

- Final Tender document for Fire Fighting system at MMT Haldia dt15Feb'23

Providing Fire Protection & Detection System  
for  
Multi Modal Terminal at Haldia, West Bengal

National Competitive Bidding - NCB  
(Two-Envelope Bidding Process with e-Procurement)  
(Without Prequalification)



**NCB: *IN-IWAI-336174-CW-RFB***

**February , 2023**

**Project:** *Capacity Augmentation of National Waterway – 1*

**Employer:** *Inland Waterways Authority of India,  
Ministry of Ports, Shipping & Waterways  
Government of India*

*Inland Waterways Authority of India*  
*Ministry of Ports, Shipping & Waterways, Government of India*  
PROJECT: *Capacity Augmentation of National Waterway – 1*

**NATIONAL COMPETITIVE BIDDING**  
**(Two-Envelope Bidding Process with e-Procurement)**

File no.: - IWAI / WB / NW-1 /14 / 4 / 2023

Bid no.: - IN-IWAI-336174-CW-RFB

***NAME OF THE WORK:***

Providing Fire Protection & Detection System for Multi Modal Terminal at Haldia, West Bengal

PERIOD OF SALE OF BIDDING DOCUMENT	FROM T = 15.02.2023
TIME AND DATE OF virtual PRE-BID MEETING ... link shall be shared on CPPP Portal separately	DATE 24.02.2023 TIME 15.00 HOURS
LAST DATE AND TIME FOR RECEIPT OF BIDS	DATE 14.03.2023 TIME 15.00 HOURS
* TIME AND DATE OF OPENING	DATE 14.03.2023 TIME 15.30 HOURS OF BIDS – Technical Part
<i>The firms that qualify technically shall be notified subsequently for opening of the financial part of their bids.</i>	
PLACE OF OPENING OF BIDS	IWAI, A-13 Sector-1; Noida
OFFICER INVITING BIDS: -  Project Director (JMVP); Inland Waterways Authority of India, A – 13, Sector – 1, Noida – 201301, Uttar Pradesh – INDIA - Telephone No.: (91) 0120-2424544 Email.: vc.iwai@nic.in	

*Inland Waterways Authority of India,  
Ministry of Ports, Shipping & Waterways, Government of India  
PROJECT: Capacity Augmentation of National Waterway – 1*

**INVITATIONS FOR BIDS (IFB)  
E-Procurement Notice  
(Two Envelope Bidding Process with e-Procurement)**

**NATIONAL COMPETITIVE BIDDING (FOR SMALL WORKS)**

**NAME OF WORK:** Providing Fire Protection & Detection System for Multi Modal Terminal at Haldia, West Bengal

**Loan No:** 8752 – IN

**Bid No:** IN -IWAI-336174-CW-RFB

**File no:** - IWAI/WB/NW-1/14/4/2023

**Date:** 14.02.2023

1. The Government of India has received a loan from the World Bank towards the cost of the Capacity Augmentation of National Waterway – 1, Project and intends to apply a part of the funds to cover eligible payments under the contract<sup>1</sup> for construction of works as detailed below:

***Providing Fire Protection & Detection System for Multi Modal Terminal at Haldia, West Bengal***

2. Bidding is open to all bidders from eligible source countries as defined in the *IBRD Guidelines for Procurement*. Bidders from India should, however, be registered with the Government of West Bengal or other State Governments/Government of India, or State/Central Government Undertakings. **Bidders are advised to note the minimum qualification criteria specified in Clause 3 of the Instructions to Bidders to qualify for the award of the contract.** In addition, please refer to paragraphs 1.6 and 1.7 of the World Bank's Guidelines setting forth the World Bank's policy on conflict of interest.
3. The Inland Waterways Authority of India, Ministry of Ports, Shipping & Waterways, Government of India invites online bids for the construction of works detailed below in the table. The bidders may submit bids for any or all of the works indicated therein.
4. Bidding documents are available online on the NIC Portal in English (the website: <https://eprocure.gov.in/cppp/download/disp>.) from 15.02.2023 to 15.03.2023, A non-refundable fee of INR 6000/- (i.e., Rs. 5,085/- Tender fee + Rs. 915/- GST @ 18%), is required to be paid. The method of payment will be Demand Draft. Payment documents are to be submitted along with other documents listed in paragraph 7 below before the bid submission deadline.  
Bidders will be required to register on the website, which is free of cost. The bidders would be responsible for ensuring that any addenda available on the website is also downloaded and incorporated. Interested bidders may obtain further information at the address given below during office hours or may request clarifications online through e-procurement portal.
4. For submission of the bid, the bidder is required to have Digital Signature Certificate (DSC) from one of the Certifying Authorities authorised by Government of India for

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<sup>1</sup>.

issuing DSC. Aspiring bidders who have not obtained the user ID and password for participating in e-procurement in this Project, may obtain the same.

5. Bids must be accompanied by a bid security of the amount specified for the work in the table below, drawn in favour of ***Inland Waterways Authority of India, Ministry of Ports, Shipping & Waterways, Government of India***. Bid security will have to be in any one of the forms as specified in the bidding document and shall have to be valid for 90 days beyond the validity of the bid. Bids should be valid for 90 days after the deadline date specified for submission. Procedure for submission of bid security is described in Para 7.
6. Bids, both Technical and Financial Parts, must be submitted online on ***https://eprocure.gov.in/eprocure/app (website) on or before 15.00 hours on 15.03.2023 and the 'Technical Part' of the bids will be publicly opened online on the same day at 15.30 hours***, in the presence of the bidders who wish to attend. The "Financial Part" shall remain unopened in the e-procurement system until the second public Bid opening for the financial part. Any bid or modifications to bid (including discount) received outside e-procurement system will not be considered. Record of bid opening will be electronically shared with bidders. If the office happens to be closed on the date of opening of the bids as specified, the technical parts of bids will be opened on the next working day at the same time and venue. The electronic bidding system would not allow any late submission of bids.
7. The bidders are required to submit (a) original payment documents towards the cost of bid document; and registration on e-procurement website (if applicable); (b) original bid security in approved form; and (c) original affidavit regarding correctness of information furnished with bid document with Project Director (JMVP), A-13, Sector-1, NOIDA, Gautam Buddha Nagar – 201301, UP before the bid submission deadline, either by registered post/speed post/courier or by hand, failing which the bids will be declared non-responsive and will not be opened
8. The Employer shall not be held liable for any delays due to system failure beyond its control. Even though the system will attempt to notify the bidders of any bid updates, the Employer shall not be liable for any information not received by the bidder. It is the bidders' responsibility to verify the website for the latest information related to this bid.
9. Other details can be seen in the bidding documents
10. The address for communication is as under:

*Vice Chairman & Project Director, Jal Marg Vikas Project  
Inland Waterways Authority of India  
A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301  
+91 120 2424544; Email: [vc.iwai@nic.in](mailto:vc.iwai@nic.in) ;*

Package No	Name of Work	Bid Security * (Rs.)	Cost of Document (Rs.)	Period of Completion
1	2	3	4	5
IN -IWAI- 336174-CW- RFB	<b><i>Providing Fire Protection &amp; Detection System for Multi Modal Terminal at Haldia, West Bengal</i></b>	<b><i>Rs.12,60,700.00</i></b>	<b><i>6,000/- incl. GST</i></b>	<b><i>90 days</i></b>

Seal of office

## Instructions to Bidders

### SECTION - A

<b>1. Scope of Works</b>	The <i>Inland Waterways Authority of India, Ministry of Ports, Shipping &amp; Waterways, Government of India</i> (Employer) invites bids for <i>Providing Fire Protection &amp; Detection System for Multi Modal Terminal at Haldia, West Bengal</i> as detailed in the table given below through the e-procurement portal (website: <a href="https://eprocure.gov.in/cppp">https://eprocure.gov.in/cppp</a> )								
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;">Brief Description of the Works</th> <th style="width: 20%;">Approximate value of Works (Rs.)</th> <th style="width: 20%;">Period of Completion</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><b>Providing Fire Protection &amp; Detection System at MMT - Haldia</b></td> <td style="text-align: center;"><b>6,30,35,000/-</b></td> <td style="text-align: center;"><b>90 days</b></td> </tr> </tbody> </table>			Brief Description of the Works	Approximate value of Works (Rs.)	Period of Completion	<b>Providing Fire Protection &amp; Detection System at MMT - Haldia</b>	<b>6,30,35,000/-</b>	<b>90 days</b>
Brief Description of the Works	Approximate value of Works (Rs.)	Period of Completion							
<b>Providing Fire Protection &amp; Detection System at MMT - Haldia</b>	<b>6,30,35,000/-</b>	<b>90 days</b>							
	The successful bidder will be expected to complete the works by the intended completion date specified above.								
<b>2. Qualification of the bidder</b>	<p>The bidder shall provide qualification information which shall include: -</p> <ol style="list-style-type: none"> <li>1. Total Monetary Value of Similar Works in last (3 yrs.)</li> <li>2. Report on his financial standing</li> <li>3. Details of any litigation, *****</li> </ol> <p>***** Details of any litigation, current or during the last 3 years in which the bidder is involved, the parties concerned and disputed amount or awards in each case.</p>								
<b>3. To qualify for award of the contract, the bidder: -</b>	<ol style="list-style-type: none"> <li>a. Similar Work, such as providing of Fire protection &amp; detection systems at manufacturing plants, multi-rise buildings; underground parking lots; warehouses, office premises, shopping malls, open storages area, port areas, etc. during last 7 years ending last day of month previous to the one in which this tender is invited should have satisfactorily completed as a prime contractor either of following: <ol style="list-style-type: none"> <li>a) Three similar works each costing not less than <b>INR 2.52 Crs</b></li> <li>b) Two similar works each costing not less than <b>INR 3.15 Crs</b></li> <li>c) One similar work costing not less than <b>INR 5.04 Crs</b></li> </ol> </li> </ol>								
	<ol style="list-style-type: none"> <li>b. Average Annual financial turnover during last five years ending 31<sup>st</sup> March of the previous financial year 2021-22, should be i.e., <b>INR 2,52,14,000.00 (INR Two Crore fifty-two lacs thirteen thousand and six hundred only)</b></li> </ol> <p>b.1 Meets Cash Flow of <b>INR 2.10 Crs</b> for minimum of <b>one month</b> of contract period.</p>								
	(c)* should possess valid / relevant license for executing the works as per tender documents building electrification works (in the event of the works being sub-contracted, the sub-contractor should have the necessary license);								

	<p>(d)* should possess required valid license for executing the Firefighting / welding works (in the event of the works being sub-contracted, the sub-contractor should have the necessary license);</p> <p>(* Delete whichever is inapplicable.)</p>
	<p>(e) should not have been debarred or suspended on the date of bid opening by the World Bank Group.</p>
	<p>(f) no contract should have been suspended or terminated and/or performance security called by an employer(s) for reasons related to Environmental, Social (including sexual exploitation and abuse (SEA) and gender-based violence (GBV)), Health, or Safety (ESHS) requirements or safeguards in the past five years.</p>
	<p>(g) availability of liquid assets and/or credit facilities, net of other contractual commitments and exclusive of any advance payments which may be made under the Contract, of not less than <b>INR 2.52 Crs</b></p>
<p><b>3.1 Eligibility - Conflict of Interest*</b></p>	<p>Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:</p> <ul style="list-style-type: none"> <li>i. directly or indirectly controls, is controlled by or is under common control with another Bidder; or</li> <li>ii. receives or has received any direct or indirect subsidy from another Bidder; or</li> <li>iii. has the same legal representative as another Bidder; or</li> <li>iv. has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or</li> <li>v. any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower as Engineer for the Contract implementation;</li> <li>vi. has a close business or family relationship with the concerned professional staff of the Borrower or of the project implementing agency.</li> </ul> <p>(* for further details refer to Procurement Guidelines Clauses 1.6 to 1.8)</p>
<p><b>4. Bid Price</b></p>	<ul style="list-style-type: none"> <li>a) The contract shall be for the whole works as described in drawings and technical specifications. Corrections, if any, can be carried out by editing the information before electronic submission on e-procurement portal.</li> <li>b) All duties, taxes and other levies payable by the contractor under the contract shall be included in the total price.</li> <li>c) The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.</li> <li>d) The Bidder shall fill in the prices for the Works in conformity with the Bidding Documents, both in figures and words.</li> </ul>

<p><b>5. Submission of Bids</b></p>	<p><b>5.1</b> The bidder is advised to visit the site of works at his own expense and obtain all information that may be necessary for preparing the bid.</p> <p><b>5.2</b> Each bidder shall submit only one bid. Bidders should not contact other competing bidders in matters relating to this bid.</p> <p><b>5.3</b> The set of bidding documents comprise of the following:</p>
	<ul style="list-style-type: none"> <li>➤ Section-A. Instructions to Bidders;</li> <li>➤ Section-B. Formats Qualification, bid submission,</li> <li>➤ Section-C Technical Specification containing- <ul style="list-style-type: none"> <li>❖ Bill of Materials;</li> <li>❖ 9 nos. - Fire Protection system drawings.</li> <li>❖ 6 nos. – Fire detection drawings.</li> </ul> </li> <li>➤ Section - D. Bid Acceptance Letter &amp;</li> <li>➤ Draft Contract Agreement format &amp; Guarantee formats</li> </ul>
	<p><b>5.4 Electronic – Procurement System</b></p> <p>The Employer shall use the following electronic-procurement system to manage this Bidding process:</p> <p><a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a></p> <p><i>The clarifications can be sought / sent by e-mail or by hard copy on the following address:</i></p> <p><i>Vice Chairman &amp; Project Director, Jal Marg Vikas Project Inland Waterways Authority of India A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301 +91 120 2424544 ... Email: <a href="mailto:vc.iwai@nic.in">vc.iwai@nic.in</a>;</i></p> <p>Requests for clarification should be received by the Employer no later than <b>Date of Pre-bid Meeting. ( 24.02.2023)</b></p>
	<p><b>5.4.1 A Pre-Bid meeting shall take place.</b></p> <p>A Pre-Bid meeting will take place, at the following date, time and place:</p> <p><b><i>Date: 24.02.2023 Time: 15.00 Hrs IST</i></b></p> <p><b><i>Place: IWAI Noida or Virtual Meet Link as under</i></b></p> <p>IWAI is inviting you to a scheduled Zoom meeting.</p> <p><b><i>Topic: Pre bid Meeting regarding Providing Fire Protection &amp; Detection System for Multi Modal Terminal at Haldia, West Bengal</i></b></p> <p><b><i>Time: Feb 24, 2023 15:00 India</i></b></p>

Join Zoom Meeting

<https://us06web.zoom.us/j/82795813939?pwd=ZGQxZHhJUHFxMWhoUUpEQ2FCTnFFZz09>

Meeting ID: 827 9581 3939

Passcode: 1dECst

One tap mobile

+15642172000,,82795813939#,,,,\*723360# US

+16469313860,,82795813939#,,,,\*723360# US

Dial by your location

+1 564 217 2000 US

+1 646 931 3860 US

+1 669 444 9171 US

+1 669 900 6833 US (San Jose)

+1 689 278 1000 US

+1 719 359 4580 US

+1 929 205 6099 US (New York)

+1 253 205 0468 US

+1 253 215 8782 US (Tacoma)

+1 301 715 8592 US (Washington DC)

+1 305 224 1968 US

+1 309 205 3325 US

+1 312 626 6799 US (Chicago)

+1 346 248 7799 US (Houston)

+1 360 209 5623 US

+1 386 347 5053 US

+1 507 473 4847 US

Meeting ID: 827 9581 3939

Passcode: 723360

Find your local number: <https://us06web.zoom.us/j/kc0bBmF7vg>

**Pre-Bid Queries should reach the employer at the following address or by E-Mail no later than Date of Pre-bid Meeting.**

*Vice Chairman & Project Director, Jal Marg Vikas Project*

*Inland Waterways Authority of India*

*A-13, Sector-1, Noida, Gautam Buddha Nagar, UP - 201301*

*+91 120 2424544 ... Email: [vc.iwai@nic.in](mailto:vc.iwai@nic.in)*

A site visit conducted by the Employer **shall be** organized on request.

**5.4.2** Addendum to Bidding Documents will be hosted on the Employer's e-procurement portal [GOI Central Public Procurement Portal <https://eprocure.gov.in/cppp>]



<p><b>5.5 Online Submission of Bid</b></p>	<p><b>5.5</b> The bid submitted by the bidder shall comprise two parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted and uploaded on-line in separate electronic envelopes, simultaneously.</p> <p><b>The deadline for uploading the bids:</b></p> <p><i>Date: 14.03.2023 Time: 1500 hrs. IST or as amended from time to time.</i></p> <p>Class of DSC required is: <b><i>CLASS – II or above shall be required.</i></b></p>
<p><b>5.5.1 Technical Part</b></p>	<p>The Technical Part shall contain the following: -</p> <ul style="list-style-type: none"> <li>(a) Letter of Bid – Technical Part in the format given in Section B.</li> <li>(b) Qualification information form given in Section B duly completed.</li> <li>(c) Bidder’s confirmation to comply with: <ul style="list-style-type: none"> <li>(i) the applicable Laws/ Rules/ Regulations for protection of environment, public health and safety;</li> <li>(ii) the regulatory authority conditions (if any) attached to any permits or approvals for the project; and</li> <li>(iii) the Management Strategies and Implementation Plan (MSIP) to manage the Environmental, Social (including sexual exploitation and abuse (SEA) and gender-based violence (GBV)), Health and Safety (ESHS) risks, and ESHS Code of Conduct, (if any prescribed by the Employer<sup>2</sup>), that will apply to its employees and all subcontractors.</li> </ul> </li> </ul> <p><b>The Bidder shall furnish a Bid Security for INR 12,60,700.00 and the Cost of Bidding Document of Rs 6,000/- inclusive of GST by Demand Draft or RTGS.</b></p> <p><i>[Note: using the Two-envelope Bidding, the process requires including Bid Security to be submitted in the Technical Part.]</i> In case, the Bid security shall be in the form of a Bank Guarantee as per format attached.</p> <p><b>The Bid Security may be deposited by Demand Draft or Online cash transfer in favour of Bank <u>details are as given below:</u></b></p> <p style="text-align: center;"> <u>Advising Bank: CANARA BANK</u>  <u>Bank Account no.: 87781010014534</u>  <u>IFSC Code: CNRB0018778</u>  <u>Name of beneficiary: IWAI FUND Jal Marg Vikas</u>  <u>Branch name: (Morna), Sector 18, NOIDA</u>  <u>Address: (Morna), Sector 18, NOIDA – 201301</u> </p>

<sup>2</sup> If considered necessary, the Employer may attach minimum requirements for ESHS Management Strategies and Implementation Plans and ESHS Code of Conduct. A sample guidance note is attached at the end of the document.

<p><b>5.5.2 The Financial Part</b></p>	<p>The <b>Financial Part</b> shall contain the following: -</p> <p>The following schedules shall be submitted with the bid: <i><b>Priced Bill of Quantities</b></i></p> <p>(a) Letter of Bid – Financial Part in the format given in Section B;</p> <p>(b) Completed Bill of Quantities. (<i><b>Scanned copy of Bill of Quantities (duly filled in)</b></i>)</p>
<p><b>5.5.3</b></p>	<p>The Technical Part shall not include any information related to the Bid price. Where material financial information related to the Bid price is contained in the Technical Part, the Bid shall be declared non-responsive</p>
<p><b>5.6 Preparation of Bid</b></p>	<p>(a) The Letter of Bid – Technical Part, Letter of Bid – Financial Part, and all documents listed in Clause 5.5, shall be prepared using the relevant forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested. For this purpose, the bidders shall fill up online, the forms that are available for online filling on the e-procurement portal. The rest of the forms shall be download by the bidders and filled up.</p> <p>(b) Bids, both Technical and Financial Parts, shall be simultaneously submitted online on the e-procurement system. Detailed guidelines for viewing bids and submission of online bids are given on the website. Any bidder can logon to this website and view the IFB and details of works for which bids are invited. However, the bidder is required to have enrolment/ registration in the website and should have valid Digital Signature Certificate (DSC) in the form of smart card/e-token obtained from any certifying agency authorised by the Government of India for class of DSC (Class II &amp; above). The bidder should register in the website using the relevant option. Then the Digital Signature registration has to be done with the e-token, after logging into the website. The bidder can then login the website through the secured login by entering the password of the e-token &amp; the user id/ password chosen during registration. After getting the bidding documents, the Bidder should go through them carefully and submit the specified documents alongwith the respective technical and financial parts of the bid, otherwise the bid will be rejected.</p> <p>(c) The completed bid, both Technical and Financial Parts, comprising of documents indicated in ITB 5.5, should be uploaded on the e-procurement portal along with scanned copies of requisite certificates and scanned copies of the bid security and demand drafts for cost of bid document and registration on e-procurement website. All the documents are required to be signed digitally by the bidder. After electronic online bid submission, the system generates a unique bid identification number which is time stamped as per server time. This shall be treated as acknowledgement of bid submission.</p> <p>(d) Any bid or modifications to bid (including discount) received outside e-procurement system will not be considered.</p>

<p><b>5.7</b></p>	<p>Bids, both Technical and Financial Parts, must be uploaded online no later than the time and date given in the Invitation for Bids. A bidder may modify his bid any number of times by using the appropriate option for bid modification on the e-procurement portal, before the deadline for submission of bids. No additional payment towards the cost of bid document is required for bid modifications. A bidder may withdraw his bid by using the appropriate option for bid withdrawal, before the deadline for submission of bids. If a bid is withdrawn, re-submission of the bid is not allowed.</p>
<p><b>5.8</b></p>	<p>The e-procurement system would not allow any late submission of bids after due date &amp; time as per server time.</p>
<p><b>5.9 Submission of Original Documents</b></p>	<p><b>Submission of Original Documents:</b> The bidders are required to submit (i) original demand drafts towards the cost of bid document and registration on e-procurement website (if not previously registered) (as per IFB); and (ii) original bid security in approved form, with the office specified in the IFB, before the bid submission deadline, either by registered/speed post/courier or by hand, failing which such bids will be declared non-responsive, and shall be rejected. Hard copy of bids or any other document are not to be submitted.</p>
<p><b>6. Validity of Bid</b></p>	<p>Bid shall remain valid for a period not less than 90 days after the deadline date specified for submission. If a Bidder withdraws/modifies/substitutes its bid during the period of bid validity specified by the Bidder on the Letter of Bid – Technical Part and repeated in the Letter of Bid – Financial Part, the Bid Security may be forfeited.</p>
<p><b>7 Online Public Opening of Technical Parts of Bids</b></p>	<p><b>Online Public Opening of Technical Parts of Bids</b></p> <p>The Technical Part of the Bids will be publicly opened online in the presence of bidders or their representatives who choose to attend on the date and time given in the Invitation for Bids, and at JMVP -IWAI – NOIDA, and this could also be viewed by the bidders online. The Financial Part of the bids shall remain unopened in the e-procurement system, until the second online public opening, following the evaluation of Technical Parts of the Bids.</p>
<p><b>8. Evaluation of Bids –</b></p>	<p><b>Evaluation of Bids – General provisions</b></p> <p><b>8.1 Information</b> relating to evaluation of bids and recommendations for the award of contract shall not be disclosed to bidders or any other persons not officially concerned with the process until the award to the successful bidder is announced.</p>

<p><b>9. Evaluation of Technical Parts of Bids</b></p>	<p><b>Evaluation of Technical Parts of Bids</b></p> <p><b>9.1</b> The Employer will evaluate the technical parts of the bids to determine to its satisfaction the Bids that are both substantially responsive to the bidding documents and meet the qualification criteria, i.e., which</p> <p>(a) conform to the terms and conditions, specifications and drawings without material deviations;</p> <p>(b) are properly signed; and</p> <p>(c) meet the qualification criteria specified in clause 3 above.</p> <p><b>9.2</b> If a Bid is not substantially responsive to the requirements of the bidding document and does not meet the qualifying criteria, it shall be rejected, and its Financial Part shall not be opened at the second public opening by the Employer.</p>
<p><b>10. Online Public Opening of Financial Parts of Bids</b></p>	<p><b>Online Public Opening of Financial Parts of Bids</b></p> <p><b>10.1</b> Following the completion of the evaluation of the Technical Parts of the Bids, the Employer shall notify in writing those Bidders whose Bids were considered non-responsive to the bidding document or failed to meet the Qualification Criteria, advising them (a) the grounds on which their Technical Part of Bid failed to meet the requirements of the bidding document; and (b) that their Financial Part of Bid shall not be opened.</p> <p><b>10.2</b> The Employer shall, simultaneously, notify in writing those Bidders whose Technical Part of Bids have been evaluated as substantially responsive to the bidding document and met all Qualifying Criteria, advising them (a) that their Bid has been evaluated as substantially responsive to the bidding document and met the Qualification Criteria; and (b) that their Financial Part of Bid shall be opened at the second online public opening of the Financial Parts.</p> <p><b>10.3</b> The Employer shall notify all bidders the date, time, and place of the second online public opening of the Financial Parts of the Bids. The opening date should allow Bidders sufficient time (normally not less than 7 days) to make arrangements for attending the opening. The Financial Parts of the Bids referred to in Clause 10.2 will be publicly opened online in the presence of bidders or their representatives who choose to attend, and this could also be viewed by the bidders online.</p> <p>In the event of the specified date of the bid opening of financial parts being declared a holiday for the Employer, the bids will be opened at the appointed time and location on the next working day.</p>

<p><b>11. Evaluation of Financial Parts of Bids</b></p>	<p><b>11. Evaluation of Financial Parts of Bids</b></p> <p><b>11.1 Correction of Arithmetical Errors</b>          Bids determined to be substantially responsive shall be checked for any arithmetic errors. Errors shall be corrected as follows:</p> <ul style="list-style-type: none"> <li>(a) where there is a discrepancy between the amounts in figures and in words, the amount in words shall govern;</li> <li>(b) where there is a discrepancy between the unit rate and the line-item total resulting from multiplying the unit rate by the quantity, unit rate as quoted shall govern; and</li> <li>(c) the amount stated in the Bid shall be adjusted in accordance with the above procedure for the correction of errors</li> </ul> <p>If the Bidder does not accept the corrected amount, the Bid shall be rejected, and the Bid Security may be forfeited.</p>
	<p><b>11.2 Comparison of Financial Parts</b>          The Employer shall compare the evaluated prices of all substantially responsive bids to determine the lowest evaluated bid.</p>
<p><b>12. Award of contract</b></p>	<p><b>Award of contract</b></p> <p>The Employer will award the contract to the bidder whose bid has been determined to be substantially responsive and who has offered the lowest evaluated bid price and who meets the specified qualification criteria.</p> <p><b>12.1</b> Notwithstanding the above, the Employer reserves the right to accept or reject any bids and to cancel the bidding process and reject all bids at any time prior to the award of contract.</p> <p><b>12.2</b> The bidder whose bid is accepted will be notified of the award of contract by the Employer prior to expiration of the bid validity period.</p> <p><b>12.3</b> The Bid security of unsuccessful bidders will be returned as promptly as possible upon the successful Bidder's signing the contract and furnishing the performance security pursuant to ITB 13.</p>
<p><b>13. Performance Security</b></p>	<p>Within 15 days of receiving letter of acceptance, the successful bidder shall deliver to the Project Director (JMVP) IWAI, Noida the performance security (either a bank guarantee or a bank draft in favour of the Employer) for an amount equivalent of 5% of the contract price and 1.5% towards ESHS performance. The Performance Securities shall be valid until a date 28 days after the date of issue of the Certificate of Completion. Failure of the successful Bidder to furnish performance securities and sign the agreement within the period stipulated shall constitute sufficient grounds for annulment of award and forfeiture of the Bid Security, in which case the Employer may make the award to the next lowest evaluated bidder or call for new bids.</p>

<p><b>14. Defects Liability:</b></p>	<p><b>14. Defects Liability:</b></p> <p>The “Defects Liability Period” for the work is <i>Three (3) months</i> from the date of taking over possession or one full monsoon season whichever occurs later. During this period, the contractor will be responsible for rectifying any defects in construction free of cost to the Employer.</p>
<p><b>15 Standards</b></p>	<p>15. Supply of all construction materials including cement and steel as per the specifications (ISI certification marked goods wherever available) shall be the responsibility of the contractor.</p>
<p><b>16. Corrupt and Fraudulent Practices</b></p>	<p><b>16. Corrupt and Fraudulent Practices</b></p> <p>The World Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section C. In further pursuance of this policy, Bidders shall permit and shall cause their agents (whether declared or not), sub-contractors, sub-consultants, service providers, or suppliers and any personnel thereof, to permit the Bank to inspect all accounts, records and other documents relating to any prequalification process, bid submission, and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.</p>
<p><b>17. Foreclosure of Contract</b></p>	<p>If at any time after acceptance of the tender, the authority decides to abandon or reduce the scope of works for reasons whatsoever and hence doesn't require the whole or any part of the works to be carried out, the Engineer-In-charge with the approval of competent authority shall give notice in writing to that effect to the contractor. However, pro rata payment shall be made for the completed works.</p>
<p><b>18. ESHS Risks &amp; Obligations</b></p>	<p><b>18. ESHS Risks &amp; Obligations</b></p> <p>The Bidder shall document and submit the Code of Conduct that will apply to its employees and subcontractors, to mitigate ESHS risks and to ensure compliance with its Environmental, Social, Health and Safety (ESHS) obligations under the contract. In addition, the Bidder shall submit an outline of how this Code of Conduct will be implemented and availability of qualified and trained personnel to supervise and implement the action plan. This will include: how it will be introduced into conditions of employment/engagement, what training will be provided, how it will be monitored and how the Contractor proposes to deal with any breaches.</p> <p>The Bidder shall accordingly submit a comprehensive and concise Management Strategies and Implementation Plan (MSIP) to manage the Environmental, Social (including sexual exploitation and abuse (SEA) and gender-based violence (GBV)), Health and Safety (ESHS) risks, and ESHS Code of Conduct. The plan shall describe the actions, materials, equipment, management processes etc. that will be implemented by the Contractor, and its subcontractors.</p>

	<p>The Plan shall include at the minimum</p> <ul style="list-style-type: none"><li>(i) construction traffic management plan to ensure safety of local communities from construction traffic;</li><li>(ii) water resource protection plan to prevent contamination of drinking water;</li><li>(iii) boundary marking and protection strategy to prevent depositing on private land and offsite adverse impacts;</li><li>(iv) gender based violence and sexual exploitation and abuse (GBV/SEA) prevention and response action plan;</li><li>(v) program to address regulatory authority conditions attached to any permits or approvals for the project;</li><li>(vi) mobilization strategy;</li><li>(vii) worker's camp management plan including the process for mitigating construction related impacts on local community etc.</li></ul>
<b>18.</b>	

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## **SECTION - B**

- 1. Format for Qualification Information.**
- 2. Format for Submission of Bid.**
- 3. Format of Letter of Acceptance.**



**Appendix to Technical Part**

**QUALIFICATION INFORMATION**

**1 For Individual Bidders**

**1.1** Principal place of business: \_\_\_\_\_

Power of attorney of signatory of Bid. *[Attach copy]*

**1.2** Total value of Similar Works 2019-20 \_\_\_\_\_  
 construction work performed in the last 2020-21 \_\_\_\_\_  
 three years (in Rs. Lakhs) 2021-22 \_\_\_\_\_

**1.3** Work performed as prime contractor (in the same name) on works of a similar nature over the last three years.

Project Name	Name of Employer	Description of work	Contract No.	Value of contract (Rs. Lakhs)	Date of issue of work order	Stipulated period of completion	Actual date of completion	Remarks explaining reasons for delay and work completed

Existing commitments and on-going works:

Description of Work	Place & State	Contract No. & Date	Value of Contract (Rs. Lakh)	Stipulated period of completion	Value of works* remaining to be completed (Rs. Lakhs)	Anticipated date of completion
(1)	(2)	(3)	(4)	(5)	(6)	(7)

\* Enclose a certificate from Engineer concerned.

\*\* Modify as appropriate.

**1.4 Proposed subcontracts and firms involved.**

<b>Sections of the works</b>	<b>Value of Sub-contract</b>	<b>Sub-contractor (name &amp; address)</b>	<b>Experience in similar work</b>

**1.5** Evidence of access to financial resources to meet the requirement of working capital: cash in hand, lines of credit, etc. List them below and attach copies of supporting documents.

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

**1.7** Information on litigation history in which the Bidder is involved.

<b>Other party(ies)</b>	<b>Employer</b>	<b>Cause of dispute</b>	<b>Amount involved</b>	<b>Remarks showing present status</b>

**1.8** Contract(s) suspended or terminated and/or Performance Security called by an employer(s) for reasons related to Environmental, Social (including sexual exploitation and abuse (SEA) and gender-based violence (GBV)), Health, or Safety (ESHS) performance during the last five years.

<b>Contract(s) suspended or terminated by an Employer(s)</b>			
<b>Year</b>	<b>Contract Identification, Name and address of the Employer, and reasons for suspension or termination</b>	<b>Amount of suspended or terminated portion of contract (Rs)</b>	<b>Total Contract Amount (Rs)</b>
<b>Performance Security called by an employer(s)</b>			
<b>Year</b>	<b>Contract Identification, Name and address of the Employer, and reasons for calling of performance security</b>	<b>Total Contract Amount (Rs)</b>	

## Environmental, Social, Health, and Safety Performance Declaration

- No suspension or termination of contract:** An employer has not suspended or terminated a contract and/or called the performance security for a contract for reasons related to Environmental, Social, Health, or Safety (ESHS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.2.5.
- Declaration of suspension or termination of contract:** The following contract(s) has/have been suspended or terminated and/or Performance Security called by an employer(s) for reasons related to Environmental, Social, Health, or Safety (ESHS) performance since the date specified in Section III, Qualification Criteria, and Requirements, Sub-Factor 2.2.5. Details are described below:

Year	Suspended or terminated portion of contract	Contract Identification	Total Contract Amount (Rs.)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s) e.g. for GBV/ SEA breaches]</i>	<i>[insert amount]</i>
...	...	<i>[list all applicable contracts]</i>	...

### Performance Security called by an employer(s) for reasons related to ESHS performance

Year	Contract Identification	Contract Amount (Rs.)
<i>[insert year]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for suspension or termination: <i>[indicate main reason(s) e.g. for GBV/ SEA breaches]</i>	<i>[insert amount]</i>

## ***LETTER OF BID – Technical Part (Bidder’s Letter head)***

\*

Description of the Works:

**Providing Fire Protection & Detection System for Multi Modal Terminal at Haldia,  
West Bengal**

Date: .....

Invitation for Bid No.: .....

To:

Subject : Construction of .....  
.....

Sir,

\*\*We, the undersigned, hereby submit our bid, in two parts, namely:

- (a) the Technical Part, and
- (b) the Financial Part

In submitting our Bid, we make the following declarations:

We have no reservations to the Bidding Documents, and offer to execute the Works in conformity with the Bidding Documents in accordance with the Conditions of Contract enclosed therein.

We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in bribery or collusive arrangements with competitors.

We hereby confirm that this bid is valid for 90 days as required in Clause 6 of the Instructions to Bidders.

We meet the eligibility requirements and have no conflict of interest in accordance with ITB 3.1

We have not been currently debarred or suspended by the World Bank Group.

Yours faithfully,

Authorized Signature : Date: \_\_\_\_\_

Name & Title of Signatory : \_\_\_\_\_

Name of Bidder : \_\_\_\_\_

Address : \_\_\_\_\_

\* To be filled in by the Employer before issue of the bidding documents.

\*\* To be filled in by the Bidder, together with his particulars and date of submission at the bottom of this Form.

## ***LETTER OF BID – Financial Part (Bidders Letter head)***

\*

Description of the Works:

Providing Fire Protection & Detection System for Multi Modal Terminal at Haldia, West Bengal

Date: .....

Invitation for Bid No.: .....

To:

Subject : Construction of .....

Sir,

We, the undersigned, hereby submit the second part of our Bid and the Bid Price. This accompanies the Letter of Bid - Technical Part. In submitting our Bid, we make the following declarations:

We hereby confirm that this bid is valid for 90 days as required in Clause 6 of the Instructions to Bidders.

We have not been debarred/removed<sup>3</sup> from approved list (dealings suspended) by the Central or any State Government or any Government Undertaking or by the World Bank Group.

We have no reservations to the Bidding Documents, and offer to execute the Works in conformity with the Bidding Documents in accordance with the Conditions of Contract enclosed therein at a total Fixed Contract Price of –

Rs. \*\* \_\_\_\_\_ [in figures]

Rs. \_\_\_\_\_ [in words].

Yours faithfully,

Authorized Signature : \_\_\_\_\_ Date: \_\_\_\_\_

Name & Title of Signatory : \_\_\_\_\_

Name of Bidder : \_\_\_\_\_

Address : \_\_\_\_\_

\* To be filled in by the Employer before issue of the bidding documents.

\*\* To be filled in by the Bidder, together with his particulars and date of submission at the bottom of this Form.

<sup>3</sup> If debarred/removed, please provide further details.

<b>Appendix to Financial Part</b>					
<b>Annexure I</b>					
<b><u>Bill of Quantities / Materials</u></b>					
The approximate Bill of Quantities is indicated below to give an idea of the work which should be executed in accordance with the approved drawings and specifications to enable the bidder to furnish the lump sum price. Bidders may, however, note that no variations in the lump sum cost is acceptable (except where extra items are ordered by the Engineer).					
Sl. No.	Description of Item as per CPWD SOR (E & M) 2022	Preferred Make	Unit	Estimated QTY	Ref CPWD SOR 2022 Page no.
<b>1</b>	<b>Fire Pumps, Valves &amp; Accessories</b>	-			
	<b>Hydrant Pump</b>	-			
1.1	Supply, Installation, Testing & Commissioning of electrical motor driven fire water pumping set factory assembled of capacity 2850 lpm at a total head of 88 m and suitable for automatic operation, consisting of the following and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification drawing and direction of Engineer-in-charge (fully mechanical seal by maker)	Kirloskar /KSB	Set	1	P-60 (18.1.1)
	<b>Sprinkler Pump</b>	-			
1.1 A	Supply, Installation, Testing & Commissioning of electrical motor driven fire water pumping set factory assembled of capacity 2850 lpm at a total head of 88 m and suitable for automatic operation, consisting of the following and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification drawing and direction of Engineer-in-charge (fully mechanical seal by maker)	Kirloskar /KSB	Set	1	P-60 (18.1.1)
	<b>Water Curtain Pump</b>	-			
1.1 B	Supply, Installation, Testing & Commissioning of electrical motor driven fire water pumping set factory assembled of capacity 2850 lpm at a total head of 70 m and suitable for automatic operation, consisting of the following and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification drawing and direction of Engineer-in-charge (fully mechanical seal by maker)	Kirloskar /KSB	Set	1	P-60 (18.1.2)
1.2	Supply, Installation, Testing & Commissioning of Diesel Engine driven fire water pumping set factory assembled of capacity 2850 lpm at a total head of 88 M. and suitable for automatic operation, consisting of the following and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification drawing and direction of Engineer-in-charge (fully mechanical seal by maker)	Kirloskar/KSB	Set	1	P-61 (18.2.1)

1.3	Supply, Installation, Testing & Commissioning of <b>electrical motor driven automatic pressurization (jockey) pumping set</b> factory assembled consisting of the following and complete in respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Kirloskar /KSB	Set	2	P-61 (18.3.1)
1.4	Supply, Installation, Testing & Commissioning of cubical type floor/wall mounted fire pump control panel, fabricated from 14 g MS sheet duly powder coated finish of approved shade, comprising of incoming isolator with fuse, volt meter with selector switch & protection fuse, indicating lamps(one for each phase) with protection fuse, Amp. Meter with 3 nos. C.T. & selector for fire pump motor (3 Nos.) with over load relay, timer, push buttons and auto/manual selector switches & auxiliary contactor for auto impulse, fully automatic D.O.L. starters suitable for jockey pump motor (2 Nos.) with over load relay, push buttons and auto/manual selector switches & auxiliary contractor for auto impulse, On Off / Trip - neon indicating lamp, etc. duly wired & terminated to accept all incoming & outgoing cables and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge ( <b>100 HP</b> )		Set	1	P-67 (18.5.6)
1.5	Supply, Installation, Testing & Commissioning of C.I. Swing Check type non-return valves (IS:5312, PN 1.6) complete with matching flanges, rubber insertion, nuts, bolts and washer etc. of following sizes complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge.				
1.5.1	200 mm dia	Audco / NVR/Venus/Zoloto	Each	1	P-69 (18.14.8)
1.5.2	150 mm dia	Audco / NVR/Venus/Zoloto	Each	4	P-69 (18.14.7)
1.5.3	100 mm dia	Audco / NVR/Venus/Zoloto	Each	0	P-69 (18.14.5)
1.5.4	80 mm dia	Audco / NVR/Venus/Zoloto	Each	0	P-69 (18.14.4)
1.5.5	65 mm dia	Audco / NVR/Venus/Zoloto	Each	0	P-69 (18.14.3)
1.5.6	50 mm dia	Audco / NVR/Venus/Zoloto	Each	2	P-69 (18.14.2)

1.6	Supply, Installation, Testing & Commissioning of slim seal butterfly valves class PN 1.0 as per IS:14846 complete with matching flanges, rubber insertion, nuts, bolts and washer etc. following sizes and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge.				
1.6.1	200mm dia	Audco / NVR/Venus/Zoloto	Each	0	P-69 (18.11.7)
1.6.2	150mm dia	Audco / NVR/Venus/Zoloto	Each	1	P-69 (18.11.6)
1.6.3	100mm dia	Audco / NVR/Venus/Zoloto	Each	1	P-69 (18.11.5)
1.7	Supply, Installation, Testing & Commissioning of slim seal pressure gauge	H.Guru	Each	9	Non-Scheduled item
1.8	Supply, Installation, Testing & Commissioning of Y- Strainer				
1.8.1	250 mm dia	Audco / NVR/Venus/Zoloto	Each	2	P-69 (18.15.5)
1.8.2	200 mm dia	Audco / NVR/Venus/Zoloto	Each	0	P-69 (18.15.4)
1.9	Supply, Installation, Testing & Commissioning of non-rising spindle type CI gate valves class PN 1.6 as per IS14846 complete with matching flanges, rubber insertion, nuts, bolts and washer etc. of following sizes and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
1.9.1	250 mm dia	Audco / NVR/Venus/Zoloto	Each	2	P-69 (18.12.8)
1.9.2	200 mm dia	Audco / NVR/Venus/Zoloto	Each	6	P-69 (18.12.7)
1.9.3	150 mm dia	Audco / NVR/Venus/Zoloto	Each	4	P-69 (18.12.6)
1.9.4	80 mm dia	Audco / NVR/Venus/Zoloto	Each	4	P-69 (18.12.4)
1.9.5	65 mm dia	Audco / NVR/Venus/Zoloto	Each	0	P-69 (18.12.3)
1.9.6	50 mm dia	Audco / NVR/Venus/Zoloto	Each	2	P-69 (18.12.2)
1.10	Supply, Installation, Testing & Commissioning of ball valve with hard chrome plated ball inside PTFE (Teflon) seat & ring with chrome plated center handle with female BSP threads of following sizes and complete in all respect with all labour, tools &				



	plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
1.10.3	15 mm dia nominal bore	Audco / NVR/Sant	Each	16	Non-Scheduled item
1.11	Supply, Installation, Testing & Commissioning of differential type pressure switch including piping connection and complete in all respect with labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	INDFOSS	Each	6	P-70 (18.22)
1.12	Supply, Installation, Testing & Commissioning of Power Cabling with earthing for fire pump/ jockey pump/ booster pump and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
1.12.1	POWER CABLING 3C X 95 mm <sup>2</sup>	Polycab, Havells	MTR.	150	Non-Scheduled item
1.12.2	POWER CABLING 3C X 25 mm <sup>2</sup>	Polycab, Havells	MTR.	100	
1.13	Supply, Installation, Testing & Commissioning of Control Cabling for connection between pressure switch and pump control panel by 1.5 Sq. mm PVC insulated copper wire with PVC conduit including earthing and complete in all respect with all labour, tools & plants, transportation, taxes levies etc. and as per specification, drawing and direction of Engineer-in-charge.				
1.13.1	CONTROL CABLE 3C X 2.5 sqmm	Polycab, Havells	MTR.	60	Non-Scheduled item
1.13.2	CONTROL CABLE 3C X 1.5 sqmm	Polycab, Havells	MTR.	250	
1.14	Supply, Installation and fixing 25 mm x 6 mm GI strip in on surface (or) in recess for earth connection of motors	Reputed	Mtr	200	Non-Scheduled item
1.15	Installation and fixing 25 mm x 3 mm GI strip in on surface (or) in recess for earth connection etc., as required.	Reputed	Mtr	100	Non-Scheduled item
1.16	Supply, installing, testing and commissioning of black steel 'MS' pipes conforming to IS : 1239 Heavy Duty up to 150 mm dia and IS : 3589 Gr 330 for 200mm and above (from minimum 6mm thick for pipes up to 500 mm dia) including all fittings like anchor fasteners, couplings, bends, elbows, tees, flanges, etc. welding as required painting with one coat of red-oxide primer and two or more coats of synthetic enamel paints to give an even shade including all civil breakages, cutting holes and chases in brick or RCC walls and making good complete.				

1.16.1	50 mm dia.	TATA/Jindal / Nezone	Mtr	6	P-68 (18.7.4)
1.16.2	65 mm dia.	TATA/Jindal / Nezone	Mtr		P-68 (18.7.5)
1.16.3	80 mm dia.	TATA/Jindal / Nezone	Mtr	12	P-68 (18.7.6)
1.16.4	100 mm dia	TATA/Jindal / Nezone	Mtr	6	P-68 (18.7.7)
1.16.5	150 mm dia.	TATA/Jindal / Nezone	Mtr	18	P-68 (18.7.8)
1.16.6	200 mm dia. (6.3 mm thickness)	TATA/Jindal / Nezone	Mtr	12	P-68 (18.7.9)
1.16.7	250 mm dia. (6.3 mm thickness)	TATA/Jindal / Nezone	Mtr	12	P-68 (18.7.10)
1.16.8	300 mm dia. (7.1 mm thickness)	TATA/Jindal / Nezone	Mtr		P-68 (18.7.11)
1.17	Supply, Installation, Testing & Commissioning of Four way fire brigade inlet connection consisting of 63 mm dia instantaneous type of alloy steel male coupling with built-in check valve and 150 mm dia flanged outlet including bolts, nuts & rubber insertion as required as IS:904 and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Attasee/ Fire shield	Each	1	P-70 (18.19.2)
1.18	Supply, Installation, Testing & Commissioning of Two way fire brigade draw-out connection consisting of 63 mm dia instantaneous type of alloy steel male coupling with built in check valve and 100 mm dia flanged outlet including bolts, nuts & rubber insertion as required as IS:904 and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc and as per specification, drawing and direction of Engineer-in-charge	Attasee/ Fire shield	Each	1	P-70 (18.19.1)
1.19	Supply, Installation, Testing & Commissioning of Foot Valve and as per specification, drawing and direction of Engineer-in-charge				
1.19.1	100 mm dia	Zoloto / Venus	Each	1	Non-Scheduled item
1.20	Supply, Installation, Testing & Commissioning of Power Cabling for supply of power to pump house from second point				
1.20.1	POWER CABLING 3.5C X 300 mm <sup>2</sup>	Polycab / Havells	MTR.	700	Non-Scheduled item
<b>2</b>	<b>Fire Hydrant &amp; Wet Riser System</b>	-			

2.1	Supply, Installation, Testing & Commissioning of single headed, ISI marked oblique pattern hydrant/landing valve of gun metal with 80 mm dia flanged inlet and 63 mm dia instantaneous type female outlet with PVC cap & GI chain including all accessories as per IS:5290 (type A) and complete in all respect with all labour, tools & plants, and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Attasee / Fire shield	Each	86	P-68 (18.9.1)
2.2	Supply, Installation, Testing & Commissioning of swinging type First-Aid fire hose reel with drum, fabricated base, 20 mm dia x 30 M long high-pressure rubber hose reel tubing (Dunlop or equivalent make), ABC triple purpose nozzle as per IS:884 and complete in all respect with all labour, tools & plants, transportation, taxes levies etc. and as per specification, drawing and direction of Engineer-in-charge				
2.2.1	suitable for 150 mm NB pipe	Attasee/ Fire shield	Each	8	P-70 (18.17.1)
2.3	Supply, Installation, Testing & Commissioning of RRL hose ISI marked (IS:8423) 63 mm dia x 15 M long complete with instantaneous type gun metal 63 mm dia ISI marked male & female couplings (IS:903) bounded & riveted to hose pipe with copper rivets & 1.5 mm copper wire and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Attasee/ Fire shield	Each	172	P-70 (18.16.1)
2.4	Supply, Installation, Testing & Commissioning of gun metal branch pipe with 63 mm instantaneous coupling ISI marked (IS:903) including 20 mm dia nozzle and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Attasee/ Fire shield	Each	86	P-70 (18.18.1)
2.5	Supply, Installation, Testing & Commissioning of Four way fire brigade inlet connection consisting of 63 mm dia instantaneous type of alloy steel male coupling with built-in check valve and 150 mm dia flanged outlet including bolts, nuts & rubber insertion as required as IS:904 and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Attasee/ Fire shield	Each	1	P-70 (18.19.2)
2.6	Supply, Installation and fixing MS fire hose cabinet of approximate size 750 x 600 x 300 mm deep fabricated from 2.0 mm thick and 16-gauge Apodised aluminum sheet with single or double glazed front door and pad	Attasee/ Fire shield	Each	8	Non-Scheduled item

	locking arrangement, painted Fire Red with Stove enameled paint Fire Hose written on front including necessary supports complete. (For Internal Commercial area) accommodate 1 nos. 15 m long 63 mm dia hose as per specification				
	Supply, Installation and fixing MS fire hose cabinet of approximate size 750x600x300 mm deep fabricated from 2.0mm thick and 16 gauge anodized aluminum sheet with single or double glazed front door and pad locking arrangement, painted Fire Red with Stove enameled paint Fire Hose written on front including necessary supports complete. (For terrace and external hydrants)	Attasee/ Fire shield	Each	78	Non-Scheduled item
2.7	Supply, Installation, Testing & Commissioning of mild steel black pipe Heavy Duty (IS:1239 Part I, for sizes 150 mm mild steel black pipe Heavy Duty (IS:1239 Part I, for sizes 150 mm dia and below IS:3589 for sizes above 150 MM dia) of following sizes including cutting, threading, welding etc. bends, elbows, reducers, clamps hangers etc. including pipe supports, brackets etc. and cutting hole in brick or RCC walls / slabs including painting with one coat of primer and two or more coats of synthetic enamel paint of approved make and said including all steel work and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
2.7.1	200 mm dia,	TATA/Jindal / Nezone	RM	2064	P-68 (18.7.9)
2.7.1	150 mm dia,	TATA/Jindal / Nezone	RM	1014	P-68 (18.7.8)
2.7.2	100 mm dia,	TATA/Jindal / Nezone	RM	222	P-68 (18.7.7)
2.7.3	80 mm dia,	TATA/Jindal / Nezone	RM	60	P-68 (18.7.6)
2.7. A	<b>Under Ground Piping (External)</b>				
	Installation and fixing black steel pipes Heavy Class confirming to IS: 1239 (Part-I) 2004, amended up to date including all fittings like bends, elbows, tees, flanges, etc., welding as required including painting, wrapping and coating of the pipes as per IS: 10221-2008 in all kinds of soil at a depth 1.0 m including excavation and refilling the trench all complete.				
2.7. A.1	150 mm dia (For Yard Hydrant Line)	TATA/Jindal / Nezone	RM	90	P-67 (18.6.2)

2.7. A.2	200 mm dia (For Yard Hydrant Line)	TATA/Jindal / Nezone	RM	150	P-67 (18.6.1)
2.8	Supply, Installation, Testing & Commissioning of 250 mm dia Air Vessel with 25 mm Air Release Valve	Audco / NVR/Venus/Zoloto	Each	2	P-70 (18.20)
2.9	Installation and fixing Cast Iron wafer type butterfly valves of C.I / S.S (304) disc, Nitrile/EPDM rubber lining of PN-16 pressure rating complete with bolts, nuts, 3.0 mm thick compressed asbestos gasket, companion flanges as per table 'E' complete in all respects.	Audco / NVR/Venus/Zoloto			
a)	100 mm dia with lever (For Landing Valve)		Each	6	P-69 (18.11.5)
2.10	Supply, Installation and fixing dial type pressure gauge with isolation cock and chrome plated copper pipe at hydrant station.	H.Guru			
a)	Dial diameter 150 mm calibration 0-15 kg/cm <sup>2</sup> .		Each	6	Non-Scheduled item
2.11	Supply, Installation, Testing & Commissioning of non-rising spindle type CI gate valves class PN 1.6 as per IS14846 complete with matching flanges, rubber insertion, nuts, bolts and washer etc. of following sizes and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
2.11.1	200 mm dia	Audco / NVR/Venus/Zoloto	Each	6	P-69 (18.12.7)
2.11.2	150 mm dia	Audco / NVR/Venus/Zoloto	Each	3	P-69 (18.12.6)
2.12.	Supply, Installation, Testing & Commissioning of NP4 Hume Pipe				
2.12.1	400 mm dia		RM	150	Non-Scheduled item
2.12.2	300 mm dia		RM	75	
<b>3</b>	<b>Sprinkler System</b>	-			
3.1	Supply, Installation, Testing & Commissioning of 15 mm size (Male threaded, BSP) Quartzoid bulb type G.M. Sprinkler head suitable to operate at 68 deg. C/79 deg. C (UL/FM/LOC listed/ approved) and complete in all respect with all labour, tools & plants, transportation, taxes levies etc. and as per specification, drawing and direction of Engineer-in-charge				
3.1.1	Standard pendent type in chrome finish	HD/ Viking	Each	650	P-70 (18.21.1)
3.1.2	Standard side throw type in chrome finish (Extended Coverage)	HD/ Viking	Each	18	P-70 (18.21.3)

3.2	Installation, Testing & Commissioning of mild steel black pipe Heavy Duty (IS:1239 Part I, for sizes 150 mm dia and below IS:3589 for sizes above 150 MM dia) of following sizes including cutting, threading, welding etc. bends, elbows, reducers, clamps hangers etc. including pipe supports, brackets etc. and cutting hole in brick or RCC walls / slabs including painting with one coat of primer and two or more coats of synthetic enamel paint of approved make and said including all steel work and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
3.2.1	150 mm dia	TATA/Jindal / Nezone	RM	924	P-68 (18.7.8)
3.2.2	100 mm dia	TATA/Jindal / Nezone	RM	18	P-68 (18.7.7)
3.2.3	80 mm dia	TATA/Jindal / Nezone	RM	492	P-68 (18.7.6)
3.2.4	65 mm dia	TATA/Jindal / Nezone	RM	324	P-68 (18.7.5)
3.2.5	50 mm dia,	TATA/Jindal / Nezone	RM	384	P-68 (18.7.4)
3.2.6	40 mm dia	TATA/Jindal / Nezone	RM	282	P-68 (18.7.3)
3.2.7	32 mm dia,	TATA/Jindal / Nezone	RM	120	P-68 (18.7.2)
3.2.8	25mm dia,	TATA/Jindal / Nezone	RM	474	P-68 (18.7.1)
3.3	<b>Under Ground Piping (External)</b>				
3.3.1	Installation and fixing black steel pipes Heavy Class confirming to IS: 1239 (Part-I) 2004, amended up to date including all fittings like bends, elbows, tees, flanges, etc., welding as required including painting, wrapping and coating of the pipes as per IS: 10221-2008 in all kinds of soil at a depth 1.0 m including excavation and refilling the trench all complete.				
	150 mm dia (For Yard Sprinkler Line)	TATA/Jindal / Nezone	RM	90	P-67 (18.6.2)
3.4	Supply, Installation and fixing of stainless steel (A1S1 304) unbraided flexible pipe for dropping sprinklers below false ceiling of 25mm dia of the following length and rated working pressure of 16 Kg/cm <sup>2</sup> with all accessories like union, reducer, collar, clamp etc. as required. The flexible pipe shall be UL approved.				
3.4.1	700 mm	HD/Viking	Each		P-71

					(18.25.1)	
3.4.2	1000 mm	HD/Viking	Each		P-71 (18.25.2)	
3.4.3	1500 mm	HD/Viking	Each	184	P-71 (18.25.3)	
3.5	Supply, Installation and fixing electrically operated flow indicating switches including 1.5 mm thick compressed asbestos gasket, nuts and bolts complete. (Wiring from flow switches to control panel not included)					
3.5.1	65 mm dia		Each	0		
3.5.2	80 mm dia		Each	0		
3.5.3	100 mm dia		Each	6	P-70 (18.23.1)	
3.5.4	150 mm dia		Each	2	P-70 (18.23.2)	
3.6	Supply, Installation, Testing and Commissioning of 150 mm dia. Installation Control Valve assembly comprising of vertical wet alarm valve, hydraulic alarm motor & gong, 15 mm dia test valve, 50 mm dia drain valve and all necessary connections as per manufacturer's specifications complete as required. (UL / FM / LPC / TAC listed / approved).		Attasee/ Fire shield	Each	1	P-71 (18.24.3)
3.7	Installation and fixing brass ball valve full bore type tested for 20 kg/cm <sup>2</sup> with lever and screwed female ends.		Audco / NVR/Venus/Zoloto			
3.7.1	25 mm dia		Each	8	Non-Scheduled item	
3.7.2	50 mm dia		Each	4		
3.8	Installation and fixing Cast Iron wafer type butterfly valves of C.I / S.S (304) disc, Nitrile/EPDM rubber lining of PN-16 pressure rating complete with bolts, nuts, 3.0 mm thick compressed asbestos gasket, companion flanges as per table 'E' complete in all respects.		Audco / NVR/Venus/Zoloto			
a)	65 mm dia with lever		Each	1	P-69 (18.11.3)	
b)	80 mm dia with lever		Each	3	P-69 (18.11.4)	
c)	100 mm dia with lever		Each	1	P-69 (18.11.5)	
d)	150 mm dia with lever		Each	5	P-69 (18.11.6)	
3.9	Installation and fixing Cast Iron Swing Type with Natural Rubber Flap non return valves conforming to IS: 5312-1984 (Part-I) of PN-16 pressure rating with flanged ends to IS: 1538 including washer, nuts bolts, 1.5 mm thick compressed asbestos gasket companion flanges as per table "E" complete in all respects.		Audco / NVR/Venus/Zoloto			
a)	100 mm dia with lever		Each		P-69 (18.14.5)	
b)	150 mm dia with lever (For FB Connection & @ Terrace)		Each		P-69 (18.14.7)	

3.1	Supply, Installation, Testing & Commissioning of 250 mm dia Air Vessel with 25 mm Air Release Valve	Audco / NVR/Venus/Zoloto			
a)	25 mm dia		Each	5	P-70 (18.20)
3.11	Supply, Installation and fixing dial type pressure gauge with isolation cock and chrome plated copper pipe at hydrant station.	H.Guru			
a)	Dial diameter 150 mm calibration 0-15 kg/cm <sup>2</sup> .		Each	2	Non-Scheduled item
b)	Dial diameter 100 mm calibration 0-15 kg/cm <sup>2</sup> .		Each	2	Non-Scheduled item
3.12	Supply, Installation, Testing & Commissioning of NP4 Hume Pipe				Non-Scheduled item
	300 mm dia		RM	90	
<b>4</b>	<b>Water Curtain System</b>				
4.1	Installation, Testing & Commissioning of mild steel black pipe Heavy Duty (IS:1239 Part I , for sizes 150 mm dia and below IS:3589 for sizes above 150 MM dia) of following sizes including cutting, threading, welding etc. bends, elbows, reducers, clamps hangers etc. including pipe supports, brackets etc. and cutting hole in brick or RCC walls / slabs including painting with one coat of primer and two or more coats of synthetic enamel paint of approved make and said including all steel work and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
4.1.1	150 mm dia	TATA/Jindal / Nezone	RM	786	P-68 (18.7.8)
4.1.2	100 mm dia	TATA/Jindal / Nezone	RM	60	P-68 (18.7.7)
4.2	<b>Under Ground Piping (External)</b>				
	Installation and fixing black steel pipes Heavy Class confirming to IS: 1239 (Part-I) 2004, amended up to date including all fittings like bends, elbows, tees, flanges, etc., welding as required including painting, wrapping and coating of the pipes as per IS: 10221-2008 in all kinds of soil at a depth 1.0 m including excavation and refilling the trench all complete.				
4.2.1	150 mm dia (For Yard Water Curtain Line)	TATA/Jindal / Nezone	RM	90	P-67 (18.6.2)
4.2	Supply, Installation, Testing & Commissioning of Water Curtain Nozzle	HD/ Viking	Each	72	P-71 (18.27)
4.2. A	Supply, Installation, Testing & Commissioning of Open Nozzle		Each	28	



4.3	Deluge valve 150 NB		Each	4	P-71 (18.26.4)
4.4	Solonoid Valve		Each	4	P-71 (18.28)
4.5	Installation and fixing Cast Iron wafer type butterfly valves of C.I / S.S (304) disc, Nitrile/EPDM rubber lining of PN-16 pressure rating complete with bolts, nuts, 3.0 mm thick compressed asbestos gasket, companion flanges as per table 'E' complete in all respects.	Audco / NVR/Venus/Zoloto			
4.5.1	150 mm dia with lever		Each	8	P-69 (18.11.6)
4.6	Supply, Installation, Testing & Commissioning of NP4 Hume Pipe				
4.6.1	300 mm dia		RM	90	Non-Scheduled item
4.7	Supply, Installation, Testing & Commissioning of Panel for Water Curtain System	EAT / SYSTEM CONTROL	Each	1	
<b>5</b>	<b>Fire Alarm System</b>	-			
5.1	Supply, Installation, Testing & Commissioning of PVC insulated 2C x 1.5 sq. mm multistrand copper FRLS Armored cable to be laid through concealed PVC conduit Medium Duty and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge.	Finolex, Havells	RM	2500	P-59 (17.5.1)
5.2	Supply, Installation, Testing & Commissioning of Electronic Sounder / Strobe with gland, lugs, etc. and complete in all respect with labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Honeywell, Hochiki, Apollo, GST	Each	20	P-58 (17.2.16)
5.3	Fire alarm panel 2 loop panel suitable to accommodate at least 190 detector & 190 Devices and complete Fire Alarm Control Panel with minimum 6 inch The panel shall have 240 volts AC power ., automatic battery charger, 24 volts, sealed lead acid maintenance free batteries sufficient for 24 hours normal working and then be capable of operating the system for 60 minutes during emergency condition with all necessary display, power pack unit I.e. with battery & battery charger and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge. Note: FDA Panel should be capable for integration with BMS System Modbus / BACnet is Inclusive	Honeywell, Hochiki, Apollo, GST	Each	5	P-57 (17.2.1.2)

5.4	Supply, Installation, Testing & Commissioning of type Optical smoke detector addressable with base, gland, lugs etc. and complete in all respect with labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Honeywell, Hochiki, Apollo, GST	Each	80	P-57 (17.2.4)
5.5	Supply, Installation, Testing & Commissioning of type manual call point with push type etc. and complete in all respect with labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Honeywell, Hochiki, Apollo, GST	Each	14	P-58 (17.2.14)
5.6	Control Module	Honeywell, Hochiki, Apollo, GST	Each	20	P-58 (17.2.10)
5.7	Monitor Module	Honeywell, Hochiki, Apollo, GST	Each	7	Non-Scheduled item
5.8	Supply, transportation, unloading, storing at work site, handling, termination of cable, installation, testing and commissioning of addressable Fault Isolation module with housing. The job includes the . of fixing arrangement & all necessary accessories, chase cut and filling with mortar to complete in all respect.				
5.9	Supply, Installation, Testing & Commissioning of Beam Detector	Honeywell, Hochiki, Apollo, GST	Each	12	P-58 (17.2.12)
5.10	<b>STROBES CUM DUAL TONE Speaker</b>				
	Supply, installation, testing and commissioning of Strobes cum Dual tone hooters with minimum of 110cd and 93 dB complete as required.	Honeywell, Hochiki, Apollo, GST	Each	20	P-58 (17.2.16)
5.11	<b>Supply, transportation, unloading, storing at work site, handling, laying and termination of 20mm dia FRLS PVC conduit Medium Duty ISI Mark with conduit accessories, Clamps including. of all consumables and fittings, chase cutting, mortar filling.</b>	<b>AKG. Polycab</b>	<b>RM</b>	<b>1500</b>	<b>P-115 (4143)</b>
5.12	Supplying, installation, testing & commissioning of 6 zone, voice alarm controller with USB, MP3 Player (including 6 zone)	AHUJA	Each	5	P-58 (17.3.1)
<b>6</b>	<b>CIVIL WORK</b>				
6.1.	Under Ground Pump Room (Size: 10 Mts. X 6 Mts.) Height: 4 Mtr. Including Foundation		LS	1	Non-Scheduled item
	Clear Height: 3.0 Mtr.				
	<b>Including Painting, Roof water proofing, Plinth protection, rolling shutter, Fixed glass window, Electrical fittings and Fixtures - Please confirm</b>				

6.2	Pedestal with proper foundation as per NBC for Over Ground Pipe 6.0 MT load bearing capacity				
6.2.1	Pedestal Size 1550 x 300 x 1600		Each	391	Non-Scheduled item
6.2.2	Pedestal Size 1000 x 300 x 1600		Each	72	
6.2.3	Pedestal Size 500 x 300 x 1600		Each	204	
<b>7</b>	<b>Repairing Work</b>				
7.1	False Ceiling Repairing & Replacing		SQ.M	734	
7.2	Road Cutting & Repairing	<b>Mentioned in the drawing</b>	R.M.	205	
<b>8</b>	<b>Exhaust System</b>				
8.1	2500 cfm Axial Fan = 15 static Pressure	SIWENT	Each	2	
8.2	Cabling	POLYCAB	LOT	1	
8.3	Panel for Exhaust Fan	EAT / SYSTEM CONTROL	Each	1	

We agree to execute the works in accordance with the approved drawings and technical specifications at a total fixed contract price of Rs..... (Amount in figures) (Rs..... amount in words).

**Signature of Contractor**

**to be filled On-line**Finance Bid: Bill of Quantity  
(For On-line Submission Schedule)

Validate

Print

Help

**Item Rate BoQ****Tender Inviting Authority: Vice Chairman & Project Director, Jal Marg Vikas Project, Inland Waterways Authority of India, Noida.****Work for Providing Fire Protection & Detection System for Multi Modal Terminal at Haldia, West Bengal****Contract No: IN-IWAI-336174-CW-RFB**

Name of the Bidder / Firm / Company:

**PRICE SCHEDULE**

(This BOQ template should not be modified / replaced by the bidder and the same should be uploaded after filling the relevant columns, else the bidder is liable to be rejected for this tender. Bidders are allowed to enter the Bidder Name and Values only)

Sl. No.	Item Description	Quantity	Units	RATE inclusive of 1% Labour Welfare Cess Rs. P	AMOUNT Rs. P	TOTAL AMOUNT In Words
1	2	3	4	5	6	7
<b>1.0</b>	<b><u>Fire Fighting Works as per BOQ attached Providing Fire Protection &amp; Detection System for Multi-Modal Terminal at Haldia, West Bengal as per Bill of Quantities / Materials</u></b>					
1.1	Supply of Items including all the accessories required for providing Fire Protection & Detection System for Multi Modal Terminal at Haldia. And execution & completions of works as per details provided (Bill of Quantities / Materials) in tender documents	Lump Sum	LS		<b>0.00</b>	INR Zero Only
1.2	Erection, installation, testing and commissioning of the Fire Protection & Detection System for Multi Modal Terminal at Haldia as per details provided (Bill of Quantities / Materials) in tender Documents	Lump Sum	LS		<b>0.00</b>	INR Zero Only
<b>1.2</b>	<b>(% age of GST considered)</b>					
<b>Total in Figures</b>					<b>0.00</b>	INR Zero Only
<b>Quoted Rate in Words</b>				<b>INR Zero Only</b>		

**On Letter of the Organization – issuing Certificate**

**Ref no: - date**

**Format of certificate**

Certified that the works up to -----  
level in respect of construction of -----  
----- Under contract no :- .....dated ..... for Value  
INR ..... have been completed / executed / under execution  
in accordance with the approved drawings and technical specifications. At our  
site / premises located at ..... (full address) of the location.

Signature  
Name & Designation

Mobile no: -  
(Official address)

Place:  
Date:

Office seal

## SECTION - C

### Technical Specification containing-

- a. **Scope of Work.**
- b. **Bar Chart & schedule of Work**
- c. **Bill of Materials;**
- d. **Drawings**
- e. **Other Conditions**

#### A. Scope of Work.

This specification covers design, manufacturing, inspection, delivery to site, storage at site, erection, testing and commissioning of *Fire Protection & Detection System for Multi Modal Terminal at Haldia, West Bengal*

The general terms and conditions, instructions to the bidders and other attachment referred to elsewhere are hereby made part of the tender specification. The equipment materials and works covered by this specification are subject to all the attachments referred in the specification. The bidder shall be responsible for and governed by all requirements stipulated herein.

In normal case, no deviation is permitted. If any deviation is made, it shall be clearly brought out, otherwise it will be presumed that the bidder's offer is in line with that has been stated/asked for in this specification.

#### INTENT OF SPECIFICATION

This specification is intended to cover residual engineering, manufacture, procurement, test and inspection at works, packing for transportation, delivery to site, unloading, storage, erection, testing, commissioning, performance, demonstration at site and handing over to purchaser *Fire Protection & Detection System for Multi Modal Terminal at Haldia, West Bengal*

<b>1</b>	<b>Fire Pumps, Valves &amp; Accessories</b>
<b>1.1</b>	<b>Hydrant Pump</b> Supply, Installation, Testing & Commissioning of electrical motor driven fire water pumping set factory assembled of capacity 2850 lpm at a total head of 88 m and suitable for automatic operation, consisting of the following and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification drawing and direction of Engineer-in-charge (fully mechanical seal by maker) <b>preferred makes Kirloskar /KSB</b>
<b>1.1 A</b>	<b>Sprinkler Pump</b> Supply, Installation, Testing & Commissioning of electrical motor driven fire water pumping set factory assembled of capacity 2850 lpm at a total head of 88 m and suitable for automatic operation, consisting of the following and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification drawing and direction of Engineer-in-charge (fully mechanical seal by maker) <b>preferred makes Kirloskar /KSB</b>
<b>1.1 B</b>	<b>Water Curtain Pump</b> Supply, Installation, Testing & Commissioning of electrical motor driven fire water pumping set factory assembled of capacity 2850 lpm at a total head of 70 m and suitable for automatic operation, consisting of the following and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification drawing and direction of Engineer-in-charge (fully mechanical seal by maker) <b>preferred makes Kirloskar /KSB</b>

1.2	Supply, Installation, Testing & Commissioning of <b>Diesel Engine driven fire water pumping set</b> factory assembled of capacity 2850 lpm at a total head of 88 M. and suitable for automatic operation, consisting of the following and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification drawing and direction of Engineer-in-charge (fully mechanical seal by maker) <b>preferred makes Kirloskar /KSB</b>
1.3	Supply, Installation, Testing & Commissioning of <b>electrical motor driven automatic pressurization (jockey) pumping set</b> factory assembled consisting of the following and complete in respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge; <b>preferred makes Kirloskar /KSB</b>
1.4	Supply, Installation, Testing & Commissioning of cubical type floor/wall mounted fire pump control panel, fabricated from 14 g MS sheet duly powder coated finish of approved shade, comprising of incoming isolator with fuse, volt meter with selector switch & protection fuse, indicating lamps (one for each phase) with protection fuse, Amp. Meter with 3 nos. C.T. & selector for fire pump motor (3 Nos.) with over load relay, timer, push buttons and auto/manual selector switches & auxiliary contactor for auto impulse, fully automatic D.O.L. starters suitable for jockey pump motor (2 Nos.) with over load relay, push buttons and auto/manual selector switches & auxiliary contractor for auto impulse, On Off / Trip - neon indicating lamp, etc. duly wired & terminated to accept all incoming & outgoing cables and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge ( <b>100 HP</b> )
1.5	Supply, Installation, Testing & Commissioning of <b>C.I. Swing Check type non-return valves (IS:5312, PN 1.6)</b> complete with matching flanges, rubber insertion, nuts, bolts and washer etc. of following sizes complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge. 200 mm dia; 150 mm dia ;100 mm dia; 80 mm dia; 65 mm dia ;50 mm dia; <b>preferred makes Audco / NVR/Venus/Zoloto</b>
1.6	Supply, Installation, Testing & Commissioning of <b>slim seal butterfly valves class PN 1.0 as per IS:14846</b> complete with matching flanges, rubber insertion, nuts, bolts and washer etc. following sizes and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge. 200mm dia; 150mm dia; 100mm dia; preferred <b>makes Audco / NVR/Venus/Zoloto</b>
1.7	Supply, Installation, Testing & Commissioning of <b>slim seal pressure gauge</b> <b>preferred makes H. Guru</b>
1.8	Supply, Installation, Testing & Commissioning of <b>Y- Strainer</b> 250 mm dia: 200 mm dia; <b>preferred makes Audco / NVR/Venus/Zoloto</b>
1.9	Supply, Installation, Testing & Commissioning of <b>non-rising spindle type CI gate valves class PN 1.6</b> as per IS14846 complete with matching flanges, rubber insertion, nuts, bolts and washer etc. of following sizes and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge. 250 mm; 200 mm dia; 150 mm dia ;100 mm dia; 80 mm dia; 65 mm dia ;50 mm dia <b>preferred makes Audco / NVR/Venus/Zoloto</b>
1.10	Supply, Installation, Testing & Commissioning of ball valve with hard chrome plated ball inside PTFE (Teflon) seat & ring with chrome plated center handle with female BSP threads of following sizes and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge 15 mm dia nominal bore; <b>preferred makes Audco / NVR/Sant</b>
1.11	Supply, Installation, Testing & Commissioning of differential type pressure switch including piping connection and complete in all respect with labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge <b>preferred makes INDFOSS</b>
1.12	Supply, Installation, Testing & Commissioning of Power <b>Cabling with earthing</b> for fire pump/ jockey pump/ booster pump and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge; POWER CABLING 3C X 95 mm <sup>2</sup> POWER CABLING 3C X 25 mm <sup>2</sup> ; <b>preferred makes Polycab, Cords; Havells</b>

1.13	Supply, Installation, Testing & Commissioning of <b>Control Cabling for connection between pressure switch and pump control panel</b> by 1.5 Sq. mm PVC insulated copper wire with PVC conduit including earthing and complete in all respect with all labour, tools & plants, transportation, taxes levies etc. and as per specification, drawing and direction of Engineer-in-charge. CONTROL CABLE 3C X 2.5 sqmm; CONTROL CABLE 3C X 1.5 sqmm <b>preferred makes Polycab, Cords; Havells</b>
1.14	Supply, Installation and fixing <b>25 mm x 6 mm GI strip</b> in on surface (or) in recess for earth connection of motors <b>Reputed make</b>
1.15	Installation and fixing <b>25 mm x 3 mm GI strip</b> in on surface (or) in recess for earth connection etc. as required. <b>Reputed make</b>
1.16	Supply, installation, testing and commissioning of <b>black steel 'MS' pipes conforming to IS : 1239 Heavy Duty up to 150 mm dia</b> and IS : 3589 Gr 330 for 200mm and above (from minimum 6mm thick for pipes up to 500 mm dia) including all fittings like anchor fasteners, couplings, bends, elbows, tees, flanges, etc. welding as required painting with one coat of red-oxide primer and two or more coats of synthetic enamel paints to give an even shade including all civil breakages, cutting holes and chases in brick or RCC walls and making good complete. 50 mm dia. ;65 mm dia. ;80 mm dia. 100 mm dia ;150 mm dia. 200 mm dia. ( <b>6.3 mm thickness</b> ); 250 mm dia. ( <b>6.3 mm thickness</b> ); 300 mm dia. ( <b>7.1 mm thickness</b> ); <b>Preferred make TATA/Jindal / Nezone.</b>
1.17	Supply, Installation, Testing & Commissioning of <b>Four-way fire brigade inlet connection</b> consisting of 63 mm dia instantaneous type of alloy steel male coupling with built-in check valve and 150 mm dia flanged outlet including bolts, nuts & rubber insertion as required as IS:904 and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge; <b>Preferred make: Attasee/ Fire shield</b>
1.18	Supply, Installation, Testing & Commissioning of <b>Two-way fire brigade draw-out connection</b> consisting of 63 mm dia instantaneous type of alloy steel male coupling with built in check valve and 100 mm dia flanged outlet including bolts, nuts & rubber insertion as required as IS:904 and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge; <b>Preferred make Attasee/ Fire shield</b>
1.19	Supply, Installation, Testing & Commissioning of <b>Foot Valve</b> and as per specification, drawing and direction of Engineer-in-charge; 100 mm dia; <b>Preferred make Zoloto / Venus</b>
1.20	Supply, Installation, Testing & Commissioning of Power Cabling for supply of power to pump house from second point POWER CABLING 3.5C X 300 mm <sup>2</sup> ; <b>preferred makes Polycab, Cords; Havells</b>
2.	<b>Fire Hydrant &amp; Wet Riser System</b>
2.1	Supply, Installation, Testing & Commissioning of single headed, ISI marked oblique pattern hydrant/landing valve of gun metal with 80 mm dia flanged inlet and 63 mm dia instantaneous type female outlet with PVC cap & GI chain including all accessories as per IS:5290 (type A) and complete in all respect with all labour, tools & plants, and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge ; <b>Preferred make ; Attasee / Fire shield</b>
2.2	Supply, Installation, Testing & Commissioning of swinging type First-Aid fire hose reel with drum, fabricated base, 20 mm dia x 30 M long high-pressure rubber hose reel tubing (Dunlop or equivalent make), ABC triple purpose nozzle as per IS:884 and complete in all respect with all labour, tools & plants, transportation, taxes levies etc. and as per specification, drawing and direction of Engineer-in-charge; suitable for 150 mm NB pipe; <b>Preferred make; Attasee / Fire shield</b>



2.3	Supply, Installation, Testing & Commissioning of RRL hose ISI marked (IS:8423) 63 mm dia x 15 M long complete with instantaneous type gun metal 63 mm dia ISI marked male & female couplings (IS:903) bounded & riveted to hose pipe with copper rivets & 1.5 mm copper wire and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge; <b>Preferred make; Attasee / Fire shield</b>
2.4	Supply, Installation, Testing & Commissioning of gun metal branch pipe with 63 mm instantaneous coupling ISI marked (IS:903) including 20 mm dia nozzle and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge <b>Preferred make; Attasee / Fire shield</b>
2.5	Supply, Installation, Testing & Commissioning of Four-way fire brigade inlet connection consisting of 63 mm dia instantaneous type of alloy steel male coupling with built-in check valve and 150 mm dia flanged outlet including bolts, nuts & rubber insertion as required as IS:904 and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge; <b>Preferred make; Attasee / Fire shield</b>
2.6	Supply, Installation and fixing MS fire hose cabinet of approximate size 750 x 600 x 300 mm deep fabricated from 2.0 mm thick and 16-gauge anodized aluminum sheet with single- or double-glazed front door and pad locking arrangement, painted Fire Red with Stove enameled paint Fire Hose written on front including necessary supports complete. (For Internal Commercial area) accommodate 1 nos. 15 m long 63 mm dia hose as per specification; <b>Preferred make; Attasee / Fire shield</b>
2.6.1	Supply, Installation and fixing MS fire hose cabinet of approximate size 750x600x300 mm deep fabricated from 2.0mm thick and 16-gauge anodized aluminum sheet with single- or double-glazed front door and pad locking arrangement, painted Fire Red with Stove enameled paint Fire Hose written on front including necessary supports complete. (For terrace and external hydrants) <b>Preferred make; Attasee / Fire shield</b>
2.7	Supply, Installation, Testing & Commissioning of mild steel black pipe Heavy Duty (IS:1239 Part I, for sizes 150 mm mild steel black pipe Heavy Duty (IS:1239 Part I, for sizes 150 mm dia and below IS:3589 for sizes above 150 MM dia) of following sizes including cutting, threading, welding etc. bends, elbows, reducers, clamps hangers etc. including pipe supports, brackets etc. and cutting hole in brick or RCC walls / slabs including painting with one coat of primer and two or more coats of synthetic enamel paint of approved make and said including all steel work and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge 200 mm dia; 150 mm dia; 100 mm dia, 80 mm dia, <b>Preferred make: TATA/Jindal / Nezone</b>
2.7. A	<b>Under Ground Piping (External)</b> Installation and fixing black steel pipes Heavy Class confirming to IS: 1239 (Part-I) 2004, amended up to date including all fittings like bends, elbows, tees, flanges, etc., welding as required including painting, wrapping and coating of the pipes as per IS: 10221-2008 in all kinds of soil at a depth 1.0 m including excavation and refilling the trench all complete. 150 mm dia (For Yard Hydrant Line); 200 mm dia (For Yard Hydrant Line); <b>Preferred make: TATA/Jindal / Nezone.</b>
2.8	Supply, Installation, Testing & Commissioning of 250 mm dia Air Vessel with 25 mm Air Release Valve; <b>Preferred make: Audco / NVR/Venus/Zoloto</b>
2.9	Installation and fixing Cast Iron wafer type butterfly valves of C.I / S.S (304) disc, Nitrile/EPDM rubber lining of PN-16 pressure rating complete with bolts, nuts, 3.0 mm thick compressed asbestos gasket, companion flanges as per table 'E' complete in all respects. 100 mm dia with lever (For Landing Valve); <b>Preferred make: Audco / NVR/Venus/Zoloto</b>
2.10	Supply, Installation and fixing dial type pressure gauge with isolation cock and chrome plated copper pipe at hydrant station. Dial diameter 150 mm calibration 0-15 kg/cm <sup>2</sup> .; <b>Preferred make: H. Guru</b>
2.11	Supply, Installation, Testing & Commissioning of non-rising spindle type CI gate valves class PN 1.6 as per IS14846 complete with matching flanges, rubber insertion, nuts, bolts and washer etc. of following sizes and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge

	200 mm dia; 150 mm dia; <b>Preferred make: Audco / NVR/Venus/Zoloto</b>
2.12.	Supply, Installation, Testing & Commissioning of <b>NP4 Hume Pipe</b> 400 mm dia; 300 mm dia
3.	<b>Sprinkler System</b>
3.1	Supply, Installation, Testing & Commissioning of 15 mm size (Male threaded, BSP) Quartzoid bulb type G.M. Sprinkler head suitable to operate at 68 deg. C/79 deg. C (UL/FM/LOC listed/ approved) and complete in all respect with all labour, tools & plants, transportation, taxes levies etc. and as per specification, drawing and direction of Engineer-in-charge Standard pendent type in chrome finish; Standard side throw type in chrome finish (Extended Coverage) <b>Preferred make: HD/ Viking</b>
3.2	Installation, Testing & Commissioning of mild steel black pipe Heavy Duty (IS:1239 Part I, for sizes 150 mm dia and below IS:3589 for sizes above 150 MM dia) of following sizes including cutting, threading, welding etc. bends, elbows, reducers, clamps hangers etc. including pipe supports, brackets etc. and cutting hole in brick or RCC walls / slabs including painting with one coat of primer and two or more coats of synthetic enamel paint of approved make and said including all steel work and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge 150 mm dia ;100 mm dia; 80 mm dia ;65 mm dia ;50 mm dia ;40 mm dia; 32 mm dia, 25mm dia; <b>Preferred make: TATA/Jindal / Nezone</b>
3.3	<b>Under Ground Piping (External)</b>  Installation and fixing black steel pipes Heavy Class conforming to IS: 1239 (Part-I) 2004, amended up to date including all fittings like bends, elbows, tees, flanges, etc., welding as required including painting, wrapping and coating of the pipes as per IS: 10221-2008 in all kinds of soil at a depth 1.0 m including excavation and refilling the trench all complete. 150 mm dia (For Yard Sprinkler Line); <b>Preferred make: TATA/Jindal / Nezone</b>
3.4	Supply, Installation and fixing of stainless steel (A1S1 304) unbraided flexible pipe for dropping sprinklers below false ceiling of 25mm dia of the following length and rated working pressure of 16 Kg/cm <sup>2</sup> with all accessories like union, reducer, collar, clamp etc. as required. The flexible pipe shall be UL approved. 700 mm; 1000 mm; 1500 mm; <b>Preferred Make: HD/Viking</b>
3.5	Supply, Installation and fixing electrically operated flow indicating switches including 1.5 mm thick compressed asbestos gasket, nuts and bolts complete. (Wiring from flow switches to control panel not included) 65 mm dia; 80 mm dia; 100 mm dia; 150 mm dia
3.6	Supply, Installation, Testing and Commissioning of 150 mm dia. Installation Control Valve assembly comprising of vertical wet alarm valve, hydraulic alarm motor & gong, 15 mm dia test valve, 50 mm dia drain valve and all necessary connections as per manufacturer's specifications complete as required. (UL / FM / LPC / TAC listed / approved). <b>Preferred make: Attasee/ Fire shield</b>
3.7	Installation and fixing brass ball valve full bore type tested for 20 kg/cm <sup>2</sup> with lever and screwed female ends. 25 mm dia; 50 mm dia <b>Preferred make: Audco / NVR/Venus/Zoloto</b>
3.8	Installation and fixing Cast Iron wafer type butterfly valves of C.I / S.S (304) disc, Nitrile/EPDM rubber lining of PN-16 pressure rating complete with bolts, nuts, 3.0 mm thick compressed asbestos gasket, companion flanges as per table 'E' complete in all respects. 65 mm dia with lever; 80 mm dia with lever ;100 mm dia with lever ;150 mm dia with lever <b>Preferred make: Audco / NVR/Venus/Zoloto</b>
3.9	Installation and fixing Cast Iron Swing Type with Natural Rubber Flap non return valves conforming to IS: 5312-1984 (Part-I) of PN-16 pressure rating with flanged ends to IS: 1538 including washer, nuts bolts, 1.5 mm thick copressed asbestos gasket companion flanges as per table "E" complete in all respects. 100 mm dia with lever; 150 mm dia with lever (For FB Connection & @ Terrace); <b>Preferred make: Audco / NVR/Venus/Zoloto.</b>

<b>3.1</b>	Supply, Installation, Testing & Commissioning of 250 mm dia Air Vessel with 25 mm Air Release Valve 25 mm dia.; <b>Preferred make: Audco / NVR/Venus/Zoloto.</b>
<b>3.11</b>	Supply, Installation and fixing dial type pressure gauge with isolation cock and chrome plated copper pipe at hydrant station. Dial diameter 150 mm calibration 0-15 kg/cm <sup>2</sup> .; Dial diameter 100 mm calibration 0-15 kg/cm <sup>2</sup> .; <b>Preferred make: H. Guru</b>
<b>3.12</b>	Supply, Installation, Testing & Commissioning of <b>NP4</b> Hume Pipe 300 mm dia
<b>4</b>	<b>Water Curtain System</b>
<b>4.1</b>	Installation, Testing & Commissioning of mild steel black pipe Heavy Duty (IS:1239 Part I , for sizes 150 mm dia and below IS:3589 for sizes above 150 MM dia) of following sizes including cutting, threading, welding etc. bends, elbows, reducers, clamps hangers etc. including pipe supports, brackets etc. and cutting hole in brick or RCC walls / slabs including painting with one coat of primer and two or more coats of synthetic enamel paint of approved make and said including all steel work and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge 150 mm dia: 100 mm dia; <b>Preferred make: TATA/Jindal / Nezone</b>
<b>4.2</b>	<b>Under Ground Piping (External)</b>  Installation and fixing black steel pipes Heavy Class confirming to IS: 1239 (Part-I) 2004, amended up to date including all fittings like bends, elbows, tees, flanges, etc., welding as required including painting, wrapping and coating of the pipes as per IS: 10221-2008 in all kinds of soil at a depth 1.0 m including excavation and refilling the trench all complete.
<b>4.2.1</b>	150 mm dia (For Yard Water Curtain Line) Preferred <b>make; TATA/Jindal / Nezone</b>
<b>4.2</b>	Supply, Installation, Testing & Commissioning of Water Curtain Nozzle Preferred <b>make; HD/ Viking</b>
<b>4.2. A</b>	Supply, Installation, Testing & Commissioning of <b>Open Nozzle</b>
<b>4.3</b>	<b>Deluge valve 150 NB</b>
<b>4.4</b>	<b>Solonoid Valve</b>
<b>4.5</b>	Installation and fixing Cast Iron wafer type butterfly valves of C.I / S.S (304) disc, Nitrile/EPDM rubber lining of PN-16 pressure rating complete with bolts, nuts, 3.0 mm thick compressed asbestos gasket, companion flanges as per table 'E' complete in all respects. 150 mm dia with lever <b>Preferred make; Audco / NVR/Venus/Zoloto</b>
<b>4.6</b>	Supply, Installation, Testing & Commissioning of <b>NP4</b> Hume Pipe - 300 mm dia
<b>4.7</b>	Supply, Installation, Testing & Commissioning of Panel for Water Curtain System <b>Preferred make; EAT / SYSTEM CONTROL</b>
<b>5</b>	<b>Fire Alarm System</b>
<b>5.1</b>	Supply, Installation, Testing & Commissioning of PVC insulated 2C x 1.5 sq. mm multistrand copper FRLS Armored cable to be laid through concealed PVC conduit Medium Duty and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge. <b>Preferred make; Finolex, Havells</b>
<b>5.2</b>	Supply, Installation, Testing & Commissioning of Electronic Sounder / Strobe with gland, lugs, etc. and complete in all respect with labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge <b>Preferred make: Honeywell, Hochiki, Apollo, GST</b>

<b>5.3</b>	<p>Fire alarm panel 2 loop panel suitable to accommodate at least 190 detector &amp; 190 Devices and complete Fire Alarm Control Panel with minimum 6 inch The panel shall have 240 volts AC power ., automatic battery charger, 24 volts, sealed lead acid maintenance free batteries sufficient for 24 hours normal working and then be capable of operating the system for 60 minutes during emergency condition with all necessary display, power pack unit I.e. with battery &amp; battery charger and complete in all respect with all labour, tools &amp; plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge. Note: FDA Panel should be capable for integration with BMS System Modbus / BACnet is Inclusive</p> <p><b>Preferred make: Honeywell, Hochiki, Apollo, GST</b></p>
<b>5.4</b>	<p>Supply, Installation, Testing &amp; Commissioning of type Optical smoke detector addressable with base, gland, lugs etc. and complete in all respect with labour, tools &amp; plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge</p> <p><b>Preferred make: Honeywell, Hochiki, Apollo, GST</b></p>
<b>5.5</b>	<p>Supply, Installation, Testing &amp; Commissioning of type manual call point with push type etc. and complete in all respect with labour, tools &amp; plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge</p> <p><b>Preferred make: Honeywell, Hochiki, Apollo, GST</b></p>
<b>5.6</b>	<p><b>Control Module</b></p> <p><b>Preferred make: Honeywell, Hochiki, Apollo, GST</b></p>
<b>5.7</b>	<p><b>Monitor Module</b></p> <p><b>Preferred make: Honeywell, Hochiki, Apollo, GST</b></p>
<b>5.8</b>	<p>Supply, transportation, unloading, storing at work site, handling, termination of cable, installation, testing and commissioning of addressable Fault Isolation module with housing. The job includes fixing arrangement &amp; all necessary accessories, chase cut and filling with mortar to complete in all respect.</p>
<b>5.9</b>	<p>Supply, Installation, Testing &amp; Commissioning of Beam Detector</p> <p><b>Preferred make: Honeywell, Hochiki, Apollo, GST</b></p>
<b>5.10</b>	<p><b>STROBES CUM DUAL TONE Speaker</b></p> <p>Supply, installation, testing and commissioning of Strobes cum Dual tone hooters with minimum of 110cd and 93 dB complete as required.</p> <p><b>Preferred make: Honeywell, Hochiki, Apollo, GST</b></p>
<b>5.11</b>	<p>Supply, transportation, unloading, storing at work site, handling, laying and termination of 20mm dia FRLS PVC conduit Medium Duty ISI Mark with conduit accessories, Clamps including . of all consumables and fittings, chase cutting, mortar filling.</p> <p><b>Preferred make: AKG, Polycab</b></p>
<b>5.12</b>	<p>Supplying, installation, testing &amp; commissioning of 6 zone, voice alarm controller with USB, MP3 Player (including 6 zone)</p> <p><b>Preferred make: AHUJA</b></p>
<b>6</b>	<b>CIVIL WORK</b>
<b>6.1</b>	<p>Under Ground Pump Room (Size: 10 Mts. X 6 Mts.) Height: 4 Mtr. Including Foundation: Clear Height: 3.0 Mtr.</p> <p><b>Including Painting, Roof water proofing, Plinth protection, rolling shutter, Fixed glass window, Electrical fittings and Fixtures - Please confirm</b></p>
<b>6.2</b>	<p>Pedestal with proper foundation as per NBC for Over Ground Pipe 6.0 MT load bearing capacity</p> <p>6.2.1 Pedestal Size 1550 x 300 x 1600</p> <p>6.2.2 Pedestal Size 1000 x 300 x 1600</p> <p>6.2.3 Pedestal Size 500 x 300 x 1600</p>
<b>7.</b>	<b>Repairing Work</b>
<b>7.1</b>	False Ceiling Repairing & Replacing

<b>7.2</b>	Road Cutting & Repairing (as per drawings)
<b>8</b>	<b>Exhaust System</b>
<b>8.1</b>	2500 cfm Axial Fan = 15 static Pressure Preferred make: SIWENT
<b>8.2</b>	Cabling Preferred make: Poly Cab
<b>8.3</b>	Panel for Exhaust Fan Preferred make: EAT / SYSTEM CONTROL

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### B. Bar Chart & schedule of Work

**FIRE PROTECTION SYSTEM : ACTIVITY SCHEDULE (BAR CHART) FOR HALDIA**

Sl. No.	ACTIVITY	ACTIVITY TIMES IN 7 DAYS / WEEKLY											
		1	2	3	4	5	6	7	8	9	10	11	12
1	Errction of Yard Hydrant & Sprinkler,Water Curtain System at site	█	█	█	█	█	█	█	█	█	█		
2	Installation of Sprinkler Valve, Hose Box, Hose Reel etc.							█	█	█	█		
3	Installation of Fire pump									█	█	█	
4	Installation & Laying of Fire Pump, Panel & Required Cable laying										█	█	
5	Commissioning of entire Fire Fighting System												█
6	Laying of Wire of FDA & PA system			█	█	█	█	█	█	█	█		
7	Installation of Fire Alarm Panel & Detector and Equipments etc.							█	█	█	█		
8	Testing, commissioning of entire Fire Alarm System								█	█	█	█	█
9	Construction of Fire Pump House			█	█	█	█	█	█				
10	SITC of Exhaust Fan with Lighting									█			
11	Construction of Pedestal for Pipe Laying	█	█	█	█	█	█	█	█				
12	Repairing of Road				█	█	█	█	█	█	█		
13	Repairing of False Ceiling				█	█	█	█	█	█	█		

<b>C. Bill of Materials:</b>					
<b>Sl. No.</b>	<b>Description of Item as per CPWD SOR (E &amp; M) 2022</b>	<b>Preferred Make</b>	<b>Unit</b>	<b>Estimated QTY</b>	<b>Ref CPWD SOR 2022 Page no.</b>
<b>1</b>	<b>Fire Pumps, Valves &amp; Accessories</b>	-			
		-			
	<b>Hydrant Pump</b>	-			
1.1	Supply, Installation, Testing & Commissioning of electrical motor driven fire water pumping set factory assembled of capacity 2850 lpm at a total head of 88 m and suitable for automatic operation, consisting of the following and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification drawing and direction of Engineer-in-charge (fully mechanical seal by maker)	Kirloskar /KSB	Set	1	P-60 (18.1.1)
	<b>Sprinkler Pump</b>	-			
1.1 A	Supply, Installation, Testing & Commissioning of electrical motor driven fire water pumping set factory assembled of capacity 2850 lpm at a total head of 88 m and suitable for automatic operation, consisting of the following and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification drawing and direction of Engineer-in-charge (fully mechanical seal by maker)	Kirloskar /KSB	Set	1	P-60 (18.1.1)
	<b>Water Curtain Pump</b>	-			
1.1 B	Supply, Installation, Testing & Commissioning of electrical motor driven fire water pumping set factory assembled of capacity 2850 lpm at a total head of 70 m and suitable for automatic operation, consisting of the following and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification drawing and direction of Engineer-in-charge (fully mechanical seal by maker)	Kirloskar /KSB	Set	1	P-60 (18.1.2)
		-			
1.2	Supply, Installation, Testing & Commissioning of Diesel Engine driven fire water pumping set factory assembled of capacity 2850 lpm at a total head of 88 M. and suitable for automatic operation, consisting of the following and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification drawing and direction of Engineer-in-charge (fully mechanical seal by maker)	Kirloskar/KSB	Set	1	P-61 (18.2.1)

1.3	Supply, Installation, Testing & Commissioning of <b>electrical motor driven automatic pressurization (jockey) pumping set</b> factory assembled consisting of the following and complete in respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Kirloskar /KSB	Set	2	P-61 (18.3.1)
1.4	Supply, Installation, Testing & Commissioning of cubical type floor/wall mounted fire pump control panel, fabricated from 14 g MS sheet duly powder coated finish of approved shade, comprising of incoming isolator with fuse, volt meter with selector switch & protection fuse, indicating lamps(one for each phase) with protection fuse, Amp. Meter with 3 nos. C.T. & selector for fire pump motor (3 Nos.) with over load relay, timer, push buttons and auto/manual selector switches & auxiliary contractor for auto impulse, fully automatic D.O.L. starters suitable for jockey pump motor (2 Nos.) with over load relay, push buttons and auto/manual selector switches & auxiliary contractor for auto impulse, On Off / Trip - neon indicating lamp, etc. duly wired & terminated to accept all incoming & outgoing cables and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge ( <b>100 HP</b> )		Set	1	P-67 (18.5.6)
1.5	Supply, Installation, Testing & Commissioning of C.I. Swing Check type non-return valves (IS:5312, PN 1.6) complete with matching flanges, rubber insertion, nuts, bolts and washer etc. of following sizes complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge.				
1.5.1	200 mm dia	Audco / NVR/Venus/Zoloto	Each	1	P-69 (18.14.8)
1.5.2	150 mm dia	Audco / NVR/Venus/Zoloto	Each	4	P-69 (18.14.7)
1.5.3	100 mm dia	Audco / NVR/Venus/Zoloto	Each	0	P-69 (18.14.5)
1.5.4	80 mm dia	Audco / NVR/Venus/Zoloto	Each	0	P-69 (18.14.4)
1.5.5	65 mm dia	Audco / NVR/Venus/Zoloto	Each	0	P-69 (18.14.3)
1.5.6	50 mm dia	Audco / NVR/Venus/Zoloto	Each	2	P-69 (18.14.2)



1.6	Supply, Installation, Testing & Commissioning of slim seal butterfly valves class PN 1.0 as per IS:14846 complete with matching flanges, rubber insertion, nuts, bolts and washer etc. following sizes and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge.				
1.6.1	200mm dia	Audco / NVR/Venus/Zoloto	Each	0	P-69 (18.11.7)
1.6.2	150mm dia	Audco / NVR/Venus/Zoloto	Each	1	P-69 (18.11.6)
1.6.3	100mm dia	Audco / NVR/Venus/Zoloto	Each	1	P-69 (18.11.5)
1.7	Supply, Installation, Testing & Commissioning of slim seal pressure gauge	H.Guru	Each	9	Non-Scheduled item
1.8	Supply, Installation, Testing & Commissioning of Y- Strainer				
1.8.1	250 mm dia	Audco / NVR/Venus/Zoloto	Each	2	P-69 (18.15.5)
1.8.2	200 mm dia	Audco / NVR/Venus/Zoloto	Each	0	P-69 (18.15.4)
1.9	Supply, Installation, Testing & Commissioning of non-rising spindle type CI gate valves class PN 1.6 as per IS14846 complete with matching flanges, rubber insertion, nuts, bolts and washer etc. of following sizes and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
1.9.1	250 mm dia	Audco / NVR/Venus/Zoloto	Each	2	P-69 (18.12.8)
1.9.2	200 mm dia	Audco / NVR/Venus/Zoloto	Each	6	P-69 (18.12.7)
1.9.3	150 mm dia	Audco / NVR/Venus/Zoloto	Each	4	P-69 (18.12.6)
1.9.4	80 mm dia	Audco / NVR/Venus/Zoloto	Each	4	P-69 (18.12.4)
1.9.5	65 mm dia	Audco / NVR/Venus/Zoloto	Each	0	P-69 (18.12.3)
1.9.6	50 mm dia	Audco / NVR/Venus/Zoloto	Each	2	P-69 (18.12.2)

1.10	Supply, Installation, Testing & Commissioning of ball valve with hard chrome plated ball inside PTFE (Teflon) seat & ring with chrome plated center handle with female BSP threads of following sizes and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
1.10.3	15 mm dia nominal bore	Audco / NVR/Sant	Each	16	Non-Scheduled item
1.11	Supply, Installation, Testing & Commissioning of differential type pressure switch including piping connection and complete in all respect with labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	INDFOSS	Each	6	P-70 (18.22)
1.12	Supply, Installation, Testing & Commissioning of Power Cabling with earthing for fire pump/ jockey pump/ booster pump and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
1.12.1	POWER CABLING 3C X 95 mm <sup>2</sup>	Polycab, Havells	MTR.	150	Non-Scheduled item
1.12.2	POWER CABLING 3C X 25 mm <sup>2</sup>	Polycab, Havells	MTR.	100	Non-Scheduled item
1.13	Supply, Installation, Testing & Commissioning of Control Cabling for connection between pressure switch and pump control panel by 1.5 Sq. mm PVC insulated copper wire with PVC conduit including earthing and complete in all respect with all labour, tools & plants, transportation, taxes levies etc. and as per specification, drawing and direction of Engineer-in-charge.				
1.13.1	CONTROL CABLE 3C X 2.5 sqmm	Polycab, Havells	MTR.	60	Non-Scheduled item
1.13.2	CONTROL CABLE 3C X 1.5 sqmm	Polycab, Havells	MTR.	250	Non-Scheduled item
1.14	Supply, Installation and fixing 25 mm x 6 mm GI strip in on surface (or) in recess for earth connection of motors	Reputed	Mtr	200	Non-Scheduled item

1.15	Installation and fixing 25 mm x 3 mm GI strip in on surface (or) in recess for earth connection etc. as required.	Reputed	Mtr	100	Non-Scheduled item
1.16	Supply, installation, testing and commissioning of black steel 'MS' pipes conforming to IS : 1239 Heavy Duty up to 150 mm dia and IS : 3589 Gr 330 for 200mm and above (from minimum 6mm thick for pipes up to 500 mm dia) including all fittings like anchor fasteners, couplings, bends, elbows, tees, flanges, etc. welding as required painting with one coat of red-oxide primer and two or more coats of synthetic enamel paints to give an even shade including all civil breakages, cutting holes and chases in brick or RCC walls and making good complete.				
1.16.1	50 mm dia.	TATA/Jindal / Nezone	Mtr	6	P-68 (18.7.4)
1.16.2	65 mm dia.	TATA/Jindal / Nezone	Mtr		P-68 (18.7.5)
1.16.3	80 mm dia.	TATA/Jindal / Nezone	Mtr	12	P-68 (18.7.6)
1.16.4	100 mm dia	TATA/Jindal / Nezone	Mtr	6	P-68 (18.7.7)
1.16.5	150 mm dia.	TATA/Jindal / Nezone	Mtr	18	P-68 (18.7.8)
1.16.6	200 mm dia. (6.3 mm thickness)	TATA/Jindal / Nezone	Mtr	12	P-68 (18.7.9)
1.16.7	250 mm dia. (6.3 mm thickness)	TATA/Jindal / Nezone	Mtr	12	P-68 (18.7.10)
1.16.8	300 mm dia. (7.1 mm thickness)	TATA/Jindal / Nezone	Mtr		P-68 (18.7.11)
1.17	Supply, Installation, Testing & Commissioning of Four way fire brigade inlet connection consisting of 63 mm dia instantaneous type of alloy steel male coupling with built-in check valve and 150 mm dia flanged outlet including bolts, nuts & rubber insertion as required as IS:904 and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Attasee/ Fire shield	Each	1	P-70 (18.19.2)
1.18	Supply, Installation, Testing & Commissioning of Two way fire brigade draw-out connection consisting of 63 mm dia instantaneous type of alloy steel male coupling with built in check valve and 100 mm dia flanged outlet including bolts, nuts & rubber insertion as required as IS:904 and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Attasee/ Fire shield	Each	1	P-70 (18.19.1)

1.19	Supply, Installation, Testing & Commissioning of Foot Valve and as per specification, drawing and direction of Engineer-in-charge				
1.19.1	100 mm dia	Zoloto / Venus	Each	1	Non-Scheduled item
1.20	Supply, Installation, Testing & Commissioning of Power Cabling for supply of power to pump house from second point				
1.20.1	POWER CABLING 3.5C X 300 mm <sup>2</sup>	Polycab / Havells	MTR.	700	Non-Scheduled item
<b>2</b>	<b>Fire Hydrant &amp; Wet Riser System</b>	-			
	-	-			
2.1	Supply, Installation, Testing & Commissioning of single headed, ISI marked oblique pattern hydrant/landing valve of gun metal with 80 mm dia flanged inlet and 63 mm dia instantaneous type female outlet with PVC cap & GI chain including all accessories as per IS:5290 (type A) and complete in all respect with all labour, tools & plants, and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Attasee / Fire shield	Each	86	P-68 (18.9.1)
2.2	Supply, Installation, Testing & Commissioning of swinging type First-Aid fire hose reel with drum, fabricated base, 20 mm dia x 30 M long high-pressure rubber hose reel tubing (Dunlop or equivalent make), ABC triple purpose nozzle as per IS:884 and complete in all respect with all labour, tools & plants, transportation, taxes levies etc. and as per specification, drawing and direction of Engineer-in-charge				
2.2.1	suitable for 150 mm NB pipe	Attasee/ Fire shield	Each	8	P-70 (18.17.1)
2.3	Supply, Installation, Testing & Commissioning of RRL hose ISI marked (IS:8423) 63 mm dia x 15 M long complete with instantaneous type gun metal 63 mm dia ISI marked male & female couplings (IS:903) bounded & riveted to hose pipe with copper rivets & 1.5 mm copper wire and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per	Attasee/ Fire shield	Each	172	P-70 (18.16.1)

	specification, drawing and direction of Engineer-in-charge				
2.4	Supply, Installation, Testing & Commissioning of gun metal branch pipe with 63 mm instantaneous coupling ISI marked (IS:903) including 20 mm dia nozzle and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Attasee/ Fire shield	Each	86	P-70 (18.18.1)
2.5	Supply, Installation, Testing & Commissioning of Four way fire brigade inlet connection consisting of 63 mm dia instantaneous type of alloy steel male coupling with built-in check valve and 150 mm dia flanged outlet including bolts, nuts & rubber insertion as required as IS:904 and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Attasee/ Fire shield	Each	1	P-70 (18.19.2)
2.6	Supply, Installation and fixing MS fire hose cabinet of approximate size 750 x 600 x 300 mm deep fabricated from 2.0 mm thick and 16-gauge anodized aluminum sheet with single or double glazed front door and pad locking arrangement, painted Fire Red with Stove enameled paint Fire Hose written on front including necessary supports complete. (For Internal Commercial area) accommodate 1 nos. 15 m long 63 mm dia hose as per specification	Attasee/ Fire shield	Each	8	Non-Scheduled item
	Supply, Installation and fixing MS fire hose cabinet of approximate size 750x600x300 mm deep fabricated from 2.0mm thick and 16 gauge anodized aluminum sheet with single or double glazed front door and pad locking arrangement, painted Fire Red with Stove enameled paint Fire Hose written on front including necessary supports complete. (For terrace and external hydrants)	Attasee/ Fire shield	Each	78	Non-Scheduled item

2.7	Supply, Installation, Testing & Commissioning of mild steel black pipe Heavy Duty (IS:1239 Part I, for sizes 150 mm mild steel black pipe Heavy Duty (IS:1239 Part I, for sizes 150 mm dia and below IS:3589 for sizes above 150 MM dia) of following sizes including cutting, threading, welding etc. bends, elbows, reducers, clamps hangers etc. including pipe supports, brackets etc. and cutting hole in brick or RCC walls / slabs including painting with one coat of primer and two or more coats of synthetic enamel paint of approved make and said including all steel work and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
2.7.1	200 mm dia,	TATA/Jindal / Nezone	RM	2064	P-68 (18.7.9)
2.7.1	150 mm dia,	TATA/Jindal / Nezone	RM	1014	P-68 (18.7.8)
2.7.2	100 mm dia,	TATA/Jindal / Nezone	RM	222	P-68 (18.7.7)
2.7.3	80 mm dia,	TATA/Jindal / Nezone	RM	60	P-68 (18.7.6)
2.7. A	<b>Under Ground Piping (External)</b>				
	Installation and fixing black steel pipes Heavy Class confirming to IS: 1239 (Part-I) 2004, amended up to date including all fittings like bends, elbows, tees, flanges, etc., welding as required including painting, wrapping and coating of the pipes as per IS: 10221-2008 in all kinds of soil at a depth 1.0 m including excavation and refilling the trench all complete.				
2.7. A.1	150 mm dia (For Yard Hydrant Line)	TATA/Jindal / Nezone	RM	90	P-67 (18.6.2)
2.7. A.2	200 mm dia (For Yard Hydrant Line)	TATA/Jindal / Nezone	RM	150	P-67 (18.6.1)
2.8	Supply, Installation, Testing & Commissioning of 250 mm dia Air Vessel with 25 mm Air Release Valve	Audco / NVR/Venus/Zoloto	Each	2	P-70 (18.20)
2.9	Installation and fixing Cast Iron wafer type butterfly valves of C.I / S.S (304) disc, Nitrile/EPDM rubber lining of PN-16 pressure rating complete with bolts, nuts, 3.0 mm thick compressed asbestos gasket, companion flanges as per table 'E' complete in all respects.	Audco / NVR/Venus/Zoloto			

a)	100 mm dia with lever (For Landing Valve)		Each	6	P-69 (18.11.5)
2.10	Supply, Installation and fixing dial type pressure gauge with isolation cock and chrome plated copper pipe at hydrant station.	H. Guru			
a)	Dial diameter 150 mm calibration 0-15 kg/cm <sup>2</sup> .		Each	6	Non-Scheduled item
2.11	Supply, Installation, Testing & Commissioning of non-rising spindle type CI gate valves class PN 1.6 as per IS14846 complete with matching flanges, rubber insertion, nuts, bolts and washer etc. of following sizes and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
2.11.1	200 mm dia	Audco / NVR/Venus/Zoloto	Each	6	P-69 (18.12.7)
2.11.2	150 mm dia	Audco / NVR/Venus/Zoloto	Each	3	P-69 (18.12.6)
2.12.	Supply, Installation, Testing & Commissioning of NP4 Hume Pipe				
2.12.1	400 mm dia		RM	150	Non-Scheduled item
2.12.2	300 mm dia		RM	75	Non-Scheduled item
<b>3</b>	<b>Sprinkler System</b>	-			
3.1	Supply, Installation, Testing & Commissioning of 15 mm size (Male threaded, BSP) Quartzoid bulb type G.M. Sprinkler head suitable to operate at 68 deg. C/79 deg. C (UL/FM/LOC listed/ approved) and complete in all respect with all labour, tools & plants, transportation, taxes levies etc. and as per specification, drawing and direction of Engineer-in-charge				
3.1.1	Standard pendent type in chrome finish	HD/ Viking	Each	650	P-70 (18.21.1)
3.1.2	Standard side throw type in chrome finish (Extended Coverage)	HD/ Viking	Each	18	P-70 (18.21.3)

3.2	Installation, Testing & Commissioning of mild steel black pipe Heavy Duty (IS:1239 Part I, for sizes 150 mm dia and below IS:3589 for sizes above 150 MM dia) of following sizes including cutting, threading, welding etc. bends, elbows, reducers, clamps hangers etc. including pipe supports, brackets etc. and cutting hole in brick or RCC walls / slabs including painting with one coat of primer and two or more coats of synthetic enamel paint of approved make and said including all steel work and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
3.2.1	150 mm dia	TATA/Jindal / Nezone	RM	924	P-68 (18.7.8)
3.2.2	100 mm dia	TATA/Jindal / Nezone	RM	18	P-68 (18.7.7)
3.2.3	80 mm dia	TATA/Jindal / Nezone	RM	492	P-68 (18.7.6)
3.2.4	65 mm dia	TATA/Jindal / Nezone	RM	324	P-68 (18.7.5)
3.2.5	50 mm dia ,	TATA/Jindal / Nezone	RM	384	P-68 (18.7.4)
3.2.6	40 mm dia	TATA/Jindal / Nezone	RM	282	P-68 (18.7.3)
3.2.7	32 mm dia ,	TATA/Jindal / Nezone	RM	120	P-68 (18.7.2)
3.2.8	25mm dia,	TATA/Jindal / Nezone	RM	474	P-68 (18.7.1)
3.3	<b>Under Ground Piping (External)</b>				
3.3.1	Installation and fixing black steel pipes Heavy Class confirming to IS: 1239 (Part-I) 2004, amended up to date including all fittings like bends, elbows, tees, flanges, etc., welding as required including painting, wrapping and coating of the pipes as per IS: 10221-2008 in all kinds of soil at a depth 1.0 m including excavation and refilling the trench all complete.				
	150 mm dia (For Yard Sprinkler Line)	TATA/Jindal / Nezone	RM	90	P-67 (18.6.2)
3.4	Supply, Installation and fixing of stainless steel (A1S1 304) unbraided flexible pipe for dropping sprinklers below false ceiling of 25mm dia of the following length and rated working pressure of 16 Kg/cm <sup>2</sup> with all accessories like union, reducer, collar, clamp				



	etc. as required. The flexible pipe shall be UL approved.				
3.4.1	700 mm	HD/Viking	Each		P-71 (18.25.1)
3.4.2	1000 mm	HD/Viking	Each		P-71 (18.25.2)
3.4.3	1500 mm	HD/Viking	Each	184	P-71 (18.25.3)
3.5	Supply, Installation and fixing electrically operated flow indicating switches including 1.5 mm thick compressed asbestos gasket, nuts and bolts complete. (Wiring from flow switches to control panel not included)				
3.5.1	65 mm dia		Each	0	
3.5.2	80 mm dia		Each	0	
3.5.3	100 mm dia		Each	6	P-70 (18.23.1)
3.5.4	150 mm dia		Each	2	P-70 (18.23.2)
3.6	Supply, Installation, Testing and Commissioning of 150 mm dia. Installation Control Valve assembly comprising of vertical wet alarm valve, hydraulic alarm motor & gong, 15 mm dia test valve, 50 mm dia drain valve and all necessary connections as per manufacturer's specifications complete as required. (UL / FM / LPC / TAC listed / approved).	Attasee/ Fire shield	Each	1	P-71 (18.24.3)
3.7	Installation and fixing brass ball valve full bore type tested for 20 kg/cm <sup>2</sup> with lever and screwed female ends.	Audco / NVR/Venus/Zoloto			
3.7.1	25 mm dia		Each	8	Non-Scheduled item
3.7.2	50 mm dia		Each	4	Non-Scheduled item
3.8	Installation and fixing Cast Iron wafer type butterfly valves of C.I / S.S (304) disc, Nitrile/EPDM rubber lining of PN-16 pressure rating complete with bolts, nuts, 3.0 mm thick compressed asbestos gasket, companion flanges as per table 'E' complete in all respects.	Audco / NVR/Venus/Zoloto			
a)	65 mm dia with lever		Each	1	P-69 (18.11.3)
b)	80 mm dia with lever		Each	3	P-69 (18.11.4)
c)	100 mm dia with lever		Each	1	P-69 (18.11.5)
d)	150 mm dia with lever		Each	5	P-69 (18.11.6)

3.9	Installation and fixing Cast Iron Swing Type with Natural Rubber Flap non return valves conforming to IS: 5312-1984 (Part-I) of PN-16 pressure rating with flanged ends to IS: 1538 including washer, nuts bolts, 1.5 mm thick copressed asbestos gasket companion flanges as per table "E" complete in all respects.	Audco / NVR/Venus/Zoloto			
a)	100 mm dia with lever		Each		P-69 (18.14.5)
b)	150 mm dia with lever (For FB Connection & @ Terrace)		Each		P-69 (18.14.7)
3.1	Supply, Installation, Testing & Commissioning of 250 mm dia Air Vessel with 25 mm Air Release Valve	Audco / NVR/Venus/Zoloto			
a)	25 mm dia		Each	5	P-70 (18.20)
3.11	Supply, Installation and fixing dial type pressure gauge with isolation cock and chrome plated copper pipe at hydrant station.	H. Guru			
a)	Dial diameter 150 mm calibration 0-15 kg/cm <sup>2</sup> .		Each	2	Non-Scheduled item
b)	Dial diameter 100 mm calibration 0-15 kg/cm <sup>2</sup> .		Each	2	Non-Scheduled item
3.12	Supply, Installation, Testing & Commissioning of NP4 Hume Pipe				
	300 mm dia		RM	90	Non-Scheduled item
<b>4</b>	<b>Water Curtain System</b>				
4.1	Installation, Testing & Commissioning of mild steel black pipe Heavy Duty (IS:1239 Part I , for sizes 150 mm dia and below IS:3589 for sizes above 150 MM dia) of following sizes including cutting, threading, welding etc. bends, elbows, reducers, clamps hangers etc. including pipe supports, brackets etc. and cutting hole in brick or RCC walls / slabs including painting with one coat of primer and two or more coats of synthetic enamel paint of approved make and said including all steel work and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
4.1.1	150 mm dia	TATA/Jindal / Nezone	RM	786	P-68 (18.7.8)
4.1.2	100 mm dia	TATA/Jindal / Nezone	RM	60	P-68 (18.7.7)
4.2	<b>Under Ground Piping (External)</b>				

	Installation and fixing black steel pipes Heavy Class confirming to IS: 1239 (Part-I) 2004, amended up to date including all fittings like bends, elbows, tees, flanges, etc., welding as required including painting, wrapping and coating of the pipes as per IS: 10221-2008 in all kinds of soil at a depth 1.0 m including excavation and refilling the trench all complete.				
4.2.1	150 mm dia (For Yard Water Curtain Line)	TATA/Jindal / Nezone	RM	90	P-67 (18.6.2)
4.2	Supply, Installation, Testing & Commissioning of Water Curtain Nozzle	HD/ Viking	Each	72	P-71 (18.27)
4.2. A	Supply, Installation, Testing & Commissioning of Open Nozzle		Each	28	
4.3	Deluge valve 150 NB		Each	4	P-71 (18.26.4)
4.4	Solonoid Valve		Each	4	P-71 (18.28)
4.5	Installation and fixing Cast Iron wafer type butterfly valves of C.I / S.S (304) disc, Nitrile/EPDM rubber lining of PN-16 pressure rating complete with bolts, nuts, 3.0 mm thick compressed asbestos gasket, companion flanges as per table 'E' complete in all respects.	Audco / NVR/Venus/Zoloto			
4.5.1	150 mm dia with lever		Each	8	P-69 (18.11.6)
4.6	Supply, Installation, Testing & Commissioning of NP4 Hume Pipe				
4.6.1	300 mm dia		RM	90	Non-Scheduled item
4.7	Supply, Installation, Testing & Commissioning of Panel for Water Curtain System	EAT / SYSTEM CONTROL	Each	1	
<b>5</b>	<b>Fire Alarm System</b>	-			
5.1	Supply, Installation, Testing & Commissioning of PVC insulated 2C x 1.5 sq. mm multistrand copper FRLS Armored cable to be laid through concealed PVC conduit Medium Duty and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge.	Finolex, Havells	RM	2500	P-59 (17.5.1)
5.2	Supply, Installation, Testing & Commissioning of Electronic Sounder / Strobe with gland, lugs, etc. and complete in all respect with labour, tools & plants,	Honeywell, Hochiki, Apollo, GST	Each	20	P-58 (17.2.16)

	transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge				
5.3	Fire alarm panel 2 loop panel suitable to accommodate at least 190 detector & 190 Devices and complete Fire Alarm Control Panel with minimum 6 inch The panel shall have 240 volts AC power ., automatic battery charger, 24 volts, sealed lead acid maintenance free batteries sufficient for 24 hours normal working and then be capable of operating the system for 60 minutes during emergency condition with all necessary display, power pack unit I.e. with battery & battery charger and complete in all respect with all labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge. Note: FDA Panel should be capable for integration with BMS System Modbus / BACnet is Inclusive	Honeywell, Hochiki, Apollo, GST	Each	5	P-57 (17.2.1.2)
5.4	Supply, Installation, Testing & Commissioning of type Optical smoke detector addressable with base, gland, lugs etc. and complete in all respect with labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Honeywell, Hochiki, Apollo, GST	Each	80	P-57 (17.2.4)
5.5	Supply, Installation, Testing & Commissioning of type manual call point with push type etc. and complete in all respect with labour, tools & plants, transportation, taxes, levies etc. and as per specification, drawing and direction of Engineer-in-charge	Honeywell, Hochiki, Apollo, GST	Each	14	P-58 (17.2.14)
5.6	Control Module	Honeywell, Hochiki, Apollo, GST	Each	20	P-58 (17.2.10)
5.7	Monitor Module	Honeywell, Hochiki, Apollo, GST	Each	7	Non-Scheduled item
5.8	Supply, transportation, unloading, storing at work site, handling, termination of cable, installation, testing and commissioning of addressable Fault Isolation module with housing. The job includes fixing arrangement & all necessary accessories, chase cut and filling with mortar to complete in all respect.				
5.9	Supply, Installation, Testing & Commissioning of Beam Detector	Honeywell, Hochiki, Apollo, GST	Each	12	P-58 (17.2.12)
5.10	<b>STROBES CUM DUAL TONE Speaker</b>				

	Supply, installation, testing and commissioning of Strobes cum Dual tone hooters with minimum of 110cd and 93 dB complete as required.	Honeywell, Hochiki, Apollo, GST	Each	20	P-58 (17.2.16)
5.11	Supply, transportation, unloading, storing at work site, handling, laying and termination of 20mm dia FRLS PVC conduit Medium Duty ISI Mark with conduit accessories, Clamps including . of all consumables and fittings, chase cutting, mortar filling.	AKG, Polycab	RM	1500	P-115 (4143)
5.12	Supplying, installation, testing & commissioning of 6 zone, voice alarm controller with USB, MP3 Player (including 6 zone)	AHUJA	Each	5	P-58 (17.3.1)
<b>6</b>	<b>CIVIL WORK</b>				
6.1.	Under Ground Pump Room (Size: 10 Mts. X 6 Mts.) Height: 4 mtrs. Including Foundation		LS	1	Non-Scheduled item
	Clear Height: 3.0 mtrs.				
	<b>Including Painting, Roof water proofing, Plinth protection, rolling shutter, Fixed glass window, Electrical fittings and Fixtures - Please confirm</b>				
6.2	Pedestal with proper foundation as per NBC for Over Ground Pipe 6.0 MT load bearing capacity				
6.2.1	Pedestal Size 1550 x 300 x 1600		Each	391	Non-Scheduled item
6.2.2	Pedestal Size 1000 x 300 x 1600		Each	72	Non-Scheduled item
6.2.3	Pedestal Size 500 x 300 x 1600		Each	204	Non-Scheduled item
<b>7</b>	<b>Repairing Work</b>				
7.1	False Ceiling Repairing & Replacing		SQ.M	734	
7.2	Road Cutting & Repairing		R.M.	205	
		mentioned in the drawing			
<b>8</b>	<b>Exhaust System</b>				
8.1	2500 cfm Axial Fan = 15 static Pressure	SIWENT	Each	2	
8.2	Cabling	POLYCAB	LOT	1	

8.3	Panel for Exhaust Fan	EAT / SYSTEM CONTROL	Each	1	

#### **D. Drawings**

1. 9 nos. Fire Protection System Drawings.
2. 6 nos. Fire Detection Arrangement Drawings

Attached.

#### **E. Other Conditions**

1. Director, IWAI, Kolkata shall be Engineer-in-Charge of this work from the Employer's side.
2. Approvals / NOC from WBF&ES Authorities is under Contractor's scope. The contractor shall liaison with WBF&ES department for getting NOC for MMT-Haldia. Necessary support may be provided by the employer.
3. The contractor shall comply with statutory Labour laws at all times during the execution of contract.
4. 3 months of Defects Liability Period (DLP) is applicable for this work.
5. The Employer's Requirements are that the Contractor shall carry out Engineering, Design, Procurement of materials, Construction / installation and commissioning of all the items listed in Bill of Materials. For this purpose, the Bidder shall conduct all necessary field tests and surveys to satisfy / verify himself regarding the correctness of the data furnished vis-à-vis actual condition.
6. All materials, testing, design and execution shall be in conformity with Indian codes and standards unless otherwise stated in these specifications. It is well understood that when a brand name is given for a material, the Contractor has the right to propose any equivalent material of any other brand for approval of the Employer.
7. The contractor shall work as per the drawings (Fire Protection System Drawings & Fire Detection arrangement drawings) described in the Tender document and the best current engineering practice. Particular attention should be paid to internal and external access to the electrical equipment in order to facilitate inspection, cleaning and maintenance. The contractor shall comply with latest code of practice published by the Bureau of Indian Standards as applicable. Care shall be taken so that materials and equipment supplied by contractor are the standard catalogued products of manufacturers regularly engaged in the manufacturer of such products and shall be of the latest standard designs that conform to the specific requirements.
8. Upon due performance of the Contract and before the Taking Over Certificate is issued to the Contractor, he (the Contractor) shall demobilize all such labour, equipment and

materials that are necessary to clear the site within one (1) month to the Employer's satisfaction.

9. Except as expressly stated in the Employer's Responsibilities, the Contractor shall obtain all permits and licenses necessary for the execution and completion of the Works. The Contractor shall pay all associated fees including royalty. He shall also give the Employer a copy of all relevant correspondence and other documents relating to the Contractor's permits and licenses.
10. All materials shall be of standard quality and shall be procured from renowned sources/manufacturers approved by the Employer. It shall be the responsibility of the Contractor, to get all materials / manufacturers approved by the Employer prior to procurement and placement of order.
11. Quality and acceptability of materials not covered under this specification shall be governed by the relevant IS Codes. In case IS code is not available for the particular material, other codes e.g., B.S. or DIN or API/ASTM etc. shall be considered. The decision of Employer in this regard shall be final and binding on the Contractor.
12. The Contractor shall submit manufacturer's test reports on quality and suitability of any material procured from them and their recommendation on storage, application, workmanship etc. for the intended use. Submission of manufacturer's test reports does not restrict the Employer from asking fresh test results from an approved laboratory of the actual material supplied from an approved manufacturer/source at any stage of execution of work.
13. Work items are selected as per CPWD work items.
14. Any additional works not covered in the BOM required for getting final No-Objection from WBF&ES department is required to be carried out by the successful bidder and shall be informed well ahead so that variation may be issued by the employer. The detailed estimate for the same shall be based on CPWD Schedule of rates (E & M) 2022. If non-scheduled work items are required, then competitive market rates may be taken after justification of the same to the employer.
15. All warranty certificates of the supply items shall be supplied by the contractor to the employer.

## **SECTION - D**

- 1. Letter of Acceptance.***
- 2. Draft agreement with Article of Agreement.***
- 3. Annexure towards Fraudulent Practices***
- 4. Form of Bid Security.***
- 5. Form for Performance Security – Bank Guarantee.***
- 6. Form for Retention Money Security***



**(LETTERHEAD OF THE EMPLOYER)**

**LETTER OF ACCEPTANCE  
CUM NOTICE TO PROCEED WITH THE WORK**

Dated: \_\_\_\_\_

To : \_\_\_\_\_ [Name and address of the Contractor]  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Dear Sirs,

This is to notify you that your Bid dated \_\_\_\_\_ for execution of the \_\_\_\_\_ for the contract price of Rupees \_\_\_\_\_ [amount in words and figures], is hereby accepted by us.

You are hereby requested to furnish performance security for an amount of Rs. \_\_\_\_\_ (equivalent to 5% of the contract price) within 15 days of the receipt of the letter. The Performance Security in the form of Bank guarantee or a Bank draft in favour of ..... (Employer) shall be valid until a date 28 days after the date of issue of the Certificate of Completion i.e. up to \_\_\_\_\_. Failure to furnish the Performance Security will entail cancellation of the award of contract.

You are also requested to sign the agreement form and proceed with the work not later than \_\_\_\_\_ under the instructions of the Engineer, \_\_\_\_\_ and ensure its completion within the contract period.

With the issuance of this acceptance letter and your furnishing the Performance Security, contract for the above said work stands concluded.

Yours faithfully,

**Authorized Signature  
Name and title of Signatory**

## ***Draft Agreement form for Construction through Lump Sum Contract***

### **ARTICLES OF AGREEMENT**

1. This deed of agreement is made in the form of agreement on \_\_\_\_\_ day \_\_\_\_\_ month \_\_\_\_\_ 20 \_\_\_\_, between the \_\_\_\_\_ (Employer) or his authorized representative (hereinafter referred to as the first party) and \_\_\_\_\_ (Name of the Contractor), S/O \_\_\_\_\_ resident of \_\_\_\_\_ <sup>4</sup>(hereinafter referred to as the second party), to execute the work of construction of \_\_\_\_\_ (hereinafter referred to as works) on the following terms and conditions.

#### **2. Cost of the Contract**

The total cost of the works (hereinafter referred to as the “total cost”) is

- a. Towards Supply Rs. \_\_\_\_ as reflected in Annexure - 1.
- b. Towards Erection Rs. \_\_\_\_ as reflected in Annexure - 1.

Total Contact Price = Rs. ....

GST on actuals towards production of proof of the payments deposited with the GST Authorities.

#### **3.1 Payments under the contract:**

Payments to the contractor for providing **Fire Protection & Detection System for Multi Modal Terminal at Haldia, West Bengal** will be released by the Employer (IWAI) in the following manner: -

1.	On signing of agreement	:	30% of Quoted Supply Amount on receipt of unconditional bank guarantee*** in the format attached
2.	On Release of Orders towards supply items	:	20% of Quoted Supply Amount.
3.	On Receipt of all supply items at site	:	20% of Quoted Supply Amount.
4.	On Erection of equipments and readiness of system	:	70% of Quoted Erection Amount.
5.	On testing & trail-run of all the equipment	:	10% of the Contract Value
6.	On conducting of Inspection & attending the punch list	:	10% of the Contract Value
7	On obtaining the Final Fire Safety Clearance (NOC) Permission from WBF&ES** and handing over of the system.	:	10% of Contract Value
WBF&ES ** = West Bengal Fire & Emergency Service Department.			

<sup>4</sup> In case of a firm insert ‘complete address of the firm’. In case of an individual contractor insert identification like ‘son of and resident of’ etc.

**3.2** The advance paid for completing the work for Fire ***Protection & Detection System for Multi Modal Terminal at Haldia, West Bengal being a short-term contract will not be recovered from the subsequent bills.***

\*\*\* the Advance Guarantee shall remain effective until the completion of work.

**3.3** The Employer shall retain (Retention Money) 6% of the amount from each payment due to the Contractor subject to the maximum of 5% of final contract price. Half of the amount retained shall be repaid upon completion of the works, and other half shall be repaid when the Defects Liability Period has passed, and the Engineer has certified that all Defects notified to the Contractor before the end of this period have been corrected. On completion of the whole works the Contractor may substitute the balance retention money with an “on demand” Bank guarantee.

**3.4** Payments at each stage will be made by the Employer

- (a) on the Contractor on submitting an invoice for an equivalent amount;
- (b) on certification of the invoice (except for the first installment) by the engineer nominated by the first party with respect to quality of works in the format in Annexure - 2; and

#### **4. Notice by Contractor to Engineer**

The second party, on the works reaching each stage of construction, shall issue a notice to the first party or the Engineer nominated by the first party [who is responsible for supervising the contractor, administering the contract, certifying payments due to the contractor, issuing and valuing variations to the contract, awarding extension of time etc.] to visit the site for certification of stage completion. Within 15 days of the receipt of such notice, the first party or the engineer nominated by it, will ensure issue of stage completion certificate after due verification.

#### **5. Completion time**

The works should **be completed in 90 days** from the date of mobilization. 10 days have been considered for mobilization after the signing of this contract agreement. In exceptional circumstances, the time period stated in this clause may be extended in writing by mutual consent of both the parties.

**6.** If any of the compensation events mentioned below would prevent the work being completed by the intended completion date, the first party will decide on the intended completion date being extended by a suitable period:

- a) The first party does not give access to the site or a part thereof by the agreed period.
- b) The first party orders a delay or does not issue completed drawings, specifications or instructions for execution of the work on time.
- c) Ground conditions are substantially more adverse than could reasonably have been assumed before issue of letter of acceptance and from information provided to second party or from visual inspection of the site.

- d) Payments due to the second party are delayed without reason.
- e) Certification for stage completion of the work is delayed unreasonably.

7. Any willful delay on the part of the second party in completing the work within the stipulated period will render him liable to pay liquidated damages. ***The amount of liquidated damages per day is 0.05 % of the contract value of the works*** which will be deducted from payments due to him. The first party may cancel the contract and take recourse to such other action as deemed appropriate once the total amount of liquidated damages exceeds 5 % of the contract amount.

## **8. Duties and responsibilities of the first party**

- 8.1 The first party shall be responsible for providing regular and frequent supervision and guidance to the second party for carrying out the works as per specifications. This will include written guidelines and regular site visit of the authorized personnel of the first party, for checking quality of material and construction to ensure that it is as per the norms.
- 8.2 The first party shall supply 3 sets of drawings, specifications and guidelines to the second party for the proposed works.
- 8.3 Mobilizations is to be completed within 10 days of Signing of this Agreement.
- 8.4 The Engineer or such other person as may be authorized by the first party shall hold meeting once in a month where the second party or his representative at site will submit the latest information including progress report and difficulties if any, in the execution of the work. The whole team may jointly inspect the site on a particular day to take stock of activities.
- 8.5 The Engineer shall record his observations/instructions at the time of his site visit in a site register maintained by the second party. The second party will carry out the instructions and promptly rectify any deviations pointed out by the engineer. If the deviations are not rectified, within the time specified in the Engineer's notice, the first party as well as the engineer nominated by it, may instruct stoppage or suspension of the construction. It shall thereupon be open to the first party or the engineer to have the deviations rectified at the cost of the second party.
- 8.6 The Engineer shall issue a Certificate of Completion of the Works on the request of the second party, and upon deciding that the whole of the Works is completed.

## **9. Duties and responsibilities of the Contractor (M/s.....)**

- 9.1 The second party shall:
  - a) take up the works and arrange for its completion within the time period stipulated in clause 5;
  - b) employ suitable skilled persons to carry out the works;
  - c) regularly supervise and monitor the progress of work;

- d) abide by the technical suggestions/ direction of supervisory personnel including engineers etc. regarding building construction;
- e) be responsible for bringing any discrepancy to the notice of the representative of the first party and seek necessary clarification;
- f) ensure that the work is carried out in accordance with specifications, drawings and within the total of the contract amount without any cost escalation;
- g) keep the first party informed about the progress of work;
- h) correct the notified defects within the length of time specified by the Engineer;
- i) be responsible for all security and watch and ward arrangements at site till handing over of the works to the first party;
- j) maintain necessary insurance against loss of materials/cash, etc. or workman disability compensation claims of the personnel deployed on the works as well as third party claims from the start date to the end of defect liability period;
- k) pay all duties, taxes and other levies payable by construction agencies as per law under the contract (First party will effect deduction from running bills in respect of such taxes as may be imposed under the law);
- l) abide by the regulatory authority conditions (if any) attached to any permits or approvals for the project; and the ESHS Management Strategies and Implementation Plan and ESHS Code of Conduct, if any prescribed by the Employer;
- m) abide by all labour enactments and rules made there under, regulations, notifications and bye laws of the State or Central Government or local authorities;
- n) abide by all enactments on environmental protection and rules made there under, regulations, notifications and by-laws of the State or Central Government, or local authorities;
- o) be responsible for the safety of all activities on the Site.

#### **10. Variations / Extra Items**

The works shall be executed by the second party in accordance with the approved drawings and specifications. No variation in cost is acceptable. However, if the Engineer issues instructions for execution of extra items, the following procedure shall be followed: -

- a) The second party shall provide the Engineer with a detailed estimate & justification of cost for carrying out the extra items when requested to do so by the Engineer. The Engineer shall assess the proposal which shall be given within seven days of the request before the extra items are ordered.

- b) If the bid given by the second party is unreasonable, the Engineer may order the extra items and make a change to the Contract Price which shall be based on Engineer's own forecast of the effects of the extra items on the Contractor's costs.
- c) The second party shall not be entitled to additional payment for costs, which could have been avoided by giving early warning.

## **11. Securities**

The Performance Security shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount and form and by a bank acceptable to the Employer. The Performance Security shall be valid until a date 28 days from the date of issue of the Certificate of Completion in the case of a Bank Guarantee.

## **12. Termination**

**12.1** The Employer may terminate the Contract if the other party causes a fundamental breach of the Contract.

**12.2** Fundamental breaches of Contract include, but shall not be limited to the following:

- (a) the contractor stops work for 28 days and the stoppage has not been authorized by the Engineer;
- (b) the Contractor has become bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (c) the Engineer gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Engineer;
- (d) the Contractor does not maintain a security which is required;
- (e) the Contractor has engaged in corrupt, fraudulent, collusive, coercive or obstructive practices, in competing for or in executing the Contract; and
- (f) the contractor has delayed the completion of the Works by the number of days for which the maximum amount of liquidated damages can be paid

**12.3** Notwithstanding the above, the Employer may terminate the Contract for convenience.

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

## **13. Payment upon Termination**

**13.1** If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Engineer shall issue a certificate for the value of the work done less advance payments received up to the date of the issue of the certificate, less other

recoveries due in terms of the contract, less taxes due to be deducted at source as per applicable law.

- 13.2** If the Contract is terminated at the Employer's convenience, the Engineer shall issue a certificate for the value of the work done, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works and less advance payments received up to the date of the certificate, less other recoveries due in terms of the contract and less taxes due to be deducted at source as per applicable law.

**14. Dispute settlement**

If over the works, any dispute arises between the two parties, relating to any aspects of this Agreement, the parties shall first attempt to settle the dispute through mutual and amicable consultation.

In the event of agreement not being reached, the matter will be referred for arbitration by a Sole Arbitrator not below the level of retired Chief Engineer / Superintending Engineer, (not connected in part or whole with this Project in his service) to be appointed by the first party. The Arbitration will be conducted in accordance with the Arbitration and Conciliation Act, 1996. The decision of the Arbitrator shall be final and binding on both the parties.

**15. Corrupt and Fraudulent Practices**

The World Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section C. In further pursuance of this policy, the Contractor shall permit and shall cause its sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.

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## Section C. World Bank Policy - Corrupt and Fraudulent Practices

*(Text in this Appendix shall not be modified)*

### **Guidelines for Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011 Revised July 2014:**

#### **“Fraud and Corruption:**

1.16 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.<sup>5</sup> In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
  - (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;<sup>6</sup>
  - (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;<sup>7</sup>
  - (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;<sup>8</sup>
  - (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;<sup>9</sup>
  - (v) “obstructive practice” is
    - (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to

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<sup>5</sup>In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

<sup>6</sup> For the purpose of this sub-paragraph, “*another party*” refers to a public official acting in relation to the procurement process or contract execution. In this context, “*public official*” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

<sup>7</sup> For the purpose of this sub-paragraph, “*party*” refers to a public official; the terms “*benefit*” and “*obligation*” relate to the procurement process or contract execution; and the “*act or omission*” is intended to influence the procurement process or contract execution.

<sup>8</sup> For the purpose of this sub-paragraph, “*parties*” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other’s bid prices or other conditions.

<sup>9</sup> For the purpose of this sub-paragraph, “*party*” refers to a participant in the procurement process or contract execution.



investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or

- (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,<sup>10</sup> including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated<sup>11</sup>;
- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank."

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<sup>10</sup> A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

<sup>11</sup> A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

**Appendix to Technical Part**  
**Form of Bid Security - Bank Guarantee**  
*[Guarantor letterhead or SWIFT identifier code]*

Bid Guarantee No.....*[insert guarantee reference number]*  
Date.....*[insert date of issue of the guarantee]*

WHEREAS, \_\_\_\_\_ *[name of Bidder]*<sup>12</sup> (hereinafter called "the Bidder") has submitted his Bid dated \_\_\_\_\_ *[date]* or will submit his Bid for the construction of \_\_\_\_\_ *[name of Contract]* (hereinafter called "the Bid") under Request for Bids No.....*[insert number]* (hereinafter called "the RFB")

KNOW ALL PEOPLE by these presents that We \_\_\_\_\_ *[name of bank]* of \_\_\_\_\_ *[name of country]* having our registered office at \_\_\_\_\_ (hereinafter called "the Bank") are bound unto \_\_\_\_\_ *[name of Employer]* (hereinafter called "the Employer") in the sum of \_\_\_\_\_<sup>13</sup> for which payment well and truly to be made to the said Employer the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_.

THE CONDITIONS of this obligation are:

- (1) If after Bid opening the Bidder (a) withdraws his bid during the period of Bid validity specified in the Letters of Bid, or any extension thereto provided by the Bidder; or (b) does not accept the correction of the Bid Price pursuant to ITB 11.1; or
- (2) If the Bidder having been notified of the acceptance of his Bid by the Employer during the period of Bid validity:
  - (a) fails or refuses to execute the Form of Agreement in accordance with the Instructions to Bidders, if required; or
  - (b) fails or refuses to furnish the Performance Security, in accordance with the Instruction to Bidders.

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

This Guarantee will remain in force up to and including the date \_\_\_\_\_<sup>14</sup> days after the deadline for submission of Bids as such deadline is stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this guarantee should reach the Bank not later than the above date.

DATE \_\_\_\_\_ SIGNATURE OF THE BANK \_\_\_\_\_  
WITNESS \_\_\_\_\_ SEAL \_\_\_\_\_  
[signature, name, and address]

*Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.*

<sup>12</sup> *Insert name of the Bidder, which in the case of a joint venture shall be (a) the name of the joint venture that submits the bid if the JV has been constituted into a legally enforceable JV, or (b) the names of all future members of the JV as named in the letter of intent to execute the JV Agreement submitted by the bidder alongwith its bid.*

<sup>13</sup> *The Guarantor should insert the amount of the guarantee in words and figures denominated in Indian Rupees. This figure should be the same as shown in Clause 5.5 of the Instructions to Bidders.*

<sup>14</sup> *90 days after the end of the validity period of the Bid.*

**PERFORMANCE SECURITY - BANK GUARANTEE**

*[Guarantor letterhead or SWIFT identifier code]*

Performance Guarantee No.....*[insert guarantee reference number]*

Date.....*[insert date of issue of the guarantee]*

To: \_\_\_\_\_ *[name of Employer]*  
\_\_\_\_\_ *[address of Employer]*

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

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

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

NOW THEREFORE we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of \_\_\_\_\_<sup>15</sup>*[amount of guarantee]* \_\_\_\_\_ *[in words]*, such sum being payable in the types and proportions of currencies in which the Contract Price is payable, and we undertake to pay you, upon your first written demand and without cavil or argument, any sum or sums within the limits of \_\_\_\_\_ *[amount of guarantee]*<sup>1</sup> as aforesaid without your needing to prove or to show grounds or reasons for your demand for the sum specified therein.

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

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

This guarantee shall be valid until ..... (i.e.) 28 days after the date of issue of the Certificate of Completion, and any demand for payment under it must be received by us at this office on or before that date.

Signature and seal of the guarantor \_\_\_\_\_  
Name of Bank \_\_\_\_\_  
Address \_\_\_\_\_  
Date \_\_\_\_\_

*Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product*

**BANK GUARANTEE FOR ADVANCE PAYMENT**

<sup>15</sup> An amount shall be inserted by the Guarantor, representing the percentage of the Contract Price specified in the Contract and denominated in Indian Rupees.

*[Guarantor letterhead or SWIFT identifier code]*

Advance Payment Guarantee No.....*[insert guarantee reference number]*  
Date.....*[insert date of issue of the guarantee]*

To: \_\_\_\_\_ *[name of Employer]*  
\_\_\_\_\_ *[address of Employer]*  
\_\_\_\_\_ *[name of Contract]*

Gentlemen:

In accordance with the provisions of the Conditions of Contract, subclause 3.1 of the above-mentioned Contract, \_\_\_\_\_ *[name and address of Contractor]* (hereinafter called "the Contractor") shall deposit with \_\_\_\_\_ *[name of Employer]* a bank guarantee to guarantee his proper and faithful performance under the said Clause of the Contract in an amount of \_\_\_\_\_ *[amount of guarantee]*<sup>16</sup> \_\_\_\_\_ *[in words]*.

We, the \_\_\_\_\_ *[bank or financial institution]*, as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as Surety merely, the payment to \_\_\_\_\_ *[name of Employer]* on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding \_\_\_\_\_ *[amount of guarantee]*<sup>1</sup> \_\_\_\_\_ *[in words]*.

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

This guarantee shall remain valid and in full effect from the date of the advance payment under the Contract until \_\_\_\_\_ *[name of Employer]* receives full repayment of the same amount from the Contractor. Consequently any demand for payment under this guarantee must be received by us at this office on or before that date.

Yours truly,  
Signature and seal: \_\_\_\_\_  
Name of Bank: \_\_\_\_\_  
Address: \_\_\_\_\_  
Date: \_\_\_\_\_

*Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.*

<sup>16</sup> An amount shall be inserted by the bank representing the amount of the Advance Payment, and denominated in Indian Rupees.

## **Retention Money Security Demand Guarantee**

*[Guarantor letterhead or SWIFT identifier code]*

\_\_\_\_\_ *[Bank's name and address of issuing branch or office]*

**Beneficiary:** \_\_\_\_\_ *[Name and Address of Employer]*

**Date:** \_\_\_\_\_

**RETENTION MONEY GUARANTEE NO.:** \_\_\_\_\_

We have been informed that \_\_\_\_\_ *[name of contractor]* (hereinafter called "the Contractor") has entered into Contract No. \_\_\_\_\_ *[reference number of the contract]* dated \_\_\_\_\_ with you, for the execution of \_\_\_\_\_ *[name of contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, when the Taking-Over Certificate has been issued for the Works and the first half of the Retention Money has been certified for payment, payment of \_\_\_\_\_ *[insert the second half of the Retention Money]* is to be made against a Retention Money guarantee.

At the request of the contractor, we \_\_\_\_\_ *[name of Bank]* hereby irrevocably undertake to pay you the sum or sums not exceeding in total an amount of \_\_\_\_\_ *[amount in Rupees]* (\_\_\_\_\_) *[amount in words<sup>17</sup>]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract without cavil or argument.

It is a condition for any claim and payment under this guarantee to be made that the payment of the second half of the Retention Money referred to above must have been received by the Contractor on its account number \_\_\_\_\_ at \_\_\_\_\_ *[name and address of Bank]*.

This guarantee shall expire, at the latest, 21 days after the date when the Employer has received a copy of the Defects Liability Certificate issued by the Engineer. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

\_\_\_\_\_  
*[Signature(s) and seal of the guarantor]*

*Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.*

\_\_\_\_\_  
<sup>17</sup> *The Guarantor shall insert an amount representing the amount of the second half of the Retention Money.*