NATIONAL AUTOMOTIVE TEST TRACKS

Tender Document

For

Repairs and commissioning of existing firefighting system

at

NATRAX

PITHAMPUR, DIST. DHAR (Madhya Pradesh)

Tender No. - NATRAX/PROC/C&I/23/56

National Automotive Test Tracks (NATRAX)

NH-52, Old Agra- Mumbai Highway, Near to Pithampur Flyover,

Post Khandwa (Near Pithampur)

Dhar District, Madhya Pradesh-454774

Phone: +919893892310, Fax – 07292-256101

Email: a.prabhakar@natrip.in, anuj.kumar@natrip.in

1. **General Instructions:**

National Automotive Test Tracks (NATRAX) is an Automotive Testing & **National Automotive Test Tracks (NATRAX)** is an Automotive Testing & Certification Centre under National Automotive Board (NAB) which is an autonomous body constituted by Ministry of Heavy Industries, Government of India. NATRAX has been set up on approx. 3000 acres of land for comprehensive testing and evaluation of all types of automobiles, near Pithampur, Dist. Dhar, (Madhya Pradesh, India).

The National Automotive Test Tracks (NATRAX), invites **Password Protected Quotation/Bid** from the registered, qualified and experience under Limited tender enquiry (LTE) in the prescribed Proforma for performing, executing and implementing the works on the terms and conditions contained in this Bid document. Brief Description of works and the timelines for NIQ are summarised in the table below:

Ā %v标~v tion of Work	Period of Contract	EMD	Date of start of floating of tender	Last date for submission of Bid	Date & Time of Bid opening	Estimated Cost
Repairs and commissioning of existing firefighting system	60 days from the date of Issue of Work Order.	Nil	13th April 2023	27th April 2023 at 1500 Hrs	27th April 2023 at 1530 Hrs	Rs 5.0 Lakh

The Bidder(s) who meet the Minimum Eligiblity Criteria (MEC) as mentioned in the Instructions to Bidder (ITB) may be eligible to become successfully in the Bidding process. **The bidder(s) in the form of JV/Consortium is not permitted.**

2. **Quotations/Bid Submission details:**

a. **Password protected** Bid/Quotation is to be submitted by the Bidder at the following email ID's not later than the aforesaid time & date or as next convenient date & time on pre-intimation. (*for Password protection details please refer Annexure IV of this document*).

mail to: a.prabhakar@natrip.in, anuj.kumar@natrip.in,

OR

Sealed Bids/quotations may also be submitted in the hard copy in **sealed envelops at NATRAX Hub office** in the aforesaid date and time. However, Bidders are encourged to Bid/quote through electronic mode considering the ongoing Covid pandemic.

b. No Bids will be accepted after the aforesaid date and time. However, on exceptional cases, NATRAX reserves the right to extend the time/last date of submission of Bid to a next convenient date/time before opening of the Bids.

c. **Bids sent telegraphically or through other means of transmission (telefax, etc.) which are not Password Protected shall be treated as defective, invalid and shall stands rejected.**

d. NATRAX shall not be responsible for any delays for non-receipt /non-delivery/or any technical errors or due to wrong addressee. Bidders may confirm the receipt of their Bids submission from NATRAX

3. **Disclaimer:**

NATRAX reserves all rights to accept/ reject/modify/split any or all proposals without assigning any reasons. Bidders shall not have any cause of action or claim against NATRAX for any of its decisions.

For NATRAX

Head Procurement & Stores

ANNEXURE I

A. INSTRUCTION TO BIDDERS (ITB)

1. Bidders are required to submit their Bids in a **Password Protected PDF format,** named as **"Bid for Tender No. NATRAX/PROC/C&I/23/56" on the subject of the email, containing Password Protected PDF document,** as given below. The **Password Protected** bids shall be submitted at the mentioned email ID's before the closure of bid submission date/time.

OR

Sealed Bid/quotation may also be submitted in the hard copy containing Technical bid and financial bids in single sealed envelope at NATRAX office in the aforesaid date and time. However, Bidders are encouraged to Bid/quote through electronic mode in order to avoid Covid pandemic.

Incase of online Bid submission, the password of the document shall be submitted by the Bidder at the time of the opening of Bid.

2. **Bid Opening:**

The bid shall be opened by the committee of NATRAX Officials in the presence of bidder (if available) for further scrutiny, evaluation, ranking & placement of order.

a) During the technical bid evaluation process, NATRAX may ask clarifications to the bidder through E-mail or in writing for confirming and consolidating their technical offers.

b) All such clarifications are required to be answered by the bidder by E-mail, within the time specified by NATRAX.

3. The Contract shall be governed by the terms and conditions specified in this tender document including ammendments, work order etc., .

4. All Bidders are hereby explicitly informed that "CONDITIONAL OFFERS" or "OFFERS WITH DEVIATIONS" from the conditions of Contract, the quotation not meeting the minimum eligibility criteria, technical specifications, or any other requirements as stipulated in the Tender documents are liable to be "REJECTED".

5. **Bidder should give details of their technical soundness and provide list of**

customers/client of previous works of similar nature in Government Departments/ Undertakings/ Public / Private sectors/Autonomous etc.,

6. **Minimum Eligibility Criteria: - The bidder should fulfill either of the following two (A OR B):**

A. The bidder should have valid registration with NATRAX under vender registration.

Or

B. The bidder should meet the following criteria:

i. **Legal valid entity:** - it shall be valid legal entity in form of Proprietor/partnership/LLP/Pvt. Ltd company/Govt. entity/Limited Company/autonomous body etc, and should have valid registration with appropriate governing authority. To supporting this, proof should have to be submitted along with quotation.

ii. **Turnover:** it should have minimum turnover of Rs. 5.0 Lakhs during last 3 FY (2019-20, 2020-21 & 2021-22), to supporting this, bidder have to submit a copy of balance sheet/CA Certificate clearly indication the turnover and UDIN should also mandatorily mentioned on the same, along with quotation.

iii. **Experience:** it should have minimum 3 years' experience in similar work*.

Similar works* - successfully completed Works pertaining repairs/installation/commissioning of firefighting system. To supporting this, copy of valid work order & completion certificate should be submitted with quotation. *In case, work order & completion certificate issued by other than Govt. entity, NATRAX reserve the rights to seeking the 26AS or TDS certificate for the relevant period for authenticity of said order & certificates.*

Exemption: valid MSME/Startups registered firms shall be exempted from above B (ii & iii) subject to submission of valid registration certificate and supporting documents for technical competency.

7. **Opening & Evaluation of Quotations**: the bids shall be opened by the committee of NATRAX officials, and shall be evaluated in following mannar:

7.1. If the bidder is registered vender of NATRAX the quotations shall be accepted for

comparission of quoted rates. If bidder is not registered vender of NATRAX than the evaluation shall be done as per below:

i. in first instance- the quotations shall be evaluated as per the MEC defined as above 6 (B) and the quotations of such bidders only whom meets the MEC shall be considered for comparision.

The bids of the bidders whom will not meet the MEC shall be disqualified and not considered further.

8. The Bidders are expected to carefully examine all the contents of the Tender documents including instructions, conditions, terms, specifications, drawings (if any), shall inspect the Site with prior notice to NATRAX and at Bidders own cost, acquaint himself with all local conditions, means of access to the work, nature of the work and all matters pertaining thereto & take them fully into account before submitting their offer. Failure to comply with the requirements as detailed in these documents shall be at the Bidder's own risk. Bids which are not responsive to the requirements of the Tender will be rejected.

9. While all efforts have been made to avoid errors in drafting of the Tender documents, the Bidder is advised to check the same carefully. No claim on account of any errors detected in the Tender documents shall be entertained.

10. The Bidder shall carry out all the work strictly in accordance with Specification, Standard Practices and instructions of NATRAX or NATRAX's representative and deviation on any account will not be permitted. If in the opinion of NATRAX, changes have to be made in the design and it desires the Bidder to carry out the same. The decision of NATRAX in such cases shall be final and shall not be open to arbitration.

11. The successful Bidder is bound to carry out associated work necessary for the completion of the job even though such items are not included in the quantities and drawings to achieve end results and deemed to be priced in the other items. No claim on this account shall be entertained.

12. The successful Bidder should make his own arrangement to obtain all materials required for the work.

13. Addendum / Corrigendum (if required) to the Tender may be issued prior to the

date of opening of the Bid to clarify or to intimate any changes/modifications etc. All such addendum / corrigendum shall be treated as an integral part of the Tender.

14. Any effort by a Bidder to influence NATRAX or any of its functionaries in the process of examination, clarification, evaluation and comparison of tenders and in decisions concerning award of contract, may result in rejection of the Bid.

15. In order to afford prospective bidders, reasonable time for preparing their Quotes after taking into account such amendments, NATRAX may, at its discretion, extend the deadline for submission of bids.

16. Information relating to the examination, clarification, evaluation and comparison of bids and recommendations concerning the award of Contract shall not be disclosed to Bidders or other persons not officially concerned with such process.

17. NATRAX reserves the right to accept / reject or modify any bids, and to annul the Tender process and reject all quotations, at any time prior to award of Contract, or to divide the Contract between/amongst Bidders without thereby incurring any liability to the affected Bidder or Bidders or any obligations to inform the affected Bidder or Bidders of the grounds for NATRAX's action. Any bidder not following ITB stands rejected.

18. **Quoted Rates**: The rate should be quoted both in words and figures on NATRAX prescribed format duly signed & stamped by the Bidder, incase any discrepancy, rate quoted in word will be preferred. All statutory deductions shall be applicable while releasing payments. All corrections and overwriting should be initialed by the Bidder.

a) The bidder needs to fill the rates against each item in word as well as in figures as mentioned in BOQ (Financial bid). In case of any discrepancy, the rate provided in word shall prevail and correct the amount against the item. All the prices ahould be inclusive of all taxes and GST.

b) The amount stated in the Letter to Bid will be adjusted by the Employer in accordance with the above procedure for the correction of errors and, shall be considered as binding upon the bidder. If the bidder does not accept the corrected

amount of bid, the bid will be rejected.

19. **Contract negotiations**: If required, NATRAX reserve the right to negotiate with the L-1 bidder only, before the issuance of work order/Letter of Acceptance/ Notification of Award. The negotiation shall conclude with a revised offer letter from the successful bidder, affecting the discounts if any and accepted by NATRAX.

20. **Award of Work:** Prior to the expiry of the period of Bid validity prescribed, NATRAX will issue to the Successful Bidder, the Work Order. The Successful Bidder shall return one copy of the Work Order to NATRAX duly acknowledged and signed by the authorized signatory, within two [2] days of receipt of the same by him.

21. **Validity of bids:**
The rate quoted should be valid for a minimum period of 60 days from the last date of Submission of Quotation. No claim for escalation of rate will be considered at any point of time.

22. Bidders requiring any clarification of the Tender may write to a.prabhakar@natrip.in; anuj.kumar@natrip.in,

23. The Bids / related correspondences shall be made in English language.

24. **Special Terms & Conditions:**

a.	**Scope of work**	**Repairs and commissioning of existing firefighting system**
b.	Contract Period	60 days from the date of Issue of Work Order.
c.	Engineer In charge (EIC)	Shall be notified to successful bidder.
d.	Retention Amount	Five (5%) of each Running bill
e.	Date of Release of Retention	After Completion of Defect Rectification Period
f.	Defect Rectification Period (DRC)	**180 days from** the date of issuance of completion certificate by EIC.
g.	Completion certificate	Shall be issued within 7 days from the satisfactory completion of works.

h.	Payment, Mode and Retention	• 95% Payment shall be released in running bills upon submission of Invoice along with supporting documents, and certification by Engineer-in-Charge. • Balance 05% shall be retained as retention money and shall be released on completion of defect rectification period. • Retention money shall be released immediately (max 7 working days) after issuance of DRC • Payments shall be made within 10 days from the submission of invoice at site. • Mode of payment shall be through RTGS and in Indian National Rupees (INR) • No advance payment will be released • GST shall be reimbursed after verification on Govt. portal, that whether firm/contractor/agency had paid GST against the work done based on GST invoice submitted. • All payments shall be made through RTGS • Bill to, National Automotive Test Tracks NH-52, Old Agra- Mumbai Highway, Near to Pithampur Flyover, Post Khandwa (Near Pithampur), Dhar District, Madhya Pradesh-454774 **GSTN: 23AABAN9435G1ZN**
i.	Liquidated Damages	1% of the Contract Price per day to a maximum of 10% of the Contract Price.
j.	Quantity variation	+/- up to 25% of Contract price on same rates.
k.	Electricity	Free of cost
l.	Price escalation	Not applicable
m.	Insurance	Labour Insurance
n.	Project Facility / Place of Installation/delivery	NATRAX Site NH-52, Old Agra- Mumbai Highway, Near to Pithampur Flyover, Post Khandwa (Near Pithampur), Dhar District, Madhya Pradesh-454774
o.	Performance Security	Three (3) % of the contract amount should by valid for 6 Months from the date of Issuance. Performance Security may be furnished in the form of a Fixed Deposit Receipt or Bank Guarantee from a Nationalized Bank favoring "National Automotive Test Tracks" & payable at Pithampur and should remain valid for a period of Sixty days beyond the date of completion of all Contractual Obligations.
p.	Date of return of the Performance security	Shall be released within one month after Completion of DRC.

q.	Termination of Contract	If the work/service is found to be not satisfactory or not found as per the specification indicated in this document, the Service Contract will be terminated with short notice.
r.	Safety	No work permitted without Safety arrangement like safety belt, helmet. Etc.
s.	Tools, Tackles, Scaffolding, painting tools & other arrangements	Arranged by Vendor
t.	Specification	As per Technical specification attached annexure II

25. The bidder should give the following, duly signed and sealed, failing to which the bids will be summarily rejected:
26. **DECLARATION:**

(To be executed on Bidder's letter head)

To,

Head Procurement & stores,

NATRAX

I/We having aquainted with the content & requirement of this Tender No. **NATRAX/**---------, dated _____ and do hereby accept to furnish the same in compliance with all terms & conditions. I/we have not tampered/modified the tender in any manner and breach of any such, will result in rejection of Tender and / or prosecuted.

I / We hereby declare that the firm/company has not been blacklisted or debarred in the past by any other Government organization from taking part in Government tenders.

In case the above information found false or in case of breach of any of terms and conditions at any stage of Tender or Contract, I/We are fully aware that the Tender/ Contract will be rejected / cancelled by NATRAX and Payments (for completed/partially completed), Retention, Bid Security (EMD), Performance Security, etc., shall be forfeited.

Signature of the Bidder: _____

Name and Designation: _____

Address: _____

Contact details: _____

Place:

Date:

Seal of the Bidder's Firm

ANNEXURE – II

Technical Conditions of Contract/technical specifications

Technical Specification

Work methodology: the works should be completed as per the applicable standard/rules, however, NATRAX Reserve the rights to change work methodology and manner as per the conditions of site.

Technical Specifications

CONCEPT OF THE SYSTEM

The following services are envisaged for the complex:

1.2 Fire Fighting system for the premises comprising of Hydrant, Hose Reels and portable fire extinguishers.

1.3 WORKMANSHIP

The workmanship shall be best of its kind and shall conform to the specifications, as below or Indian Standard Specifications in every respect or latest trade practices and shall be subject to approval of Engineer in charge. All materials and/or Workmanship which in the opinion of Owner / Engineer In-Charge is defective or unsuitable shall be removed immediately from the site and shall be substituted with proper materials and/or workmanship forthwith.

1.4 MATERIALS

All materials shall conform to the latest Indian Standards.
All materials shall be of approved quality as per samples and origins approved by Owner /

1. FIRE FIGHTING SYSTEMSCOPE

The scope of this section consists of but is not necessarily limited to supply, installation, testing and commissioning and servicing of the fire fighting system. The philosophy of the system is as follows :

1.1 The Firefighting System shall comprise the Fire Hydrants System, Hand Appliances.

2. PIPE WORK

2.1 SCOPE

This chapter covers the requirements of pipe work in fire fighting installations.

2.2 FIRE FIGHTING DESIGN

Pipe sizes shown in tender documents are purely for contractor's guidance. The contractor shallbe responsible for selection of sizes as per detailed engineering to be done by him. Plumbing design to be done by the contractor shall incorporate the following.

(i) (a) Butterfly/sluice valves shall be provided at suction and delivery sides of pumps. (If positive suction is not provided valve at suction is not to be provided).

(b) Fire service connection/inlet.
(c) Test valve
(d) Drain connections.

(ii) For testing the system healthiness and automatic operation on daily basis, one test pipe with butterfly/sluice valve shall be provided in common discharge header. For avoiding wastage of water, this pipe shall discharge water in the tank.

(iii) Non return valve shall be provided at the delivery of each pump and fire service inlet. This shall be of swing type.

(iv) Air release valves with ball valve shall be provided in the piping system for venting trapped air with a size of 25 mm for pipes upto 100 mm and 40 mm for larger pipes.

2.3 PIPE MATERIALS

(i) Pipes shall be of the following materials.
(a) Mild steel heavy class(C-class) conforming to IS: 1239 for sizes upto 150 mm.
(b) Welded black steel pipe, class 2, conforming to IS: 3589, for sizes greater than 150 mm. These pipes shall be factory rolled and fabricated from minimum 6 mm thick M.S. Sheet for pipes upto 350 mm dia and from minimum 7 mm thick M.S. sheet for pipes of 400 mm dia and above.
(c) Cast iron double flanged class-'A' conforming to IS :1536 or IS : 1537.
(d) GI Pipe medium class (B-class) conforming to IS:1239.

(ii) Cadmium plated steel nuts/bolts/washers shall be used.

2.4 PIPE JOINTS

(i) Electric welding joints shall be provided in the M.S. pipe work. Flanged joints shall be provided for connections to valves, air vessels etc. and also on straight lengths at suitable points to facilitate erection and subsequent maintenance.

(ii) For connection of C.I. Pipe, fittings shall also be of C. l. heavy grade conforming to IS :1538. The flanges shall be smooth faced and neoprene gasket shall be provided. Where un-avoidable and to connect under ground pipe with risers, M. S. pipe may be used in the form of distant pieces. The joint between C. l. and M. S. pipe shall be flanged type. M.S. pipe laid at such locations shall be provided anti-corrosive treatment.

(iii) Mild steel flanges shall be in accordance with Table - 17 of IS: 6392. "Plate Flanges for Welding" and flange thickness shall be as under. Gasket thickness shall not be less than 3 mm.

Pipe dia	Flange Thickness
200 mm	24 mm
150 mm and 125 mm	22 mm
100 mm and 80 mm	20 mm
65 mm	18 mm
40 mm and below	16 mm

All hardware items such as Nuts, Bolts, Washers shall be of appropriate size. Washersshall be used on both sides of the bolt.

2.5 VALVES

Sluice valve conforming to IS.780 or butterfly valve conforming to IS.13095 shall be provided. All valves shall be suitable to with-stand the pressure in the system and rating shall be PN. 16. All valves shall be right handed with 1 meter long spendel (i.e. handle with or key shall be rotated clock wise to close the valve), the direction of opening and closing shall be marked and an open/shunt indicator fitted.

(i) The material of valves shall be as under:Body -Cast iron
Disc - Cast Bronze or Stainless SteelSeat - Either integral or Nitrile rubber O-ring - Nitrile / Silicon

(ii) Air release valves shall be of gunmetal body.

2.6 BALL VALVE

The ball valve shall be made forged brass and suitable for test pressure of pipe line. The valve shall be internally threaded to receive pipe connections.
The ball shall be made from brass and machined to perfect round shape and subsequently chrome plated. The seat of the valve body-bonnet gasket and gland packing shall be of Teflon.
The handle shall be provided with PVC jacket. The handle shall also indicate the direction of 'open' and 'closed' situations. The gap between the ball and the teflon packing shall be sealed to prevent water seeping.
The handle shall also be provided with a lug to keep the movement of the ball valve within 90°. The lever shall be operated smoothly and without application of any unnecessary force.

2.7 GUN METAL VALVES

Gun metal Valves shall be used for smaller dia pipes, and for threaded connections. TheValves shall bear certification as per IS:778
The body and bonnet shall be of gun metal to IS:318. The stem gland and gland nutshall be of forged brass to IS:6912. The hand wheel shall be of cast iron to IS:210. The Hand wheel shall be of high quality finish to avoid hand abrasions. Movement shallalso be easy. The spindle shall be non rising type.

2.8 NON-RETURN VALVE

Non-Return valves shall be cast iron double flanged with cast iron body, PN-16 andgunmetal internal parts ISI marked.

Non return valves shall be swing check type in horizontal run and lift check type in verticalrun of pipes.

2.9 PRESSURE RELIEF VALVE

Each System shall be provided with a Pressure Relief Valves. The Valve shall be

spring actuated and set to operate as per field requirement. The Valve shall be constructed of bronze and provided with an open discharge orifice for releasing the water. The Valve shallbe open lift type.

2.10 PRESSURE SWITCH

The pressure switches shall be employed for starting and shutting down operation of pumps automatically, dictated by line pressure. The Pressure Switch shall be diaphragm type. The set pressure shall be adjustable.

The Switch shall be suitable for consistent and repeated operations without change in values. It shall be provided with IP:55 water and environment protection.

2.11 PRESSURE GAUGE

Pressure gauge shall be provided near all individual connections of the hydrant system with isolation valves and near each flow switch assembly of the sprinkler system. Pressure gauge shall be 50 mm dia gunmetal bourdon type with gunmental isolation ball valve, tapping and connecting pipe and nipple. The gauge shall be installed at appropriate height for easy readability.

2.12 PAINTING

All Hydrant and Sprinkler pipes shall be painted with post office red colour paint. All M S pipes shall first be cleaned thoroughly before application of primer coat. After application of primer coat two coats of enamel paint shall be applied. Each coat shall be given minimum 24 hours drying time. No thinners shall be used. Wherever required all pipe headers shall be worded indicating the direction of the pipe and its purpose such as "TO RISER NO.1" etc.

Painting shall be expertly applied; the paint shall not over run on surfaces not requiring painting such as walls, surfaces etc. Nuts and bolts shall be painted black, while valves shall be painted blue.

2.13 EXCAVATION

Excavation for pipe lines shall be in open trenches to levels and grades shown on the drawings or as required at site. Pipe lines shall be buried with a minimum cover of 1 meter or as shown on drawings.

On completion of testing in the presence of Engineer In-Charge and pipe protection,trenches shall be backfilled in 150 mm layers and consolidated.

Tenderer shall dispose off all surplus earth as directed by Engineer In-Charge.

2.14 INSTALLATION

(i) In pipe above ground level, expansion loops or joints shall be provided to take care of expansion or contraction of pipes due to temperature changes.

(ii) Tee-off connections shall be through equal or reducing tees, otherwise ferrules welded to the main pipe shall be used. Drilling and tapping of the walls of the main pipe shall not be resorted to.

(iii) Open ends of piping shall be blocked as soon as the pipe is installed to avoid entrance of foreign matter.

(iv) Piping installation shall be supported on or suspended from structure adequately. The contractor shall provide, clamps, hangers etc. in accordance with Para 15 of this Section.
Proper lines and levels shall be maintained while installing exposed pipes.

(v) Pipe supports in pump house shall be floor mounted and of mild steel/G.I. Spacing of pipe supports shall not be more than that specified below:

Nominal Pipe Size (mm)	Spacing (m.)
20 and 25	2.00
32 to 125	2.50
150 and above	3.00

Extra supports shall be provided at the bends and at heavy fittings like valves to avoid undue stress on the pipes.

(vi) Anti vibration pads, springs or liners of resilient and non-deteriorating material shall be provided at each support, so as to prevent transmission of vibration through the supports.

(vii) Pipe sleeves of diameter larger than the pipe by least 50 mm shall be provided wherever pipes pass through walls and the annular spaces shall be filled with felt and finished with retaining rings.

(viii) (a)Vertical risers shall be parallel to walls and column lines and shall be straight andin plumb. Risers passing from floor to floor shall be supported at each floor by clamps as per Para 15 of this Section.

(b) The space in the floor cut outs around the pipe work shall be closed using cement concrete (1:2:4 mix) or steel sheet, from the fire safety considerations, taking care to see that a small annular space is left around the pipes to prevent transmission of vibration to the structure.

(c) Riser shall have suitable supports at the lowest point.

(ix) Where mild steel pipes are to be buried under ground the same shall be treated in accordance with Para 14 of this Section before laying. The top of the pipes shall be not less than 100 cms below the ground level. Where this is not practicable,permission of the Engineer-in-charge shall be obtained for burying the pipes at lesser depth. Masonry or C.C. blocks shall be provided for supporting the pipes at interval in accordance with Para 12 (vi) of this Section. After the pipes have been laid, the trench shall be refilled with the excavated soil in layers of 20 cm. and rammed and any extra soil shall be removed from the site of work by the contractor.

(x) Underground pipe shall be laid at least 2 m. away from the face of the buildingpreferably along the roads and foot paths. As far as possible laying of pipes under road,pavement and large open spaces shall be avoided. Pipes shall not be laid underbuilding and where unavoidable, these shall be laid in masonry trenches with removablecovers.

(xi) To facilitate detection of leak and isolation of defective portion of pipe, valves shall be provided in under ground pipe at suitable locations. As far

as possible such valves shall be provided over ground. If the valves are to be provided below ground, suitable masonry chamber with cover plate shall be provided. Locations where vehicles can pass shall be avoided for provision of valve below ground.

(xii) Pipe over ground shall be painted in red colour shade no. 536 of IS: 5. Suitable identification shall be provided to indicate the run of under ground pipe wherever the route of underground pipe cannot be ascertained from the location of yardhydrant/isolating valves.

(xiii) It shall be made sure that proper noiseless circulation is achieved in the system. If proper circulation is not achieved due to air-bound connections, the contractor shall rectify the defective connections. He shall bear all the expenses for carrying out the above rectification, including the tearing up and refinishing of floors, walls, etc. as required. .

2.15 PRESSURE TESTING

(a) All piping shall be tested to hydrostatic test pressure of at least one and a half times the maximum operating pressure, but not less than 10 kg./sq.cm. for a period not less than 24 hours. All leaks and defects in joints revealed during the testing shall be rectified to the satisfaction of the Engineer-in-Charge.

(b) Piping repaired subsequent to the above pressure test shall be re-tested in the same manner.

(c) System may be tested in sections and such sections shall be securely capped.

(d) Pressure gauges may be capped off during pressure testing of the installation.

2.16 ANTI-CORROSIVE PROTECTION ON UNDER GROUND PIPE

Corrosion protection tape shall be wrapped on M.S. & G.I. Pipes to be buried in ground. This corrosion protection tape shall comprise of coal tar/asphalt component supported on fabric of organic or inorganic fibre and minimum 4 mm. thick and conform to requirement of IS : 10221- Code of practice for coating and wrapping of under ground mild steel pipe line. Before application of corrosion protection tape all foreign matter on pipe shall be removed with the help of wire brush and suitable primer shall be applied over the pipe thereafter. The primer shall be allowed to dry until the solvent evaporates and the surface becomes tacky. Both primer and tape shall be furnished by the same manufacturer. Corrosion protection tape shall then be wound around the pipe in spiral fashion and bounded completely to the pipe. There shall be no air pocket or bubble beneath the tape. The overlaps shall be 15 mm. and 250 mm. shall be left uncoated on either end of pipe to permit installation and welding. This area shall be coated insitu after the pipe line is installed. The tapes shall be wrapped in accordance with the manufacturer's recommendations. If application is done in cold weather, the surface of the pipe shall be pre-heated until it is warm to touch and traces of moisture are removed and then primershall be applied and allowed to dry.

2.17 PIPE SUPPORTS

For installing pipes vertically or horizontally inside the building standard pipe supports ofreputed make shall be used. Following supports shall be used.

(i) Split pipe support clamps with rubber lining far vertical, horizontal and roof hanging.

(ii) ***Clevis Hangers*** far horizontal supports to adjust varying heights.

(iii) ***Sprinkler Hangers*** far horizontal supports far pipes from 15 mm di.ata 150 mm dia.

Fasteners and fully threaded rods shall be used for installing the pipe supports. Thesizes .of pipe supports and installation shall be in accordance with manufacturer's recommendations. Some of the typical supports are shown in the Figure-9 of General specifications for Electrical Works part -V (Wet riser & sprinkler system) of Central Public Works Department.

Far pipes of size 100 mm and above, with the prior approval of Engineer-in-Charge, 'U' clamp with dash fastner may be used far supporting horizontal pipe from ceiling.

3. FIRE FIGHTING ACCESSORIES

3.1 SCOPE

This chapter covers landing valves, first aid hose reels, hose pipes, branch pipes etc. whichare vital tools for fire fighting.

3.2 LANDING VALVE

4.2.1 The landing valves shall be as per I.S. : 5290

4.2.2 The landing valves are of single and double head outlet types. As per schedule of work.

4.2.3 Material of construction

(i)	Body, outlet and cap etc	:	Bronze.
(ii)	Spindle	:	Brass for Bronze body.
(iii)	Hand wheel	:	Mild steel or cast iron.

4.2.4 The water discharge shall be not less than 900 Lpm for single head and 1800 Lpm fordouble head valves at 7 kg/cm2 pressure.

3.3 INSTALLATION

4.3.1 The landing valve shall be fitted to a T connection of the riser at the landing in such a way that the valve is in the centre of the internal hydrant opening and at a height of 1 m. from floor level.

4.3.2 The valve base shall be vertical and the valve facing out side. There should be no hindrance in operation of the handle.

3.4 FIRST AID HOSE REEL

It consists of a length of 20 mm (nominal internal) diameter hose tubing warped around a reel with water inlet pipe, stop valve and shut off nozzle. The entire assembly is mountedon a wall bracket and can swing 180 degree. The water inlet is connected to the riser pipe by means of 37 mm socket and valve. The hose tube can be pulled out easily for the purpose of discharge of water on fire.

4.4.1 First aid hose reel shall be as per IS-884. The coupling, branch pipe and nozzle shall be as per 18:8090.

3.5 MATERIAL OF CONSTRUCTION:

(i)	Hub and sides	:	Mild steel
(ii)	Wall Bracket	:	Mild steel.
(iii)	Hose tube (20 mm) Type-2(Nominal internal dia)	:	Thermoplastic (Textile Reinforced) as per IS-12585
(iv)	Nozzle with branch Pipe	:	Brass
(v)	Stop Valve(Ball Valve)	:	Gun metal

4.5.1 The water flow rate shall be not less than 24 Ipm and the range of jet shall be not less than6m .

3.6 FIRE HOSE DELIVERY COUPLING, BRANCH PIPE AND NOZZLES:

4.6.1 These are important accessories used for firefighting operations.

4.6.2 Material of Construction

4.6.3 Mild Steel

3.7 DELIVERY HOSE COUPLING'S

4.7.1 The delivery hose couplings consist of male half coupling and female half coupling. Groves are provided on outer side on both coupling for binding hose pipes with wires. In female coupling spring loaded cam tooth is provided for holding male half coupling in position. Male half coupling and female half coupling are provided on both sides (i.e. on one side male and on other side female) of hose pipes. Two or more pipes can be joined together with the help of these couplings instantaneously.

4.7.2 Branch Pipe and Nozzle: Branch Pipes with nozzle are mounted at the end of hose pipe. Branch pipe is properly finished and free from sharp edges. One end of branch pipe is fixed with hose coupling and the other end is threaded to fit the nozzle.

The size of other end i.e. nozzle shall be 20 mm. (nominal internal diameter)

3.8 FIRE SERVICE INLET AND FIRE SERVICE CONNECTION

4.8.1 These shall be as per IS: 904 & CPWD specification part - V (Wet riser and Sprinklersystem).

4.8.2 Material of Construction

4.8.3 Stainless Steel

3.9 HOSE PIPES

4.9.1 Hose pipes shall be rubber lined woven jacketed and 63 mm in diameter. They shall conform to Type A (Re - enforced rubber lined) of IS: 636. They shall be flexible and capable of being rolled. Length of hose pipe will be 15 m.

4.9.2 The hose pipe shall be complete with male and female coupling at the ends.

3.10 HOSE CABINET

Hose cabinet shall be provided for all internal and external fire hydrants. Hose cabinets shall be fabricated from 16 gauge MS powder coated sheet of fully welded construction with hinged double front door partially glazed (3 mm glass panel) with locking arrangement,stove enamelled fire red paint (shade No. 536 of IS:5) with "FIRE HOSE" written on it prominently (size as given in the schedule of quantities). Cabinet surfaces in contact with the walls shall be provided with two coats of anti-corrosive bitumastic paint.

3.11 INTERNAL HOSE CABINET

i. Landing Valves (Single haded) 2 No.
ii. Hose pipe of 15 mtr. Length with coupling 2 no.
iii. Hose reel (36 mtr.) 1 No.
iv. Branch pipes, nozzles 2 no.
v. Fire man's axe and hand appliances

12. EXTERNAL HOSE CABINET

The hose cabinet shall be of size to accommodate the following:

i. Single headed yard hydrant valve
ii. Hose pipe (2 length of 15 m)
iii. Branch pipes, nozzles (1 sets)
iv. Butterfly valve / sluice valve.

5. COMMISSIONING

5.1 SCOPE OF WORK

Work under this section shall be executed without any additional cost. The rates quoted in this tender shall be inclusive of the works given in this section.

Tenderer shall provide all tools, equipment, metering and testing devices required for the purpose .

All tests shall be made in the presence of the Owner / Engineer In-Charge. At least five working days notice in writing shall be given to the inspecting parties before preforming anytest.

Water flow rates of all equipment and in pipe lines through valves shall be adjusted to design conditions. Complete results of adjustments shall be recorded and submitted.

Contractor shall ensure proper balancing of the hydraulic system and for the pipes / valves installed in his scope of work by regulating the flow rates in the pipe line by valve operation. The contractor shall also provide permanent Tee connection (with plug) in water supply lines for ease of installing pressure gauge, temperature gauge & rotameters. Contractor shall also supply all required pressure gauge, temperature gauge & rotameter for system commissioning and balancing. The balancing shall be to the satisfaction of Owner / Engineer In-Charge.

Three copies of all test results shall be submitted to the Engineer in Charge in A4 sizesheet paper within two weeks after completion of the tests.

5.2 PRECOMMISSIONNIG

On completion of the installation of all pumps, piping, valves, pipe connections, etc. the Contractor shall proceed as follows:

a. Prior to start-up and hydraulic testing, the Tenderer shall clean the entire installation including all water tanks, fitments and pipework and the like after installation and keep them in a new condition. All pumping systems shall be flushed and drained at

least once through to get rid of contaminating materials. All pipes shall be

rodded to ensure clearance of debris, cleaning and flushing shall be carried out in sections as the installation becomes completed.

b. All strainers shall be inspected and cleaned out or replaced.

c. When the entire systems are reasonably clean, a pre-treatment chemical shall be introduced and circulated for at least 8 hours. Warning signs shall be provided at alloutlets during pre-treatment. The pre-treatment chemical shall:

- Remove oil, grease and foreign residue from the pipework and fittings;
- Pre-condition the metal surfaces to resist reaction with water or air.
- Establish an initial protective film;
- After pre-treatment, the system shall be drained and refilled with fresh water andleft until the system is put into operation.
- Details and procedures of the pre-treatment shall be submitted to the Architectfor approval.

d. Check all clamps, supports and hangers provided for the pipes.

e. Fill up pipes with water and apply hydrostatic pressure to the system as given in the relevant section of the specification. If any leakage is found, rectify the same and retest the pipes.

6.3. FIRE FIGHTING SYSTEM

a. Check all hydrant valves by opening and closing : any valve found to be open shallbe closed.

b. Check all the piping under hydro test.

c. Check rotation of each motor after decoupling and correct the same if required.

6.4 COMMISSIONING AND TESTING

a. Check each landing valve, male and female couplings and branch pipes, for compatibility with each other. Any fitting which is found to be incompatible and do not fit into the other properly shall be replace by the Tenderer. Each landing valve shall also be checked by opening and closing under pressure.

b. Check all annunciations by simulating the alarm conditions at site.

6.5 FINAL ACCEPTANCE TESTS

Following commissioning and inspection of the entire installation, and prior to issue of the Completion Certificate, the Tenderer shall carry out final acceptance tests in accordance with a programme to be agreed with NATIS. The results of the acceptance tests show thatplant, systems and/or equipment fail to perform to the efficiencies or other performance figures as given in this Specification, the Contractor shall adjust, modify and if necessary replace the equipment without further payment in order that the required performance is obtained.

Where acceptance tests are required by the relevant Authorities having jurisdiction, these tests shall be carried out by the contractor prior to the issue of Completion Certificate to theacceptance of the Authorities.

Form for the submission of Financial Bid

Financial Proposal Submission Form

(To be Executed on Letterhead of the Bidder)

[*Location, Date*]

To:

The Head Procurement

NH-52, Old Agra- Mumbai Highway,

Near to Pithampur Flyover,

Post Khandwa (Near Pithampur)

Dhar District, Madhya Pradesh-454774

Dear Sir,

We, the undersigned, offer to provide the equipment & services in accordance with your Tender No. _____, dated _____ and our Technical Bid. Our attached Financial Bid includes the price in the format for financial bid provide as part of tender documents. The total price of our offer is _____ (in figures and words) and includes all the deliverables under this tender as per our Technical Bid.

We hereby declare that all the information and statements made in this Bid is true and complete in all respects and is as per the guidelines and terms & conditions laid down in the tender document. We further understand that any information which is found false or is not as per the guidelines and terms & conditions of the tender document may lead to our disqualification.

Our Financial Bid shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Bid.

We understand NATRAX has right to accept or reject our Bid as per its discretion.

Yours sincerely,

Authorized Signature [*In full*]: _____

Authorized Signature [*In initials*]: _____

Name and Title of Signatory: _____

Name of Firm: _____

Address: _____.

[Note : To be signed in blue ink]

ANNEXURE-III-

Bill of Quantities (BOQ)/Financial Bid

S.no.	Description	Unit	Quantity	Rate in figures in Rs. (incl. GST)	Rate in words in Rs. (incl. GST)	Amount
1	Providing, fixing, testing & commissioning gun metal single headed fire hydrant landing valve with flanged inlet, brass spindle controlled 63 mm dia female instantaneous outlet type. CI wheel, GM coupling, blank cap, chain, twist release type lug & all accessories. Conforming to IS:5290. (type A) Including fixing with anchor fastner and flanged tapping from wet riser and providing pressure gauge with gun metal ball valve complete as required.	Each	12			
2	Providing and fixing First- Ad Hose Reel pipe with 30 m length x 20 mm (nominal internal) dia water hose Thermoplastic (Textile reinforced) type-2 ase per IS: 12585.20 mm (nominal internal) dia gun metal globe valve & nozzel Connection from riser to hose reel 40 mm ball valve & M.S. pipe including sockets, nipples, elbows etc.	Each	5			
3	Repairing & fixing MS cabinet fire box with with full front glass door and locking arrangement duly painted with one coat synthetic enamel paint of approved make shade. Reparing include all the requirements need for functioning like glass ,key and gasket etc.laying of hose pipe (hose pipe supply by NATRAX) fixng of Box wherever not fixed etc complete	Each	86			
4	Supply of 20 mm (nominal internal) dia gun metal globe valve & nozzel for 30 m length x 20 mm (nominal internal) dia Thermoplastic (Textile reinforced)water hose	Each	10			
5	Repairing, laying, jointing, testing and commissioning of 'C' Class Heavy duty MS Under ground Pipe 65 to 150 mm conforming to IS: 1239 / 3589 with all accessories like all fittings (standard MS fitting with welded joint shall be used on the pipes) including tees, elbows, headers, reducers, union, flanges, rubber gaskets, GI nuts bolts, washer including the remoing and refilling of soil.	Nos	6			

S.no.	Description	Unit	Quantity	Rate in figures in Rs. (incl. GST)	Rate in words in Rs. (incl. GST)	Amount
6	Testing and checking of all the sprinklar with Pressurised water supply with functioning of entire building inter fire fighting systems . Include checking rectification and functioning of entire internal FF system and syncronise with fire hydradent system.(	Each/ building	7			
7	Servicing and testing of Electric driven main fire pump suitable for automatic operation and consisting of following: complete in all respect as required as per specifications.Horizontal type, multistage, centrifugal, split casing pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal to ensure a minimum pressure of 3.5 kg/sq.cm.at highest and farthest outlet at specified flow of **2280 lpm at 70 M head** conforming to IS 1520. HP squirrel cage induction motor, TEFC, synchronous speed 1500 RPM, suitable for operation on 415 volts, 3 phase 50 Hz. AC with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS- 325	Job	1			
8	Servicing and testing of Diesel Engine driven main fire pump suitable for automatic operation and consisting of following: complete in all respect as required as per specifications.Horizontal type, multistage, centrifugal, split casing pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal to ensure a minimum pressure of 3.5 kg/sq.cm.at highest and farthest outlet at specified flow of 2280 lpm at 70 m. head conforming to IS 1520.Suitable HP, 1500 RPM water cooled with radiator, diesel engine conforming to relevant BS & IS standard complete with auto starting mechanism, 12 volts/24 Volts electric starting equipment including battery & consumable spares	Job	1			

S.no.	Description	Unit	Quantity	Rate in figures in Rs. (incl. GST)	Rate in words in Rs. (incl. GST)	Amount
9	Servising and testing of electric driven pressurisation(Jockey) pump suitable for automatic operation and consisting o following: complete in all respect as required as per specifications.Horizontal type, multistage, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal to ensure a minimum pressure of 3.5 kg/sq.cm.at highest and farthest outlet at specified flow of 180 lpm at 70 m. head conforming to IS : 1520.Suitable HP SQ cage induction motor TEFC type suitable for operation of 415 volts, 3 phase 50 Hz. AC with IP 55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS : 325	Job	1			
	Amount in Rs. (incl GST)					

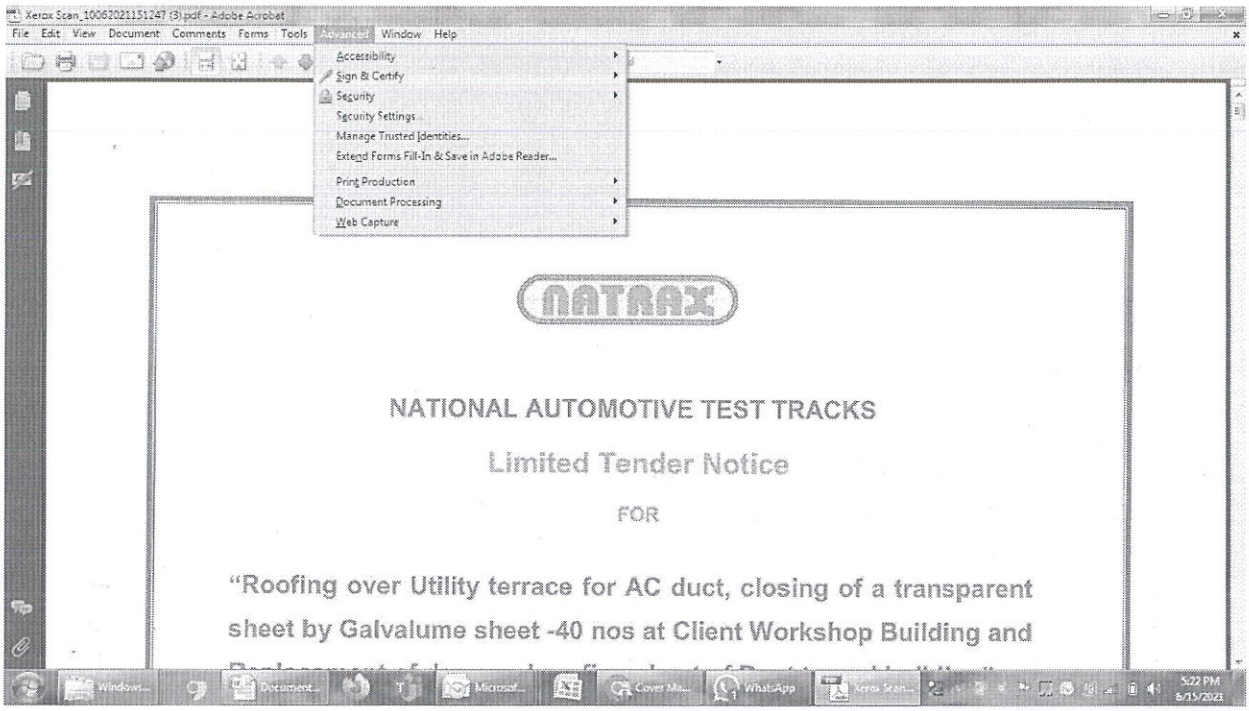
Note: above quoted amount should be inclusive of all taxes and duties, etc.

Amount in words Rupees.....

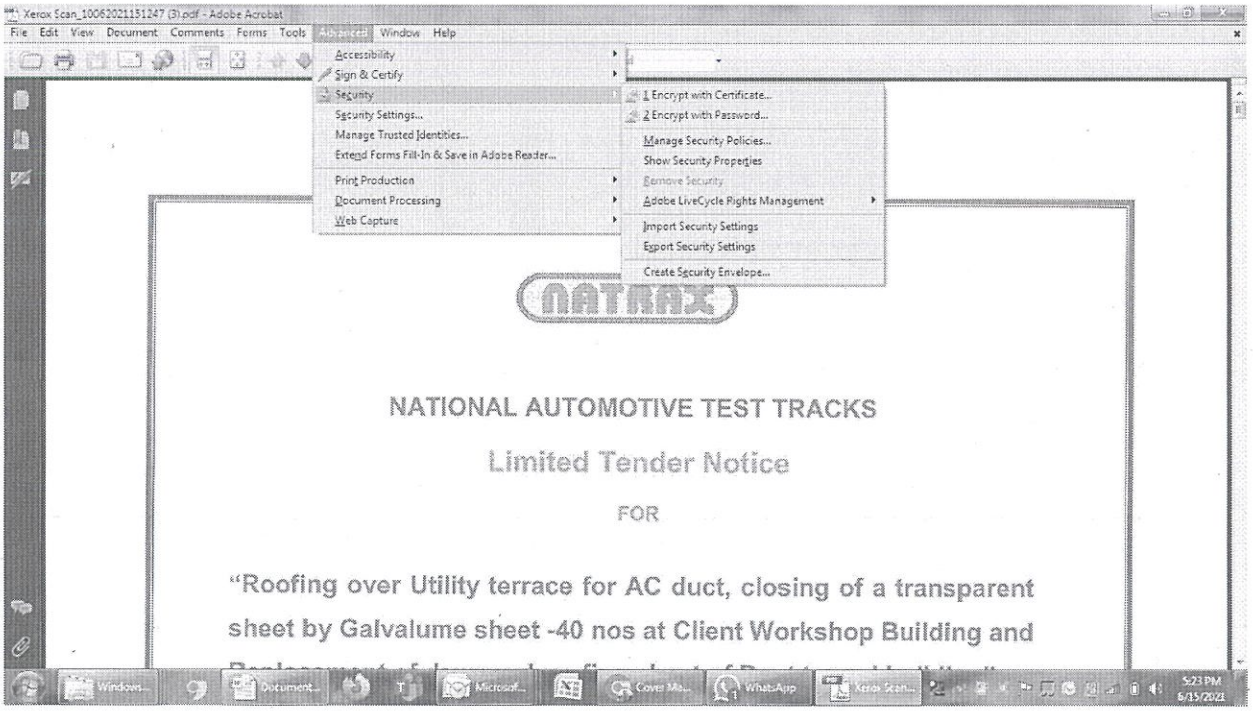
Signature of bidder

Steps for loading passwords in PDF Files-Method I

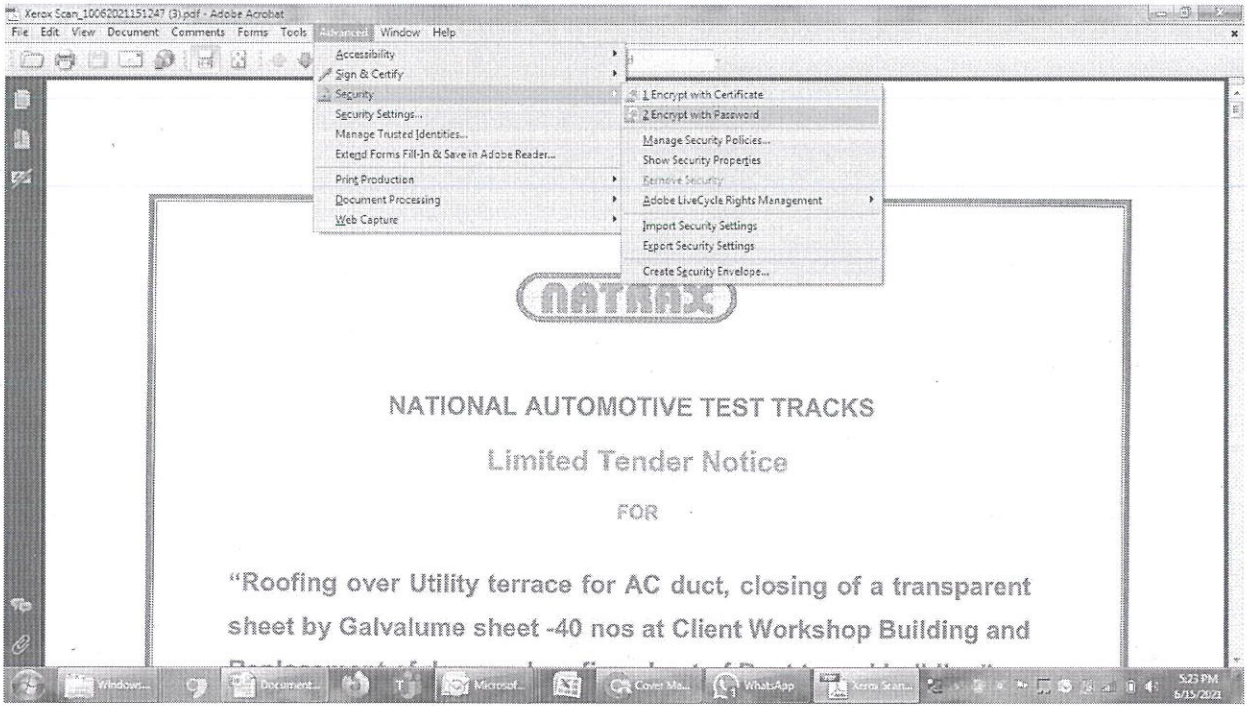
Step 1- please open PDF file and click on "**Advance**" tab.



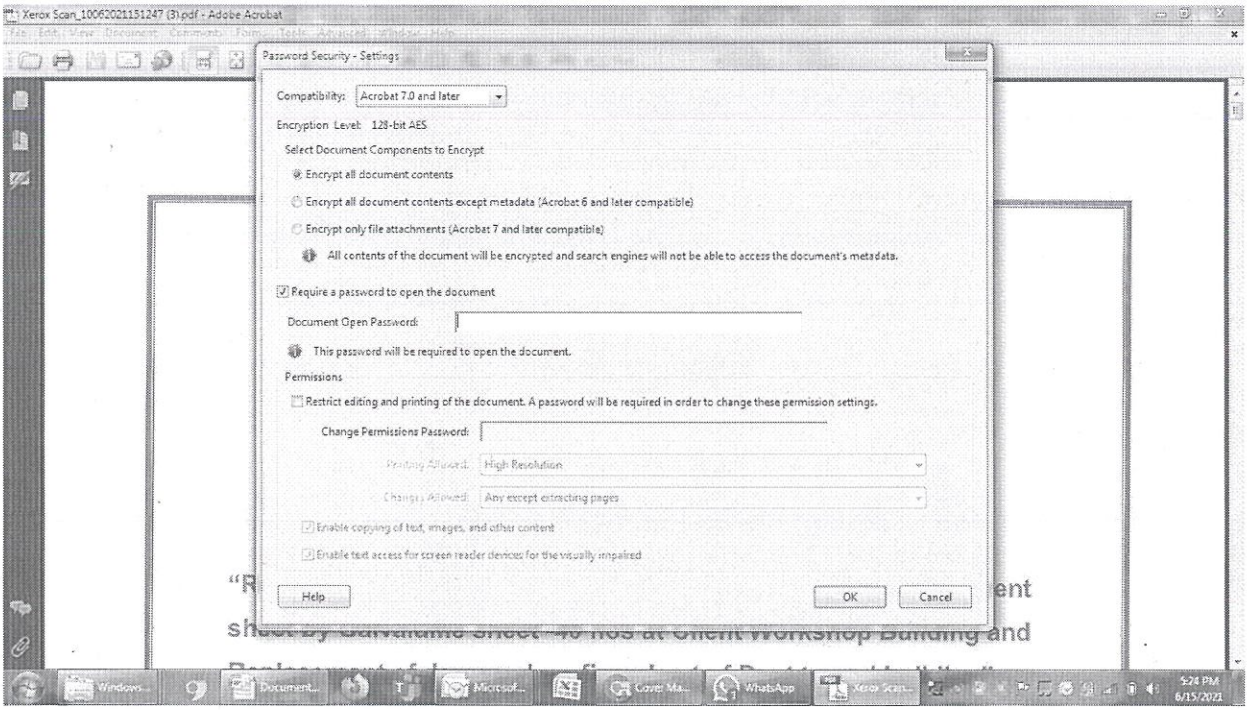
Step 2- in advance tab, please click on "**Security**" tab.



Step 3- in security tab, please click on "**2 Encrypt with Password**".



Step 4- after that below window will open, please check in option "**Required a password to open the document**". Than please fill password and click "**ok**".



Step 5- after that below window will be open, please fill same password again, and click "ok".