserves the right to reject his offer even after opening of Part-I of the tender. The Bank is not bound to assign any reason for doing so.
11.	The Bank is not bound to accept the lowest tender and reserves the right to accept either in full or in part of any tender. The Bank also reserves the right to reject all the tenders without assigning any reason thereof. Any amendments/ corrigendum to the tender, if any, issued in future will only be notified on the RBI website and MSTC website.
12.	On receipt of intimation from the Bank of the acceptance of his/their tender, the successful tenderer shall be bound to implement the contract and within ten days thereof . The successful tenderer shall sign an agreement in accordance with the draft agreement and the Schedule of Conditions but the written acceptance by the Reserve Bank of India of a tender will constitute a binding contract between the Reserve Bank of India and the person so tendering, whether such formal agreement is or is not subsequently executed.
13. (a)	<p>Performance Bank Guarantee (PBG) as security deposit for completion period: On award of the work, the successful tenderer shall furnish an amount equal to 5% (Five percent) of the contract value in the form of a Bank Guarantee (BG) from any scheduled Bank towards security deposit for the due fulfilment of the contract. This Performance Bank Guarantee (PBG) shall be initially valid for a period of contract duration plus three (3) months and shall be suitably extended till final completion of the work plus three (3) months in case of extension of contract period. The Bank Guarantee towards the Earnest Money Deposit (EMD) furnished at the time of submission of tender will be returned thereafter. Such Performance Bank Guarantee (PBG) should be submitted to the Bank within 15 days of the issue of work order.</p> <p>If the tenderer fails to furnish the Performance Bank Guarantee within stipulated time period, their tender is liable to be cancelled and the EMD deposited shall be enforced without prejudice for further loss or damage.</p> <p>The Bank Guarantee towards EMD shall be suitably extended, if necessary, the successful tenderer till the date fixed by the Bank for furnishing the PBG towards security deposit for the due fulfilment of the contract.</p> <p>Retention Money (RM): In addition to 5% PBG, retention Money @ 5% will be deducted from each bill and shall be release after completion of work and on submission of new BG for an amount equal to 10% of contract value as security deposit towards Defect Liability Period (DLP) and CAMC (i.e. Comprehensive Annual Maintenance Contract) period.</p>

(b)	<p>Bank Guarantee towards defect liability period and CAMC (i.e. Comprehensive Annual Maintenance Contract) period (Annex-VI):</p> <p>After completion of the work, the successful tenderer shall furnish an amount equal to 10% (Ten percent) of the contract value in the form of BG (Bank Guarantee) from any schedule Bank in the form prescribed by the Bank as per Annex towards Security Deposit for the due fulfilment of the terms and obligations of the DLP and CAMC contract .The PBG (Bank Guarantee) of 5% furnished will be returned only after submission of above mentioned 10% of BG failing which the same may be revoked.</p> <p>This 10% BG should be initially valid for a period of one year and after that that it shall be further extended for a reduced amount equal to 10% of the contract value for due fulfilment of the CAMC contract condition for a further period of 9 years.</p> <p>The Bank reserves the right to enforce the Bank Guarantee in case of unsatisfactory performance of the terms, conditions of DLP and CAMC set out in the tender at any time during the currency of committed period of 10 years.</p>
14.	<p>The Contractor shall not assign the Contract. He shall not sublet any portion of the Contract, except with the written consent of the Employer. In case of breach of these conditions, the Employer may serve a notice in writing on the contractor rescinding the Contract whereupon the security deposit shall stand forfeited to the Employer, without prejudice to his other remedies against the contractor.</p>
15.	<p>The Contractor shall carry out all the work strictly in accordance with details and instructions of the Employer. If in the opinion of the Employer, changes have to be made in the design and they desire the Contractor to carry out the same, the Contractor shall carry out the same without any extra charge. The Employer’s decision in such cases shall be final and shall not be open to arbitration.</p>
16.	<p>A “Schedule of Probable Quantities” in respect of each work and specifications accompany these Special Conditions. The Schedule of Probable Quantities is liable to alteration, omissions, deductions or additions at the discretion of the Employer. Each tender should contain not only the rates but also the value of each item of work entered in a separate column and all the items should be totaled in order to show the aggregate value of the entire tender.</p>
17.	<p>The tenderer must obtain for himself on his own responsibility and at his own expenses all the information which may be necessary for the purpose of making a tender and for entering into a contract and must examine the specifications and must inspect the site of the work and acquaint himself with all local conditions, means of access to the work, nature of the work and all matters pertaining thereto.</p>

18.	<p>The rates quoted in the tender shall include all charges for clearing of site after completion of work, double scaffolding, centering, boxing, staging, planking, timbering and pumping out water including bailing, fencing, hoarding, plant and equipment, watching and lighting, by night as well as day including Sundays and Holidays, temporary extension of plumbing and electric supply, protection of the public and safety of adjacent roads, streets, cellars, vaults, ovens, pavements, walls houses, building and all other erections, matters or things, and the Contractor shall take down, remove any or all such centering, scaffolding, staging, planking, timbering, strutting, shoring etc., as occasion shall require or when ordered so to do and fully reinstate and make good all matters and things disturbed during the execution of work and to the satisfaction of the employer. The rates quoted shall be deemed to be for the finished work to be measured at site.</p> <p>The rates shall also be firm and shall not be subject to exchange variations, labour conditions, transportation, fluctuations in railway freights or any conditions whatsoever. Tenderers must include in their rates GST and any other tax and duty or other levy levied by the Central Government or any State Government or local authority, if applicable. No claim in respect of transportation, GST or other tax, duty or levy whether existing or in future shall be entertained by the Employer.</p>
19.	<p>The Contractor should note that unless otherwise stated, the tender is strictly on item rate basis and his attention is drawn to the fact that rates for each and every item should be correct, workable and self-supporting. The quantities in the Schedule of Quantities approximately indicate the total extent of work but may vary to any extent and may even be omitted thus altering the aggregate value of the Contract. No claim shall be entertained on this account.</p>
20.	<p>The allowed for carrying out the work as mentioned in the Memorandum shall be strictly observed by the Contractor and it shall be reckoned from the 10th day after written order to commence the work is issued. The work shall throughout the stipulated period of the Contract be proceeded with all due diligence and if the Contractor fails to complete the work within the specified period, he shall be liable to pay compensation to the Employer as defined in clause 35 of 'The Condition Herein Before referred to'. The tenderer shall before commencing work prepare a detailed work programme which shall be approved by the Employer.</p>
21.	<p>Tenders will be considered only from recognized bonafide contractors in the trade concerned. Each tenderer shall submit with his tender a list of large works of a like nature he has executed giving details as to their magnitude and cost, the proportion of work done by the Contractor in it and the time within which the works were completed.</p>
22.	<p>The Contractor shall not be entitled to any compensation for any loss suffered by him on account of delays in commencing or executing of the work, whatever the cause of delays may be, including delays arising out of modifications to the work entrusted to him The Employer does not accept liability for any sum besides the tender amount, subject to such variations as are provided for herein.</p>

23.	The successful tenderer is bound to carry out any items of work necessary for the completion of the job even though such items are not included in the quantities and rates. Schedule of instructions in respect of such additional items and their quantities will be issued in writing by the employer.
24.	The successful tenderer must co-operate with the other contractors appointed by the Employer so that the work shall proceed smoothly with the least possible delay and to the satisfaction of the Employer
25.	The Contractor must bear in mind that all the work shall be carried out strictly in accordance with Specifications provided by the Employer and also in compliance of the requirements of the local public authorities and to the requirements of the Indian Electricity Rules and no deviation on any account will be permitted.
26.	The successful tenderer should make his own arrangements to obtain all materials required for the work including cement.
27.	The tenderer shall submit along with his tender a list as specified on pg. 84-85 mentioning the names of manufacturers / brands of items, which he purposes to use in the work if his tender his accepted.
28.	For water and power, the contractors shall be allowed connection of water and power supply from available sources as decided by the Employer.
29.	The Contractor shall strictly comply with the provision of safety code annexed hereto.
30.	I.S. Code numbers wherever mentioned in the tender shall be in latest version of I.S. Codes as on the date of opening of tenders.
31.	The security deposit of the successful tenderer will be forfeited if he fails to comply with any of the conditions of the Contract.

32.	<p>The tenderers shall quote their charges for comprehensive maintenance service (inclusive of all spares, consumables, routine, preventive and breakdown maintenance) of wet riser firefighting system including pumps which will be applicable after the expiry of the guarantee period and if such a contract is entered into by the Bank, the contract amount shall be paid on half yearly basis on rendering satisfactory service. This service contract shall be renewed annually for further period of 9 years after one-year guarantee period. While renewing the contract the new contract amount will be arrived based on following formula:</p> <p>$Ac = Ap[(15+60 \times (EPIc/EPIp)+25 \times (CPIc/CPIp))] \times 1/100$</p> <p>Ac = the contract amount for the current year.</p> <p>Ap = The contract amount for the previous year.</p> <p>EPIc = Wholesale Price Index for Electrical Products 6 months prior to the commencement date of contract for the current year.</p> <p>EPIp = Wholesale Price Index for Electrical Products 6 months prior to the Commencement date of contract for the previous year.</p> <p>CPIc = Consumer Price Index for Industrial Workers (All India Average) 6 months prior to the commencement date of contract for the current year.</p> <p>CPIp = Consumer Price Index for Industrial Workers (All India Average) 6 months prior to the commencement date of contract for the previous year.</p>
33.	<p>Apart from break down maintenance, the annual maintenance contract includes deputing a foreman /mechanic / service Engineer to check all the equipment's under the supervision of Bank's staff and issuing a certificate for satisfactory working.</p>
34.	<p>During the currency of the annual maintenance service contract, if the downtime of any component of wet riser firefighting system including pumps exceeds one day, in case of minor repairs and five days in case of major repairs, at any one instance, as may be allowed for major maintenance and descaling etc., a penalty equivalent to two times of the daily rate of service contract amount (arrived at by dividing the annual contracted amount by 360 and rounding it off to next higher rupee) multiplied by the number of penalty days, will be recovered from the payment due to the firm. In case the contractor is not able to render call back service due to "force majeure" conditions prevailing at their works/office, the Bank may recover from the contractor, the pro-rata cost for that period. The vendor under such circumstances will be required to inform the Bank the date of commencement/termination of such "force majeure" conditions in their works/office.</p>

	<p>For the purpose of penalty, following items will be considered as major repairs.</p> <ul style="list-style-type: none"> a) Rewinding of motor b) Replacement of shaft, impeller, etc. of Pumps, c) Replacement of bearings, gears etc. <p>They shall also ensure that the required spare etc. for proper maintenance is readily available with them.</p>
35.	<p>Tenders will not only be evaluated on the basis of capital cost but also taking into account the rates quoted for comprehensive service contract for a total period of 10 years (inclusive of 1 year of defect liability period). The track record of the firm in implementing and maintaining similar Fire Fighting works, the service establishment and the promptness in attending to service/break down calls shall also form basis of tender evaluation. Tenders will therefore be evaluated based on the overall owning cost which will be arrived at as under:</p> <p>Total owning cost (ToC) = Quoted Capital cost – Buy Back Amount + NPV of Comprehensive AMC charge for 9 years</p> <p>= Quoted Capital cost – Buy Back Amount + AMC x Multiplying factor (MF)</p> <p>(MF = 7.0476)</p> <p>For calculating the NPV of AMC, the following factors will be applied:</p> <ul style="list-style-type: none"> a) Period of service contract – 10 years (inclusive of the one-year defect liability period) b) Terms of payment – Half yearly on completion of satisfactory service c) Increase (Escalation) – 5% p.a. d) Discount – 8% p.a.
36.	The Tenderer shall guarantee that the work shall confirm to the detailed specifications.
37.	<p>The firm needs to fill the a) Particulars of firm, b) List of approved makes (c) Proforma for details of Principal Banker and other Bankers (d) Proforma for details of similar works executed in last five years (e) Check list – General Condition and Commercial Conditions as per proforma given in the tender and upload the scanned filled documents along with the tender part-I on the MSTC portal.</p>
	<p>Note:</p> <ul style="list-style-type: none"> (i) *Similar work shall mean ‘renovation/addition/alteration work which includes civil works viz. flooring, false ceiling, partitions, etc. electrical and Air conditioning all composite under one contract agreement. (ii) Components of work executed other than those included in definition of similar work shall be deducted while calculating cost of similar work. Bidder shall submit abstract of cost of work in support of this. (iii) In respect similar work completion certificate(s), client certificate(s) issued by the private companies shall also accompany copy of Tax Deducted at Source

(TDS) certificates. Bids received without the specified certificates shall be rejected and the Bank shall have the right to verify/ cause verification of authenticity of the said documents whenever felt necessary.

- (iv) Regarding client's certificate for qualifying similar completed works carried out for Government/public sector companies, the certificate should be signed by the concerned Executive Engineer or an officer in an equivalent or higher rank. For qualifying similar completed works carried out for private companies, shall accompany Tax Deducted at Source (TDS) certificates has to be submitted for proving the credentials/contract amount.
- (v) Bank reserve its right to obtain the performance reports from the clients for the qualifying work/s, Banker/s report of the Bidders directly, if so desired. The Bank on its own may also conduct inspection of their work eligible/qualifying works referred by the Bidder in their bid.
- (vi) It is clarified that the work executed by the applicant for their in-house or capital use will not be considered for the purpose of work experience of completion of similar works.
- (vii) **All information called for in the annexed formats should be furnished against the relevant columns** in the formats. If for any reason, information is furnished on a separate sheet, this fact should be mentioned against the relevant column. Even, if no information is to be provided in a column, a 'nil' or 'no such case' entry should be made in that column. If any particulars/query is not applicable in case of the bidder, it should be stated as '**Not applicable**'. Tender document shall contain all the enclosures mentioned and copies shall be self-attested.
- (viii) The bid submitted by a bidder who is found to be not satisfying the above prequalification criteria will be disqualified. Bids containing false and /or incomplete information are liable for rejection.

I/We hereby declare that I/We have read and understood the above instructions for the guidance of tenderers.

Date:

(Signature of Tenderer)

Address:

SPECIAL INSTRUCTIONS TO THE BIDDERS

1. The workmen will not be allowed to stay within the premises during night.
2. The Contractor shall submit the addresses, personal details and photographs of their workmen being engaged by them for the said work to the Bank for obtaining Entry passes. Workmen will be allowed inside the premises only on producing the photo passes issued by the Bank. The contractor, his staff and the labour will have to comply with the security regulations of the Bank.
3. Permission, if any, required from the local bodies shall be obtained by the Contractor.
4. The water required for the work or workmen can be availed from the available source at site free of cost. The Contractor has to make his own arrangements to take the supply to the requisite position.
5. The electric power required for the work can also be similarly drawn from the supply available at site free of cost. The Contractor has to make his own arrangements to take the supply to the requisite position. It will be ensured by the contractor that the entire work site is properly illuminated at all time when the work is in progress.
6. The intending bidder can obtain any clarifications regarding the tender drawings, specifications etc. if any from the office of the Chief General Manager, Reserve Bank of India, Estate Department, Kochi on any Bank's working day.
7. The entire materials for the work shall be brought to the working area through the available passage only during specified time of working hours, as per instructions of Bank's Engineer.
8. The bidder may please note that the work has to be carried out in an occupied building during normal working hours/restricted hours without causing any inconvenience to the other occupants. The rates quoted for each item shall be quoted accordingly.
9. The Bidder may please note that, the work has to be carried out during the day time or as per the Bank's instructions. All dismantling work and work generating noise shall be done during the day time and on holidays and day time work may have to be done on restricted hours. Contractor shall take into account the above facts while quoting the rates. The entire work involved shall be carried out with the least disturbance to the occupants of the office and also day to day cleaning has to be done by the contractor. The staircase and passages used by the labourers shall be cleaned properly, as per the entire satisfaction of Bank's Engineer.
10. Neat housekeeping at all times is the responsibility of the contractor. The debris / dust or any waste generated out of the above work shall be cleaned as frequently as required and shall be stored at the specified place inside the Bank's Premises, as per the instructions of the Bank's

Engineer. The bidder shall remove all the debris stored at the specified place inside the Bank's premises and shift it to the approved waste dumping place as per Municipal regulations as and when the accumulated waste is around one truck load or earlier, if instructed by Bank's Engineer. The contractor shall be solely responsible for any penal action/ penalties levied by Municipal authorities for violation of their rules/ regulations in this regard.

11. The contractor shall coordinate his work with all other agencies deployed by the Bank at site so that no hindrances are presented to the planned work of any other agency.
12. The successful bidder should prepare the layout of the work and any other working drawings related to the said Work, if required, on a 1:4 scale and should get it approved from the Bank's Engineer before commencement of work.
13. Care shall be taken while executing the said job. If anything is damaged, the same shall be rectified at no extra cost.
14. **Wherever the basic rate for the material is specified, the contractor should furnish all the paid bills for Banks verification. The purchase rate shall be got approved from the Bank before purchasing.** The adjustment in price shall be made only on measured quantity. No overhead and profit shall be considered on the cost difference. The basic prices are ex-godown and are exclusive of GST, transportation, excise duty, sales tax, octroi and all other duties levied by Local authority / Government.
15. Bank will require the contractor to produce, samples of all the materials, accessories/finishes prior to procurement/manufacture. The Bank's Engineer shall approve samples of the materials for the work. Failure to comply with these instructions can result in rejection of the work.
16. The Bidder should note that he should execute his part of work without causing any damage to any part of the building and also without disturbing the existing occupants. Any damage so caused shall be made good at the cost & risk of the bidder.
17. The bidder should note that the tender drawings and other documents describing each item in the schedule are only indicative in nature and cannot be taken as complete in detail and finishes. It is expected that the bidder should understand the intent of the tender drawings and specifications and provide for materials, workmanship, finishes and accessories appropriately so as to deliver the product of high standards. Bank reserves the right to insist on selection of material, workmanship, detailing and finishes, which they consider are appropriate and suitable for the intended use. The contractor is not eligible to claim extra on this account. No claim from the contractor at a later date will be entertained for his failure to understand this condition. The decision of the Bank in respect of the quality of material, type of work, workmanship, finish etc, shall be final and binding on the contractor.

18. The successful contractor shall make sure that they protect their materials during and after installation and hand them over in good shape to the Bank satisfactorily. At the time of handing over, any damages, scratches, dents or such defects noticed shall be got rectified as directed without any extra charge by the Contractor to the satisfaction of the Bank.
19. The successful bidders shall include, in the quoted price, all allied civil works such as chasing in wall, drilling holes etc to support the frames, partitions, make the surface good after grouting etc.
20. The successful contractor shall also be responsible for the safety and security of all their materials and also for ensuring fire prevention steps at all times in the working premises including their part of the work.
21. The scope of work covers the planning and organising man-power and resources in a manner that the entire work, including the areas presently under structural repairs, are completed within the stipulated period.
22. The work may have to be carried out in phases (if required as per the site conditions) without disturbing the Staff / Employees of Bank's office building. Necessary barricading of the area, if required from the rest of the area shall have to be arranged by the successful contractor at no extra cost.
23. The contractor shall depute a qualified and experienced supervisor at all times during execution of the work. No work shall be carried out at site in unsupervised manner.
- 24. The contractor shall submit the names and personal details of site in-charge/ supervisor and his authorized representative along with their role, responsibilities and authority (with regard to supervision, quality control, documentation, measurements, signing measurement book, correspondence, receiving instructions from bank etc.) within 10 days from the date of issue of work order.**
- 25. All the bidders shall submit a detailed bar chart indicating the details of various major activities involved in the work and their expected completion period, specifying the parallel and sequential activities, starting from the scheduled commencement of work so as to complete the entire work within the tender specified period along with the Part-I of the tender. The bidders shall also indicate the approximate deployment of man power/ labour, as planned by them for the above purpose, commensurate with the planned schedule. The bidder shall provide details of proposed project team along with Part-I of the tender. After award of work, the contractor shall be required to carry out micro planning and the detailed schedule/ Bar Chart shall be submitted within 10 days from the date of issue of work order for proper planning, monitoring and review of progress of work.**
26. The progress of work shall be reviewed by the Bank on a fortnightly basis. The meeting may be held at site or in Bank's Main Office Premises. The meeting should be attended by the

contractor himself (in case of proprietorship firm) or authorized partner/ senior official in case of partnership firm/ limited company along with contractor's site in-charge. For this purpose, the contractor shall prepare and submit a progress report indicating following:

- a) Progress for the previous fortnight and the planning for the next fortnight along with a few photographs of work in progress and materials received during the fortnight and expected to be received during next fortnight.
- b) The reasons for major deviations in planned schedule and the actual progress achieved along with any hindrances/ decisions required from the Bank.
- c) Procurement schedule for long lead items.
- d) Variations / extra item statement.
- e) Statement indicating various tests conducted during the fortnight and planned for next fortnight.

27. The contractor shall maintain following registers/ documents/details at site and keep them updated on a regular basis. These registers/ documents after completion of work shall be handed over to the Bank:

- a) Hindrance Register in the Bank's approved format
- b) Site Instruction Book (in duplicate)
- c) Certified true copy of the contract
- d) Material Receipt Register along with copies of delivery challans
- e) Copies of all bills for which Basic rate is specified in the tender
- f) Labour daily Attendance Register
- g) Approved detailed schedule/ Bar chart and approved modifications of the same, If any.
- h) Signed Minutes of fortnightly progress review meetings
- i) Register for extra items/ variation/ deviation items
- j) Material Test Register along with copies of test reports/ certificates received from the manufacturer/ laboratory.

28. Terms of payment:

The Employer shall release payment for the work in stages as per the progress achieved as detailed below subject to the bill value being equal to or more than the minimum Running Account bill value:

- A. 60% of the quoted rate on pro rata basis against delivery of materials at site and submission of the following documents subject to all statutory deductions and as per tender conditions:
 - i) Original Equipment Manufacturer's Test Certificates.

- ii) Contractor's certificate that all components, parts , sub systems ,consumables etc. for successful installation, commissioning and testing of the Wet Riser system have been received at site in good condition and if any shortfall is noticed during installation, commissioning and testing, they will be supplied without any additional charge to the Bank.
 - iii) Policies of insurance as per tender conditions.
- B.** 20 % of the quoted rate against installation of materials / equipment.
- C.** 20% of the quoted rate against testing and commissioning and handing over the system to the Bank.
29. The contractor shall use only approved brands of materials as per [List of Approved Makes](#). In absence of any such choice indicated by the bidder in the Part – I, the contractor will be required to use the material as per Bank's instructions.
30. The contractor will have to arrange the services of authorized technical official of the manufacturer whose materials have been selected / approved by the Bank for the project work (atleast three visits from each manufacturer, staggered over the duration of the project) who will inspect the materials supplied/ available at site and the method of its uses/ application and will be required to submit a report on the manufacturer's letterhead, under official seal, indicating the genuineness or otherwise of the material and whether the materials are being used as per the Manufacturer's Specifications and specified consumption standards.
31. The successful bidder shall make necessary arrangement to protect the glazing, vehicles, occupants etc. by barricading/ covering the work area suitably with ply boards/construction net etc. The successful bidder shall also be required to provide proper danger/ caution notice boards at conspicuous places.
- 32. The bidders shall quote their rates taking in to account all the above instructions and conditions of the contract.**

NAME AND ADDRESS OF THE CONTRACTOR:

SIGN & SEAL OF THE CONTRACTOR:

Date:

Place:

SAFETY CODE

1. There shall be maintained in a readily accessible place first aid appliances including adequate supply of sterilized dressings and cotton wool.
2. An injured person shall be taken to a public hospital without loss of time, in cases where the injury necessitates hospitalization.
3. Suitable and strong scaffolds should be provided for workmen for all works that cannot safely be done from ground.
4. No portable single ladder shall be over 8 meters in length. The width between the side rails shall not be less than 30cm. (clear) and the distance between two adjacent rungs shall not be more than 30 cm. When a ladder is used an extra mazdoor shall be engaged for holding the ladder.
5. The excavated material shall not be placed within 1.5 metres of the edge of the trench or half of the depth of trench whichever is more. All trenches and excavations shall be provided with necessary fencing and lighting.
6. Every opening in the floor of building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be one meter.
7. No floor, roof or other part of the structure shall be so overloaded with debris or materials as to render it unsafe.
8. Workers employed on mixing and handling materials such as asphalt, cement mortar, concrete and lime mortar shall be provided with protective footwear and rubber hand-gloves.
9. Those engaged in welding works shall be provided with welder's protective eye-shields and gloves.
10. i) No paint containing lead or lead products shall be used except in the form of paste or readymade paints.
 (ii) Suitable facemasks should be supplied for use by the workers when the paint is applied in the form of spray or surface having lead paint is dry rubbed and scrapped.
11. Overalls shall be supplied by the Contractor to the painters and adequate facilities shall be provided to enable the working painters to wash during the periods of cessation of work.
12. Hoisting machines and tackle used in the works, including their attachments, anchorage and supports shall be in perfect condition.
13. The ropes used in hoisting or lowering material or as a means of suspension shall be of durable quality and adequate strength and free from defects.

NAME AND ADDRESS OF THE CONTRACTOR

SIGN & SEAL OF THE CONTRACTOR

Date:

Place:

The Conditions Hereinbefore Referred To

1. **Interpretation Clauses** : In construing these conditions, the Specifications, Schedule of Quantities and Contract Agreement, the following words shall have the meanings herein assigned to them except where the subject or context otherwise requires.
2. **“Employer”**: shall mean the Reserve Bank of India and shall include its assigns and successors.
3. **“Site”** : shall mean the site of the contract works including any building and erections thereon and any other land (inclusively) as aforesaid allotted by the Employer for the Contractor’s use.
4. **“This Contract”**: shall mean the Articles of Agreement, the Special Conditions, the Conditions, the Appendix, the Schedule of Quantities and Specifications attached hereto and duly signed.
5. **“Notice in writing or Written Notice”**: shall mean a notice in written, typed or printed characters sent (unless delivered personally or otherwise proved to have been received) by registered post to the last known private or business address or registered office of the addressee and shall be deemed to have been received when in the ordinary course of post it would have been delivered.
6. **“Act of Insolvency”**: shall mean any Act of Insolvency as defined by the Presidency Towns Insolvency Act, or the Provincial Insolvency Act or any Act amending such original Act.
7. **“Net Prices”** : If in arriving at the contract amount, the Contractor shall have added to or deducted from the total of items in the Tender any sum, either as a percentage or otherwise, then the net price of any item in the tender shall be the sum arrived at by adding to or deducting from the actual figure appearing in the Tender as the price of that item a similar percentage or proportionate sum provided always that in determining the percentage or proportion of the sum so added or deducted by the Contractor the total amount of any Prime Cost items and provisional sums of money shall be deducted from the total amount of the tender. The expression “net rates” or “net prices” when used with reference to the contract or accounts shall be held to mean rates or prices so arrived at.
8. **“The works”**: shall mean **“Supply, Installation, Testing & Commissioning of firefighting (Wet riser) system in Bank’s office Building at, KOCHI”**.

Words imparting persons include firms and corporations. Words imparting the singular only also include the plural and vice versa where the context requires.

9. The Contractor shall carry out and complete the said work in every respect in accordance with this Contract and with the direction of and to the satisfaction of the Employer. The Employer may in his absolute discretion and from time to time issue further drawings and/or written instruction, details, directions and explanations which are hereafter collectively referred to as “Employer’s Instructions” in regard to :

- (a) The variation or modification of the design, quality or quantity of works or the addition or omission or substitution of any work.
- (b) Any discrepancy in the Drawings or between the Schedule of Quantities and/or Drawings and/or Specification.
- (c) The removal from the site of any materials brought thereon by the Contractor and the substitution of any other material therefore.
- (d) The removal and/or re-execution of any works executed by the Contractor.
- (e) The dismissal from the works of any persons employed thereupon.
- (f) The opening up for inspection of any work covered up.
- (g) The amending and making good of any defects under clause 29 hereof.

10. The Contractor shall forthwith comply with and duly execute any work comprised in such Employer's instructions, directions and explanations given to the Contractor or his representative upon the works by the Employer, shall, if involving a variation, be confirmed in writing by the Contractor within seven days, and if not dissented from in writing within a further seven days by the employer, such shall be deemed to be Employer's Instructions within the scope of the Contract.

11. Variations to be approved by Employer

The Contractor shall submit through the employer a statement of variations giving quantity and rates duly supported by analysis of rates, vouchers, etc. The rates on scrutiny and final acceptance by the Employer shall form a supplementary tender. The Employer shall not be liable for payment of such variations until these statements are sanctioned by it.

12. Schedule of Quantities and Agreement

The Contract shall be executed in duplicate and the Employer and the Contractor shall be entitled to one executed copy each for his use. The Contractor on the signing hereof shall be furnished by the Employer one copy of each of the specification.

13. Contractor to provide everything necessary at his cost

The Contractor shall provide at his cost everything necessary for the proper execution of the works according to the intent and schedule of Quantities and Specifications taken together whether the same may or may not be particularly shown or described therein provided the same can reasonably be inferred therefrom, and if the Contractor finds any discrepancy in the Schedule of Quantities and Specifications he shall immediately and in writing refer same to the Employer who shall decide which is to be followed.

14. Authorities notices and patents

The Contractor shall conform to the provisions of any Act of the Legislature relating to the works, and to the regulations and bye-laws of any authority and of any water, electric supply and other companies and/or authorities with whose systems the structure is proposed to be connected, and shall, before making any variations from the Drawings or Specifications that may be necessitated by

so conforming, given to the Employer written notice, specifying the variation proposed to be made and the reason for making it and apply for instructions thereon. In case the Contractor shall not within ten days receive such instructions, he shall proceed with the work conforming to the provisions, regulations, or byelaws in question, and any variation so necessitated shall be dealt with under clause 12 hereof.

The Contractor shall bring to the attention of the Employer all notices required by the said Acts, regulations or bye-laws to be given to any authority and pay to such authority, or to any public office all fees that may be properly chargeable in respect of the works and lodge the receipts with the Employer.

The Contractor shall indemnify the Employer against all claims in respect of patent rights, and shall defend all actions arising from such claims, and shall himself pay all royalties, license fees, damages, cost and charges of all and every sort that may be legally incurred in respect thereof.

15. Setting out of works

The Contractor shall set out the works and shall be responsible for the true and perfect setting out of the same and for the correctness of the positions, levels, dimensions, and alignment of all parts thereof. If at any time any error in this respect shall appear during the progress of the works or within a period of one year from the completion of the works, the Contractor shall, if so required, at his own expense rectify such error to the satisfaction of the Employer.

16. Material and workmanship to conform to descriptions

All materials and workmanship shall so far as procurable be of the respective kinds described in the Schedule of Quantities and/or Specifications and in accordance with the Employer's instructions, and the Contractor shall upon the request of the Employer's furnish him with all invoices, accounts, receipts and other vouchers to prove that the materials comply therewith. The Contractor shall at his own cost arrange for and/or carry out any test of any materials which the Employer's may require.

17. Contractor's superintendence and representative on the works

The Contractor shall give all necessary personal superintendence during the execution of the works, and as long thereafter as the Employer may consider necessary until the expiration of the "Defects Liability Period" stated in the Appendix hereto. The Contractor shall also during the whole time when works are in progress, employ a competent representative who shall be constantly in attendance at the works while the men are at work. Any directions, explanations, instructions or notices given by the Employer to such representative shall be held to be given to the Contractor.

18. Dismissal of workmen

The Contractor shall on the request of the employer, immediately dismiss from the works any person employed thereon by him who may, in the opinion of the Employer be incompetent or misconduct himself and such persons shall not be again employed on the works without the permission of the Employer.

19. Access to works

The Employer, and their respective/representatives shall at all times have free access to the work and/or to the workshops, factories or other places where materials are lying or from which they are being obtained and the Contractor shall give every facility to the employer, and their representative necessary for inspections and examination and test of the materials and workmanship. Any person not authorized by the Employer, except the representatives of public authorities, shall not be allowed on the works at any time.

20. Assistant Manager (T) / Manager (T) / Assistant General Manager (T)/Deputy General Manager (T)

The term “Assistant Manager (T)”/ “Manager (T)”/Assistant General Manager(T)/Deputy Manager(T) shall mean the person appointed and paid by the Employer to inspect the works. The Contractor shall afford the Assistant Manager (T) or any representative of the Bank every facility and assistance for inspecting the works and materials and for checking and measuring.

The Assistant Manager (T), or any representative or the Employer shall have to give instructions to the Contractor or to his representative of non-approval of any work or materials and such work shall be suspended or the use of such materials shall be discontinued until the decision of the employer is obtained. The work will from time to time be examined by the Assistant Manager (T) or the Employer’s representative, but such examination shall not in any way exonerate the Contractor from the obligation to remedy any defects which may be found to exist at any stage of the works or after the same is completed. Subject to the limitation of this clause, the Contractor shall take instruction only from the Employer.

21. Assignment and Sub-letting

The whole of the works included in the Contract shall be executed by the Contractor and the Contractor shall not directly or indirectly transfer, assign or under-let the contract or any part share thereof or any interest therein without the prior written consent of the Employer, and no undertaking shall relieve the Contractor from the full and entire responsibility of the Contract or from active superintendence of the works during their progress.

22. Alterations/addition/omission etc.

No alteration, omission or variation shall vitiate this contract but in case the employer thinks proper at any time during the progress of the works to make any alterations in, or additions to, or omissions from, the works or any alteration in the kind or quality of the materials to be used therein and shall give notice thereof in writing under his hand to the Contractor, the Contractor shall alter, add to, or omit from, as the case may be, in accordance with such notice, but the Contractor shall not do any work extra or make any alterations or additions or omissions from the works or any deviation from any of the provisions of the Contract, Stipulation, Specifications without the previous consent in writing of the Employer and the value of such extras, alterations, additions or omission shall in all cases to be determined by the Employer in accordance with the provisions of Clause 27

hereof, and the same shall be added to, or deducted from the Contract Amount, as the case may be, accordingly.

23. Schedule of Quantities

The Schedule of Quantities, unless otherwise stated shall be deemed to have been prepared in accordance with the Standard Method of Measurement.

Any error in description or in quantity or in omission of items from the Schedule of Quantities shall not vitiate this contract but shall be rectified and the value thereof as ascertained under clause 27 thereof, shall be added to, or deducted, from the Contract Amount (as the case may be) provided that no rectification or errors, if any shall be allowed in the Contractor's Schedule of Rates.

24. Sufficiency of Schedule of Quantities

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the prices stated in the Schedule of Quantities and/or the Schedule of Rates and Prices which rates and prices shall cover all his obligations under the Contract, and all matters and things necessary for the proper completion of the work.

25. Measurement of works

The employer may from time to time intimate to the Contractor that he requires the works to be measured and the Contractor shall forthwith attend or send a qualified agent to assist the Assistant Manager (T) in taking such measurements and calculations and to furnish all particulars or to give all assistance required by any of them.

Should the Contractor not attend or neglect or omit to send such agent, then the measurement taken by the employer or a person approved by him shall be taken to be correct measurement of the works.

The Contractor or his Agent may at the time of measurement take such notes and measurements as he may require.

All authorized extra work, omissions and all variations made with the Employer's knowledge, but subsequently sanctioned by him in writing shall be included in such measurements.

26. Computerized Measurement Book:

i) Engineer-in-Charge shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract.

ii) All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book having pages of A-4 size as per the proforma of Measurement Book annexed hereto, so that a complete record is obtained of all the items of works performed under the contract

iii) All such measurements and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Engineer-in Charge or his authorized representative as per interval or program fixed in consultation with Engineer-in-Charge or his authorized representative. After the necessary corrections made by

the Engineer-in-Charge or his authorized representative the measurement sheets shall be returned to the contractor for incorporating the corrections and for resubmission to the Engineer-in-Charge for the dated signatures by the Engineer-in-Charge and/or his authorized representative and the contractor or their representatives in token of their acceptance.

iv) Whenever bill is due for payment, the contractor would initially submit draft computerized measurement sheets and these measurements would be got checked/test checked from the Engineer-in-Charge and/or his authorized representative. The contractor will, thereafter, incorporate such changes as may be done during these checks/test checks in his draft computerized measurements, and submit to the Employer a computerized measurement book, duly bound, and with its pages machine numbered. The Engineer-in-Charge and/or his authorized representative would thereafter check this MB, and record the necessary certificates for their checks/test checks.

v) The final, fair, computerized measurement book given by the contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or over-writing in the measurements would thereafter be allowed. If at all any error is noticed, the contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound, after getting the earlier MB cancelled by the Employer. Thereafter, the MB shall be taken in the Office records, and allotted a number as per the Register of Computerized MBs. This should be done before the corresponding bill is submitted to the Office for payment. The contractor shall submit two spare copies of such computerized MB's for the purpose of reference and record by the concerned officers of the Employer.

vi) The contractor shall also submit to the Employer separately his computerized Abstract of Cost as per format annexed hereto and the bill based on these measurements, duly bound, and its pages machine numbered along with two spare copies of the bill. Thereafter, this bill will be processed by the Employer and allotted a number as per the computerized record in the same way as done for the measurement book meant for measurements

vii) The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for checking of measurements/levels by the Engineer-in-Charge or his representative.

viii) Except where any general or detailed description of the work expressly shows to the contrary, measurements shall be taken in accordance with the procedure set forth in the specifications notwithstanding any provision in the relevant Standard Method of measurement or any general or local custom. In the case of items which are not covered by specifications, measurements shall be taken in accordance with the relevant standard method of measurement issued by the Bureau of Indian Standards or any other relevant code of practice and if for any item no such standard is available then a mutually agreed method shall be followed.

ix) The contractor shall give not less than seven days' notice to the Engineer-in-Charge or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and/or test checking the measurement of any work in order that the same may be checked and/or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and/or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-Charge or his authorized representative in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of

checking and/or test checking measurements without such notice having been given or the Engineer-in Charge's consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

x) Engineer-in-Charge or his authorized representative may cause either themselves or through another officer of the department to check the measurements recorded by contractor and all provisions stipulated herein above shall be applicable to such checking of measurements or levels.

xi) It is also a term of this contract that checking and/or test checking the measurements of any item of work in the measurement book and/or its payment in the interim, on account of final bill shall not be considered as conclusive evidence as to the sufficiency of any work or material to which it relates nor shall it relieve the contractor from liabilities from any over measurement or defects noticed till completion of the defects liability period.

27. Prices for extras etc. ascertainment of

The Contractor may, when authorized and shall, when directed in writing by the Employer, add or omit from or vary the works shown upon the drawings, or described in the Specification, or included in the Schedule of Quantities, but the Contractor shall make no addition, omission or variation without such authorization or direction. A verbal authority or direction by the employers shall if, confirmed by them in writing within seven days, be deemed to have been given in writing.

No claim for an extra shall be allowed unless it shall have been executed under provisions of clause no.13 and14 hereof or by the authority of the Employer. Any such extra is herein referred to as authorized extra and payment shall be made in accordance with the following provisions:

- (a) (i) The net rates or prices in the original tender shall determine the valuation of the extra work where such extra work is of similar character and executed under similar conditions as the work priced therein.
- (ii) Rates for all items, wherever possible should be derived out of the rates given in the Priced Schedule of Quantities
- (b) The net prices of the original tender shall determine the value of the items omitted, provided if omissions vary the conditions under which any remaining items of works are carried out, the prices for the same shall be valued under sub-clause (c) hereof.
- (c) Where the extra works are not of similar character and/or executed under similar conditions as aforesaid or where the omissions vary the conditions under which any remaining items of works are carried out or if the amount of any omissions or additions relative to the amount of the whole of the Contract works or to any part thereof shall be such that in the opinion of the employer, the net rate or price contained in the Priced Schedule of Quantities or tender or for any item of the works involves loss or expense beyond that reasonably contemplated by the Contractor or is by reason of such omission or addition rendered unreasonable or inapplicable, the Employer shall fix such other rate or price as in the circumstances he shall think reasonable and proper with the prior approval in writing of the Employer.

- (d) Where extra work cannot be properly measured or valued, the Contractor shall be allowed day work prices as the net rates stated in the tender or the Priced Schedule of Quantities or, if not so stated, then in accordance with the local day work rates and wages for the district provided that in either case, vouchers specifying the daily time (and if required by the Employer, the workmen's names) and materials employed be delivered for verification to the Employer, or his representative at or before the end of the week following that in which the work has been executed.

It is further clarified that for all such authorized extra items where rates cannot be derived from tender, the contractor shall submit rates supported by rate analysis worked on the "actual cost basis", plus 15% towards establishment charges, contractor's overhead and profit. Such items will not be eligible for escalation.

The measurement and valuation in respect of the Contract shall be completed within the "period of final measurements" stated in the Appendix or if not stated then within three months of the completion of the Contract works as defined in Clause 30 hereof.

28. Unfixed material when taken into account to be the property of the employer

Where in any Certificate (of which the Contractor has received payment) the employer has included the value of any unfixed materials intended for and/or placed on or adjacent to the works such materials shall become the property of the Employer and they shall not be removed except for use upon the works, without the written authority of the Employer. The Contractor shall be liable for any loss or damage to, such materials.

29. Removal of improper work (Please refer to clause No.15)

The Employer, shall, during the progress of the works, have power to order in writing from time to time the removal from the works within such reasonable time or times as may be specified in the order, of any materials which in the opinion of the Employer, are not in accordance with the Specifications or the instructions of the Employer, the substitution of proper materials, and the removal and proper re-execution of any work executed with materials, and the workmanship not in accordance with the Specifications or instructions, and the Contractor shall forthwith carry out such order at his own cost. In case of default on the part of the Contractor to carry out such order, the Employer shall have the power to employ and pay other persons to carry out the same, and all expenses consequent thereon, or incidental thereto, as certified by the Employer, shall be borne by the Contractor, or may be deducted by the Employer from any money due, or that may become due, to the Contractor.

30. Defects after Virtual Completion

Any defect, shrinkage, settlement or other faults which may appear within the "Defects Liability Period" stated in the Appendix hereto, or if none stated then within twelve months after the virtual completion of the works, arising in the opinion of the Employer, from materials or workmanship not in accordance with the Contract, shall upon the directions in writing of the Employer, and within such reasonable time as shall be specified therein, be amended and made good by the Contractor, at his own cost and in case of default, the Employer may employ and pay other persons to amend

and make good such defects shrinkage, settlements or other faults, and all damages, loss and expenses consequent thereon or incidental thereto shall be made good and borne by the Contractor and such damage, loss and expenses shall be recoverable from him by the Employer or may be deducted by the Employer, from any money due or that may become due to the Contractor, or the Employer may in lieu of such amending and making good by the Contractor deduct from any moneys due to the Contractor a sum, to be determined by the Employer equivalent to the cost of amending such work and in the event of the amount retained under clause 42 hereof being insufficient, recover the balance from the Contractor, together with any expenses, the Employer may have incurred in connection therewith. Should any defective work have been done or material supplied by Contractor employed on the works the Contractor shall be liable to make good and been subject to the provisions of this clause and clause 10 hereof. The Contractor shall remain liable under the provisions of this clause notwithstanding the signing of any Certificate or the passing of any accounts by the Employer.

31. Certificate of Virtual Completion and Defects Liability Period.

The works shall not be considered as completed until the Employer has certified in writing that the work has been virtually completed. The Defects Liability Period shall commence from the date of such Certificate.

32. Other persons employed by Employer

The Employer reserves the right to use premises and any portions of the site for the execution of any work not included in this Contract which it may desire to have carried out by other persons, and the Contractor shall allow all reasonable facilities for the execution of such work but shall not be required to provide any plant or material for the execution of such work except by special arrangement with the Employer. Such work shall be carried out in such manner as not to impede the progress of the works included in the Contract and the Contractor shall not be responsible for any damage or delay which may happen to or occasioned by such work.

33. Insurance in respect of damages to persons and property.

The contractor shall be responsible for all injury or damage to persons, animals or things and for all structural and decorative damage to property which may arise from the operation or neglect of himself or of any nominated sub-contractor's employees, whether such injury or damage arise from carelessness, accident or any other case whatever in any way connected with the carrying out of the contract. This clause shall be held to include, inter-alia, any damage to buildings, whether immediately adjacent or otherwise, and any damage to roads, streets, footpaths, bridges or ways as well as all damage caused to the buildings and works forming the subject matter of this contract due to rain, wind, frost or other inclemency of weather. The contractor shall indemnify the Employer and hold him harmless in respect of all and any expenses arising from any such injury or damage to persons or property as aforesaid and also in respect of any claim made in respect of injury or damage, whether under any statute or otherwise and also in respect of any award or compensation or damages consequent upon such claims. The contractor shall, at his own expense, effect and maintain till issue of the virtual completion certificate under this contract, with an

insurance company approved by the employer, an All Risks Policy for Insurance for the full amount of the contract including earthquake risk in the joint names of the Employer and the Contractor (the name of the former being placed first in the policy) against all risks as per the standard all risk policy for Contractors and deposit such policy or policies with the Employer before commencing the works.

The contractor shall, reinstate all damages of every sort mentioned in this clause, so as to deliver up the whole of the contract works complete and perfect in every respect and so as to make good or otherwise satisfy all claims for damage to the property or third parties.

The contractor shall indemnify the Employer against all claims which may be made against the Employer by any member of the public or other third party in respect of anything which may arise in respect of the works or in consequence thereof and shall at his own expenses arrange to effect and maintain, until the virtual completion of the contract with an approved insurance company, a policy of insurance in the joint names of the Employer and the Contractor against such risks and deposit such policy or policies with the Employer from time to time during the currency of this contract. The contractor shall also similarly indemnify the Employer against all claims which may be made upon the Employer whether under the workmen's compensation Act or any other statutes in force during the currency of this contract or at Common Law in respect of any employee of the contractor or any sub-contractor and shall at his own expense effect and maintain, until the virtual completion of the contract, with an approved insurance company, a policy of insurance in the joint names of the Employer and the Contractor against such risk and deposit such policy or policies with the Employer from time to time during the currency of the contract.

The minimum limit of the coverage under the third party insurance policy shall be **Rupees 2 lakhs per person for any one accident or occurrence and Rupees 5 lakhs in respect of damage to property for any one accident or occurrence.**

The Contractor shall be responsible for anything which may be excluded from the insurance policies referred to above and also for all other damages to any property arising of and incidental to the negligent or defective carrying out of this contract. He shall also indemnify the Employer in respect of any costs, charges or expenses arising out of claim or proceedings of damage arising there from.

In default of the contractor insuring as provided above, the Employer may so insure and may deduct the premiums paid from any money due or which may become due to the contractor. The contractor shall also indemnify and keep indemnified the Employer against all and any costs, charges or expenses arising out of any claim or proceedings relating to the works and also in respect of any award of damage or compensation arising there from.

Without prejudice to the other rights of the Employer against contractors in respect of such default, the Employer shall be entitled to deduct from any sums payable to the contractor the amount of any damages, compensation costs, charges and other expenses paid by the Employer and which are payable by the contractor under this clause.

The contractor shall upon settlement by the insurer of any claim made against the insurer pursuant to a policy taken under this clause, proceed with due diligence to rebuild or repair the works destroyed or damaged. In this event, the money received from the insurer in respect of such damage shall be paid to the contractor and the contractor shall not be entitled to any further payment in respect of the expenditure incurred for rebuilding or repairing of the materials or goods destroyed or damaged.

The contractor, in case of rebuilding or reinstatement after damage shall be entitled to such extension of time for completion as the employer may deem fit but shall, however, not be entitled to reimbursement by the Employer of any shortfall or deficiency in the amount finally paid by the insurer in settlement of any claim arising as set out herein.

Without prejudice to his liability under this clause, the contractor shall also cause all nominated sub-contractors to affect, for their respective portions of the works a similar policies of insurance in accordance with the provisions of this clause and shall produce or cause to produce to the Employer such policies. The Contractor shall not permit a nominated sub-contractor to commence work at the site unless said insurance policies are submitted. In the event of failure of the sub-contractor to take out such policy or policies of insurance before commencing the works at the site, the contractor shall be responsible for any claim or damage attributable to the said sub-contractor.

In addition to the above, the Contractor shall insure the work against loss due to fire, for the entire contract amount with an approved insurance company till the virtual completion of the work.

34. Date of commencement and completion

The Contractor shall be allowed admittance to the site on the “Date of Commencement” stated in the Appendix hereto, or such later date as may be specified by the Employer and he shall thereupon and forthwith begin the works and shall regularly proceed with and complete the same (except such painting or other decorative work as the Employer may desire to delay) on or before the “Date of Completion” stated in the Appendix subject nevertheless to the provisions for extension of time hereinafter contained.

35. Liquidated damages:

If the Contractor fails to maintain the required progress of the works by the completion time stipulated in the Contract or within any extended time under time extension Clause and the employer certifies in writing that in his opinion the same ought reasonably to have been completed, the Contractor shall pay the Employer the sum named as “Liquidated Damages” for the period during which the said works shall so remain incomplete and the Employer may deduct such damages from any moneys due to the Contractor (please refer details mentioned in [“Appendix Hereinbefore Referred To”](#) on page no.47). In case, the contractor does not achieve a particular milestone, if any, mentioned in the Contract or rescheduled milestone(s) in terms of time extension clause, the amount shown against that milestone shall be withheld to be adjusted against the liquidated damages levied at the time of completion of contract. Withholding of payments on failure to achieve a milestone shall be automatic and without any notice to the Contractor. However, if the Contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make-up for the delay before the subsequent milestone(s), the amount mentioned against each missed milestone shall also be withheld. No interest whatsoever shall be paid by the Bank on such withheld amount/s. The delay period shall be calculated from the stipulated date of occurrence of a milestone until the date when the milestone is actually achieved. The application of liquidated damages shall not effect a change in the milestone or release the Contractor of his obligation to improve the progress of work. The contractor hereby specifically agrees and authorizes the Employer to deduct such liquidated damages, if any, from any installment of payment becoming due and payable to the contractor in terms of this contract or from the retention money.

36. Delay and extension of time

If in the opinion of the Employer, the works be delayed (a) by force majeure or (b) by reason of any exceptionally inclement weather or (c) by reason of proceedings taken or threatened by or dispute with adjoining or neighboring owners or public authorities arising otherwise, than through the Contractor's own default or (d) by the works or delays of other Contractor or Trade men engaged or nominated by the Employer and not referred to in the Schedule of Quantities and/or Specification or (e) by reason of Employer's instructions or (f) by reason of civil commotion, local combination of workmen or strike or lockout affecting any of the building trade or (g) in consequence of the Contractor not having received in due time necessary instructions from the Employer for which he shall have specifically applied in writing or (h) from other causes which the Employer may certify as beyond the control of Contractor or (i) in the event, the value of the work exceed the value of the Priced Schedule of Quantities owing to variation, the Employer may make a fair and reasonable extension of time for completion of the Contract Works, in case of such strike or lock-out the Contractor shall as soon as possible give written notices thereof to the Employer but the Contractor shall nevertheless constantly use his endeavors to prevent delay and shall do all that may reasonably be required to the satisfaction of the employer to proceed with work.

37. Failure by Contractor to comply with Employer's Instructions

If the Contractor after receipt of written notice from the Employer requiring compliance within ten days fails to comply with such further Employer's instructions, the Employer may employ and pay other persons to execute any such work whatsoever that may be necessary to give effect thereto, and all costs incurred in connection therewith shall be recoverable from the Contractor by the Employer as a debt or may be deducted by him from any money due to the Contractor.

38. Termination of Contract by the Employer

If the Contractor being an individual or a firm commits any "act of insolvency" or shall be adjudged an Insolvent or being an Incorporated Company shall have an order for compulsory winding up made against it or pass an effective resolution for winding up voluntarily or subject to the supervision of the Court and the Official Assignee or the Liquidator, in such acts of insolvency or winding up, as the case may be, shall be unable within seven days after notice to him requiring him to do so to show to the reasonable satisfaction of the Employer that he is able to carry out and fulfill the Contract and to give security therefore, if so required by the Employer.

Or If the Contractor (whether an individual, firm or incorporated Company) shall suffer execution or to other process of Court attaching property to be issued against the Contractor.

Or shall suffer any payment under this Contract to be attached by or on behalf of any of the creditors of the Contractor.

Or shall assign or sublet this Contract without the consent of the Employer in writing.

Or shall charge or encumber this Contract or any payments due or which may become due to the

Contractor hereunder.

Or if the Employer shall certify in writing that the Contractor

- (i) Has abandoned the Contract, or
- (ii) Has failed to commence the works, or has without any lawful excuse under these conditions suspended the progress of the works for fourteen days after receiving from the Employer, notice to proceed or
- (iii) Has failed to proceed with the works with such diligence and failed to make such progress as would enable the works to be completed within the time agreed upon, or
- (iv) Has failed to remove materials from the site or to pull down and replace work for seven days after receiving from the Employer written notice that the said materials or work were condemned and rejected by the Employer under these conditions, or
- (v) Has neglected or failed persistently to observe and perform all or any of the acts, matters or things by this Contract to be observed and performed by the Contractor for seven days after written notice shall have been given to the Contractor requiring the Contractor to observe or perform the same.

Then and in any of the said cases the Employer may, notwithstanding any previous waiver, after giving 7 (seven) days' notice in writing to the Contractor, determine the Contract, but without thereby affecting the powers of the Employer or the obligations and liabilities of the Contract, the whole of which shall continue in force as fully as if the Contract has not been so determined, and as if the works subsequently executed had been executed by or on behalf of the Contractor and further, the Employer by his agents or servants may enter upon and take possession of the works and all plant, tools, scaffoldings, sheds, machinery, steam and other power utensils and materials lying upon the premises or the adjoining lands or roads, and use the same as his own property or may employ the same by means of his own servants and workmen in carrying on and completing the works or by employing any other Contractor or other person or persons to complete the works, and the Contractor shall not in any way interrupt or do any act, matter or thing to prevent or hinder such other Contractor or other person or persons employed for completing and finishing or using the materials and plant for the works. When the works shall be completed or as soon thereafter as convenient the Employer shall give a notice in writing to the Contractor to remove his surplus materials and plant, and should the Contractor fail to do so within a period of fourteen days after receipt thereof by him, the Employer may sell the same by public auction, and give credit to the Contractor for the net amount realized.

39. Termination of contracts by contractor

If the payment of the amount payable by the Employer under Certificate of the Employer shall be in arrears and unpaid for thirty days after notice in writing requiring payment of the amount as aforesaid shall have been given by the Contractor to the Employer, or if the Employer interferes with or obstructs the issues of any such Certificate, or if the Employer shall repudiate the Contractor, or if the works be stopped for three months under the order of the Employer or by any injunction or other order of any Court of Law, then and in any of the said cases the Contractor shall

be at liberty to determine the Contract by notice in writing to the Employer, and he shall be entitled to recover from the Employer, payment for all works, executed and for any loss he may sustain upon any plant or materials supplied or purchased or prepared for the purpose of the Contract.

In arriving at the amount of such payment the net rates contained in Contractor's original Tender shall be followed or where the same may not apply valuation shall be made in accordance with clause 27 hereof.

40. Certificate of payments

The Contractor shall be paid by the Employer from time to time by installments under Interim Certificates to be issued by the Employer to the Contractor on account of the works executed when in the opinion of the Employer, works to the approximate value named in the Appendix as "Value of work for Interim Certificates" (or less at the reasonable discretion of the Employer) has been executed in accordance with this Contract, subject, however to a retention of the percentage of such value named in the Appendix hereto as "Retention percentage for Interim Certificates" until the total amount retained shall reach the sum named in the Appendix as "Total Retention Money" after which time the installments shall be up to the full value of the work subsequently so executed and fixed in the building.

And when the works have been virtually completed and the Employer shall have certified in writing that they have been completed, the Contractor shall be paid by the Employer in accordance with the Certificate to be issued by the Employer, the sum of money named in the Appendix as "Installment after virtual Completion" being a part of the said total retention money. And the Contractor shall be entitled to the payment of the final balance in accordance with the final certificate to be issued in writing by the Employer at the expiration of the period referred to as "the Defects Liability Period" in the Appendix hereto from the date of Virtual Completion or as soon as after the expiration of such period as the works have been finally completed and all defects made good according to the true intent and meaning hereof whichever shall last happen provided always that the issue by the Employer of any Certificate during the progress of the works or after their completion shall not relieve the Contractor from his liability under Clause 12 and 30 or relieve the Contractor of his liability in case of fraud, dishonesty, or fraudulent concealment relating to the works of materials or to any matter dealt with in the Certificate, and in case of all defects and insufficiencies in the works or materials which a reasonable examination would not have disclosed. No certificate of the Employer shall of itself be conclusive evidence that any works or materials to which it relates are in accordance with the Contract neither will the contractor have a claim for any amounts which the employer might have certified in any interim bill and paid by the Employer and which might subsequently be discovered as not payable and in this respect the Employer's decision shall be final and binding.

The Employer shall have power to withhold any Certificate if the works or any parts thereof are not being carried out to his satisfaction.

The Employer may by any Certificate make any correction in any previous Certificate, which shall have been issued by him.

No Certificate of payment shall be issued by the Employer if the Contractor fails to insure the works and keep them insured till the issue of the Virtual Completion Certificate.

75% of the amount payable to the contractor on the running account bills, will be released as adhoc payment within 7 working days from the date of certification by the Bank's Site Engineer, pending test checking of work and measurements, checking of details, arithmetical accuracy and certification by the competent authority.

Payment shall be made based on the progress of work and on completed items of work on actual measurement. The minimum value of a R.A bill shall be Rs.10 lakhs (Rupees Ten lakhs only). The contractors will be paid an advance of 75% of the cost of imperishable materials brought to site for consumption in the works. The assessment of the cost of the materials to be considered for advance shall be derived either from the actual cost of materials based on purchase vouchers or deduced from the quoted rate after deducting for labour, taxes, overhead and profit. The lesser of the two shall be considered for advance. Perishable items like cement, glass, paint, fevicol etc. will not be entitled for advance against materials at site. 5% Retention Money shall be deducted from each payment

Any amounts payable by the Employer to the Contractor in pursuance of any Certificate given by the Employer hereunder shall, if not paid within the "Period of honoring Certificates" named in the Appendix, carry interest at the rate named in the Appendix as the "Rate of Interest for delayed payment" from the date upon which such sum ought to have been paid by the Employer until the payment.

41. Matter to be finally determined by Employer

The decision, opinion, direction, Certificate determined by Employer shall be final and conclusive and binding on the parties hereto and shall be without appeal. Any other decision, opinion, direction, Certificate or valuation of the employer or any refusal of the Employer to give any of the same, shall be subject to the right of Arbitration and review under clause 42 hereof in the same way in all respects (including the provisions as to opening the reference) as if it were a decision of the Employer.

42. Settlement of disputes by Arbitration

All disputes and differences of any kind whatever arising out of or in connection with the Contract or the carrying out of the works (whether during the progress of the works or after their completion and whether before or after the determination, abandonment or breach of the contract) shall be referred to and settled by the Employer who shall state his decision in writing. Such decision may be in the form of a final Certificate or otherwise. The decision of the Employer with respect to any of the excepted matters shall be final and without appeal as stated under clause 41 hereof. But if either the Employer or the Contractor be dissatisfied, question or dispute of any kind (except any of the excepted matters) or as to the withholding by the Employer of any Certificate to which the Contractor may claim to be entitled then and in any such case either party (the Employer or the Contractor) may within 28 days after receiving notice of such decision give a written notice to the

other party through the Employer requiring the matters in dispute be arbitrated upon. Such written notice shall specify the matters, which are in dispute or difference, of which such written notice has been given. These matters shall be referred to the Arbitration and final decision of an arbitrator to be agreed upon and appointed by both the parties or, in case of disagreement as to the appointment of a single arbitrator, of two arbitrators, one to be appointed by each party, which arbitrators shall, before taking upon themselves the burden or reference, appoint an Umpire.

The Arbitrator or Arbitrators, as the case may be, shall have power to open up, review and revise any Certificate, opinion, decision, requisition or notice, save in regard to the excepted matters referred to in the preceding Clause, and to determine all matters in dispute which shall be submitted to arbitration and of which notice shall have been given as aforesaid.

The Arbitrator or Arbitrators, as the case may be, shall make his or their award within one year (or such further extended time as may be decided by him or them as the case may be with the consent of the parties) from the date of entering on the reference. In case, during the arbitration proceedings, the parties mutually settle, compromise or compound their dispute or difference, the reference to arbitration and the appointment of the Arbitrator or Arbitrators, as the case may be shall be deemed to have been revoked and arbitration proceedings shall stand withdrawn or terminated with effect from the date on which the parties file a joint memorandum of settlement thereof, with the Arbitrator or the Arbitrators as the case may be.

Upon every or any such reference, the cost of and incidental to the reference and award respectively shall be in the discretion of the Arbitrator or Arbitrators, as the case may be, who may determine the amount thereof, or direct the same to be taxed as between attorney and client or as between party and shall direct by whom and to whom and in what matter the same shall be borne and paid. This submission shall be deemed to be a submission to arbitration within the meaning of the Indian Arbitration Act, (latest amendment) or any statutory modification thereon. The Award of the Arbitrator or Arbitrators, as the case may be, shall be final and binding on the parties. It is agreed that the Contractor shall not delay the carrying out of the works by reason of any such matter, question or dispute being referred to arbitration, but shall proceed with the works with all due diligence and shall, until the decision of the Arbitrator or Arbitrators, as the case may be, is given abide by the decision of the Employer and no Award of the Arbitrator or Arbitrators, as the case may be, shall relieve the Contractor of his obligations to adhere strictly to the Employer's instructions with regard to the actual carrying out of the works. The Employer and the Contractor hereby also agree that arbitration under this Clause shall be a condition precedent to any right of action under the Contract.

43. Right of Technical scrutiny of final bill

The Employer shall have a right to cause a technical examination of the works and the final bill of Contractor including all supporting vouchers, abstracts etc. to be made at the time of payment of the final bill. If as a result of this examination or otherwise any sum is found to have been overpaid or over-certified it shall be lawful for the Employer to recover the sum.

44. Employer entitled to recover compensation paid to workman

If, for any reason, the Employer is obliged, by virtue of the provisions of the Workmen's Compensation Act, 1923, or any statutory modification or reenactment thereof to pay compensation to a workman employed by the Contractor in execution of the works, the Employer shall be entitled to recover from the Contractor the amount of compensation so paid, and without prejudice to the rights of the employer under the Act. The Employer shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by the Employer to the Contractor under this Contract or otherwise. The Employer shall not be bound to contest any claim made against it under the said Act, except on the written request of the Contractor and upon his giving to the Employer full security to the satisfaction of the Employer for all costs for which the Employer might become liable in consequence of contesting such claim.

45. Abandonment of works

If at any time after the acceptance of the tender, the Employer shall for any reasons whatsoever not require the whole or any part of the works to be carried out, the Employer shall give notice in writing to the Contractor who shall have no claim to any payment of compensation or otherwise whatsoever on account of any profit or advantage which he might have derived from the execution of the whole works.

46. Return of surplus materials

Notwithstanding anything to the contrary contained in any or all the clauses of this Contract, where any material for the execution of the Contract is procured with the assistance of the Employer by purchases made under orders or permits or license or licenses issued by Government, the Contractor shall hold the said materials economically and solely for the purpose of the contract and not dispose of them without the prior written permission of the Employer and return them to the Employer, if required by the Employer, at the price to be determined by the Employer having due regard to the conditions of the materials, the price to be determined should not exceed the purchase price thereof inclusive of sales tax, octroi and other such levies paid by the Contractor in respect thereof. In the event of breach of the aforesaid condition, the Contractor shall, in addition to being liable to action for contravention of the terms of licenses or permit and/or criminal breach of trust, be liable to Employer for all money, advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach.

47. Right of Employer to terminate contract in the event of death of contractor if individual

Without prejudice to any of the rights or remedies under this Contract, if the Contractor being an individual dies, the Employer shall have the option of terminating the Contract without incurring any liability for such termination.

48. Accident Reports

In the event of accidents of any kind, the Contractor shall furnish the Client with copies of all accident reports. The reports shall be sent without delay and at the same time that they are forwarded to any other parties.

49. NON-DISCLOSURE CLAUSE

The contractor shall not disclose directly or indirectly any information, materials and of the Bank's infrastructure/ system/ equipment etc. which may come to the profession or knowledge of the contractor during the course of discharging its contractual obligations in connection with the agreement, to any third party and shall at all times hold the same in strictest confidence. The contractor shall treat the details of the contract as private and confidential, except to the extent necessary to carry out the obligations under it or to comply with applicable laws. The contractor shall not publish, permit to be published, or disclose any particulars of the works in any trade or technical paper or elsewhere without the previous written consent of the Employer. The contractor shall indemnify the Employer for any loss suffered by the Employer as a result of disclosure of any confidential information. Failure to observe the above shall be treated as breach of contract on the part of the contractor and the Employer shall be entitled to claim damages and pursue legal remedies.

The contractor shall take all appropriate actions with respect to its employees to ensure that the obligations of non-disclosure of confidential information under this agreement are fully satisfied. The contractor's obligations with respect to non-disclosure and confidentiality will survive the expiry or termination of this agreement for whatever reason.

50. The contractor shall comply with the provisions of Labour laws and all other relevant statutory acts (minimum wages act etc.)

51. Prevention of Sexual Harassment of women at work places

- a) The Contractor shall be solely responsible for full compliance with the provisions of "the Sexual Harassment of women at work place (Prevention, Prohibition and Redressal) Act, 2013" In case of any complaint of sexual harassment against its employee within the premises of the Bank, the complaint will be filed before the Internal Complaints Committee constituted by the Contractor / Agency and the Contractor / Agency shall ensure appropriate action under the-said Act in respect to the complaint.
- (b) Any complaint of sexual harassment from any aggrieved employee of the contractor against any employee of the Employer shall be taken cognizance of by the Regional Complaints Committee constituted by the Employer.
- (c) The contractor shall be responsible for any monetary Compensation that may need to be paid in case the incident involves the employees /workmen of the contractor, for instance any monetary relief to Employer's employee, if sexual violence by the employee /workmen of the contractor is proved.
- (d) The contractor shall be responsible for educating its employees about prevention of sexual harassment at work place and related issues.
- (e) The contractor shall provide a complete and updated list of its employees who are deployed within the Employer's premises.

Project Team

- 52. The contractor shall provide the required project team at site for managing various aspects of the project. The details of the Project Team, as required under special instructions to the bidders, shall be provided by the contractor if required or as per Bank’s Instructions

Progress Of Work

- 53. The contractor shall provide the project schedule, as required under Special instructions to the bidders.
- 54. Upon award of work, the Contractor shall reconfirm, in writing, the starting and completion schedule including material delivery dates based upon the information submitted in his tender form along with detailed Project schedule/ Bar chart (including details of all the important activities involved), as specified in the Special instructions to the bidders.
- 55. The Contractor shall submit, in writing, progress reports as specifically described in the Special Instructions to the Bidders and shall attend the progress review meetings as and when convened by the Employer.

Project Documentation

- 56. The contractor shall be required to maintain all the relevant documents, details, registers etc. as specifically mentioned in the Special instructions to the bidders at site and shall hand them over to the Employer after completion of the work.

57. **Marginal Notes:** The notes in the box and in the catch lines hereto and in the annex’s hereto are meant only for convenience of reference and shall not in any way be taken into account in the interpretation of these presents and the Annex’s hereto.

NAME AND ADDRESS OF THE CONTRACTOR

SIGN & SEAL OF THE CONTRACTOR

Date:

Place:

Appendix Hereinbefore Referred To

		Amendments
1.	Defects Liability Period	Twelve months from the date of Virtual Completion Certificate
2.	Period of Final Measurement	3 months
3.	Date of Commencement	10 th day from the date of letter of award of work.
4.	Date of Completion	Date of virtual completion certificate.
5.	Completion Period	50 days
6.	Liquidated damages at the rate of	0.25% of the Contract value per week subject to a maximum of 10% of the contract value of the delayed period.
7.	EMD	2% of estimated cost along with tender.
8.	PBG	5% of the contract value on award of contract
	Retention percentage	5% from each Bill
9.	Security Deposit for DLP and CAMC	BG @ 10% of the contract amount
10.	Value of works for interim certificates	Rs. 10 lakh for RA bills
11.	Period for honouring certificates	30 days for interim (RA) bills and 90 days for final bill.
12.	Interest for delayed payment	3% per annum

SIGN & SEAL OF THE CONTRACTOR:

Date:

Place:

OTHER INSTRUCTIONS

1. Along with the tender document, the contractor should confirm the list of approved make of materials specified in the Tender which they are going to use.
2. On award of work, the contractor should make the shop drawings as per the site conditions and should be got approved from consultant / Client before commencing the works.
3. The entire factory made equipment shall be purchased and delivered to the site only after getting material approval from the technical officials of consultant / Client.
4. The entire work shall be completed within a period of six months.
5. The contractor has to submit a bar chart for the proposed execution before starting the work. The client/Consultant shall introduce necessary correction to it after discussion with the contractor.
6. The materials are in accordance with the specification for permanent works.
7. The materials are properly stored and protected against loss or damage or deterioration, to the satisfaction of the client/consultant.
8. The contractor keeps a record of requirements, orders, receipt and consumption of materials in proper form and produces to the consultant/client for inspection. Ownership of such materials shall be deemed to vest in the client.
9. The contractor should submit the list of workers and staff which they are going to deploy for the work along with contact details of project leader. The list should be got approved from client/consultant before commencing work. A technically qualified and experienced mechanical/ metallurgical engineer to be posted at site. He should be conversant with the modern practice of welding and modern firefighting system. He should be capable and competent enough to take decisions as and when required at site.
10. Welding should only be carried out by a professional and experienced people.
11. Pipe sizes 50mm and below shall not be permitted to butt weld. Pipe sizes 50mm and below shall be socket welded with weldable socket fittings (drop forged) with rectifier welding machine.
12. The contractor shall be instructed to strictly implement the welding process in line with the following standards:
13. The contractor shall bear the cost of repair, changes replacement etc due to non-compliance with the standards, codes and this tender or due to disregard of the instructions given by the Engineer-in-charge

Signature of the Contractor with seal

Date:

Place:

TECHNICAL SPECIFICATIONS FOR **FIRE HYDRANT SYSTEM**

1. Scope

The contractor shall be responsible for the supply of materials as defined in the Schedule of Quantity and Unit Rates, as well as Installation, testing and commissioning, for all the Equipment described in Schedule of Quantities. This work shall be carried out in accordance with the regulations of local codes, if any, and following specification and codes which may govern the requirement of materials and equipment supplied and fire protection Manual and rules for alarm installations of Tariff advisory committee of Fire Insurance Association of India.

The work of the Contractor shall include, but not necessarily be limited to the following activities so as to ensure that the entire installation is not only in accordance with the designs and drawings, but also complies with the statutory requirement, including reliability and safety aspects.

The activities of the contractor, to name a few, shall cover the following:

- a) Supply of materials as per the schedule given, including any material/item deemed part of the main equipment.
- b) Trial run, Pre-commissioning, Tests, Testing and Commissioning.
- c) Handing over, after demonstrating the satisfactory performance and/or operation of the Equipment installed by him, including such interphases / interactions which the equipment will have, with respects to others though not specifically included in the Contractor's scope of supply.
- d) A set of 'As-built' drawings, Instruction Manual.

2. Construction Facilities & Power Supply

230V / 415V, 1 phase / 3 Phase 50HZ AC supply may be made available to the contractor at one point. Water supply will be made available at one point within the site free of cost. However, distribution for same (for electric power & water) will have to be arranged the contractor.

The contractor shall ensure that the work pertaining to water and electricity connections are carried out strictly in accordance with the current regulations required by the relevant authorities or any other statutory requirements.

It shall be entirely the contractor's responsibility to provide all type of construction /erection equipment, transformer, welding sets, derricks, cranes, chain pulley blocks, jacks, scaffolding materials, tarpaulins, tools & tackles, etc. as well as all handling and transporting facilities. The

Employer/Owner has no obligation to provide construction/erection equipment to the Contractor.

A space(open space) will be provided at site for storage of materials and for site office. The Contractor has to make his own arrangement of temporary shed for safe keeping of his own materials.

4.1 Power supply system

4.2 Design of the underwater lighting system shall be such as to provide facilities to simplify inspection, testing, maintenance, cleaning and general repair at site.

3. a) Drawing /Specifications

The drawings/ specifications and bill of quantities shall be considered as a part of this contract. However, any minor change, if found, essential to co-ordinate the installation of this work with other traders shall be made without any additional cost to the owners. The exact location, distance and levels, etc. will be governed by the space conditions. Generally, works to be carried out as per BIS standard and applicable IS codes are listed below:

IS:884-1995	:	Specification for first Aid Hose Reel for Fire Fighting.
IS:901-1988	:	Specification for couplings, double male and double female, instantaneous pattern, for firefighting purposes (revised).
IS:902-1992	:	Specification for suction hose couplings for firefighting purposes (revised).
IS:903-1993	:	Specification for fire hose delivery couplings, branch, pipe, nozzle and nozzle spanner (revised).
IS:904-1983	:	Specification for two-way and three-way suction collecting heads for firefighting purposes (revised).
IS:905-1980	:	Specification for delivery breaching, dividing and collecting, instantaneous pattern, for firefighting purposes (revised).
IS:906-1992	:	Specification for branch with revolving head for firefighting purposes (revised).
IS:907-1984	:	Specification for suction strainers, cylindrical and hose types for firefighting purposes (revised).
IS:908-1975	:	Specification for fire hydrant, stand post type (revised).
IS:909-1992	:	Specification for underground fire hydrant, sluice valve type (revised).
IS:910-1980	:	Specification for combined key for hydrant, hydrant cover and valve.
IS:936-1966	:	Specification for underground fire hydrant, double-valve type (revised).

IS:937-1981	:	Specification for washers for water fittings for fire-fighting purposes (revised).
IS:1641-1988	:	Code of practice for fire safety of buildings (general): General principles and fire grading.
IS:1642-1989	:	Code of practice for fire safety of buildings (general): Materials and details of construction.
IS:1646-1982	:	Code of practice for fire safety of buildings (general): Electrical installation.
IS:2871-1983	:	Specification for branch pipe, universal, for fire-fighting purposes.
IS:3582-1991	:	Specification for basket strainers for fire-fighting purposes (cylindrical type).
IS:3844-1989	:	Code of practice for installation of internal fire hydrants in i multi-storied buildings.
IS:5290-1993	:	Specification for landing

All the pipes and fittings used for Fire fighting piping shall be ISI marked and shall be installed strictly in compliance with the IS specifications as mentioned below:

IS : 1239(Part -I) 1979 for piping

IS : 1239(part-II) for pipe fittings

IS:5 for paint shades

IS 13095/BS 5155 for Isolating valves

b) Shop Drawings

Contractor shall visit site and shall prepare and submit detailed shop drawings of all equipment control panels, piping and conduiting, cabinets and special pull boxes, to the Bank within 10 days of signing of the contract or days of start of particular work, whichever is earlier.

c) Completion Drawings

At the completion of the work and before issuing of certificate of 'Virtual Completion, the contractor shall submit to the Owner, layout drawings drawn at approved scale indicating the complete details as installed, in 3 sets of Blue Prints as well as the originals, along with soft copies of Drawings in Autocad /PDF format”.

4. Foreman/Supervisor

The contractor shall employ a competent, licensed, qualified, full time electrical foreman/supervisor for the work of fire protection work installations in accordance with the drawings / specifications.

The foreman/supervisor shall be available at all times on the site to receive instructions from the Engineer in the day to day activities throughout the duration of the contract. The foreman/supervisor shall correlate the progress of the work in conjunction with all the relevant requirement of the local authorities. The skilled workers employed for the work should have requisite qualifications and should possess competency certificate.

5. Inspection and Testing

Contractor shall employ a full time qualified Engineer who shall be available at all working hours at site for taking instruction and to look after the quality of the work.

Contractor shall maintain at site the following tools and instruments, but not limited to the list below, in working condition:

- a) Vernier caliper, Micrometer,
- b) Steel tapes of various lengths,
- c) Hydraulic test machine, hand pump, pressure gauges etc.
- d) Hydraulic crimping tool,
- e) Earth testing megger,
- g) Pipe bending tool, thread cutting die, bench vice etc.
- h) Cable jointing kit,
- i) 1000 V Megger.

6. Clearance From local Authorities

After completing the proposed works in this tender, it would be the whole responsibility of the contractor to get the entire system should be approved by Local Authorities.

7. Painting

- A.** All above ground pipes, pipe fittings, hose cabinets, structural steel work, pipe supports etc. shall be painted as per specifications given below.
 - (i) Painting shall be done only after the completion of fabrication work and testing.
 - (ii) The instructions of paint manufacturer shall be followed as far as possible otherwise the work is to be done as directed by the Employer.
 - (iii) All cleaning materials, brushes, tools and tackles, painting, material etc. shall be arranged by the Contractor at site in sufficient quantity.
 - (iv) All rust, dust shall scales, welding slag or any other foreign materials shall be removed fully so that a clean and dry surface is obtained prior to painting. Any other oily containment shall be removed by use of a solvent prior to surface cleaning.

- (v) First coat of Zinc rich Metal primer paint must be applied by brush on dry clean surface immediately or in any case within 3 hours of such cleaning (avoid areas where cutting and welding are required).
- (vi) After fabrication and erection, the affected areas of pipe work should be immediately cleaned properly to remove dust, rust, welding flux and any other foreign matters, preferably by mechanical buffing and apply one touch up coat of Zinc rich primer. The total MS pipe work after fabrication and erection, are to be painted with 2nd coat of Zinc Rich primer.
- (vii) Piping work above ground shall be protected with 2 coats of approved make Fire red Enamel paint (shade no. 536 as per IS:5).
- (viii) The protective paints used shall be compatible, each other.
- (ix) The protection system shall be carried out as per Bank's Engineer/ consultant instructions and as per paint manufacture's recommendations.

B. COATING WRAPPING FOR UNDERGROUND PIPES

All underground piping shall be protected by coating and wrapping as per the following procedure.

- (i) The materials and workmanship shall in general confirm to IS: 10221, 1982 or as directed by the Owner.
- (ii) Cleaning – The pipes shall be thoroughly cleaned by dust, rust, scales, oil, grease etc. by stiff wire brush and scrapers. The surface shall be coated with the primer immediately after cleaning.
- (iii) Priming – The primer shall be PYPKOTE/MAKEPOLYKOTE/CORPORATE undercoat. The manufacturers recommended procedure would be followed for applying the primer.
- (iv) Paste Application – PYPKOTE-AW Paste/RUSTFIRE Paste/CORPORATE Paste shall be applied to fill up uneven surfaces in order to ensure smoothness for subsequent wrapping with multi-layer tape.
- (v) Tape Wrapping - The tape is to wrap while the second coat of primer is still tacky. Winding is to be done with 50% overlap so that the total thickness of 2.0mm tape would become 4.0mm. It should be ensured while wrapping that air bubbles are not trapped. The ends of tape shall be secured with nylon binding to ensure that the tape doesn't get loosened while handling.
- (vi) The total thickness including 2 coats of primer, 50% overlap of tape etc. should not be less than 4.5mm or as per manufacturer recommendations.
- (vii) The 'Holiday Test' is to be conducted as per IS: 10221 for detecting any entrapped air or any other defect. The Contractor is to arrange for the Holiday Test and to rectify the defects if found any.

8. Guarantee

The contractor shall guarantee that all the materials and workmanship of the entire system are of the first class quality. All the equipment apparatus shall be guaranteed. Defective equipment/material /workmanship found short of the specified quality shall be rejected.

9. Defects and Liability

All the equipment/material and the system shall be guaranteed against defective material and workmanship for a period of 12 months from the date of commissioning and handing over to the Bank along with all relevant documentation i.e. Virtual completion of the work. The contractor shall repair/rectify or replace all the defective materials, components free of cost during the guarantee period. In addition, normal maintenance shall be carried out periodically during the defects liability period including replacement of spares, as required.

10. Instructions Manual/ Completion Drawing/Training

Contractor shall furnish detailed instructions and operation manual in duplicate. The contractor shall also furnish detailed completion drawings to an approved scale. The drawings shall be inclusive of control schematics, if any. The contractor shall train the owner's personnel in the operation of maintenance of the system.

11. Testing

The contractor shall arrange to test the entire system as per the procedures enumerated under particular specifications, after the erection is completed. If the results of the test are not found to be satisfactory by the Engineer-in charge, necessary rectification shall be done until the test results are found to be satisfactory. The installation shall be deemed to be completed only after the successful completion of the tests.

A. HYDRANT SYSTEM

1. Data

- a) Type : External & Internal Hydrant System
- b) No of Hydrants. : 13 Nos.
- c) No of Fire Hydrant Pumps : 2 (1 Electrical + 1 Diesel), 1 Jockey pump, 1 terrace pump

1. Scope of Work

1.1 Work under this section shall consist of furnishing all labour, materials, equipments and appliances necessary and required for complete installation of Wet Riser Fire Hydrant System as specified in the schedule of quantities.

1.2 wet riser system shall be installed, tested, commissioned and maintained as per all prevailing rules and regulations and according to the guidelines of Kerala fire and Rescue Services. The contractor shall submit and get all the detailed drawings, specifications and technical details of all the components of the proposed wet riser system to the Bank's Engineer before commencing fabrication.

1.3 Wet riser system shall comprise of piping system, Fire hydrant valves, isolating valves, Non return valves, Air release valves, drain valves, fire brigade inlet etc. with automatic pressurized fire hydrant system, as detailed in the drawings.

2. General Requirements

2.1 All materials shall be of the best quality conforming to specifications and subject to the approval of the Engineer/ Consultant.

2.2 Pipe and Fittings shall be fixed truly vertical, horizontal or in slopes as required in a neat workman like manner.

2.3 Pipes shall be fixed in a manner as to provide easy accessibility for repair and maintenance and shall not cause obstruction in shafts, passages etc.

2.4 Pipes shall be securely fixed to Brick/RCC walls and ceilings by suitable clamps at intervals specified. Only approved type of anchor fasteners shall be used.

2.5 Valves and other appurtenances shall be so located that they are easily accessible for operations, repairs and maintenance.

3. Pipes & Fittings specifications

3.1 Pipes for underground header shall be M.S black conforming to IS (Heavy class) duly wrapped and coated as per IS: 10221 with flanged/welded joints. Flanges shall be provided at regular

intervals not exceeding 12M

3.2 Pipes for Risers and header running inside the building shall be M.S black conforming to IS (Heavy class) with screwed/ welded joints having flanges at regular intervals not exceeding 12M.

3.3 Pipe Installation work: Normal method statement to be followed for piping installation like cleaning of pipes, Painting, welding, Insulation, Pressure testing, Pipe flushing. After each step the approval should be taken from Site in Charge.

Piping installation work for wet riser system shall be done as per relevant Indian Standards and to the complete satisfaction of the Bank's Engineer/consultant.

The joints to be welded shall be cleaned properly and ensure that such joints are totally free from dust rest etc. Welding work shall be done by qualified and certified welders only. 10% of all the welded joints shall be radio graphically tested by the contractor. Rectifications of all defective welding joints and re-testing of such joints shall also be on Contractors account. Holes in pipes shall be done by core cutting machine or by gas cutter. Use of welding machine for making holes are prohibited.

Joining of pipes should be provided with 'V' notch at the end for strength and quality. Tapping should be with notch type fittings. Welding gap should not be above 3mm.

Pipe work shall be fixed in a neat manner as to provide easy accessibility for repair and maintenance and shall not cause obstruction in shafts, passage etc. the vertical risers shall be parallel to walls and columns and shall be straight and plumb.

The supports of pipes should be well pointed on all side, dropout type anchor fastners to be used for thread rod filling. Sample pull out test to be carried out. Expansion joints, where required, shall be provided to control expansion and contraction of pipe work.

Isolating valves and other appurtenances shall be installed at easily accessible locations with access doors/manholes covers etc. for emergency operations, repairs and maintenance.

All pipe work shall be carried out with minimum disturbance to the otyher services, existing services, building, roads and other structures.

4. Pipe joining details

4.1 All pipes and fittings used for fire fighting shall be MS 'C' class (Heavy duty) grade and shall include Elbows, Tees, Reducers, Reducers Tees, Sockets, Flanges, Unions etc. provided as per site conditions. Fittings for pipes up to 50 mm shall be heavy duty forged mild steel Socket welded and Joints with M.S pipe of above size 50mm and above shall be either screwed or butt welded with flanges at regular intervals. The welded joints should be good enough to withstand the specified hydrostatic pressure rating. All flanges shall confirm to IS: 6392-1971.

5. Excavation

5.1 Excavation for underground pipe lines shall be in open trenches to levels and grades shown on the drawings or as required at site. Pipe lines shall be buried to a minimum depth of 1.00m.

5.2 Wherever required, Contractor shall support all trenches of adjoining structures with adequate timber supports.

5.3 On completion of testing, coating and wrapping, trenches shall be refilled with excavated earth in 15 cms layers and consolidated to re-store ground condition to original status. Prior to excavation, contractor to ensure that no adjoining structure or pipe line is affected / damaged.

5.4 Contractor shall dispose-off all surplus earth out of the Bank's premises or as directed by Engineer.

6. Non Return Valves:

Non return valves for fire lines shall be hydraulically engineered, tight shut off, self acting, wafer type swing check valves, confirming to IS 13095.

7. Hydrant Valves (Landing Valves)

Landing valves shall be 63 mm dia. oblique female instantaneous single outlet pattern, 75 mm N.B. flanged inlet, brass spindle, cast iron hand wheel and complete with ABS blank cap and G.I. chain, bearing IS 5290 mark and having TAC approval.

Landing valves shall be installed on hydrant level. The landing valves shall be connected to the wet riser stand pipes by means of a suitable tee, the cost of which is deemed to be included in the unit rate for piping.

8. Hose Reel & coupling:

Fire Hose reel shall conform to IS 636:88 in all respects, with 63 mm internal dia. rubberized fabric reinforced rubber lined (RRL) hose jacketed with circular woven synthetic fibre. The RRL hose shall be with working pressure 12kg/sq.cm, proof pressure 22kg/sqcm and Burst pressure 38kg/sqcm. The hose shall be with IS 636:88 Type-A marking and 30 meters in length.

Fire hose coupling shall be gunmetal, heavy duty, confirming to IS 903:1993, with 63 mm dia. pair of male and female instantaneous couplings, having IS 903 mark and duly S.S. wounded.

Fire branch pipe shall be gunmetal, confirming to IS 903: 1993, with 63 mm dia. male instantaneous inlet, threaded outlet, fitted with 15 mm bore nozzle, having IS 903 mark and TAC approval.

9. Air Vessel/Air Cushion Tanks

15.1. An Air Vessel of suitable size and capacity indicated in schedule of quantities shall be provided.

15.2. Air Cushion tank shall be provided as per schedule of quantity and measured by numbers and shall include Air Valve, Pressure Gauge, globe valves of suitable size for testing and draining, M. S. Clamps, Pipes, Fittings, Tees, Elbows, Union and all other items required to complete the work.

10. Pipe Protection

10.1 All pipes above ground and in exposed locations shall be painted with one coat of red oxide primer and two or more coats of synthetic enamel paint of approved shade and make. All underground M.S. Pipes must be protected with anti-corrosive treatment as per IS:10221 to the satisfaction of Engineer-in-charge and wrapping of pre-laminated self-adhesive composite sheets of polyethylene and bitumen similar to PYPKOTE shall be acceptable as corrosive treatment for underground piping.

11. Pipe Supports

All pipes shall be adequately supported at a maximum interval of 3 M from ceiling/walls from existing inserts, if available, by structural clamps fabricated from M.S. Structural e.g. Rods, Channels, Angles and Flats. All clamps shall be painted with one coat of red lead and two coats of black enamel paint. Where inserts are not provided, the contractor shall provide anchor fasteners. The design of all supports/clamps must be got approved from the Engineer-in-charge before execution.

12. Testing

12.1 All piping in the system shall be tested to a Hydrostatic Pressure of 15 Kg./sq.cm or twice the design pressure (whichever is higher) without drop in pressure for at least 2 Hours and there after the whole system shall be hydraulically tested at 3.5 Kg./sq.cm above the pump shutoff pressure or 11 Kg./sq.cm whichever is higher for 24 hours without any drop in pressure.

12.2 All the tests and inspection procedures as per the all the component manufacturer's specifications and standards shall be carried out by the Contractor as part of installation work prior to commissioning of the system. If the Bank's Engineer or Consultant may ask for additional tests to determine that the installed equipment complies with the specifications, the contractor shall carry out these additional tests also without extra cost.

12.3 The Contractor shall rectify leakages, if any, and replace all defective components and retest the system as per above requirements to the satisfaction of Engineer-in-charge.

13. Measurements

13.1 Pipes shall be measured by linear metre and shall include all fittings, flanges, jointing, clamps, hangers and all other material necessary and required (whether specified or not) to complete the system including painting, testing and commissioning.

13.2 Valves shall be measured by numbers and shall include matching flanges, rubber gaskets, bolts, nuts, washers and all items necessary and required and as given in the specifications to complete the work to the satisfaction of Engineer-in-charge.

13.3 No additional payment shall be admissible for cutting holes or chases in walls or floors or columns/ underground /overhead tanks etc. and making good the same to the satisfaction of Engineer-in-charge and making connections to pumps, various equipments and appliances or for making channels/trenches to complete the work.

B. PUMPS. MOTORS. CONTROLS AND ALLIED ELECTRICAL WORKS

1.0 Pumps

1.1 GENERAL

a) Pumps required for water circulation shall be of capacities indicated in the schedule of

equipment. Pumps shall be of horizontal, enclosed impeller, centrifugal type. The construction of the pumps shall be as follows:

No.	Description	Material / Type of Construction
1	Pump	Horizontal Centrifugal
2	Casing	Cast Iron/Cast Steel
3	Impeller	Bronze/Gun metal
4	Shaft	Steel/Stainless steel
5	Bearings	Heavy duty ball/ Roller bearing
6	Base Plate	Cast iron/Fabricated MS
7	Flanges	As per ASA Specifications of IS specifications.
8	Parking	Shaft Seals
9	Maximum speed.	3000 RPM

The drive motor shall be provided with starter confirming to IS: 1822. The starters shall be of totally enclosed metal clad and dust proof construction. The motors of 5 HP and below shall be provided with DOL starters while those above 5 HP shall be provided with automatic star delta starters. The starter shall have thermal overloads on all the phases, under voltage and single phasing protection. Suitable number of extra contacts shall be provided for interlocking and indicating lamps. Suitable ammeter with CT's shall be provided as per requirement.

b) Pumps shall be installed as per the manufacturer's instructions. Pump sets shall be installed on concrete block which in turn is mounted on 75 mm thick isolation cork or any other vibration isolation, the static deflection in the spring shall not be less than 25mm with additional travel to solid of not less than 15mm.

c) The contractor shall submit performance curves and manufacturer's test certificates for pumps supplied by him. The capacity of each pump shall be checked with respect to the contractor's piping equipment layout. Tests shall be conducted on each pump set, after completion of the installation w.r.t. to delivery head, flow and bHp. The tests results shall correspond to the performance curves. The equipment, instruments and labour required for testing shall be furnished by the contractor.

2.0 Motors

2.1 General

The motor installation, wiring, control shall be carried out strictly in accordance with the specification hereinafter laid down.

2.22.2

a) Rating

The ratings of the motors shall be as indicated in schedule of equipment and schedule of quantities. The rating shall be on the basis of ambient temperature and allowable maximum temperature rise as specified.

b) Standards

All motors shall comply with IS: 325, IEC 34, IEC 34-1 or BS: 2313 in respect of general requirements and performance. Motors shall also conform to IS: 1231, IEC 72.1 for 72.1 for foot mounted motors and IS: 2223 and IEC 72.2 flange-mounted motors.

c) Motors shall run at all loads without appreciable noise or hum. Motors shall be of the following design as specified:

- Drip proof squirrel cage induction motor pumps.
- Windings of motors, shall be class B insulated and fully tropicalized.
- The insulating materials used shall not be liable for action of fungi or microbes. The

insulation shall afford adequate protection against chemically aggressive gases and vapour as well as against conductive dust.

d) Motors shall be rated for continuous duty as defined in IS: 325. All motors shall have suitable torque characteristics as required by the duty of driven equipment. Motors shall be suitable for operation on 415 volts, 3 phase, 50 Hz, AC supply.

e) Motors shall be provided with a combination of ball and roller bearings. The roller bearing shall be fitted at the driving end and ball bearings shall be of standard cartridge type which effectively seals off dust and moisture. Suitable grease nipple shall be provided for Regreasing the bearing.

f) Motors shall be provided with a cable box to suit copper conductor, PVC insulated, PVC sheathed and steel armored cable.

g) Motors shall be so designed to operate successfully under the following standard conditions of our country's voltage and frequency variation:

h) Motors starting current shall not exceed the following values.

Squirrel cage motors: 600% of full load current. The starting current of the motors shall be limited by using the following starters, as required:

Type of motor Starting method

- i) Squirrel cage motors Direct-on-line starter. upto 5 HP.
- ii) Squirrel cage motors above 5 HP and above: Star / Delta and Starting Current should not exceed 250% of full load.

3. Motor Starters

a) Motor starters shall be manufactured in accordance with IS: 1882 or BS:587. The starters shall be totally enclosed, metal clad, dust and vermin proof construction. All starters shall be direct-on-line/Automatic Star/Delta/Auto-transformer etc. as required.

All starters shall be continuously rated and shall be of automatic contactor type. All starters shall be suitable for 415 volts \pm 10%, 3 phase, 50 Hz. \pm 5% AC supply or 230 Volts, 1 phase, 50 Hz AC supply.

b) The making and breaking capacity of the contractor shall be as per category A-4 conforming to BS: 775. All the contacts shall be solid silver or silver faced and all the contractors and starter equipment shall be designed for not less than 40 operations per hour.

c) Unless otherwise specified, all starters shall have integral 'Start/Stop' push buttons. Start push buttons shall be coloured green and shall be shrouded to prevent inadvertent operation. Stop push buttons shall have mushroom heads and coloured red. All push button operated contractors shall be provided with a maintaining/running contact.

d) All remote control circuit taken from the starter shall operate at 230 Volts AC or lower voltage levels.

e) Motor starters shall be provided with thermal overload relay with adjustable settings, on each phase for three phase motor. The motors of 10 HP. and above shall be provided with current transformer operated thermal overload relays. The thermal over load relays shall have thermal characteristics suitable for the associated motor its starting characteristics and suitably compensated for ambient air temperature variation. Single phase preventer shall be provided for all the three phase motors.

f) Green, Red, Amber indicating lamps shall be installed on each starter to indicate open and close conditions of the contractors and fault conditions of motors as directed by the thermal overload relay.

4. Motor control centre and allied electrical works:

a) Motor control centre shall be of cubicle pattern made out of 16 SWG MS sheet duly painted with anti-corrosive paint and synthetic enamel paint.

b) 100 mm square flush type ammeter of suitable range as mentioned in Bill of Quantities and 0-500 volts voltmeter with CTS and selector switches shall be provided.

- c) Three coloured phase indication lamps with toggle switch to be provided in incoming line. The bus bars shall be of aluminum flat with colour coded PVC tapes.
- d) Automatic star-delta or DOL motor starter with bimetallic thermal overload relays, ON/OFF indication lamps to be provided for each motor.
- e) Cables of approved make shall be laid either in built-in trenches or on walls with MS clamps, saddles fixed at 50 cm interval.
- f) Cables will be terminated in Motor terminal block/in MCCB units/starter with brass gland and crimped copper lugs.
 - i) The control panel shall provide with at least two earth terminal (of brass nut and bolts) for connecting them with main system earth.

C. AUTOMATIC DIESEL ENGINE DRIVEN PUMPING SET

1. There exists a 40 HP Diesel Engine driven fire pump with manual starting in working condition associated with the existing fire hydrant system. The diesel Engine shall be utilized for the new wet riser fire hydrant system in existing condition. The dismantling of existing plumbing connections from the diesel pump and reconnecting the diesel pump to the new plumbing lines will be part of the commissioning of wet riser system in RBI, Kochi. No separate payment shall be given for the commissioning of existing diesel engine driven fire pump. Necessary starting control units shall be provided with main control panel to operate the diesel engine in automatic mode. The commissioning work of diesel engine involves necessary connections from diesel pump to the main control panel and starter battery panels and this is also included in the scope of work.

2. Starting Mechanism of Diesel Engine Driven Pump

Two separate methods of starting shall be provided as follows:

- 2.1 Automatic starting by means of a battery powered electric starter motor having repeat start facilities, initiated by a fall in the pressure in water supply pipe to sprinkler installation.
- 2.2 Manual starting by an electric starter motor.

3. Control Panel

Control panel shall comprise of the following:

- i) One pressure switch
- ii) One electronic calibrated relay
- iii) One starter repeater relay
- iv) Push button operated switch for manual starting

4. Battery

One separate 12 volt heavy duty Sealed Maintenance Free starter batteries of reputed make (Exide/Amaron) having suitable AH capacity including battery connectors shall be supplied.

5. Battery Charger

Wall mounted battery charger with air cooled transformer and wave grid connected or suitable rectifier, suitable for operation single phase AC supply shall be also be supplied. Suitable ampere metering equipment shall be provided inbuilt with the battery charging unit.

6. Pressure Gauges

All pressure gauges shall be of dial type with Bourbon tube element of SS 316. The gauges shall be of reputed make. The dial size shall be 150mm dia. and scale division shall be in metric units marked clearly in black on a white dial. The range of pressure gauge shall be 0 to 14 Kg./cm. All pressure gauges shall be completed with rubber isolation cock, nipples, tail pipes etc.

7. Pressure Switches

7.1 The pressure switch shall be Industrial type single pole double throw electric pressure switch designed for starting or stopping of equipment when the pressure in the system drops or exceeds the pre-set limits. It shall comprise of a single pole change-over switch associated with element assembly.

7.2 All the pressure switches shall have 1/4 B.S.P. (F) inlet connection and screwed cable entry for fixing cable gland.

7.3 The Electrical rating of the switch shall be as under:

TYPE OF SUPPLY	VOLTAGE	NON-INDUCTIVE	INDUCTIVE
A.C.	110-380	10 Amp.	6 Amp.
D.C.	24-250	12 Watts.	12 Watts.

8. Main Wet Riser System Control Panel

8.1 The main switch board cubicle panel shall be of floor mounted type, totally enclosed, dust and vermin proof made from 14 SWG M.S. Sheet of suitable size duly painted with one coat of anti-corrosive paint and two coats of synthetic enamel paint of approved make and shade with stove enameled finish. The cubicle shall comprise of the followings:

- a) Incoming 4P MCCB required capacity.
- b) Outgoing 4P MCCB for each motor.
- c) Bus bar of suitable capacity.
- d) Fully Automatic 'STAR DELTA' starter suitable for the motor H.P. with Push Buttons, and ON/OFF indicating light one for each motor. Jockey pump to have DOL Starter.
- e) Single phase preventers one for each motor.
- f) 96 MM 2 Panel type Ampere meters - one for each motor complete with CTs.
- g) 96 MM 2 Panel type volt meter on incoming main with rotary selector switch to read voltage between phase to neutral and phase to phase.
- h) Three neon phase indicating lamps.
- i) Rotary switch for manual/auto operations.
- j) All colour coded internal and inter-connecting wiring from incoming main to Bus bar, switch board panel and power/control cables from Switch board cubicle to motorsm engine and batteries etc. in all respect.

8.2 All switchgears and accessories shall be of approved make to relevant IS Codes and to the satisfaction of Engineer-in-charge/ Consultant and rating of all equipment must watch the KW of motors quoted and as per T AC rules. All electrical work to be carried out as per T AC and CPWD rules/specifications.

9. Maintenance Manual

9.1 On completion of the entire work and successful commissioning, Contractor shall hand-over four copies of maintenance manual of all equipment installed by him.

9.2 Maintenance manual shall include information relating to make, model no. year of manufacture and guarantee cards for all electrical and mechanical equipment with names of local suppliers or manufacturer's agents.

10. Measurements

10.1 Pumping sets, and switch board cubicle shall be measured by number and shall include all item necessary and required and given in the specifications.

10.2 Earthing and power/control cabling shall not be measured separately but included in switchgear cubicle and shall include all items necessary and required to complete the work as per specification and relevant Indian Standards to the satisfaction of Engineer-in-charge/Consultant/Inspecting agency.

10.3 Pressure Switches and Pressure Gauges wherever mentioned separately in BoQ shall include all items necessary and required to complete the work to the satisfaction of Engineer-in-charge/Consultant.

11. INSPECTION & TESTING

The Consultants/Clients have the right to inspect the plants, equipment and materials at manufacturer's work or at site at any stage and reject the materials that is substandard or does not meet the requirements of the specification and codes.

The contractor shall provide at his cost at site and elsewhere instruments and appliances for testing and equipment and installation at various stages of manufacturing/installation. These instruments shall be got tested and calibrated for their accuracy and performance from the approved institutions.

The inspection and testing carried out by the Consultants/Clients/Third party does not relieve the contractor of their responsibility of carrying out routine inspection during each stage of procurement, manufacture and installation and also meeting the intents and requirements of the specification and statutory requirements.

All equipment and the installation to be tested in the presence of the Consultants/Clients after carrying out necessary rectification, adjustments and balancing. Four sets of test readings should conform to the specification, equipment data, standards and codes.

Before participating in the tender, all contractors are advised to visit the site and understand the present site conditions and quote the rates accordingly.

Signature of the contractor with seal

Date:

Place:

Periodical checks / Maintenance to be performed under Comprehensive Annual
Maintenance Contract

Fire Pumps

General.

The routine inspection, testing, and maintenance of fire pump assemblies shall be conducted as per the table below.

Item	Activity	Frequency
Pump house, heating ventilating louvers	Inspection	Weekly
Fire pump system	Inspection	Weekly
Pump operation		
No-flow condition	Test	Weekly
Flow condition	Test	Annually
Hydraulic system	Maintenance	Annually
Mechanical transmission	Maintenance	Annually
Electrical system	Maintenance	Varies
Controller, various components	Maintenance	Varies
Motor	Maintenance	Annually
Diesel engine system, various components	Maintenance	Inspection

A fire pump assembly provides water flow and pressure for private fire protection. The assembly includes the water supply suction and discharge piping and valve; pump; electric, diesel driver and control; and the auxiliary equipment appurtenant thereto.

The pump assembly auxiliary equipment shall include the following:

- (a) Pump accessories:
 - 1. Pump shaft coupling
 - 2. Automatic air release valve
 - 3. Pressure gauges
 - 4. Circulation relief valve (not used in conjunction with diesel engine drive with heat exchanger)
- (b) Pump test device(s)
- (c) Pump relief valve and piping (where maximum pump discharge pressure exceeds the rating of the system components or the driver is of variable speed)
- (d) Alarm sensors and indicators

- (e) Right-angle gear sets (for engine-driven vertical shaft turbine pumps)
- (f) Pressure maintenance (jockey) pump and accessories

Water Supply to Pump Suction:

The suction supply for the fire pump shall be adequate to provide the required flow at a gauge pressure of zero (0) psi [zero (0) bar] or higher at the pump suction flange to meet the system demand.

Motor:

The Motor shall not overload beyond its rating (including any service factor allowance) when delivering the necessary brake horsepower.

Controller:

Automatic and manual controllers for applying the energy source to the driver shall be capable of providing this operation for the type of pump used.

Notification to Supervisory Service:

To avoid false alarms where a supervisory service is provided, the alarm receiving facility always shall be notified by the owner or designated representative as follows:

- (a) Before conducting any test or procedure that could result in the activation of an alarm
- (b) After such tests or procedures are concluded

Inspection:

The purpose of inspection is to verify that the pump assembly appears to be in operating condition and is free from physical damage.

The pertinent visual observations specified in the following checklists shall be performed weekly.

Pump House Conditions:

- (a) Heat is adequate, not less than 40°F (4.4°C) [70°F (21°C) for pump room with diesel pumps without engine heaters].
- (b) Ventilating louvers are free to operate.

Pump System Conditions:

- (a) Pump suction and discharge and bypass valves are fully open.
- (b) Piping is free of leaks.
- (c) Suction line pressure gauge reading is normal.
- (d) System line pressure gauge reading is normal.
- (e) Suction reservoir is full.

Electrical System Conditions:

- (a) Controller pilot light (power on) is illuminated.
- (b) Transfer switch normal pilot light is illuminated.
- (c) Isolating switch is closed – standby (emergency) source.
- (d) Reverse phase alarm pilot light is off or normal phase rotation pilot light is on.
- (e) Oil level in vertical motor sight glass is normal.

Diesel Engine System Conditions:

- (a) Fuel tank is two-thirds full.
- (b) Controller selector switch is in AUTO position.
- (c) Battery voltage readings are normal.
- (d) Battery charging current readings are normal.
- (e) Battery pilot lights are on or battery failure pilot lights are off.
- (f) All alarm pilot lights are off.
- (g) Engine running time meter is reading.
- (h) Oil level in right angle gear drive is normal.
- (i) Crankcase oil level is normal.
- (j) Cooling water level is normal.
- (k) Battery terminals are free from corrosion.

Steam System Conditions:

Steam pressure gauge reading is normal.

Testing:-

Purpose:

The purpose of testing the pump assembly is to ensure automatic or manual operation upon demand and continuous delivery of the required system output. An additional purpose is to detect deficiencies of the pump assembly not evident by inspection.

Weekly Tests:

Qualified operating personnel shall be in attendance during the weekly pump operation.

A weekly test of electric motor-driven pump assemblies shall be conducted without flowing water. This test shall be conducted by starting the pump automatically. The pump shall run a minimum of 10 minutes.

A weekly test of diesel engine-driven pump assemblies shall be conducted without flowing water. This test shall be conducted by starting the pump automatically, and the pump shall run a minimum of 30 minutes.

The automatic weekly test timer shall be permitted to be substituted for the starting procedure.

The pertinent visual observations or adjustments specified in the following checklists shall be conducted while the pump is running.

Pump System Procedure:

- (a) Record the system suction and discharge pressure gauge readings.
- (b) Check the pump packing glands for slight discharge.
- (c) Adjust gland nuts if necessary.
- (d) Check for unusual noise or vibration.
- (e) Check packing boxes, bearings, or pump casing for overheating.
- (f) Record the pump starting pressure.

Electrical System Procedure:

- (a) Observe the time for motor to accelerate to full speed.
- (b) Record the time controller is on first step (for reduced voltage or reduced current starting).
- (c) Record the time pump runs after starting (for automatic stop controllers).

Diesel Engine System Procedure:

- (a) Observe the time for engine to crank.
- (b) Observe the time for engine to reach running speed.
- (c) Observe the engine oil pressure gauge, speed indicator, water, and oil temperature indicators periodically while engine is running.
- (d) Record any abnormalities.

(e) Check the heat exchanger for cooling water flow.

Annual Tests:-

An annual test of each pump assembly shall be conducted under minimum, rated, and peak flows of the fire pump by controlling the quantity of water discharged through approved test devices.

- (a) Use of the pump discharge via the hose streams; pump suction and discharge pressures and the flow measurements of each hose stream shall determine the total pump output. Care shall be taken to prevent water damage by verifying there is adequate drainage for the high-pressure water discharge from hoses.
- (b) Use of the pump discharge via the bypass flow meter to drain or suction the reservoir; pump suction and discharge pressures and the flow meter measurements shall determine the total pump output.
- (c) Use of the pump discharge via the bypass flow meter to pump suction (closed-loop metering); pump suction and discharge pressures and the flow meter measurements shall determine the total pump output.

The pertinent visual observations, measurements, and adjustments specified in the following checklist shall be conducted annually while the pump is running and flowing water under the specified output condition.

At No-Flow Condition (Churn):

(Conduct this test first.)

- (a) Check the circulation relief valve for operation to discharge water.
- (b) Check the pressure relief valve (if installed) for proper operation.
- (c) Continue the test for $\frac{1}{2}$ hour.

At Each Flow Condition:

- (a) Record the electric motor voltage and current (all lines).
- (b) Record the pump speed in rpm.
- (c) Record the simultaneous (approximately) readings of pump suction and discharge pressures and pump discharge flow.
- (d) Observe the operation of any alarm indicators or any visible abnormalities.

For installations having a device installed to control minimum suction pressure by throttling action, low suction pressure on the device (below set minimum value) shall be simulated while pumping at the rated flow. Throttling action shall be observed for any abnormality (e.g., cavitations, pressure surges, and failure to throttle). The simulated low suction pressure on the device shall be removed and throttling action again shall be observed for any abnormality as the pump returns to full flow.

For installations having an automatic transfer switch, the following test shall be performed to ensure that the over current protective devices (i.e., fuses or circuit breakers) do not open. Normal power failure shall be simulated while the pump is delivering peak power output to cause connection of the pump motor to the alternate power source. The pump's peak power output shall be restored (if necessary). The simulated normal power failure condition then shall be removed, which, after a time delay, shall cause the reconnection of the pump motor to the normal power source.

Alarm conditions shall be simulated by activating alarm circuits at alarm sensor locations, and all such local or remote alarm indicating devices (visual and audible) shall be observed for operation.

Other Tests:

Engine generator sets supplying emergency or standby power to fire pump assemblies shall be tested routinely.

Tests of appropriate environmental pump room space conditions (e.g., heating, ventilation, illumination) shall be made to ensure proper manual or automatic operation of the associated equipment.

Test Results and Evaluation:

The interpretation of the test results shall be the basis of the determination of adequacy of the pump assembly. Such interpretation shall be made by those skilled in such matters.

The pump test curve shall be compared to the unadjusted field acceptance test curve and the previous annual test curve(s). Increasing engine speed beyond the rated speed of the pump at rated condition is not an acceptable method for meeting the rated pump performance. Theoretical factors for correction to the rated speed shall not be applied where determining the compliance of the pump per the test.

Current and voltage readings whose product does not exceed the product of the rated voltage and rated full-load current multiplied by the permitted motor service factor shall be considered acceptable. Voltage readings at the motor within 5 percent below or 10 percent above the rated (i.e., nameplate) voltage shall be considered acceptable.

The pump shall be capable of supplying the maximum system demand.

Reports:

Any abnormality observed during inspection or testing shall be reported promptly to the person responsible for correcting the abnormality.

Test results shall be recorded and retained for comparison. All time delay intervals associated with the pump’s starting, stopping, and energy source transfer shall be recorded.

Maintenance:

A preventive maintenance program shall be established on all components of the pump assembly in accordance with the manufacturer’s recommendations. Records shall be maintained on all work performed on the pump, driver, controller, and auxiliary equipment.

In the absence of manufacturer’s recommendations for preventive maintenance, Table below provides alternative requirements.

Summary of Fire Pump Inspection, Testing, and Maintenance

Complete as Applicable	Visual Inspection	Check	Change	Clean	Test	Frequency
A. Pump System						
1. Lubricate pump bearings				X		Annually
2. Check pump shaft end play			X			Annually
3. Check accuracy of pressure gauges and sensors			X	X		Annually (change or recalibrate when 5% out of calibration)
4. Check pump coupling		X				Annually
B. Mechanical Transmission						
1. Lubricate coupling			X			Annually
2. Lubricate right-angle gear drive			X			Annually
C. Electrical System						
1. Exercise isolating switch and circuit breaker					X	Monthly
2. Trip circuit breaker(if mechanism provided)					X	Annually
3. Operate manual starting means (electrical)					X	Semiannually
4. Inspect and operate emergency manual starting means (without power)	X				X	Annually
5. Tighten electrical connections as necessary		X				Annually
6. Lubricate mechanical moving parts (excluding starters and relays)		X				Annually
7. Calibrate pressure switch settings		X				Annually
8. Grease motor bearings			X			Annually
D. Diesel Engine System						
1. Fuel						

(a) Tank level	X	X				Weekly
(b) Tank float switch	X				X	Weekly
(c) Solenoids valve operation	X				X	Weekly
(d) Strainer, filter, or dirt leg, or combination thereof				X		Quarterly
(e) Water and foreign material in tank				X		Annually
(f) Water in system		X		X		Weekly
(g) Flexible hoses and connectors	X					Weekly
(h) Tank vents and overflow piping unobstructed		X			X	Annually
(i) Piping	X					Annually
2. Lubrication System						
(a) Oil level	X	X				Weekly
(b) Oil change			X			50 hours or annually
(c) Oil Filter(s)			X			50 hours or annually
(d) Lube oil heater		X				Weekly
(e) Crankoase breather	X		X	X		
3. Cooling System						
(a) Level	X	X				Weekly
(b) Antifreeze protection level					X	Semiannually
(c) Antifreeze			X			Annually
(d) Adequate cooling water to heat exchanger		X				Weekly
(e) Rod out heat exchanger				X		Annually
(f) Water pump(s)	X					Weekly
(g) Condition of flexible hoses and connections	X	X				Weekly
(h) Jacket water heater		X				
(i) Inspect duct work, clean louvers (combustion air)	X	X	X			Annually
(j) Water strainer				X		Quarterly
4. Exhaust System						
(a) Leakage	X	X				Weekly
(b) Drain condensate trap		X				Weekly
(c) Insulation and fire hazards	X					Quarterly
(d) Excessive back pressure					X	Annually
(e) Exhaust system hangers and supports	X					Annually
(f) Flexible exhaust section	X					Semiannually
5. Battery System						
(a) Electrolyte level		X				Weekly
(b) Terminals clean and tight	X	X				Quarterly

(c) Remove corrosion, case exterior clean and dry	X		X			Monthly
(d) Specific gravity or state of charge					X	Monthly
(e) Charger and charge rate	X	X				Monthly
(f) Equalize charge						Monthly
6. Electrical System						
(a) General inspection	X					Weekly
(b) Tighten control and power wiring connections		X				Annually
(c) Wire chafing where subject to movement	X	X				Quarterly
(d) Operation of safeties and alarms		X			X	Semiannually
(e) Boxes, panels, and cabinets				X		Semiannually
(f) Circuit breakers or fuses	X	X				Monthly
(g) Circuit breakers or fuses			X			Biannually

List of Approved Materials
(ACCEPTABLE MANUFACTURER'S)

ALL MATERIALS SHALL BE FROM THE LATEST LIST OF APPROVED MANUFACTURERS BY TARIFF ADVISORY COMMITTEE /BEAREAU OF INDIAN STANDARDS/TESTED BY LABORATORY RUN BY CENTRAL GOVERNMENT.

NOTE: THE BIDDERS SHOULD SUBMIT THE LIST OF MANUFACTURER'S OF ALL THE MATERIALS.

Sl. No	Description	Bank's requirement	To be filled by vendor in Part - I of tender
A	Electrical driven Main Motor Pump set		
1	Quantity of motor pump set	1(One)	
2	Make of pump	As per approved Make	
3	Type of pump	Horizontal split case	
4	Model of pump		
5	Discharge capacity (Lpm)	1680	
6	Head (m)	70	
7	RPM (Speed)	3000	
8	Efficiency	77% or higher	
9	Type of Seal	Mechanical	
10	Make of Motor	As per approved Make	
11	Pump Power (in HP/Kw)	As per the Head and Discharge required.	
12	Type of Motor	TEFC IE-2 or higher	
13	Type of Starter	Star Delta	
14	Motor Power (in HP/Kw)	As per the desired output of Pump.	
15	Type of impeller	Bronze	
16	Type of Seal	Mechanical	

17	Class motor winding insulation	Class F	
18	Type of protection in motor	Thermal O/L Relay	
19	Opening voltage and frequency with variation in % limit	415 ±10%V, 3 Phase and 50Hz ± 5%	
20	Material of construction		
	I. Casting	CI 260(012)	
	II. Impeller	Bronze	
	III. Shaft	SS431	
	IV. Base Plate	MS Fabricated	
B	Jockey Motor Pump set		
1	Quantity of motor pump set	1(one)	
2	Make of pump	As per approved Make	
3	Type of pump	Vertical Multistage	
4	Model of pump	As per the desired output of Pump.	
5	Discharge Capacity (Lpm)	180	
6	Head (m)	70	
7	RPM (Speed)	3000	
8	Pump Power (in HP/Kw)	As per the Head and Discharge required.	
9	Efficiency	69% or higher	
10	Type of Seal	Mechanical	
11	Motor Rating (in Kw/HP)	As per the desired output of Pump.	
12	Make of Motor	As per approved Make	
13	Type of Motor	Vertical	
14	Type of Starter	DOL	
15	Type of impeller	SS304	
16	Type of Seal	Mechanical	
17	Class motor winding insulation	Class F	
18	Type of protection in motor	Thermal Overload	

19	Operating voltage and frequency with variation in % limit	As per Our Countries Standards (10%)	
20	Material of construction		
	I. Casting	SS304	
	II. Impeller	SS304	
	III. Shaft	SS304	
	IV. Shaft sleeve	SS304	
	V. Base Plate	MS Fabricated	
C	Electrical Cubical Panel		
1	Sheet	CRCA Sheet	
2	Sheet Thickness	Load Bearing Members and Door – 2mm; Non Bearing – 1.6mm; Gland Plate – 3mm	
3	Enclosure (Total or not)	Totally enclosed	
4	Compartmentalised (Required)	Yes	
4	Dust and vermin proof	Yes	
5	Anti-Corrosive Treatment	11 Tank	
6	Type of Powder Coating	Structured Grainy Powder Coating RAL 7032	
7	Type of IP protection	IP 65	
8	Manufactured by CPRI type approved Panel Manufacture.	Yes	
9	Clearance among RYB & N	Phase to Phase - 26mm; Phase to Neutral – 26mm; Phase to Earth – 26mm; Neutral to Earth - 19mm	
10	Cooling system	Natural Cooling	
11	Cable alley provided	Provided	
12	Control Wiring	2.5mm FRLS	

Note:

1. Also Submit Pump Performance Curve, GA & Foundation Drawings along with data sheets for approval.

2. Submit Panel GA Drawing, SLD and Control Circuit Drawing for approval.

SIGN & SEAL OF THE CONTRACTOR:

Date:

Place:

LIST OF APPROVED MAKES

SI No.	Description of Items	Manufacturers' name	Vendor to mention offered Make
1.	Pumps	KIRLOSKAR/KSB/M&P/ Iubi/Crompton	
2.	Motors	KIRLOSKAR/KSB/M&P/ Iubi/Crompton	
3	Fire hose box	Newage/Winco/ Karthar	
4.	Pipes	TATA / JINDAL / HISSAR	
5.	Butterfly vlaves/gate/ sluice valve and Non return vlave	H.SARKAR / KIRLOSKAR / Leader/ Advance / Audco /Karthar	
6.	Pressure vessels	Wellmate or other approved equivalent brand	
7.	Tank filling inlet	NEWAGE/Karter or other approved equivalent brand	
8.	Cable	CCI/ Finolex / GLOSTAR / Polycab	
9.	Coating Wrapping material for underground pipe	PYPKOTE / RUSTECH/ IWL	
10.	Hydrant valve/Hose drum/ nozzles	MINIMAX / NEWAGE / IWL/SANT	
11.	Fire Hose pipe and reel	NEWAGE / TYCO/ CRC /Winco	
12.	Ball valve/Globe valve	Audco/ Leader/Kirloskar/ H.sarkar	
13.	Fire brigade inlet connection	NEWAGE / MINIMAX / Winco	
14.	Switch board panels	FACTORY FABRICATED WITH APPROVED ACBs, SFUs / MCCBs/ELCBs	

15.	Contractors / Starters	L& T / SIEMENS / SCHNEIDER / GE / LEGREND / Havells	
16.	MCB, DBs	ABB / L & T / SIEMENS / Havells / LEGRAND	
17.	Switch fuse units	ABB / L & T / SIEMENS / Havells / LEGRAND	
18.	Pressure gauge	H. Guru / Fibig/ approved equivalent brand	
19.	Moulded case circuit breaker FP	ABB / L & T / SIEMENS / Havells / LEGRAND	
20.	Welding rods	ADVANI MAKE (ISI QUALITY) or other approved equivalent brand	
21.	Pressure switch	Indfoss /Switzer/ Verma Trafag	
22.	Expansion bellows	Kanwal or other approved equivalent brand	
23.	Strainer	Zoloto/Kirloskar/Gujrat Autofit/ Jaypee/strain well	
24.	Branch pipe & coupling	SBJ/ NEWAGE/Winco/Sukan	
25.	Enamel paint and Primer	Asian/ Berger/ Nerolac	
26.	Fastners	Hilti/Fisher	
27.	Fire Sealent	Hilti/ Birla 3M	
28.	Cement	ACC/ Ambuja/ Ultratech	
29.	Structural steel and Steel Reinforcement	TATA, SAIL. JINDAL or other approved equivalent brand	

NAME AND ADDRESS OF THE CONTRACTOR:

SIGN & SEAL OF THE CONTRACTOR:

DATE AND PLACE:

CHECKLIST

(To be filled –in by the bidder)

Sr. No.	Documents/ Confirmation to be submitted along with Part-I of the tender	Bidder's response (Yes/No)
1	Earnest Money Deposit of Rs. 45,420/- by Demand Draft/ NEFT	
2	Work schedule/Programme/Bar chart indicating activities covering all the BOQ items and important milestones	
3	List of Technical staff (to be deployed full time at site)	
4	Whether choice of material from the approved list of materials has been exercised	
5	Whether technical leaflet of the material selected	
6	Whether the bidder has visited the site and satisfied himself with all aspects of work which may have bearing on project completion and/ or rates	

NAME AND ADDRESS OF THE CONTRACTOR:

SIGN & SEAL OF THE CONTRACTOR:

Date:

Place:

Composition of the firm/Company*(To be uploaded by the Tenderer along in the e-tendering portal)***Supply, Installation, Testing and Commissioning of Fire Fighting (Wet Riser) Systems for the Bank's Office Building at Kochi**

1	Name of the Applicant / Organization and address of the registered office	
2	PAN No.	
3	GSTIN	
4	Type of Applicant /Organization (whether sole proprietorship / partnership/ private limited/ limited or co-operative body etc.)	
5	Name of the Proprietor / Partners / Directors of the Applicant / Organization / Firm.	
6	Details of Registration (Firm, Company, etc.) Registering Authority, Date, Number etc.	
7	Registered Office, Address, Telephone No.	
	Email Id	
	Office Address through which the work will be handled	
8	Indicate if involved in any litigation	
9	Any civil suits pending in any of the works executed. Give details.	

Declaration:

1. The above information is true to the best of my / our knowledge and if any information is found untrue or false, I/We may be debarred from the tender process/being given the contract.
2. I/We agree to abide by all the terms and conditions stipulated by the Bank.
3. I/We understand that the Bank reserves the right to accept or reject any or all the tender either in full or in part without assigning any reason therefor.

Date:

Signature of the applicant and seal

Details of completed works

(To be uploaded by the Tenderer along in the e-tendering portal)

List of similar works executed by the Organization during the last five years

Sl. No.	Name of the work & Location	Nature & Specification of Works	Name, address & telephone no. of the owner. (Govt./Semi-Govt./Pvt Body)	Name and address of the Officer under whom the work was carried out	Contract Amount	Completion period		Whether the work Was left incomplete or contract was terminated from either side – Give details	Any other relevant information on including reason, if any, for delay in completion of work
						stipulated	actual		
1	2	3	4	5	6	7	8	9	10

**Date:
seal**

Signature of the applicant and

Client's Certificate*(To be uploaded by the Tenderer along in the e-tendering portal)***CONFIDENTIAL****Client's certificate regarding performance of company/agency/firm providing Firefighting Systems (Wet Riser System)**

Name and address of the Client:-

Sl. No.	Particulars	Comments
1	Name of work with brief particulars	
2	Agreement No. and date	
3	Agreement amount	
4	Date of commencement of work	
5	Stipulated date of completion	
6	Actual date of completion	
7	Details of compensation levied for delay (indicate amount) if any	
8	Gross amount of the work completed and paid	
9	Name and address of the authority under whom works executed	
10	Whether the contractor employed qualified Engineer/Overseer during the execution of work?	
	i) quality of work (indicate grading)	Outstanding /very good / good / satisfactory / poor
	ii) Amount of work paid on reduced rates, if any	
11	Did the contractor go for arbitration?	
	ii) if yes, total amount of claim	
	iii) Total amount awarded	
12	Comments on the capabilities of the contractor.	
	a) Technical proficiency	Outstanding /very good / good / satisfactory / poor

	b) Financial soundness	Outstanding /very good / good / satisfactory / poor
	c) Mobilization of adequate T & P	Outstanding /very good / good / satisfactory / poor
	d) Mobilization of manpower	Outstanding /very good / good / satisfactory / poor
	e) General behavior	Outstanding /very good / good / satisfactory / poor

Note: All columns should be filled in properly.

“Counter signed”

Signature of the Reporting officer* with Office seal

*(Officer of the rank of Superintending Engineer or Equivalent)

Please Note: Scanned copy (PDF format) of the original reports in client’s official letter head and to be addressed to the Chief General Manager, Reserve Bank of India, Premises section, 1st floor, Banerji road, Ernakulam(north), Kochi-682018 – must be uploaded while submitted e-tender online through MSTC e-commerce portal. Regarding Clients certificate, for works carried out for Government/ public sector companies, the certificate should be signed by the concerned Executive Engineer or an officer in an equivalent or higher rank. For works carried out for Private companies, client report along with the Copy of TDS has to be submitted for proving the credentials/contract amount.

FORM OF BANKERS' CERTIFICATE FROM A SCHEDULED COMMERCIAL BANK

(To be uploaded by the Tenderer along in the e-tendering portal)

1. Name of the Company/Agency/Firm
2. Composition of the company/agency/firm
3. Name of the Proprietor/ Partners/ Directors of the company/agency/firm:

4. Type of Account:
5. Account Number:
6. Credit facility/ Overdraft facility enjoyed by the company/agency/firm:
7. Dealings:
8. The period from which the company/agency/firm has been banking with the bank:
9. Any other remarks:

10. You may also kindly forward your opinion whether the above company/agency/firm is considered financially sound to be entrusted with the contract for works estimated to cost of Rs. _____

(Signature) For the Bank

Place:

Date:

Note:

- i. Bankers' certificates should be on letter head of the bank
- ii. In case of partnership firm, certificate to include names of all partners as recorded with the bank.
- iii. Scanned copy (PDF format) of the original must be uploaded while submitting the e- tender online through MSTC e-commerce portal.

Proforma of Bank Guarantee for EMD

(This guarantee will require stamp duty as applicable in the state, where it is executed and shall be signed by the official whose signature and authority shall be verified).

Chief General Manager (OIC)
Reserve Bank of India
Premises Section
Kochi-682018

Date:
Place:

Dear Sir,

Supply, Installation, Testing and Commissioning of Fire Fighting (Wet Riser) System for the Bank's Office Building at Kochi.

WHEREAS

The Reserve Bank of India, having its Central Office at Shahid Bhagat Singh Road, Mumbai and an office at Kochi-682018 (hereinafter called the 'Employer') has invited tenders for the work Supply, Installation, Testing and Commissioning of Fire Fighting (Wet Riser) System for the Bank's Office Building at Kochi (hereinafter referred to as 'the Work') on the terms and conditions mentioned in the tender documents.

1. It is one of the terms of invitation of tenders that the tenderer shall furnish a Bank Guarantee for a sum of Rs. _____ (Rupees only) as Earnest Money Deposit.
2. M/s. _____, (hereinafter called as tenderer), who are our constituents intend to submit their tender for the said work and have requested us to furnish guarantee to the Employer in respect of the said sum of Rs. _____ only.

NOW THIS GUARANTEE WITNESSETH

1. We (Bank) do hereby agree with and undertake to the Reserve Bank of India, their Successors, Assigns that in the event of the Reserve Bank of India coming to the conclusion that the Tenderer have not performed their obligations under the said conditions of the tender or have committed a breach thereof, which conclusion shall be binding on us as well as the said Tenderer, we shall on demand by the Reserve Bank of India, pay without demur to the Reserve Bank of India, a sum of Rs. _____ (Rupees _____ only) or any lower amount that may be demanded by the Reserve Bank of India. Our guarantee shall be treated as equivalent to the Earnest Money Deposit for the due performance of the obligations of the

Tenderer under the said Conditions, provided, however, that our liability against such sum shall not exceed the sum of Rs . _____/- (Rupees _____ only).

2. We also agree to undertake to and confirm that the sum not exceeding Rs. _____ (Rupees _____ only) as aforesaid shall be paid by us without any demur or protest, merely on demand from the Reserve Bank of India on receipt of a notice in writing stating the amount is due to them and we shall not ask for any further proof or evidence and the notice from the Reserve Bank of India shall be conclusive and binding on us and shall not be questioned by us in any respect or manner whatsoever. We undertake to pay the amount claimed by the Reserve Bank of India within a period of one week from the date of receipt of the notice as aforesaid.

3. We confirm that our obligation to the Reserve Bank of India under this guarantee shall be independent of the agreement or agreements or other understandings between the Reserve Bank of India and the Tenderer.

This guarantee shall not be revoked by us without prior consent in writing of the Reserve Bank of India.

We hereby further agree that –

a) Any forbearance or commission on the part of the Reserve Bank of India in enforcing the conditions of the said agreement or in compliance with any of the terms and conditions stipulated in the said tender and/or hereunder or granting of any time or showing of any indulgence by the Reserve Bank of India to the Tenderer or any other matters in connection therewith shall not discharge us in any way and our obligation under this guarantee. This guarantee shall be discharged only by the performance by the Tenderers of their obligations and in the event of their failure to do so, by payment by us of the sum not exceeding Rs. _____ (Rupees _____ only).

b) Our liability under these presents shall not exceed the sum of Rs. _____ (Rupees _____ only)

c) Our liability under this agreement shall not be affected by any infirmity or irregularity on the part of our said constituents in tendering for the said work or their obligations there under or by dissolution or change in the constitution of our said constituents.

d) This guarantee shall remain in force up to _____ provided that if so desired by the Reserve Bank of India, this guarantee shall be renewed for a further period as may be indicated by them on the same terms and conditions as contained herein

e) Our liability under this presents will terminate unless these presents are renewed as provided hereinabove on the _____ or on the day when our said constituents comply with their obligations, as to which a certificate in writing by the Reserve Bank of India alone

is the conclusive proof whichever date is later. Unless a claim or suit or action is filed against us within six months from that date or any extended period, all the rights of the Reserve Bank of India against us under this guarantee shall be forfeited and we shall be released and discharged from all our obligations and liabilities hereunder.

Yours' faithfully,

For and on behalf of

_____ Bank.
(Authorized official with seal)

Proforma of Bank Guarantee for Security Deposit

(This guarantee will require stamp duty as applicable in the state, where it is executed and shall be signed by the official whose signature and authority shall be verified).

Chief General Manager (OIC)
Reserve Bank of India
Premises Section
Kochi-682018

Date:
Place:

Dear Sir,

"Supply, Installation, Testing and Commissioning of Fire Fighting (Wet Riser) System for the Bank's Office Building at Kochi".

WHEREAS

The Reserve Bank of India, having its Central Office at Shahid Bhagat Singh Road, Mumbai and an office at KOCHI, KERALA (hereinafter called the 'Employer') has invited tenders for the work 'Supply, Installation, Testing and Commissioning of Fire Fighting (Wet Riser) System for the Bank's Office Building at Kochi' (hereinafter referred to as 'the Work') on the terms and conditions mentioned in the tender documents.

1. It is one of the terms of invitation of tenders that the tenderer shall furnish a Bank Guarantee for a sum of Rs. _____ (Rupees _____ only) towards satisfactory performance on Comprehensive AMC as per the tender.
2. M/s _____, (hereinafter called as Tenderer), who are our constituents intend to submit their tender for the said work and have requested us to furnish guarantee to the Employer in respect of the said sum of Rs. _____ (Rupees _____ only).

NOW THIS GUARANTEE WITNESSETH

1. We _____ (Bank) do hereby agree with and undertake to the Reserve Bank of India, their Successors, Assigns that in the event of the Reserve Bank of India coming to the conclusion that the Tenderer have not performed their obligations under the said conditions of the tender or have committed a breach thereof, which conclusion shall be binding on us as well as the said Tenderer, we shall on demand by the Reserve Bank of India, pay without demur to the Reserve Bank of India, a sum of Rs. _____ (Rupees _____ only) or any lower amount that may be demanded by

the Reserve Bank of India. Our guarantee shall be treated as Deposit for the due performance of the obligations of the Tenderer under the said Conditions, provided, however, that our liability against such sum shall not exceed the sum of Rs. _____ (Rupees _____ only).

2. We also agree to undertake to and confirm that the sum not exceeding Rs. _____/- (Rupees _____ only) as aforesaid shall be paid by us without any demur or protest, merely on demand from the Reserve Bank of India on receipt of a notice in writing stating the amount is due to them and we shall not ask for any further proof or evidence and the notice from the Reserve Bank of India shall be conclusive and binding on us and shall not be questioned by us in any respect or manner whatsoever. We undertake to pay the amount claimed by the Reserve Bank of India within a period of one week from the date of receipt of the notice as aforesaid.
3. We confirm that our obligation to the Reserve Bank of India under this guarantee shall be independent of the agreement or agreements or other understandings between the Reserve Bank of India and the Tenderer.

This guarantee shall not be revoked by us without prior consent in writing of the Reserve Bank of India.

We hereby further agree that -

- a) Any forbearance or commission on the part of the Reserve Bank of India in enforcing the conditions of the said agreement or in compliance with any of the terms and conditions stipulated in the said tender and/or hereunder or granting of any time or showing of any indulgence by the Reserve Bank of India to the Tenderer or any other matters in connection therewith shall not discharge us in any way and our obligation under this guarantee. This guarantee shall be discharged only by the performance by the Tenderers of their obligations and in the event of their failure to do so, by payment by us of the sum not exceeding Rs. _____ (Rupees _____ only)

- b) Our liability under these presents shall not exceed the sum of Rs. _____
(Rupees _____ only)
- c) Our liability under this agreement shall not be affected by any infirmity or irregularity on the part of our said constituents in tendering for the said work or their obligations thereunder or by dissolution or change in the constitution of our said constituents.
- d) This guarantee shall remain in force up to _____ provided that if so desired by the Reserve Bank of India, this guarantee shall be renewed for a further period as may be indicated by them on the same terms and conditions as contained herein.
- e) Our liability under this presents will terminate unless these presents are renewed as provided herein above on the _____ or on the day when our said constituents comply with their obligations, as to which a certificate in writing by the Reserve Bank of India alone is the conclusive proof whichever date is later. Unless a claim or suit or action is filed against us within six months from that date or any extended period, all the rights of the Reserve Bank of India against us under this guarantee shall be forfeited and we shall be released and discharged from all our obligations and liabilities hereunder.

Yours' faithfully,

For and on behalf of

_____ Bank.
(Authorized official with seal)

(Note: Filled copy to be uploaded to MSTC website along with Part-I of the Tender)

Annexure-VII

**KEY PERSONNEL(Technical) PROPOSED FOR THE
PROJECT**

(To be filled by the bidder and submitted along with Part – I)

Sr. No.	Name & Designation of the staff	Technical qualifications	Years with the firm	Details of task assigned
1				
2				
3				
4				
5				
6				

NAME AND ADDRESS OF THE CONTRACTOR:

SIGN & SEAL OF THE CONTRACTOR:

Date:

Place:

(Note: Filled copy to be uploaded to MSTC website along with Part-I of the Tender)

Undertaking to be given by the tenderer with regard to inspection of site of work and acquisition of information affecting this tender

To,

CGM(O-i-C)

Reserve Bank of India,

Premises Section,

Kochi-682018

Dear Sir,

NAME OF WORK: 'Name of the Work: Supply, Installation, Testing and Commissioning of Fire Fighting (Wet Riser) System for the Bank's Office Building at Kochi. '

We, the tenderer for the above work confirms that we have visited the site and understood the proper details of the existing system, working presently and also the scope of work for the proposed system.

(Name and address of the company with Company Seal)

Date:

(Scanned copy (PDF format) of the format in the letter head of the company/firm must be uploaded by all the bidders while submitting the e- tender online through MSTC e-commerce portal.)

Proforma of letter of undertaking for maintenance confirmation by the tenderer

To,

Date:

Chief General Manager (OIC)

Reserve Bank of India, Premises Section, Kochi-

682018

Dear Sir,

NAME OF WORK: 'Name of the Work: Supply, Installation, Testing and Commissioning of Fire Fighting (Wet Riser) System for the Bank's Office Building at Kochi. '

We hereby undertake to maintain the Fire Fighting (Wet Riser) System installed by us/ works executed by us as per tender in your premises satisfactorily, for a period of not less than 9 years after expiry of the defect liability/warranty period and comprehensive AMC at the rate quoted by us, subject only to the price revision clause specified in the tender.

In the unlikely event of M/s _____ the original equipment manufacturer, failing to provide support in terms of spares etc. due to technological obsolescence or for any reason, we shall continue to provide the services to your satisfaction, by arranging required spares etc. ourselves, within the rate quoted by us for the comprehensive AMC for the period accepted as above.

Yours faithfully,

For _____

Authorized signatory

(To be given by all the Tenderers)

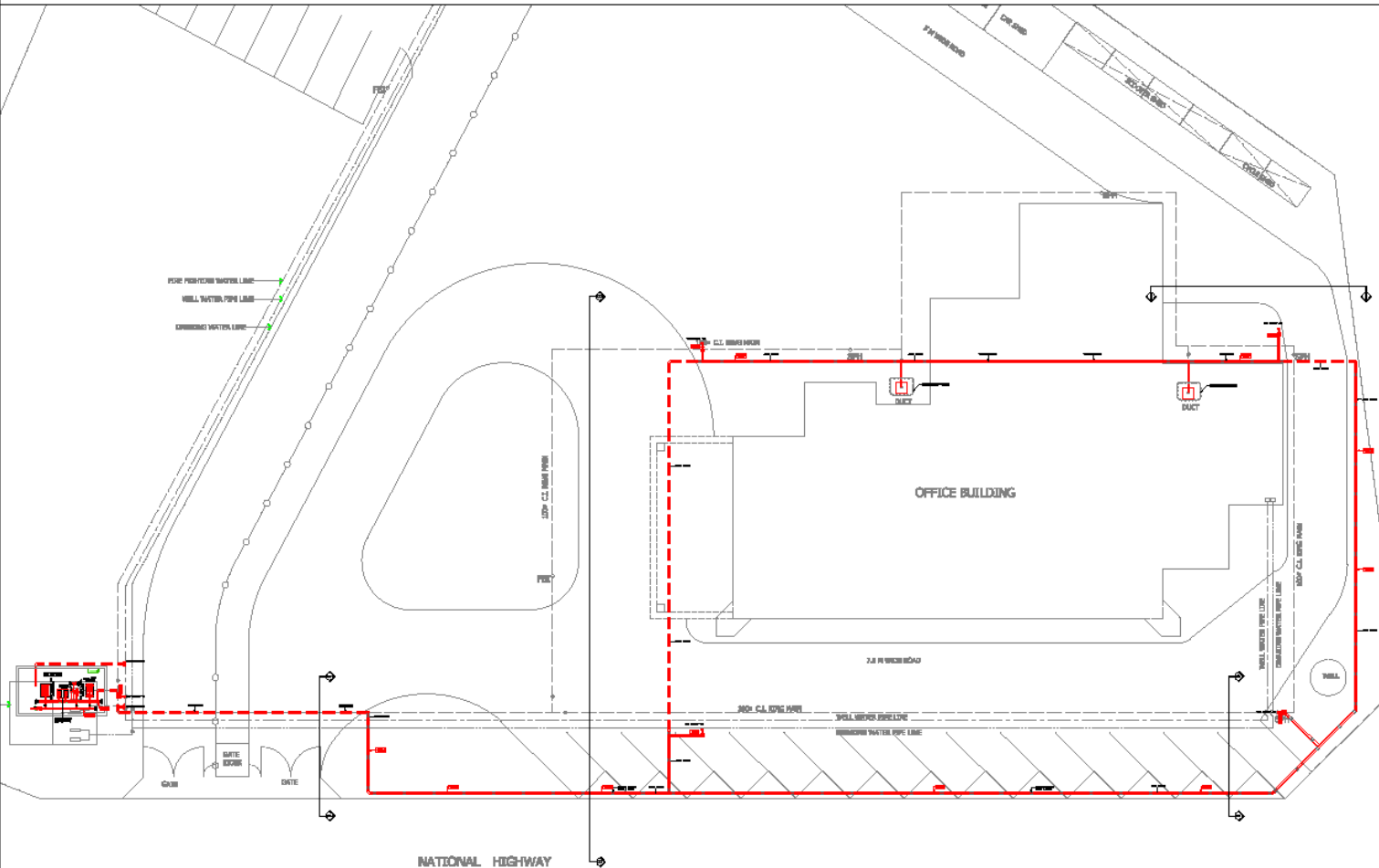
Scanned copy (PDF format) of the format in the letter head of the company/firm must be uploaded by all the bidders while submitting the e- tender online through MSTC e-commerce portal.

The successful bidder will then later submit the same Declaration on Rs.200/- Non-Judicial Stamp Paper.

List of Drawings

SL. NO.	DWG. TITLE	DWG. NO.
1	Fire Fighting Site Plan(External)	A2/1324/F/301
2	Section layout	A2/1324/F/302 &303
3	Internal Fire Fighting layout	A2/1324/F/304
4	Vertical supports details of MS pipe(external area)	1A

EXTERNAL FIRE PROTECTION LAYOUT OF RBI



SYMBOL	DESCRIPTION
	150MM FIRE ABOVE GROUND
	150MM FIRE BELOW GROUND
	TANK FILLING INLET
	FIRE BRIGADE INLET
	YARD HYDRANT
	HOSE BOX WITH TIKAS OF HOSE WITH MALE & FEMALE COUPLING
	RCC BLOCK 200MM X 200MM

NOTES
 1. All dimensions are in MM if not specified
 2. This is a conceptual drawing, contract has to invariably prepare and submit detailed construction drawing and take approval from the consultant before commencing works.

SERVICE DESCRIPTION		
FIRE PROTECTION & DETECTION		
R3	INTERNAL LAYOUT DETAILS	25-02-2020
R2	FIRE PUMP ROOM DETAILS	05-02-2020
R1	FIRE PROTECTION LAYOUT REVISED	31-12-2019
RD	FIRST SET	28-12-2019
REVISION	DESCRIPTION	DATE

ARCHITECT:
M/S: C.R. NARAYANA RAO

CONSULTANT:



TRITECH
MEP CONSULTANTS

100th - BANGLORE - MUMBAI - CHENNAI - HYDRABAD
 Web: www.tritechgroup.com, Mail: tritech@tritechgroup.com

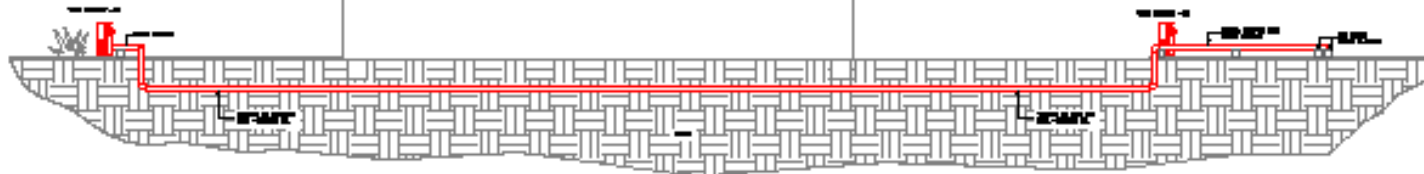
TITLE: EXTERNAL FIRE PROTECTION LAYOUT OF RBI
 CLIENT: RESERVE BANK OF INDIA
 DATE: 28-02-2020 CHECKED: ADITHYAN
 DRAWN: FAHIM SELIM APPROVED: EKV

DRG.NO: A2/1324/F/301

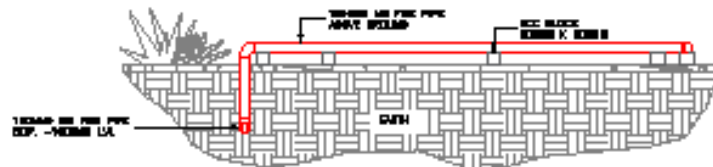
3011 SITE PLAN
 SCALE: 1:250

EXTERNAL FIRE PROTECTION SECTION LAYOUT OF RBI

OFFICE BUILDING



SECTION B-B
SCALE:1:100



SECTION A-A
SCALE:1:50

SYMBOL	DESCRIPTION
	100 MM DIA. FIRE PIPE
	100 MM DIA. FIRE PIPE
	100 MM DIA. FIRE PIPE VALVE

NOTES:

- All dimensions are in mm if not specified.
- This is a conceptual drawing, subject to be modified as per the actual site conditions and approved drawings.

PROJECT DESCRIPTION:

FIRE PROTECTION & DETECTION

REV	EXTERNAL LAYOUT DETAILS	25-08-2024
REV	FIRE PUMP ROOM DETAILS	08-08-2024
REV	FIRE PROTECTION LAYOUT FINISHED	28-10-2024
REV	FINAL SET	28-10-2024

DESIGNER: [Signature]
DATE: 08/10/2024

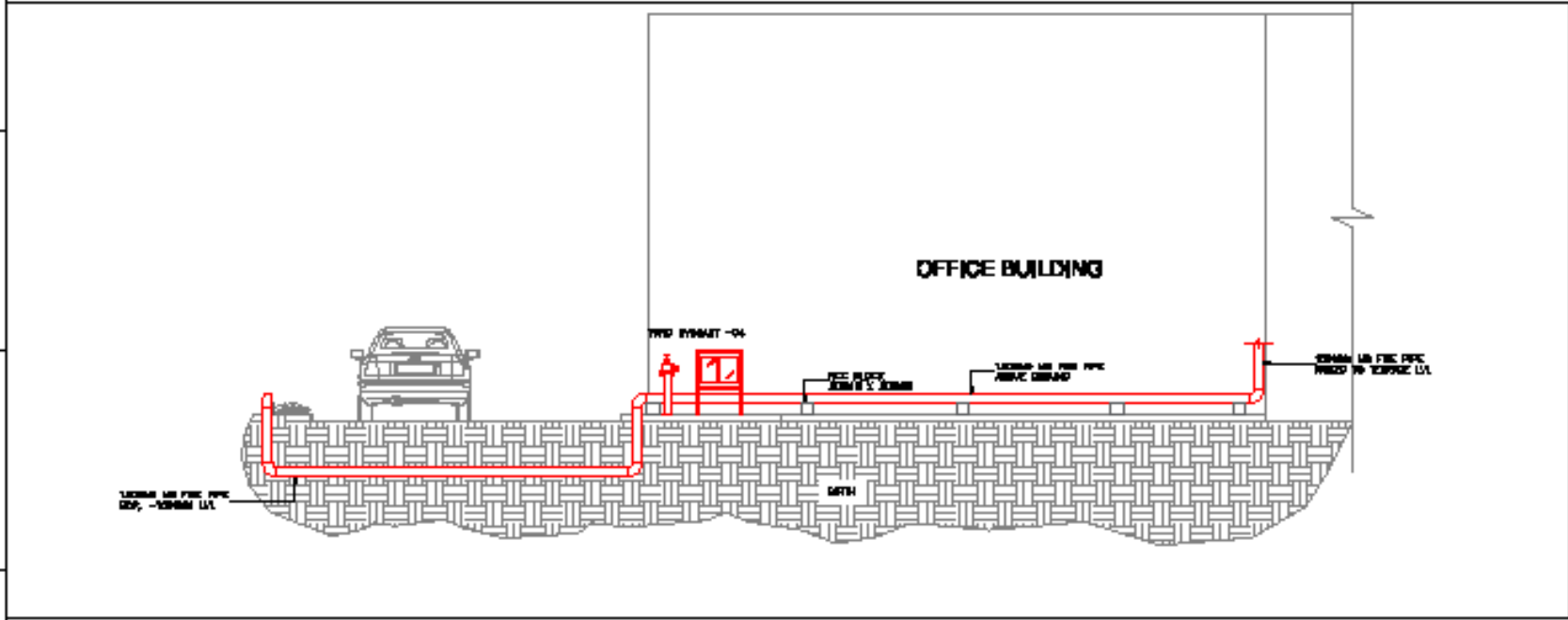
DESIGNED BY: M/S. C.R. NARAYANA RAO

CONTRACTOR:

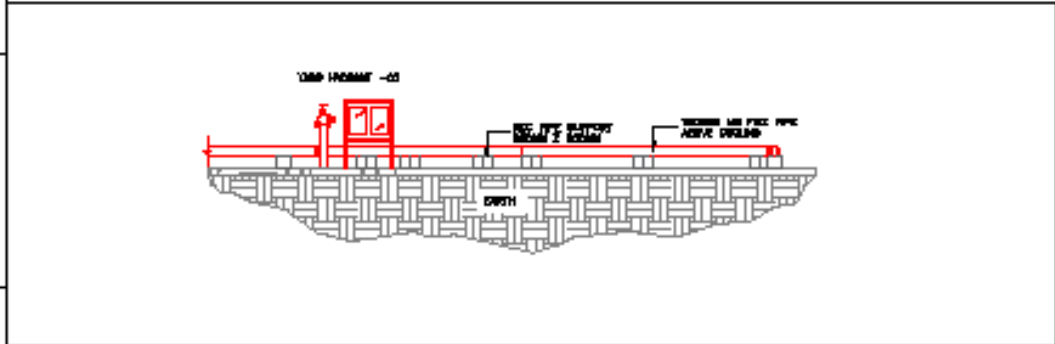
TRITECH
INFRA CONTRACTORS

TRITECH INFRA CONTRACTORS
100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

EXTERNAL FIRE PROTECTION SECTION LAYOUT OF RBI



SECTION D-D
SCALE 1:50



SECTION C-C
SCALE 1:50

SYMBOL	DESCRIPTION
	100mm dia fire pipe
	100mm dia fire pipe
	100mm dia fire pipe

REVISIONS		
1.	All dimensions are to be as specified.	
2.	This is a conceptual drawing, subject to be modified as per the final approved drawings.	

PROJECT DESCRIPTION		
FIRE PROTECTION & DETECTION		
REVISION	DESCRIPTION	DATE
01	EXTERNAL LAYOUT DETAILS	25-08-2024
02	FIRE PUMP ROOM DETAILS	26-08-2024
03	FIRE PROTECTION LAYOUT FINISHED	28-10-2024
04	FINAL SET	28-10-2024
05	FOR APPROVAL	08-11-2024

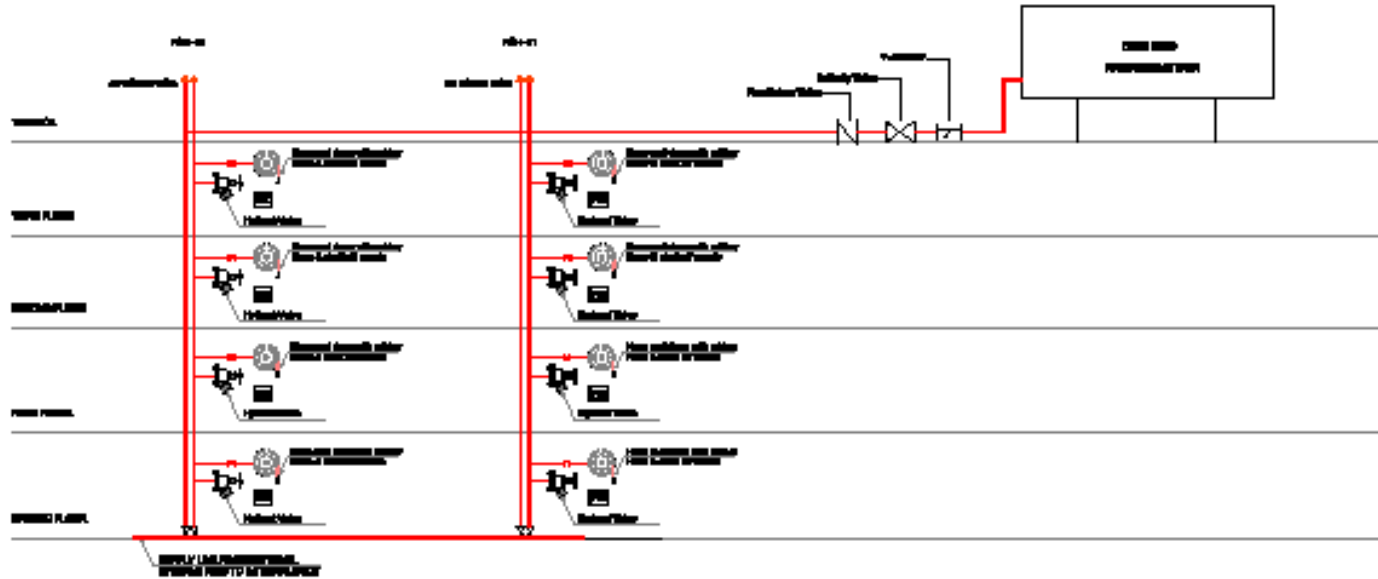
DESIGNER: M/S. C.R. NARAYANA RAO

CONTRACTOR: **TRITECH**
TRITECH CONSULTANTS

PROJECT: TILB EXTERNAL FIRE PROTECTION SECTION LAYOUT OF RBI
 CLIENT: FEDERAL BANK OF INDIA
 DATE: 28-10-2024
 DRAWN: FROM DESIGN APPROVAL: [Signature]

DRG. NO: RB/1304/T/309

INTERNAL FIRE PROTECTION LAYOUT OF RBI



INTERNAL LAYOUT LINE DIAGRAM
SCALE: 1:50

REVISION		
1.	All dimensions are to 00.00 unless specified	
2.	This is a conceptual drawing, subject to be modified, revised and updated. All details mentioned herein are not to be taken as contract documents unless otherwise stated.	
NOVREC DESCRIPTION		
FIRE PROTECTION & DETECTION		
NO	INTERNAL LAYOUT DETAILS	15-08-2024
NO	FIRE PUMP ROOM DETAILS	08-08-2024
NO	FIRE PROTECTION LAYOUT DRAWING	28-10-2024
NO	FIRE DET.	28-10-2024
NO	DESCRIPTION	DATE
APPROVED:		
M/S: C.R. NARAYANA RAO		

CONSULTANT:

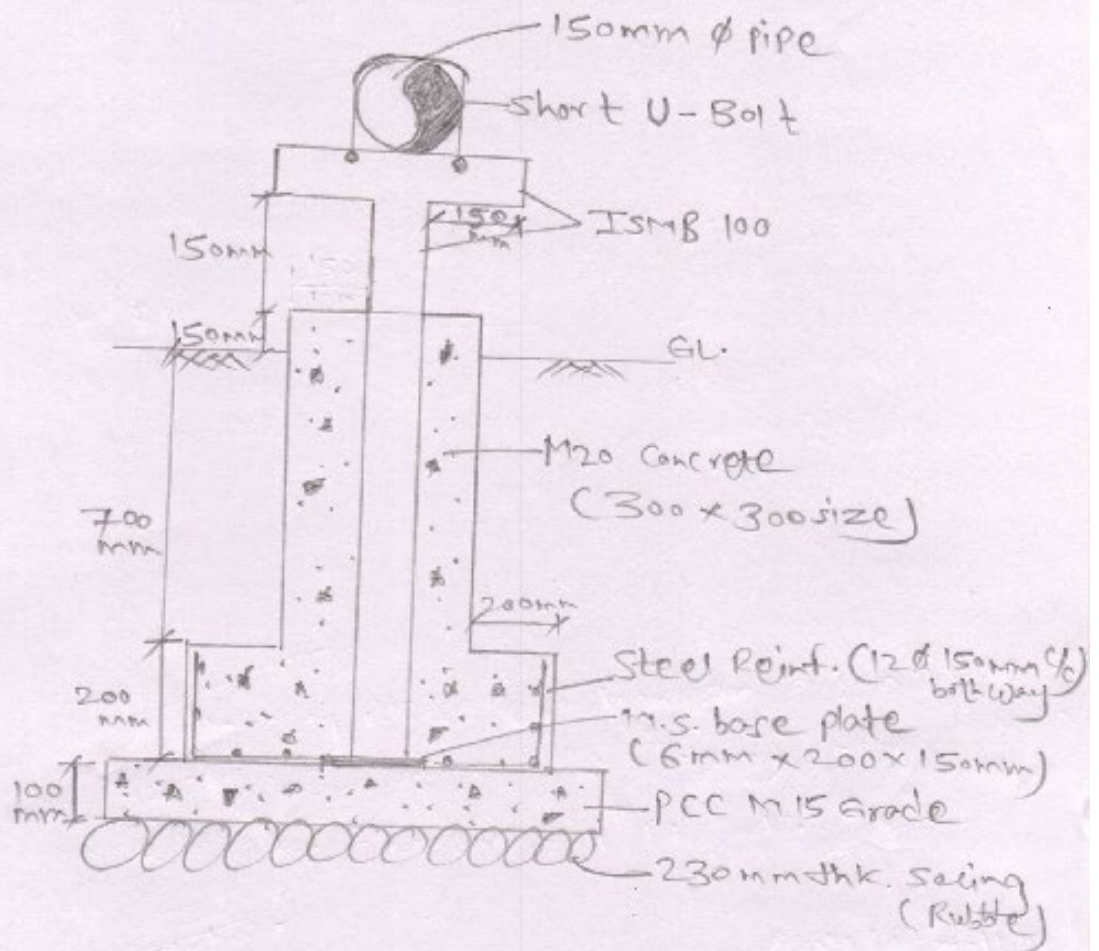

TRITECH
 MEP CONSULTANTS
WATER • AIR • GAS • DUCTWORK • SERVICES
100/10, RAJIV GANDHI ROAD, 1ST FLOOR, HYDRABAD




TITLE: INTERNAL FIRE PROTECTION LAYOUT OF RBI
 CLIENT: REGIONAL BANK OF INDIA
 DATE: 28-10-2024
 DRAWN: FROM SCHEM APPROVAL: BY:

DRG. NO: RB/1324/T/304

Dwg. No. 1A
 (Above Gr. level M.S. pipe line
 supports details)



Details of M.S. pipe vertical supports @ 3.0mtr. C/C
 (External hydrant pipe line)



भारतीय रिज़र्व बैंक
परिसर अनुभाग
कोच्ची - 682018

ई.निविदा सं.: आरबीआई/कोच्ची/संपदा/267/19-20/ईटी/495

कार्य का नाम: भारतीय रिज़र्व बैंक, कोच्ची के कार्यालय भवन में अग्निशमन
(वेट रेजर) प्रणाली की आपूर्ति, स्थापना, परीक्षण और कमीशनिंग
(केवल ई-टेंडरिंग पोर्टल में ऑनलाइन भरा जाए।)

भाग-2: मूल्य बोली

निविदाकार का नाम: _____

पता: _____

निविदा जारी करने की तारीख	29 मई 2020
निविदा की वैधता	निविदा का भाग-1 खोलने की तारीख से 90 दिन
प्रस्तुत करने की नियत तारीख	22 जून 2020 को अपराह्न 14.00 बजे से पहले
निविदा का भाग-1 खोलने की तारीख	22 जून 2020 को अपराह्न 15.00 बजे

RESERVE BANK OF INDIA

PREMISES SECTION

KOCHI

Name of the Work: Supply, Installation, Testing and Commissioning of Fire Fighting (Wet Riser) System for the Bank's Office Building at Kochi.

BILL OF QUANTITIES

Sr No.	Description	Qty	Unit	Rate (Inclusive of GST)	Amount (Inclusive of GST)
A	Electrical items:				
1	<u>Electric driven main fire pump:</u> Supply, Installation, Testing & Commissioning of Electric driven Main Fire pump suitable for automatic operation and consisting of following, complete in all respects, as required: (a) Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical sea; confirming to IS 1520. (b) Suitable HP squirrel cage induction motor, TEFC, synchronous speed 1500 RPM or higher, suitable for operation on 415 volts, 3phase 50 Hz, AC supply with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, confirming to IS-325. (c) M.S. Fabricated common base plate, coupling, coupling guard, foundation bolts etc. as required. (d) Suitable cement concrete foundation duly plastered with anti-vibration pads (AVM) complete as required including providing concrete foundation of required size for the pump and motor assembly. The pump and motor shall be factory assembled and factory tested by original equipment manufacturer (OEM). 1620 lpm at 70 mtr Head	1 No.	Each		
2	Supply, Installation, Testing & Commissioning of	1 No.	Each		

	<p>electric driven pressurisation pump suitable for automatic operation and consisting of following, complete in all respects, as required:</p> <p>(e) Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical sea; confirming to IS 1520.</p> <p>(f) Suitable HP squirrel cage induction motor, TEFC, synchronous speed 1500 RPM or higher, suitable for operation on 415 volts, 3phase 50 Hz, AC supply with IP 55 protection for enclosure, horizontal foot mounted type with Class- 'F' insulation, confirming to IS-325.</p> <p>(g) M.S. Fabricated common base plate, coupling, coupling guard, foundation bolts etc. as required.</p> <p>(h) Suitable cement concrete foundation duly plastered with anti-vibration pads (AVM) complete as required including providing concrete foundation of required size for the pump and motor assembly. The pump and motor shall be factory assembled and factory tested by original equipment manufacturer (OEM).</p> <p>180 lpm at 70 mtr Head</p>				
3	<p><u>AUTOMATIC CONTROL PANEL:</u></p> <p>Supply, Installation, Testing and Commissioning of factory fabricated, factory wired using FRLS copper wires for power and control circuits, cubicle type panel of compartmental type design fabricated out of 2 mm thick CRCA sheet steel duly powder coated suitable for floor / wall mounting and incorporating the following switchgear / instrumentation. The panel shall be in conformity to IP 55 and shall be manufactured by CPRI approved panel manufacturer. The Automatic control panel shall be complete in all respects for a wet riser system design.</p> <p>Incomer</p> <ul style="list-style-type: none"> • MCCB-TPN-200 Amps, 25kA - 01 no • 3 phase Tinned Copper bus bar-250Amps (current density 1.2 Amp per sq. mm) • LED type Indicating Lamps for RYB phase indication • 96X96 Sq. Mm Analog type Ammeter 0-250 	1	Set		

	<p>Amps with CTs and selector switch –01nos.</p> <ul style="list-style-type: none"> • 96X96 Sq. Mm Analog type Volt Meter-0-500 V with selector switch <p>Outgoings For Main Pump: (Note: All outgoing feeders for pumps should have digital ammeter with selector switches and LED type ON,OFF, trip indicating lamps)</p> <ul style="list-style-type: none"> • MCCB-TP-150 amps, 25kA- 01 no (for Main Pump) • Fully Automatic Star delta starter for main pump (40HP or equivalent motor as per system requirement) of suitable capacity. • Thermal overload relay • Single phase preventer • 96X96 Sq. mm Analog type Ammeter 0-200 Amps with CTs and selector switch-01 nos. • Push buttons for Start / Stop • LED type Indicating Lamps for 'ON', 'OFF' and 'TRIP' status • 2 pole, 2 way Auto manual selector switch with OFF <p>For Jockey Pump</p> <ul style="list-style-type: none"> • MCCB-TP- 32 Amps.-01 no. (for Jockey Pump) • DOL Starter for (for Jockey Pump) • Single Phase preventer • Thermal over load relay • 96X96 Sq. mm Analog type Ammeter 0-50 Amps with CTs and selector switch-01 nos. • Push buttons for Start / Stop • LED type Indicating Lamps for 'ON', 'OFF' and 'TRIP' status • 2 pole, 2 way Auto manual selector switch with OFF <p>For Diesel Pump</p> <ul style="list-style-type: none"> • Automatic Battery Charger 230 V AC, 12/24 V DC, 16A • 96X96 Sq. mm Analog type DC Ammeter (0-20A) • 96X96 Sq. mm Analog type DC Voltmeter (0-30 V) • 2 pole, 2 way Auto manual selector switch with OFF for Diesel Engine • LED type Indications for Battery Charger ON (RED),DC ON (RED), SET fails to start (Amber), LLOP (Amber), HWT (Amber) • Push Buttons to Accept fault, Reset fault, Start and Stop of Diesel engine. • Selector Switch 2Pole ON/OFF • 96X96 sq, mm.Hooter • Connection strip. • Push Button for Lamp test 				
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	<ul style="list-style-type: none"> • Contactors and any other items as required for desired operation of the system. • Water Level Controller as per the requirements. 				
4	<p><u>Cables</u> Supply, laying and termination of aluminium conductor, FRLS, PVC insulated armoured cable of following sizes on necessary M.S. clamps and saddles on walls/ceiling in existing trenches, etc. as per standard and as per requirement.</p>				
(a)	4 x 50 Sq.mm PVC AA cable along with 2x10 SWG GI wire.	30	Mtr		
(b)	4 x 10 Sq.mm PVC AA cable along with 2x8 SWG GI wire.	30	Mtr		
5	Supply, laying and termination of 2 X 1.5 Sqmm Copper Conductor FRLS, PVC insulated Armoured cable on necessary MS clamps and saddles on wall/ ceiling/trench as per standard and as per requirement.	40	Mtr		
6	<u>Pressure Switch</u> Supplying, installing, testing and commissioning 0 to 7 Kg/ cm ² ON/OFF pressure switches in delivery line of pump along with control wiring for auto starting and auto stopping of hydrant and jockey pumps	3	Set		
TOTAL AMOUNT OF ELECTRICAL WORK:					

B	Civil items				
7	<p><u>OUTDOOR HOSE CABINET :</u> Supplying, erecting, testing and commissioning of weather proof standard Double door hose outdoor cabinet 750 mm X600X250 mm to accommodate two piece of hose pipe along with one pair of male and female coupling, one branch pipe and 20 mm dia.nozzle confirming to IS 903, suitable for inter connect to hose pipe coupling etc. complete as directed by Bank's Engineer/Consultant.</p> <p>The cabinet is made of 20 SWG MS sheet, glass fronted door with hinged door, glass breaking hammer and locking arrangement by allan key, sloping canopy on top (with 150 mm extension on all sides). The cabinet is powder coated to scarlet red colour etc. completed as directed by Bank's Engineer/ consultant.</p>	5	Each		
8	<p><u>INDOOR HOSE CABINET :</u> Supplying, erecting, testing and commissioning of standard Double door hose indoor cabinet 750 mm X600X250 mm to accommodate two piece of hose pipe along with one pair of male and female coupling, one branch pipe and 20 mm dia.nozzle confirming to IS 903, suitable for inter connect to hose pipe coupling etc. complete as directed by Bank's Engineer/Consultant.</p> <p>The cabinet is made of 20 SWG MS sheet, glass fronted door with hinged door, glass breaking hammer and locking arrangement by allan key etc.The cabinet is powder coated to scarlet red colour etc. completed as directed by Bank's Engineer/ consultant</p>	8	Each		
9	<p>Supplying and fixing non- percolating Rubber reinforced lined fire hose pipe confirming to IS 636(Type-A) of 63 mm dia. and length 15 mtr.The hose shall be rated for burst pressure of 35.7 kg/sqcm. Hose shall be complete with ISI marked brass male & female coupling(IS:903) bound & rivetted to hose pipe with copper rivets.</p> <p>Stainless steel type(Grade 304)</p>	26	Each		

10	<p><u>Internal Hydrant Valve:</u> Providing, Fixing, testing & Commissioning of Single Headed internal hydrant valve with Instantaneous Gunmetal / stainless steel coupling of 63 mm dia. with cast iron wheel ISI marked confirming to IS 5290(Type-A) with blank Gunmetal/ stainless steel cap and chain, twist release lug, nut-bolts, washers,3 mm rubber gasket, 1no. Ms flange as per IS drilling 16 mm thick, welding charges and all accessories etc. complete as directed by Bank's Engineer /Consultant.</p> <p>Type: Single Headed stainless steel</p>	8	Each		
11	<p><u>External Hydrant Valve:</u> Providing, Fixing, testing & Commissioning of Single Headed external hydrant valve with 1 no.63 mm dia. instantaneous FM Gunmetal/stainless steel coupling and cast iron wheel, ISI marked, confirming to IS 5290(Type-A) with blank Gunmetal/ stainless steel cap and chain, twist release lug, nut-bolts, washers,3 mm rubber gasket, 1no. Ms flange as per IS drilling 16 mm thick, welding charges and all accessories etc. complete as directed by Bank's Engineer /Consultant.</p> <p>Type: Single Headed stainless steel</p>	5	Each		
12	<p><u>ABOVE GROUND PIPING;</u> Supplying, laying, fixing, testing and commissioning of Mild Steel Pipe(IS:1239part-I and IS 3589) Heavy class ('C' class),including welding, all necessary pipe fittings like elbows, tees, flanges, tapers, GI nuts bolts, washer, gaskets etc. The piping will be provided with necessary steel brackets and hardware for fixing on walls/slabs/floor with clamps, hanger, angles, channels (using anchor fasteners) as per specifications and external MS pipeline is to be laid over on MS fabricated supports as per drawing No.1A The Spacing between pipe supports shall</p>				

<p>be 3.0 meter. The rate shall be inclusive of making holes in RCC floor/wall cutting the reinforcements and. making good complete. After completion of the piping work the entire pipe line will be hydraulically tested as per detailed procedure mentioned in Part-I (Techno-commercial Bid). The final pipe line will be painted with two or more coats of synthetic enamel paint of first grade as per IS specifications over one coat of red oxide zinc chromate primer including necessary surface preparation complete. The work will be carried out as per specification and drawings and as directed by Engineer-in charge/consultant etc. complete.</p> <p>The rate shall be inclusive of excavation of soil(upto 1.25 mtr below the existing ground level), back filling and removal of surplus soil from Bank's Premises, providing necessary protection/ fencing with warning sign in flouresent, Refilling the trench to bring the ground surface in original condition, after laying of pipes are completed including, watering, ramming/ consolidating the soil thoroughy, levelling, carting away extra earth, left after refilling, out of the premises, etc all complete as directed. etc. complete as directed by Bank's Engineer/Consultant.</p> <p>The rate shall be inclusive of breaking existing concrete/ R.C.C pavement of any depth manually or with mechanical concrete breaker, removing existing paver tile/block etc. carting away the debris out of the premises etc. all complete as directed.</p> <p>The rate shall be inclusive of dewatering of ground water/ rain water by using necessary dewatering pumps arrangement.</p> <p>Note: PCC of M15 grade concrete.M20 grade concerting, reinforcement,Rubble Soling and MS structural steel for vertical support of pipeline(external areas only) will be measured separately and paid under item 26.,27,28 & 29.</p>				
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	a) 150 mm dia	175	Rmt		
	b) 100 mm dia	80	Rmt		
	c) 80 mm dia	15	Rmt		
	d) 65 mm dia.	15	Rmt		
	e) 25 mm dia	20	Rmt		
13	<p>UNDER GROUND PIPING: Providing, Fixing, Testing & Commissioning of Mild Steel Pipe (IS:1239part-I and IS 3589) Heavy class('C' class) including cutting, screwing, welding etc. complete with all fittings (butt welded) viz. flanges, bends, tees, elbows, reducers etc. including providing anti corrosive treatment (coating and wrapping) as per IS:10221 with 4 mm thick tape etc. complete as directed by Bank's Engineer/Consultant.</p> <p>The rate shall be inclusive of excavation of soil (upto 1.5 mtr), back filling and removal of surplus soil from Bank's Premises, providing necessary protection/ fencing with warning sign in flouesent, Refilling the trench to bring the ground surface in original condition, after laying of pipes are completed including, watering, ramming/ consolidating the soil thoroughly, levelling, carting away extra earth, left after refilling, out of the premises, etc all complete as directed. etc. complete as directed by Bank's Engineer/Consultant.</p> <p>The piping will be laid over bed of PCC of M15 grade concrete below the entire length of pipeline with required thickness including curing, cleaning, carting away debris if any outside the Bank's premises etc. all complete as directed by the Bank's Engineer.</p> <p>The contractor has to provide Thrust blocks in proportion of 1:2:4 to bends ,</p>				

	<p>tees etc. wherever flow direction changes etc. complete as directed by Bank's Engineer.</p> <p>The rate shall be inclusive of breaking existing concrete/ R.C.C pavement of any depth manually or with mechanical concrete breaker, carefully removing existing paver tile/block and refixing the paver bloc/tiles as per existing pattern and specifications, etc. carting away the debris out of the premises etc. all complete as directed.</p> <p>The rate shall be inclusive of dewatering of ground water/rain water by using necessary dewatering pumps arrangement .</p> <p>Note: Thrust block concrete(1:2:4), PCC of 15 grade concrete and rubble soling will be measured separately and paid under item 26 and 27.</p>				
	a) 150 mm dia	90	Rmt		
14	<p><u>FIRE BRIGADE CONNECTION:</u> Supplying and fixing of 4 – way fire brigade connection of cast iron body with gun metal male inlet couplings with cap and chain as reqd. for 150 mm dia. M.S. pipe connection conforming to IS 904-1983.</p> <p>The rate shall be inclusive of providing fixing necessary hardware and accessories like nut bolts and washers, 3mm rubber gasket, Ms flange as per IS drilling 16 mm thick and welding charges etc. complete as directed by Bank's Engineer/consultant.</p>	1	Set		
15	<p><u>Fire brigade Inlet Connection(2-way):</u> Supply, installation, testing, and commissioning of outdoor type tank filling inlet connections with 2 nos. Gunmetal,63 mm dia. built-in Gun metal Non- return valves instantaneous coupling type arranged on 150 mm dia. pipe etc. pipe manifold shall be connected to U.G. sump.</p>	1	Set		
16	<p><u>Butterfly Valve:</u> Supplying, fixing, testing and commissioning of approved make</p>				

	butterfly valve of PN 1.6 rating with bronze/ gunmetal seat duly ISI marked complete with nuts and bolts, fastener, washers, gaskets, 2 nos. of flange, including welding works etc.confirming to IS 13095 of following size as required:				
	(a) 50 mm dia.	3	Set		
	(b) 65 mm dia.	5	Set		
	(c) 80 mm dia.	2	Set		
	(d) 100 mm dia.	1	Set		
	(e) 150 mm dia.	1	Set		
17	<u>Non- return valve:</u> Providing, installation, testing and commissioning of non-return valve of following sizes confirming to IS : 5312 complete with rubber gasket,matching flanges, rubber insertion, nuts, bolts and washer etc. (IS:5312) of following sizes complete as required.				
	(a) 50mm dia.	3	set		
	(b) 65 mm dia.	2	set		
	(c) 100 mm dia.	1	set		
	(d)150 mm dia.	1	set		
18	Providing, installation, testing and commissioning of stainless steel Y-strainer fabricated out of 1.6 mm thick stainless steel, grade 304, sheet with 3 mm dia. holes with stainless steel flange, complete with rubber gasket, matching flanges, rubber insertion, nuts, bolts and washer etc. of following sizes complete as required.				
	(a) 100 mm dia.	1	Each		
	(b) 150 mm dia.	1	Each		
19	Providing and fixing first-aid Hose reel with MS construction spray painted in post office red, confirming to IS 884, with necessary plumbing fittings etc. complete with the following as required. a) 20 mm nominal internal dia. Gun	8	each		

	<p>metal globe valve & nozzle.</p> <p>b) Drum and brackets for fixing the equipment's on wall.</p> <p>c) Connections from riser with 25 mm dia. Stop gun metal valve & M.S. pipe and socket.</p> <p>d) 20 mm nominal internal dia. Water hose thermoplastic (textile reinforced) type-2 as per IS 12585.(30 mtr length)</p>				
20	<p>Supplying and fixing air vessel made of 250 mm dia, 8 mm thick MS sheet, 1200 mm in height with with dish end with necessary air release valve on top and flanged connection to riser, drain arrangement (drain valve) with 25 mm dia. Heavy duty gun metal wheel valve with required accessories like nipples, unions, elbows, heavy duty suitable pressure gauge including pipes to be connected with the ring main with heavy duty rubber gasket welding, nuts, bolts, flanges, MS support/ angle iron frame works as required at site and painted with two or more coats of synthetic enamel paint of first grade as per IS specifications over one coat of red oxide zinc chromate primer including necessary surface preparation complete. The work will be carried out as per specification and drawings and as directed by Engineer / consultant etc. complete.</p>	3	Each		
21	<p>Providing and fixing dial type (100 mm) approved make pressure gauge with isolation ball valve suitable for working pressure of 250 PSI. Cost shall be inclusive of providing any short pieces, nipples, elobows etc. as required.</p>	5	Nos.		
22	<p>Providing and fixing approved make forged brass ball valve of 25 mm dia. with forged brass ball suitable for minimum PN1.6 rating. Cost shall be inclusive of providing necessary plumbing fittings, union/flange connections etc. as required.</p>	8	Nos.		
23	<p>Refurbishing of existing Diesel pump, priming pump and terrace pump including necessary painting and refurbishing of all valves and pipes and accessories including electrical equipment's inside the plant room. The work will be carried out as per drawings and specifications and as directed by Bank's Engineer /Consultant etc. complete.</p>	One JOB	LS		

	<p>The rate shall be inclusive of dismantling of existing pipelines and providing, laying, testing & commissioning of new heavy duty 'C' class MS. pipes of respective diameter diameter of pipes and fittings required with necessary accessories wherever required as directed by Bank's Engineer / consultant.</p> <p>(Note: The replacement of MS pipes with necessary fittings under these item having diameter of size 150 mm, 100 mm,80mm,65 mm and 25 mm will be paid under item 12 separately.)</p>				
24	<p>Carefully dismantling existing MS pipes of any dia. at any height/level from terrace fire tank upto gr. Ivl (including inside two fire shaft areas) and dismantling of existing external hydrant line from pump room and upto the new hydrant system connection point including removing existing MS brackets/ concrete blocks supports, removing existing internal hose reel drum with accessories, nozzle, any types of valves, hose cabinets, double headed hydrants, removing existing internal / external hose cabinet including other accessories, external fire hydrants etc. as directed by Bank's Engineer/Consultant.</p> <p>The rate shall be inclusive properly stacking of dismantled material and removing debris (concrete/ wall masonry materials only) from Bank's Premises as directed by Bank's Engineers.</p>	One Job	LS		
25	<p><u>Rubble Soling:</u> Providing and laying dry rubble stone soling 230 mm thick vertically, hand-set, interstices filled with stone chips and spalls and or hand broken metal and blinding with stone grit or murrum, compaction with mechanical compactor /manually, watered & rammed etc. complete as directed by Bank's Engineer.</p>	10	Cum		

26	<p>CONCRETING(P.C.C): Preparation of surface including placing existing rubble soling in position, compaction of existing base/soling, watering for compaction and Providing and laying cement concrete 1:2:4 (1 cement,2 Quarry sand and 4 – hard stone metal) over existing soling and laying concrete, compacting, curing, all labour charges, cost and conveyance of all materials etc. all complete as directed by the Bank's Engineer/Consultant.</p> <p>The rate shall be inclusive of broom finished top surface of concrete (for road pavement), making necessary joint treatment between old and new concrete surface, curing for 7 days by ponding, carting away the debris out of the premises, etc. all complete as directed.</p>	10.00	Cum		
27	<p>CONCRETING: Providing and laying M20 grade cement concrete(R.C.C) for vertical support of MS pipeline (refer Drg. No.1A) in 1: 1 1/2: 3(1 cement :1 1/2 coarse sand: 3 hard stone metal) using 20mm down gauge graded hard stone aggregate etc. in required size and profile including necessary shuttering, machine vibrating, finishing neatly, curing etc., all complete as directed by the Bank's Engineer/Consultant. . (Reinforcement will be measured separately and paid under item 29 below)</p>	07.00	Cum		
28	<p><u>Steel Reinforcement:</u> Providing, cutting, tying, and placing in position TMT bar reinforcement (12 mm) for foundation. The rate shall include cost of binding wire (18 SWG), wastages, conveyance of all materials labour charges etc. all complete as directed by the Bank's Engineer. Authorized laps will be measured and paid for.</p>	350	kg		

29	<u>Structural Steel:</u> Providing, fabricating and erecting in position M.S. structural steel made out of ISMB 100x50 as per drawing No.1A for vertical support of MS pipeline(external area), with necessary base plate, top plate etc., all as per the drawing including welding, grinding, scaffolding, painting the surfaces with two coats of synthetic enamel paint of approved make and shade over a coat of epoxy primer all as directed by the Bank's Engineer.	700	Kg		
30	<u>HUME PIPES:</u> Providing and laying non-pressure NP-2 class (heavy duty) RCC pipes with collars jointed with stiff mixture or cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete as directed by Banks Engineer/Consultant. a) 250 mm dia.	25	Rmt		
TOTAL AMOUNT OF CIVIL WORK:					
Total Amount(Electrical +Civil) = Capital Cost (A)					
31	<u>REBATE:</u> Buy Back: Rebate towards the salvage value of materials, taking away by the contractor, which are dismantled and stacked as per item no. 24 & 25.	One job	LS		
Total Amount Rs. for Buy Back (B)					
=					
C	<u>AMC:</u> The tenderers shall quote their charges for comprehensive maintenance service (inclusive of all spares, consumables like gland ropes to pumps, gasket on the piping system, repair/replacement of pressure gauges on the pumps / wet riser piping mains etc. routine, preventive and breakdown maintenance) of wet riser firefighting	Total System	Per annum		

	<p>system including pumps and electrical gadgets which will be applicable after the expiry of the DLP period of one year after commissioning of the installations. Apart from break down maintenance, the annual maintenance contract includes deputing a foreman /mechanic / service Engineer / once in a month to check all the equipment's under the supervision of Bank's staff & issuing a certificate for satisfactory working. Annual Maintenance should be as prescribed in the tender Part-I. After first year of AMC after one year of DLP period, the remaining year's AMC will be arrived as per page no 10 of Part-I.</p>			
<p>Total Amount Rs. for CAMC (C) =</p>				

- Note: tender will be evaluated base on total owning cost of the project

Total owning cost (ToC) = Quoted Capital cost (A) – Buy Back Amount (B) + NPV of Comprehensive AMC charge for 9 years

= Quoted Capital cost (A) – Buy Back Amount (B) + AMC quoted rate (C) X Multiplying factor (MF)

(MF = 7.0476)

Name of the Firm with address

Signature of the contractor with Seal

Date

Place