

HABITAT SERVICES CENTRE

HUDCO Place, Andrews Ganj, August Kranti Marg, New Delhi-110049.

Phone: 011-41012223, 011-26257036

Website: www.hscdelhi.in

E-tender Website: hsc.ewizard.in

TENDER NOTICE

Name of work: Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO's properties situated in Delhi/ NCR

The e-tender inviting bids for the subject work has been uploaded and copy of complete NIT for the work is enclosed herewith for information.

For bids to be considered, the interested parties must apply online, with tender fees and EMD amount on the website i.e. hsc.ewizard.in

Executive Director

HABITAT SERVICES CENTRE

HUDCO Place, Andrews Ganj, August Kranti Marg, New Delhi-110049.

Phone: 011-41012223, 011-26257036

Website: www.hscdelhi.in

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NIT No. HSC/AG/AK/CT/501/2024/271

Date: 27.08.2024

Name of work : Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO's properties situated in Delhi/ NCR

| | | |
|---|----------|---------------------------------|
| Date of invitation | : | 27.08.2024 |
| Pre-Bid Meeting | : | 12.09.2024 at 11:30 AM |
| Last date of downloading tender | : | 18.09.2024 up to 2.30 PM |
| Last date of EMD & tender fee submission | : | 18.09.2024 up to 3:00 PM |
| Last date of Submission of tender | : | 18.09.2024 up to 3:30 PM |
| Date of Opening of Technical bid | : | 18.09.2024 at 4:00 PM |
| Date of opening of Financial Bid | : | To be notified later |

e-TENDER DOCUMENT

FOR

Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO's properties situated in Delhi/NCR

NIT No. HSC/AG/AK/CT/501/2024/271

Date: 27.08.2024

ISSUED BY

Executive Director
HABITAT SERVICES CENTRE (HSC)
HUDCO Place, Andrews Ganj, August Kranti Marg, New Delhi-110049.
Phone :011- 41012223, 011-26257036
Website: www.hscdelhi.in
E-tender Website: <http://hsc.ewizard.in>

REFERENCE CODE FOR TENDER:

NIT No. HSC/AG/AK/CT/501/2024/271 Dated: 27.08.2024

TENDER DOCUMENTS:

Tender Documents shall comprise of the following: -

Sections

| | |
|-------------|--|
| SECTION I | Notice Inviting e-Tender..... |
| SECTION II | Instruction to Bidders..... |
| SECTION III | General Conditions of Contract |
| SECTION IV | Scope of work & Tentative Manpower Requirement |
| SECTION V | Special Conditions of Contract |

List of Forms

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| FORM A | Letter of Bid..... |
| FORM B | Particulars of Bidder..... |
| FORM C | Agreement..... |
| FORM D | Acceptance of Tender Conditions..... |
| FORM E | List of Completed Works during last 7 years..... |
| FORM F | Undertaking in form of Affidavit..... |
| FORM G | Performa for integrity pact |
| FORM H | Performa for PBG |
| FORM I | Format for Bank Details for EMD refund. |
| FORM J | Format for certificate to be given with monthly bill. |

List of Annexures Project wise i) AKB & ii) AGP

| | |
|----------------|------------------------------------|
| Annexure - I | Inventory |
| Annexure - II | Schedule of Preventive Maintenance |
| Annexure - III | List of Consumable items & T&P |

SECTION - I :

NOTICE INVITING E-TENDER (NIT)

SECTION I : NOTICE INVITING E-TENDER (NIT)

Habitat Services Centre (HSC), a Registered Society having its Office at HUDCO Place, Andrews Ganj, New Delhi-110049 invites on-line tenders for the work of “**Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO’s properties situated in Delhi/ NCR**” from Specialized, technically sound and financially capable firms/companies/Contractors as per the eligibility criteria mentioned in this NIT.

| Sl. No. | Particulars | |
|---------|--|---|
| 1 | NIT No. | NIT No. HSC/AG/AK/CT/501/2024/271 Dated: 27.08.2024 |
| 2 | Name of the work | Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO’s properties situated in Delhi/ NCR. |
| 3 | Type of Tender | 3 Envelope, 2 Bid, ONLINE TENDER |
| 4 | Estimated Cost | Rs. 332.12 lakh per annum Rupees Three Hundred Thirty Two Lakh and Twelve Thousand only per annum. |
| 5 | Contract period | One year, extendable for further two years, on the same terms and conditions, if the yearly performance review of the services of the Contractor are found satisfactory. |
| 6 | Non-refundable cost of e-tender document | Rs.5,000/- plus 18% GST (Rs. 5,900/- including GST) Rupees Five Thousand Nine Hundred only (including GST). MSME registered agencies are exempted on production of necessary certificate. |
| 7 | EMD | Rs.6.65 lakh (Refundable). For successful bidder EMD amount will be adjusted in Security Deposit. MSME registered agencies are exempted on production of necessary valid certificate. |
| 8 | Performance Guarantee | 3% (Three percent only) of contract value within 10 days from the issue of Letter of Award (LoA). |
| 9 | Security Deposit | A sum of @ 3 % of the bill amount (before tax) shall be deducted from running bills of the Contractor towards security deposit. |
| 10 | Pre-bid meeting Date /Venue | 12.09.2024 at 11:30 AM at HSC Office, HUDCO Place, Andrews Ganj, New Delhi – 110 049 |
| 11 | Last date of submission of online tender | 18.09.2024 at 3:30 PM |
| 12 | Date of opening of Bids | 18.09.2024 at 4:00 PM |
| 13 | Contact Person / Contact No. | <ol style="list-style-type: none"> Sh. Mamoon Rasheed, Asstt. Manager (Civil), M.No. : 9953570710 Sh. Vaibhav Chauhan, Engineer (Civil), M.No: 9650874064 Sh. Satish Chand, Engineer (Elect.), M.No: 9717365650 <p>Phone: 011-41012223 Email: hscdelhi49@gmail.com</p> |

For further information:

Executive Director

HABITAT SERVICES CENTRE (HSC)

HUDCO Place, Andrews Ganj, August Kranti Marg, New Delhi-110049.

Phone: 011-41012223, 011-26257036

Website: [www.hscdelhi.in](http://hscdelhi.in)E-tender Website: <http://hsc.ewizard.in>

SECTION - II:

INSTRUCTION TO BIDDERS

SECTION II: INSTRUCTION TO BIDDERS

Habitat Services Centre (HSC), a Registered Society having its Office at HUDCO Place, Andrews Ganj, New Delhi-110049 invites on-line tenders for the work of “**Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO’s properties situated in Delhi/ NCR**” from Specialized, Technically sound and Financially capable firms/companies/Contractors as per the eligibility criteria mentioned in this NIT.

1. PRE-BID MEETING

- 1.1 The Tenderers or their authorized representative are invited to attend a pre-bid meeting which will take place at the office of HSC, HUDCO Place, Andrews Ganj, New Delhi 110049 on 12.09.2024 at 11.30 AM.
- 1.2 The Tenderers are required to seek/submit any clarification/questions on issues relating to the tender, if any, through e-mail, so as to reach the Tender issuing authority viz. HSC through e-mail : hscdelhi49@gmail.com in not later than 3 (**three**) days before the date fixed for the pre-bid meeting viz., 12.09.2024.
- 1.3 The purpose of the meeting will be to clarify the issues raised and to answer supplementary questions on issues/observations of the intending tenderers, if any.
- 1.4 Minutes of the meeting including clarifications/questions raised and the responses given will be uploaded on HSC’s website. Any modifications of the tender document which may become necessary as a result of the pre-bid meeting shall be made exclusively through the issue of an Addendum/ Corrigendum and not through the minutes of the Pre-Bid Meeting. The Minutes of the Meeting as described above and the Addendum/ Corrigendum, if any, will also be uploaded on HSC’s e-tender website <https://hsc.ewizard.in>. The Minutes shall become part of the contract agreement.
- 1.5 Non-attendance at the Pre-Bid Meeting will not be a cause for disqualification of a Tenderer.

2. SUBMISSION AND OPENING OF TENDER

- 2.1 The bid document can be downloaded from-tendering portal of <https://hsc.ewizard.in>
- 2.2 Complete bid should be submitted online at HSC.ewizard.in The scheduled dates are given in the relevant paras of this NIT.
- 2.3 The Bidders shall also upload a duly stamped and signed copy of the Complete NIT (e-tender document) failing which the bid shall be deemed incomplete & hence cancelled.
- 2.4 The bidder shall bear all costs associated with the preparation and submission of his/her bid and HSC will in no case be responsible and liable for those costs regardless of the conduct or outcome of the bidding process
- 2.5 The executive control of the work, as far as this tender is concerned, shall be with Engineer-In-Charge, subject to the overall control of the Executive Director HSC, to whom the Bidder/Contractor shall address all communications.

3. TERMS AND CONDITIONS SPECIFIC TO E-TENDER PROCESS

- a) The scope of work for services to be tendered are available in the complete bid documents which can be viewed/downloaded free of cost from e-tendering portal of HSC <https://hsc.ewizard.in>
- b) All bid documents like Check list, Technical bid and commercial bid will be submitted concurrently in the website <https://hsc.ewizard.in>

- c) No claim shall be entertained on account of disruption of internet service being used by bidders. Bidders are advised to upload their bids well in advance to avoid last minutes technical snags.
- d) **All Corrigendum's/Amendments/Correction, if any, will be published in the website <https://hsc.ewizard.in>.**
- e) All the documents/papers uploaded / submitted by bidder must be legible.
- f) It is mandatory for all the applicants to have Class III Digital Signature Certificate (in the name of person who will sign the bid documents) from any of the licensed certifying agency.
- g) To participate in the e-tendering submission, it is mandatory for applicants to get registered their firm/company in e-tendering portal of HSC.ewizard.co. to have user ID & password from M/s ITI Ltd. The onetime registration charges for vendors/suppliers are Rs.3,000/- (Rs. Three Thousands only) plus GST (as applicable) and the same shall be valid for a period of three years.
- h) In order to participate in the tender, Tenderer/Bidder should have Login ID, Password and Digital Certificate with both signing and encryption. Bidders have to do registration with M/s ITI Ltd. Contact details for Helpdesk Support are as under:-

Name – Mr. Anshuman
 Contact No: 9355030616
 E-mail ID: eprochelpdesk.28@gmail.com

Name: Mr. Abhishek Kumar
 Contact No: 9355030617
 E-mail ID: eprochelpdesk.19@gmail.com

Tendering Website: <https://hsc.ewizard.in>

- i) Bidders are advised to add e-mail IDs related to this tender to their address book to avoid bouncing of e-mail / non-delivery of e-mail / delivery of e-mail to junk or spam folder etc.
- j) Service Provider will provide them telephonic training and assistance after payment of requisite fee as onetime registration fee from bidders of Rs. 3000/- (Rs. Three Thousands only) plus statutory taxes, if any as per actual, which is valid for a period of three years. Digital certificates can be obtained from M/s ITI Ltd. or from any other Certifying authorities after paying requisite cost and submitting required documents as nominated by the Office of Controller of Certifying authorities (CCA) as available on website <http://cca.gov.in>. The cost of Digital certificates is not covered in one-time registration fee. It is the sole responsibility of bidder to arrange Digital certificates and/or registration and any such excuse of Non-availability of digital certificates and/or registration shall not be accepted in any case.
- k) The bids may be submitted online through website only on submission of declaration for EMD, the technical bid shall be opened online and evaluated as per criteria given in the detailed tender/bid document to the satisfaction of HSC. The financial bid of the only those bidders will be opened online, who are technically qualified. L1 bid shall be evaluated as per Financial bid format.
- l) Tenderers may ask any clarification, if required, before the date stipulated in the details of tender items for the purpose. After that no request will be entertained.
- m) Complete tender document (all pages), including all Annexures, with supporting documents shall be uploaded in PDF format digitally signed.
- n) For any difficulty in downloading & submission of tender document at website HSC.ewizard.in please contact at ewizard.in helpdesk no.011-49606060 or following officials.

Name – Mr. Anshuman
 Contact No: 9355030616
 E-mail ID: eprochelpdesk.28@gmail.com

Name: Mr. Abhishek
 Contact No: 9355030617
 E-mail ID: eprochelpdesk.19@gmail.com

4. ELIGIBILITY CRITERIA

4.1 The bidders who have completed similar works for Central Government, State Govt., Central/ State Govt. PSUs and its designated agencies, Govt. Banks, Corporate bodies (having minimum Annual Turnover of Rs. 100 crore), as detailed below during last 7 years, ending last day of month previous to the one in which tender is invited :

(a) Three similar completed works each costing not less than the amount equal to 40% of the estimated cost put to Tender.
 OR

(b) Two similar completed works each costing not less than the amount equal to **60%** of the estimated cost put to Tender.
 OR

(c) One similar completed work costing not less than the amount equal to **80%** of the estimated cost put to Tender.

Note: Similar work means Comprehensive Annual Operation & Maintenance works at Office/Commercial/Residential Complex of Central /State Govt. Depts./ Municipal Corporations, Quasi Government agencies, Statutory/Regulatory Bodies, PSUs and its designated agencies or PSBs and its subsidiaries/ Corporate bodies of repute having minimum turnover of 100 crore.

4.2 The applicant's performance for each work completed in the last 7 years should be supported by submitting Completion Certificates with work orders containing complete scope of work issued by an officer not below the rank of Executive Engineer or its authorized officer or by authorized officer of its designated agency. Bidders are also to submit TDS certificates for the similar works for supporting the execution and completion of similar works. **HSC may also conduct an independent verification of the claim of the bidder, if it requires, which would have to be facilitated by the bidder.**

4.3 **The average annual financial turnover for the operation and maintenance works during the last 3 years ending 31 March 2023 shall not be less than Rs. 20 crore.**

4.4 The net worth of the applicant firm should not be negative on 31.03.2023 and also should have not eroded by more than 30% (Thirty percent) in the last three years, ending on 31.3.2023. A certificate authenticated by CA, to this effect, is required to be submitted along with Balance Sheets of 2020-21, 2021-22 and 2022-23.

4.5 The bidder should have ESI Registration and EPF Certificate and the scanned copy of the same shall be submitted with the tender along with copy of challan & ECR of PF & ESI for six months i.e. upto June, 2024, in **Envelope 2**.

4.6 The bidder should have its office in Delhi/NCR.

4.7 The agency which has been served notice by the concerned departments for defaults in compliance of labour laws/statutory Laws, PF, ESI, GST etc. and they have not complied with the notice, then the Agency shall not be eligible to participate in the NIT.

4.8 The Work Order if extended further time to time shall be treated as single work and to ascertain annual cost, the calculation shall be carried out accordingly.

4.9 The agency should have website and it should be capable of IT based working for billing, invoicing, accounting, monitoring, communication etc.

5. In case of tie among L-1 bidder following process will be adopted to identify the L1 bidder:

5.1 The Bidders with same L1 Quotes will be compared for average annual turnover. The bidder having higher average annual turnover of last 3 years (2020-21, 2021-22 & 2022-23) will be identified as L1 and awarded the tendered assignment.

5.2 Further, in case there is still a tie in the average ATO, then the decision will be through manual draw system in presence of ED, HSC and the authorized representative of such bidders.

6. SELECTION PROCESS

Selection will be done on basis of 3-stage processing, as detailed below:

6.1 Stage 1 – Envelope 1:

At the stage 1, Envelope 1 shall contain the following documents:

- i. Scanned copy of documentary evidence towards payment of tender document cost of Rs.5,000/- plus 18% GST.
- ii. Scanned copy of documentary evidence towards payment of EMD of **Rs. 6.65 Lakh**.
- iii. The tender document cost and EMD shall only be accepted electronically on e-tender website.
- iv. The bidder has to ensure that the tender document cost and EMD is credited to e-tender website as mentioned well before the stipulated date and time, to avoid any-technical issues/ delay on last day/ time.
- v. None of the bidder is exempted from the tender document cost (Non-Refundable), except MSME on production of required documents.
- vi. The bidders registered under MSME are exempted from payment of EMD amount, subject to prevailing Office Memorandum issued by Competent Authorities from time to time. In case of MSME, the bidder has to upload the scanned image of valid MSME registration certificate by 18.09.2024, 3:30 P.M. (Product range/ activity mentioned in such certificate should be similar to the requirement of this NIT), otherwise their bids will be rejected.
- vii. Technical bid envelope (Envelope 2) of only those bidders shall be opened, whose proof of EMD paid and tender document cost or copy of valid MSME Registration certificate along with NSIC registration under PP policy are uploaded within the stipulated date and time.
- viii. All the documents which are to be attached shall be in the form of scanned copy of original documents, along with :
 - a. “Acceptance of Tender Conditions” (FORM D),
 - b. “Undertaking for Correctness of Documents” (FORM F)

6.2 Stage 2 – Technical Proposal - Envelope 2

Technical bid envelope (**Envelope 2**) of only those bidders shall be opened, whose proof for payment of tender document cost, submission of EMD declaration and form **D&F** are uploaded within the stipulated date and time.

Technical Bid shall contain the following:

| S No. | Contents of the Technical Bid | Scanned copy of the Documents to be uploaded |
|-------|--|---|
| (a) | Letter of Bid (On Bidder's Letter Head) | 1) Duly filled and signed Form A |
| (b) | Particulars of the Bidders | 2) Duly filled and signed Form B 3) Registration / Incorporation of the company 4) PAN No. 5) GST No. 6) Power of Attorney-for Authorized Representative 7) ESI Registration 8) EPF Registration 9) Other requisite documents as mentioned in Form B 10) Copy of MSME & NSIC certificate, if applicable |
| (c) | Acceptance of Tender Conditions | As per format given in Form-D (on bidder's letter head) |
| (d) | Details of execution of similar work in the last seven years with name of client | Work Orders and Completion Certificates issued by the client (Employer of the executed Project) shall be provided in support of undertaking the assignments – (as per FORM E). |
| (e) | Undertaking in form of Affidavit | As per format given in Form-F |
| (f) | Integrity Pact | As per format given in Form- G |
| (g) | The Tenderer shall be a single 'legal entity'. Consortiums and Joint Ventures are not eligible | Certified by Registered Chartered Accountant (with CA No.) or any other valid govt. document – One Document |
| (h) | Average annual financial turnover during the last 3 years, ending 31st March, 2023 shall not be less than Rs. 20 crore. | The statement indicating the same shall be certified by Chartered Accountant (with CA No.) – One Document- along with corresponding balance sheets |
| (i) | The net worth of the applicant firm should not be negative on 31.03.2023 and also should have not eroded by more than 30% (Thirty percent) in the last three years, ending on 31.3.2023. | Document duly certified by a practicing Chartered Accountant (with CA & UDIN No.) |
| (j) | PAN, GST, PF & ESI and Electrical Contractor License | Copy of registration of PAN, GST, PF & ESI should be submitted along with challans & ECR of PF & ESI for last six months i.e. upto June, 2024 and Electrical Contractor License |
| (k). | Any other documents, if required to be uploaded by bidder. | Maximum 2 Documents |
| (l). | The Bidders shall also submit a duly stamped and signed copy of the Complete NIT (e-tender document) failing which the bid shall be deemed incomplete & hence cancelled . | |
| (m) | i) Official e-mail address for official communication ii) Alternate e-mail address | - |

6.3 Stage 3 Financial Proposal – Envelope 3

- i. Financial Bid shall be opened only for the technically qualified bidders (Stage 1 and Stage 2.)
- ii. The Financial quote shall include all costs, applicable GST, duties and local taxes/levies, any other expenses etc. associated for satisfactory execution/rendering of the project & services.
- iii. Any corrigendum, if issued, in respect of the Tender, shall be uploaded on HSC.ewizard.in only. Bidders are requested to regularly visit/see HSC's website during the process of submission of tender.
- iv. Even though any bidder may satisfy the above requirements, he would be liable to disqualification, if he has made misleading or false representation or deliberately suppressed the information in the forms, statements and enclosures required in the eligibility criteria document.
- v. On the evaluation of the technical bids by HSC, financial bids of only those agencies would be opened online, who are found to be eligible as per the criteria mentioned in NIT. The date of opening of financial bids shall be intimated to the eligible agencies separately.
- vi. In the event of the specified date of opening of bids being declared a holiday for HSC, the bids shall be opened at the appointed time and location on the next working day or as informed.
- vii. The tender received shall remain valid for acceptance till **75 days** of opening of technical bid. In case the lowest bidder withdraws his offer during validity period of 75 days, the bidder shall be suspended for participation in the tendering process for the works of HSC for a period of Three year from the bid due date of this work.

7. ACKNOWLEDGEMENT AND ACCEPTANCE BY BIDDER

It shall be deemed that by submitting the bid, the bidder has:

- i. Made a complete and careful examination of the NIT;
- ii. Received all relevant information requisitioned from HSC;
- iii. Acknowledged and accepted the risk of inadequacy, error or mistake in the information provided in the NIT or furnished by or on behalf of HSC or relating to any of the matters stated in the NIT Document, after having visited all sites and appreciation of the working conditions at respective site(s);
- iv. Satisfied itself about all matters, things, information and site conditions, necessary and required for submitting an informed bid/tender and due performance of all of its obligations there under.
- v. Agreed to be bound by the **AGREEMENT (Form C)**, which shall be executed subsequent to award of work. The bid with all accompanying documents (the **Documents**) and all communications in relation to or concerning the selection process shall be in English language and strictly on the forms provided in this NIT.

8. CLARIFICATION IN TENDER DOCUMENTS

For any technical and other clarifications in connection with this invitation to tender, Bidder may contact the following address:

Executive Director

HABITAT SERVICES CENTRE (HSC)

HUDCO Place, Andrews Ganj, August Kranti Marg, New Delhi-110049.

Phone: 011-41012223

Website: www.hscdelhi.in

E-tender Website: <http://hsc.ewizard.in>

9. INSPECTION OF SITE(s)

The bidders are advised to inspect the work site(s) -August Kranti Bhawan, Bhikaji Cama Place, New Delhi, HUDCO Place at Andrews Ganj, New Delhi, HUDCO Residential Flats/Hostel at AGVC and Jangpura Extension, New Delhi, HUDCO Bhawan and HUDCO House at Lodhi Road, New Delhi - before submitting the tender, and acquaint themselves with working conditions including constraints and collect all necessary information required for execution/carrying out the work.

10. LANGUAGE

Tender documents including tender drawings, if any, and other information shall be prepared, provided and submitted in English language.

11. SIGNING OF TENDERS

Tender shall be digitally signed by person(s) holding necessary power of attorney.

12. OPENING OF TENDER

Tender shall be opened on the date, as specified in this NIT.

13. EXPENSES FOR TENDER PREPARATION

For the preparation and submission of tender, Bidder shall not be entitled to any cost, expenses, or other claims whether or not the tender is accepted, rejected or invitation to Tender withdrawn or cancelled.

14. COMPLETENESS OF TENDER

The scope of work, terms and conditions and other details have been specified in the tender documents. Bidders shall prepare and submit their tender keeping in mind the requirements of tender documents. Any tender not quoted for the complete work as per tender documents or is otherwise incomplete or is not in compliance with the tender documents shall be liable to rejection.

15. AMENDMENTS TO TENDER DOCUMENTS

HSC shall have the right to amend/delete/add various provisions in the tender documents or withdrawal/cancel the invitation to tender without assigning any reasons whatsoever. The corrigendum/amendments/errata issued by HSC shall be posted on the HSC e-tender website <https://hsc.ewizard.in> and shall be read carefully in conjunction with tender document. The Bidder's price/rate/amount shall be deemed to have been worked out taking into account all the corrigendum/amendment/errata also.

16. ACCEPTANCE OF TENDER

HSC shall not be bound to accept the lowest or any tender or to assign reasons for non-acceptance of any tender. HSC also reserves the right to accept a tender either in whole or in part. Breakup of prices/item rates shall be binding on the Bidder even in the case of acceptance of a tender in part.

17. BIDDER NOT TO RESILE

The tender for the work shall remain open for acceptance for a period of 75 (Seventy five) days from the date of opening of technical bids. If any Bidder withdraws his tender before the said period or issue of letter of acceptance, whichever is earlier, or makes any modifications in the terms and conditions of the tender which are not acceptable to HSC, and then HSC shall, without prejudice to any other right or remedy, be having a liberty to reject the Bid and forfeit full EMD. Further such Bidder shall not be allowed to participate in any tendering process for one year period.

18. SUSPENSION FROM PARTICIPATING IN TENDERS ISSUED BY HSC.

- i. If the selected Bidder/Contractor withdraws his tender before the expiry of the validity period, or before the issue of letter of acceptance, whichever is earlier, or makes any modification in the terms and conditions of the tender which are not acceptable to HSC, then HSC shall, without prejudice to any other right or remedy, be at liberty to reject the tender and forfeit the full EMD. Further such Bidder shall not be allowed to participate in any tendering process for one year period.
- ii. In case the successful bidder/Contractor fails to commence the work from the date of handing over of the site, the LOA shall stand cancelled and HSC shall, without prejudice, reject the tender and forfeit the full EMD of such bidder/tenderer. Further such Bidder shall not be allowed to participate in any tendering process for one year period.

19. SECURITY DEPOSIT

- i. A sum **@ 3%** of the before Tax amount of the bill shall be deducted from each running bill of the Contractor towards security deposit. The EMD of the successful bidder shall be adjusted against the security deposit.
- ii. No Interest shall be payable to the Contractor on the security deposit.

20. ANY OTHER APPLICABLE STATUTORY DEDUCTIONS.

- i. Security Deposit shall be deducted from payments towards running bills.
- ii. TDS at the applicable rate shall be deducted.
- iii. Any other applicable statutory deductions.

21. AWARD OF CONTRACT

- i. After selection of the bidder, a Letter of Award (the LOA) shall be issued, in duplicate, by HSC to the selected BIDDER and the selected BIDDER shall, within 7 (seven) days of the receipt of the LOA, sign and return the duplicate copy of the LOA in acceptance thereof.
- ii. In the event the duplicate copy of the LOA duly signed by the selected bidder is not received by the stipulated date, unless HSC consents to extension of time for the same on written request by the bidder, the LOA issued by HSC will become null and void and the bidder shall be suspended for participation in the tendering process for the works of HSC for a period of one year from the bid due date of this work.
- iii. An agreement on non-judicial stamp paper would be required to be signed for the purpose within the stipulated date, as mentioned in the award letter to the bidder.

22. COMMENCEMENT OF WORK.

- i. After receipt of work order, the Contractor shall have to install biometric face recognition attendance device on its own and register the manpower/workers within 7 days of award of work or prior to taking over physical position of site, whichever is earlier, under intimation to respective Engineer-in-charge of HSC. Complete list of all manpower/ workers alongwith all supporting documents required to be submitted to HSC prior to registration on biometric face recognition attendance device. Cost of biometric face recognition machine shall be reimbursed on actual basis with first running bill.
- ii. Labour wages of different services shall be regulated as per attendance record of biometric face recognition device as well as physical attendance register to be maintained with the Engineer-in charge.
- iii. The executive control of the work, as far as this agreement is concerned shall be with Engineer -In-Charge of respective site under the overall control of the Executive Director, HSC, to whom the Contractor shall address all communications for to be confirmed.

SECTION – III:

GENERAL CONDITIONS OF THE CONTRACT

SECTION – III: GENERAL CONDITIONS OF THE CONTRACT

1. DEFINITIONS

In this document as hereinafter defined, the following words and expressions shall have the meanings assigned to them except where the agreement explicitly provides: -

- 1.01 “AGREEMENT” shall mean contract agreement together with all tender documents and acceptance thereof including Sections, drawings and correspondence, if any, referred to in the Agreement in relation to this work/project.
- 1.02 HABITAT SERVICES CENTRE hence forth called as HSC represented by Executive Director, HSC.
- 1.03 “Contractor” shall mean M/s.....having their registered office and principal place of business at _____.
- 1.04 “Engineer-in-charge” shall mean Officer nominated by HSC for management & supervision/execution of the operation & maintenance of services at the project/site(s).
- 1.05 “WORK” shall mean all work, supplies and services to be executed / made / to be performed by the Contractor under the Agreement.
- 1.06 “SITE” means the lands and other places on, under, in, or through, which the works are to be executed or carried out and any other lands or places provided by HSC for the purposes of the contract. The site stands for the works/services required to be rendered at August Kranti Bhawan, Bhikaji Cama Place, New Delhi, HUDCO Place at Andrews Ganj, New Delhi, HUDCO Residential Flats/Hostel at AGVC and Jangpura Extension, New Delhi, HUDCO Bhawan and HUDCO House at Lodhi Road, New Delhi.
- 1.07 “SPECIFICATIONS” shall mean all technical specifications as per CPWD Manual unless otherwise specified by or as prescribed by HSC, statements of technical data, schedule of items / quantities / rates, drawings, sketches, Indian standards, instructions etc. according to which the work shall be executed by the Contractor.
- 1.08 CONTRACT – Related Terminology
 - (a) CONTRACT means the Tender Notice, Tender Forms, Articles of Agreement, General Conditions, Special Conditions, Technical Specifications, Drawings and Schedule of work, Bill of Quantities, Financial Bid and the Work Order.
 - (b) CONTRACT PRICE shall mean the price for which the Contract is accepted as per the Letter of Award/ Work Order.
 - (c) Final CONTRACT SUM shall mean the sum to be paid by HSC to the Contractor for complete execution of the work and shall be computed/certified by the Engineer/Consultant on the basis of actual net quantities of various items of work as finally executed at the applicable rates as per the schedule of items/quantities/rates forming part of the Agreement.
- 1.09 CONSTRUCTION PLANT AND EQUIPMENT shall mean all the equipment, machinery, appliances, tools, tackles etc. of whatever nature required in or about the execution, completion and maintenance of the works or temporary works required for execution.
- 1.10 “TEMPORARY WORKS” shall mean all temporary / enabling works of every kind required in or about the execution, completion and maintenance of the works.

1.11 “**APPROVAL**” shall mean approval in writing by the Engineer-in-charge or any authorized representative of HSC.

1.12 “**MONTH**” shall mean calendar month as per the Gregorian calendar.

1.13 **Statutory Deduction** means deductions from each running account bill such as TDS, SD etc.

1.14 The **Earnest Money Deposit or EMD** means the deposition of money @ 2% of the tendered cost on HSC’s E-tender website. However after opening of financial bids, EMD be transferred into HSC’s account for adjustment against the security deposit. (of L-1/successful bidder)

2. INCOME TAX

Tax at Source (TDS) shall be deducted from all accepted payments to be made in accordance with the provisions of Income Tax Act,1961 and amended time to time.

3. Earnest Money Deposit (EMD): As stipulated in this NIT.

4. SECURITY DEPOSIT

Security Deposit shall be as stipulated in this NIT and shall be deducted as per conditions of NIT. Security Deposit will be refunded on successful completion of the contract, within 6 months after settlement of the final bill provided there is no claim against the Contractor and no labour complaint is pending against the Contractor. At the time of releasing of SD the Contractor should also submit an affidavit on Rs. 100/- non judicial stamp paper that no claim and no labour complaint is pending against the Contractor along with no dues certificate of all workers.

5. UNIFORM

- i. Uniform to be provided, 2 pairs of shirt and trouser/pant for summer & 2 pair of woolen jersey for winter, 1 pair of safety shoes (Branded company), 2 pair of socks and Cap. The uniform quality & colors strictly needs to be approved by HSC. The expenditure on account of uniform shall be borne by the agency from the administrative charges quoted as contained in price bid.
- ii. The Contractor will supply fresh sets of uniform/badges, Identity cards to his worker who shall wear the same while on work and also keep their uniform clean and one set of recent passport size photograph for records each of his employee.

6. PERIOD OF CONTRACT

The contract will be initially awarded for a period of one year, extendable for further two years, on the same terms and conditions, if the yearly performance review of the services of the Contractor are found satisfactory.

7. PAYMENT OF WAGES

The Contractor shall submit comprehensive monthly bill – site wise - based on biometric attendance and for other utility services carried out at each site along with bifurcation of bill for each site on separate sheets. The monthly wages to the workers should not be paid in cash or cheque and to be directly transferred in their bank account from the first month of award of contract Contractor will also submit the copy of the letter issued to the bank for transferring salary in workers account as a token of proof on the day of release of salaries. Contractor will also provide monthly attendance sheet, ECR sheets of EPF, ESI & wage register, before release of payment along with certificate as indicated in **FORM J** along with the bill.

- i. The Contractor shall take the sole responsibility for providing services on the approved wages fixed by the Govt. of National Capital Territory of Delhi, from the date of award of Contract as per the text provided by the HSC.
- ii. The Contractor will be responsible for making the payment of wages directly to the concerned worker of respective sites before the expiry of the seventh day of the month. The leaves encashment and Bonus shall be disbursed on monthly basis along with salary.
- iii. The successful Contractor will accept full and exclusive responsibility for disbursement of full wages and other obligations referred to under the law now and hereafter imposed by State Govt./Local Bodies for the person(s) deployed by him.
- iv. The Contractor shall submit a monthly report – site wise - containing the complete salary details along with EPF & ESI deducted and credited into individual worker's account with appropriate/concerned department as a proof for release of their monthly payment duly certified by the Contractor on letter head. If it is noticed at any stage that EPF & ESI of any individual has not been credited properly, HSC will not take any responsibility for this lapse. The Contractor will bear all the consequences, whatsoever, of the same. Further, payment shall be made as per actual and disbursement proof shall be submitted by the Contractor.
- v. **If, however, on account of any legislation, notification issued by Statutory bodies viz labour department the minimum wages of highly skilled, skilled labour, semi-skilled and unskilled labour are increased at any time, the Contractor has to pay any increased wages, then HSC shall reimburse to the Contractor increase in such minimum wages. For this purpose, the minimum wages of unskilled labour and skilled and semi-skilled labour on the date of submission of tender shall form the basis. No escalation on account of increase in the cost of material and uniform shall be allowed.**
- vi. The Contractor shall indemnify HSC, as the principle employer, from any legal issues arising out of the employment of contract labour.

8. The Contractor shall be responsible for the conduct/integrity of his personnel and will also be responsible for any act of omission and commission on their part. He will vouch for their character & integrity. He shall submit police verification reports as mandatory along with the photographs and the detailed particulars of the staff provided to the HSC.

9. FORECLOSURE OF CONTRACT IN FULL OR IN PART DUE TO ABANDONMENT OR REDUCTION IN SCOPE OF WORK:

If at any time after acceptance of the tender, HSC decides for foreclosure or reduce or increase in the scope of works for any reason whatsoever and hence not require the whole or any part of the work to be carried out, the Engineer-in-charge shall give one month notice in writing to that effect to the Contractor and the Contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of work in full but which he did not derive as a consequence of the foreclosure of the whole or a part of the work.

10. ACCIDENT OR INJURY TO WORKMEN

10.1 The Contractor shall be solely liable for any accident or injury to any of the worker engaged by him in connection with the Contract work.

10.2 HSC shall not be liable for any damage or compensations payable by law in respect of or in consequence of any accident or injury to any personnel in the employment of the Contractor or other occupants/visitors to the building and the Contractor shall indemnify and hold harmless HSC/Engineer/Consultant against all such claims, damages, compensations and proceedings.

10.3 The Contractor shall forthwith report to HSC all cases of accidents to any of their workmen and shall make every arrangement to render all possible assistance and aid to the victim of the accident. The Contractor shall handle the legal implications and litigation arising out of the same.

11. COMPLIANCE WITH STATUTORY AND OTHER REGULATIONS

11.1. The Contractor shall, throughout the performance of the Agreement comply with all Central or State Statutes, Ordinance or Laws and the Rules, Regulations, or Bye-Laws of any local or other duly constituted authority having jurisdictions over the contract work or any part of the site.

11.2 The Contractor shall attend to all notices and pay all fees and taxes required to be given or paid under any Central or State Statutes Ordinance or other Laws or any Regulations or Bye-Laws of any local or other constituted authority in relation to the contract work.

11.3 The Contractor shall get himself registered with the concerned authorities as provided under various applicable Acts and shall be solely and directly responsible to such authorities for compliance with the provision thereof.

11.4 By way of illustration of various Acts, the following Acts as amended from time to time, shall be complied with by the Contractor: -

- a. Employee's Provident Fund Act 1952
- b. Contract Labour Act (Regulations and Abolition 1970) as per latest amendment 2022. Further, the applicable 29 Labour Laws as codified into 4 Labour Codes.
- c. Minimum Wages Act 1948
- d. Payment of Wages Act 1936
- e. Workmen Compensation Act 1923
- f. Factories Act 1948
- g. Apprenticeship Act 1961
- h. IT/GST Act.
- i. Miscellaneous Provisions of Act, 1952
- j. Maternity Benefit Act, 1961
- k. The successful Contractor should submit Aadhar Card, Universal Account Number (UAN) for EPF & ESI of all the staff deputed after release of their first payment.
- l. All the statutory requirement to be complied as per Government rules & regulations.

m. The Labour Code, as and when made applicable by Govt. of India.

11.5. The Contractor shall ensure that no child labour is employed or permitted to work in any activity covered under the Agreement.

11.6. The Contractor's establishment shall be subjected to inspection, investigation etc., by HSC / Engineer for ensuring proper and faithful compliance of the provisions of the Agreement by the Contractor with regard to the implementation of labour laws and matters stated in this Article.

11.7. The Contractor shall provide, at his cost, to all staff and workmen directly or indirectly employed on the works all amenities for securing proper working conditions at the site. The Contractor shall also provide medical facilities at the site as per rules in force in relation to the strength of their staff and workmen deployed at site.

11.8 HSC will have no liability whatsoever concerning the workers deployed by the Contractor for any purpose. The successful Contractor shall keep HSC indemnified against all losses or damages or liability arising out of or imposed in the course of employment of person(s) by him or for any violation of such Acts, Laws of Regulations etc. by him/her, his/her agent or his/her staff.

11.9 The successful Contractor shall be solely responsible for setting/resolving any dispute/claim of his/her workers during the pendency of the Contract. No liability shall accrue to HSC under any circumstances

even after expiry of the contract. No claim for continuity for service under contract or otherwise will be entertained by HSC.

11.10 The Contractor shall be responsible for payment of any compensation/settlement of any liability arising out of any death or injury caused to the persons employed by him for rendering the jobs on contract under the agreement, either under the Workmen Compensation Act or any Act in force at that time.

11.11 The Contractor should ensure that there is no scope for any grievance from the workers on payment of wages, Bonus etc. as per the applicable labour laws.

12. INDEMNITY

12.1 Notwithstanding all reasonable and proper precautions being taken by the Contractor at all times during the performance of the contract work, the Contractor shall remain wholly responsible for all damages, whether to the contract work executed by him or to any other client's property or to the lives, persons or property of others during progress of the contract work and the period of maintenance thereof and shall indemnify, defend and hold harmless HSC, Engineer or their employees against all claims, loss, demands, proceedings, charges and expenses, liability for personal injury (including death), and / or damage to property incurred by reasons of any act or omission or default by the Contractor, his agents, servants or employees and arising out of or connected with the performance of this Agreement.

12.2 The Contractor shall also indemnify and hold harmless HSC, Engineer or their employees from all liability, claims, costs, expenses, taxes and assessments, including penalties, punitive damages, attorney's fees and court costs which are or may be required with respect to any breach of the Contractor's obligations or for which the Contractor has assumed responsibility including those imposed by Statutes, Ordinances, Laws, Rules, Regulations or Bye-laws or in respect of salaries, wages or other compensations of all persons employed by the Contractor or suppliers in connection with the performance of any work covered by the Contract.

12.3 The Contractor shall comply with such requirements of such Statutes, Ordinances, Laws, Rules, Regulations or Bye-laws as may be necessary there under to confirm and effectuate the Agreement and to protect HSC/Engineer/Consultant or their employees.

12.4 Notwithstanding anything herein before contained, HSC shall not accept any liability for the Contractor or employees or any of them or for their / his property while on the premises or in service of, or used for / on behalf of HSC by any person.

13. PRESERVATION OF PEACE

13.1 The Contractor shall take adequate precautions and use his best endeavors to prevent any riots or any unlawful behavior by or amongst his workmen and / or others employed by him and for the preservation of peace and protection of the inhabitants and security of property at or in the neighborhood of the site.

13.2 In the event of HSC requiring the maintenance of a special Police force at or in the vicinity of site during the tenure of the contract in consequence of the riotous or unlawful behavior by or amongst the Contractor's workmen and / or others employed by him, all expenses thereof, and costs of all damages due to such riotous or unlawful behavior shall be borne by the Contractor and if required to be paid by HSC, shall be recovered by HSC from Contractor from any money due or that may become due to him.

14. OPERATION

HSC reserves the right to call for clarifications and interact with the Contractor on technical and functional aspects of any part of the work at his discretion.

15. SECRECY

- 15.1 All drawings, specifications, schemes and the subject matter contained therein and all other information given to the Contractor by HSC / Engineer/Consultant in connection with the performance of the contract work shall be held confidential by the Contractor and shall remain the property of HSC and shall not be used or disclosed to third parties by the Contractor for any purpose other than for which they have been supplied or prepared. The Contractor may disclose to third parties, upon execution of secrecy agreements, such part of the drawings, specifications, or information, if such disclosure is necessary for the performance of the contract work after the approval of HSC.
- 15.2 On completion of the work or upon termination of the Agreement, the Contractor shall return to HSC all drawings and documents received by him from HSC/Engineer. The Contractor shall ensure that neither the Contractor nor any of his officials and employees or any other persons shall have possession or access to copy thereof.

16. OTHER CONDITIONS

- 16.1 (a) The Contractor shall provide the services for the subject tendered works as contained in the tender documents. He shall ensure discipline amongst his staff and restrict unnecessary movement/assembly of their personnel in premises etc. The Contractors shall ensure proper supervision of the duties of his staff through his own supervisor.
- (b) The Contractor should deploy well qualified and experienced Project Manager, having qualification at least BE or B Tech in Civil Engineering and a minimum 5 years of experience in O&M services, preparation of NITs based on detailed estimates (% or item rate), floating of tenders/ e-tender as per CPWD norms, preparation of bills based on detailed measurements, efficiency in computer operation (MS Office) etc., to manage, monitor and look after all services and also to ensure effective and proper implementation of services contract, as per provisions and also to ascertain proper supervision of the maintenance and upkeep of premises. He will also be responsible for day to day coordination with HSC as well as allottees/tenants and shall submit the reports/compliance as and when asked for.
- (c) It is to be ensured that Project Manager must be available at all the time to take instructions from HSC. The Project Manager shall submit daily report to HSC Site in-charge (and provide filled in site register with details) and will obtain required approvals well in advance to ensure effective implementation of all services. The cost of the Project Manager shall have to be borne by the Contractor from its administrative charges, so far quoted.
- 16.2 Contractor shall not sub-let or sub-contract any part of this contract/job without the expressed written consent of the HSC. The Contractor shall also be responsible for any act of omission or commission on the part of his supervisors/workers. Any damage done/caused to the existing structure/furniture/fitting/equipment by the workers of the Contractor Agency shall be got rectified by the Contractor at his own risk and cost. In case the agency fails to rectify / indemnify the damage, the HSC reserve the right to deduct it from its payments/SD.
- 16.3 The decision of the authorized officials of HSC regarding the satisfactory standard of tendered work shall be final and binding on the Contractor.
- 16.4 The Contractor will be fully responsible for coordinating with the licensing authority and have to be present & to provide all necessary details required time to time by licensing authority.
- 16.5 **The Contractor will be responsible for procuring Contract Labour License under Contract labour, Regulation & Abolition Act, 1970 & Delhi Act, 1972 from Labour Department, Govt. of NCT of Delhi – site wise - after being awarded the contract within one month or prior to release of 1st RA Bill, whichever is earlier.**

- 16.6 The Contractor shall submit full details of his ownership and control of the agency, if it is a partnership firm then ownership and control details of each partner shall be furnished.
- 16.7 Each bidder will ensure that no agent, middle man or any intermediary has been or will be engaged to provide any services, or any other item or work related to the award and performance of this contract. He has to further confirm and declare that no agency commission or any payment which may be construed as an agency commission has been or will be paid and that the tender price will not include any such amount. If HSC, subsequently finds to the contrary, then it reserves the right to declare the bidder as non-compliant and declare any contract, if already awarded to the bidder to be null and void.
- 16.8 Canvassing or offer an advantage or any inducement by any person with a view to influencing acceptance of a bid will be an offence under law of India. Such action will result in the rejection of the bid in addition to other punitive measures.
- 16.9 Each bidder shall submit only one tender.
- 16.10 Conditional bids / offers will be summarily rejected.
- 16.11 Earnest Money Deposit shall be forfeited, if the successful Contractor refuses or neglects to execute the contract or fails to accept the letter of award within the time frame specified by the HSC.
- 16.12 The staff shall not accept any gratitude or reward in any manner.
- 16.13 The manpower shall not participate in any union or association activities within the place of deployment for work by HSC.
- 16.14 The workers posted should not indulge in smoking, drinking etc., if any of the workers ever found indulging in these activities then the HSC reserve the right of issuing 1 months' notice for replacement of worker from the contract and noncompliance may result in the forfeiting of Performance security/SD as deemed fit by the Executive Director (HSC).

17 TERMINATION OF CONTRACT

In the event of Contractor committing breach of any of the terms and conditions herein contained and / or required to be observed and to be performed by the Contractor, for the satisfactory and faithful performance of the contract, HSC shall be at liberty to terminate the contract by giving one-month notice and HSC shall be entitled to forfeit the security deposit or any part thereof.

18 ARBITRATION

- 18.1 Except where otherwise provided for in the contract, all question and disputes relating to the meaning of the specifications, and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out on or relating to the contract, specifications, instructions, orders or these conditions or otherwise concerning the works, or the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the Sole Arbitrator to be appointed by ED, HSC, as per updated Arbitration And Conciliation (Amendment) Act, 2021
- 18.2 The Arbitrator may from time to time with consent of the parties enlarge the time for making and publishing the award.
- 18.3 The work under the contract shall if reasonably possible, continue during the arbitration proceedings, and no payment due or payable to the Contractor shall be withheld on account of such proceedings.

- 18.4 The Arbitrator shall be deemed to have entered on the reference on the date, he issues notice to both the parties fixing the date of the first hearing. The Arbitrator shall give a separate & reasoned award in respect of each dispute.
- 18.5 The venue of arbitration shall be within Delhi, such place, as may be fixed by the Arbitrator with his sole discretion within Delhi.
- 18.6 The award of Arbitrator shall be final, conclusive and binding on all parties to this contract.
- 18.7 The cost of arbitration shall be borne by the parties to the dispute as may be decided by the Arbitrator.

19. FORCE MAJEURE

If either party is prevented or impeded in the fulfilment of its obligations under the agreement by reasons of force majeure, such as, act of God, operation of force of nature, act of state, war, civil war, revolution, rebellion, military or usurped power, explosion, fire, epidemic, quarantine, floods, earthquake or other physical disaster, freight embargo, confiscation, expropriation, HSC orders or restrictions or the like or similar events due to any cause, beyond the reasonable control of the party affected and which such party could not have reasonably foreseen and guarded against and which by exercise of reasonable care and diligence, such party is unable to prevent, then any delay directly arising there-from shall constitute an excusable delay, provided :-

- (i). It is established that any of such event has occurred, adversely affecting the party concerned and the continued performance of this Agreement without any contributory negligence or default on their part.
- (ii) It is proved that as a result thereof, further performance of the Agreement by such party is inevitably delayed or impeded.
- (iii) Such party gives notice to the other party within 10 (ten) days from the occurrence of such event giving sufficient details of such event and proof of its effect on the performance of the Agreement on the part of such party, and time for the performance of that part of the obligation of the party concerned which so delayed or impeded shall be extended by a period or periods equal to the durations of such delay provided that the other party shall not be required to perform the corresponding part of its obligations under this Agreement.
- (iv) If the duration of the delays or impediments due to such continuing force majeure events exceeds a period of 3 (three) months, the party shall consult each other to find an amicable solution to problems created by such delays or impediments.

SECTION - IV:

SCOPE OF WORK & TENTATIVE REQUIREMENT OF MANPOWER

SECTION IV: SCOPE OF WORK & TENTATIVE REQUIREMENT OF MANPOWER

SITE 1: AUGUST KRANTI BHAWAN, BHIKAJI CAMA PLACE (28°34'0" N 77°11'16" E)

August Kranti Bhawan (AKB), is a multi-user commercial cum office complex developed and constructed by HUDCO on a plot admeasuring 18830 Sqm. (approx.). The building has 5 floors/levels (Basement + GF + 3 Floors) plus terrace level. The complex has arrangements for parking 155 cars in Basement and other utility services i.e. Electrical Sub-station, Water and Fire Pumps, Air Conditioning Plants for Super Market and common toilets at ground floor. There are common areas / corridors on all floors. There is open parking space at ground floor.

1. SCOPE OF WORK

I. CLEANING & SANITATION SERVICES

- A. The present Scope of Work is to provide housekeeping / sanitation services in the building as briefly mentioned below :-
- i. **Basement:** Entire basement having reserved parking slots for cars motorcycle / scooters, drive ways, staircases, sub-stations, D.G. room, pump room, AC plant room, sump pump rooms, stores, and open drains with M.S. Gratings, Entry / Exit ramps external signage. Cleaning and emptying of sewer manholes & sump wells and removal of Malba.
- ii. **Ground Floor:** All ground floor area of red sand stone within building premises, shops (except allotted/ occupied shops), Rahen Basera, meter rooms, common areas, corridors, general toilets (Ladies & Gents) in "A" & "C" Wing, Open parking areas including ramps and steps.
- iii. **First Floor, 2nd Floor, 3rd Floor & Terrace:** All common areas/ corridors / passages, meter rooms, staircase. AC plant room at 3rd Floor terrace for Rahen Basera, terrace at second and third floor including Mumties, Chajjas and water tank area etc.
- iv. **Staircases** from basement to 3rd floor, Stone Jali work, Pipe railing, hand rails in staircases, signage board, and staircase to Super Market etc.
- v. Any other job relating to housekeeping and sanitation within the complex which is not mentioned above and essentially required at site are to be done as and when directed by Engineer-in-charge, HSC.
- vi. The disposal of all type of waste/malba etc. shall have to be done at the nearby approved municipal dumping ground.
- vii. The **schedule of maintenance / services is given below** as a guide to be followed. However, the same can be revised to improve the services, if required, by Engineer-in-charge, HSC.
- viii. **The Contractor would have to keep the manholes of MCD / DJB in complex functional (arrange to clean, if choked) within the quoted amount. All enquiry/complaint to MCD/DJB will be taken up by the Contractor itself.**

B. Work and Maintenance Programme

a. Daily jobs :

- i. Daily sweeping, cleaning of all open parking & areas at Ground Floor level, including ramps steps etc.
- ii. Daily cleaning, sweeping & mopping of common corridors/ passages, (Ground Floor, 1st Floor, 2nd Floor, 3rd Floor) and all staircases including railing.
- iii. Daily cleaning, washing, mopping etc. of four general toilets (Gents and Ladies) in "A" and "C" Wing, sanitary and plumbing fitting and fixture therein (at least two times).
- iv. Daily collection of litter / garbage/unhygienic material and its disposal outside the complex to a suitable dumping ground area.

- v. Removal of bird / animal shits, cobwebs, honey comb, dead birds / animals etc. within the complex except allotted space.

b. Weekly Jobs

- i. Cleaning and mopping etc. of Supermarket (terrace) and Rehan Basera including door windows and toilets etc.
- ii. Cleaning Stone work Jallies stone cladding in corridor at all floors levels.
- iii. Washing and cleaning of stone flooring steps and sitting benches etc. at Ground Floor.

c. Fortnightly Jobs :

- i. Sweeping and cleaning of terraces, lift room, tank areas, staircases, mumty and chajjas etc. or as and when required during rainy season as per direction of Engineer-in-charge.
- ii. Washing and cleaning including algae removal of open areas, terrace and ramps at Ground Floor and walls etc.
- iii. Cleaning of railings and steel doors at Ground Floor level.
- iv. Cleaning of unoccupied shops/ office at Ground Floors including steel rolling shutters, doors, windows, ventilators etc.
- v. Cleaning and emptying of Manholes & Sump wells (including desilting, dewatering whenever required / directed by HSC. Contractor has to bear the cost of pumping machine etc, for cleaning of manholes, if required.
- vi. Cleaning of basement car parking terrace including open drains.

II. HORTICULTURE SERVICES

A. The scope of work includes:

- i. The scope of work covers all the maintenance works of green areas, landscape, hedges, garden covers, Nursery and day to day maintenance of water supply/sanitation of building works within periphery of August Kranti Bhawan Complex.
- ii. The works comprises of high standard of maintenance of the green area, tree plantation etc. landscaping, plants, watering, fertilizing, top dressing, plant protection from pests and disease of lawns, seasonal flower beds, kiaries, cutting and shaping of hedges, clipping shapes, creepers, ground covers, climbers and also topiary works, rockeries, ornamental and flowering trees and other potted plants etc. The Contractor has to maintain the Nurseries at any location of the Bhawan.
- iii. Cutting and removal of all rank vegetation and wild bushes within the right of way, passages etc. within Complex as and when directed by the Engineer-in-charge.
- iv. Cleaning, horticulture refuse from terraces, footpaths, walk ways, open drains, sitting benches, steps etc. and removal and disposal of litter, garden refuse outside Complex and keeping the Complex neat and clean.
- v. Submission of scheme and drawings for seasonal flowers and timely preparation of flower beds and pots etc.
- vi. Transportation and periodical changes in the pattern by shifting the position of pots from one place to another different location within the complex as directed.
- vii. Any other misc. jobs of horticulture nature as directed by HSC in-charge.
- viii. The HSC -in-charge has the right to carry out further landscape development / restoration in these areas and minor extensions will be included in the scope of work within quoted amount but a major project will be dealt with separately.
- ix. The Bidders are advised to ascertain the details of area covered under scope before submitting tenders.
- x. It includes high standard maintenance & upkeep of the entire plantations of shrubs, trees, climbers and ground covers within the boundary of the complex.
- xi. The maintenance work among other activities shall include watering, weeding fertilizing, plant protection from pests and diseases by means of spraying insecticide, cutting edges, pruning, clipping of shrubs and sweeping etc. necessary for proper growth of plants etc.

- xii. The cost of replacement of withered and dead plantation shall be borne by the HSC. The replaced plants shall be of the same quality as the existing ones. Labour will be provided by the Contractor.
- xiii. The Contractor to provide all T&P such as PVC pipe, Scissors, Spraying machine, Plants shifting equipment, Trolley, Kassi etc. for execution of work.

A. General Supervision

- i. The maintenance will be carried out under the general supervision of Engineer-in-charge.
- ii. The instructions of Engineer-in-charge are to be carried out promptly. In case of any difference of opinion / interpretation of specifications and conditions, the matter is to be referred by the Contractor to the Executive Director for his decision, which shall be final and binding.
- iii. Performance of the Contractor's work shall be reviewed by HSC authorities once a month, wherein senior executive of the contracting firm will have to be present.

B. Contractor's Supervision

The Contractor or his representative who will supervise the work at site shall be responsible to receive and implement instructions from the officer-in charge of HSC.

C. General Maintenance

The maintenance shall include watering, fertilizing, top dressing with sweet earth wherever directed, plant protection from pests and diseases, mowing and upkeep of lawns, sweeping and disposal of garden refuse, weeding and cultivation, cutting of edges, pruning and clipping of shrubs, trees, hedges, ground covers, topiary work and pruning. To check up raking, preparation and planting of seasonal flowers, periodical cutting and removal of wild growth from plantation areas, minor repair works etc. and all other landscape operations necessary for the proper growth of garden features and presenting a high / desired / satisfactory standard of maintenance throughout the period of contract. The general maintenance includes but is not limited to the works specified, as per the site requirement.

D. Irrigation

- i. The Contractor shall be responsible for the daily watering of the landscape areas. The running of water supply system will be the responsibility of HSC. The Contractor must ensure that unnecessary wastage of water does not occur at any time and must protect the irrigation fittings, garden hydrants etc. from any damage due to mishandling or diggings in the garden area. Any damage to existing irrigation works due to mishandling or negligence of the Contractor's staff will have to be made good by the Contractor at his cost.
- ii. The Contractor shall be responsible for washing / spraying trees, shrubs and other plants with water as and when directed to do so. The cost of water used for the landscape works shall be borne by HSC.

E. Manuring

The required good earth, manure, chemicals and fertilizers shall be procured by HSC as per site requirements etc. The Contractor shall have to give the requirement of materials at least 30 days in advance for procurement.

F. Plant Protection

- i. Periodic checks are to be carried out for pests and diseases. In the event of infestation, prompt spraying of appropriate pesticides, fungicides etc. will be carried out for the eradication of the same.
- ii. Spraying of chemical / fertilizers is to be handled by trained manpower in this field. The Contractor shall be held fully responsible for any damage caused to garden features by application of wrong chemicals, damage caused due to no application of appropriate chemicals at proper time.
- iii. The spraying will be carried out by the Contractor as and when required and approved by Engineer-in-charge. Contractor will make arrangement for minimum 02 No. of spraying machine manual / mechanical in working condition at site within quoted amount.

- iv. The Contractor shall be held responsible for any mishap or injury to the staff handling insecticides and fungicides etc. The required insecticides, fungicides, chemicals etc. shall be procured by HSC and the other operations in regard to the plant protection shall be carried out by the Contractor very carefully.

G. Material at site and stores

HSC will provide a suitable place to store garden machinery, tools, chemicals etc. preferably within the vicinity of nursery. The Contractor must ensure that all garden machinery/tools/hose pipes and other garden tools etc. are removed from the site during off hours. Any loss, damage to the machinery by any reasons including theft etc. shall be responsibility of the Contractor.

H. Repairs and Replacement

- i. The Contractor shall carry out all minor repairs to garden features damaged due to digging in the area, negligent handling by the staff, excessive erosion caused by watering / rains and all replacement of plants that die during the period of contract. Any replacement / substitution suggested by the department shall be done by removal of existing plant material etc. making pits for new ones and actual planting, cost of the plants will be reimbursed by HSC on the basis of original vouchers from Govt. Nursery in support thereof, plus administrative charges as quoted by the Contractor. Cartage will be paid as per actual. Newly replaced plants in any area should be protected from hot sun and high winds and from frost etc.
- ii. The Contractor must ensure that the stone flooring and other landscape features in the area including electrical fittings and lights etc. are not damaged in any manner while carrying out maintenance works. If any damage is observed, the same will have to be made good by the Contractor at his own cost.
- iii. The Contractor must report to HSC immediately an occurrence of any damage to horticulture features by accident or other natural calamities.
- iv. The damage caused to the garden features by natural calamities and accidents will be made good by the Contractor by engaging existing labour for the maintenance work but the cost of plant material required will be reimbursed by HSC. Removal of malba / damaged trees in that case will be the responsibility of the Contractor.

I. Right to collect plant material

- i. The right of propagation and multiplication of grass plants, seedling, seeds, fruit and flowers etc. rests with HSC.
- ii. The Contractor is forbidden to remove, dispose any item from the garden area to any person or Organization without the prior written permission of HSC.

J. Precautionary Measures

The Contractor must take all necessary precautions for carrying out the above operations. In the event of any injury / accident to any person (s) / damage to any property shall be the responsibility and liability of the Contractor.

III. ELECTRICAL SUB-STATION, VENTILATION, FIRE FIGHTING, PUMPING INSTALLATIONS ETC.

- i. The operate and maintain services of the Electrical, Mechanical and other installations must be maintained round the clock except two passenger lifts in the complex with lift machine room on the terrace floor.

ii. Details of Installations

- a) The inventory details of electrical and mechanical installations / equipment's to be run, operated, and maintained described here is at **Annexure-I**.
- b) The electrical & mechanical installations are functional. The H.T. panels, Transformers & Cable network connecting 3 BSES's Sub stations to the meter rooms and rising mains etc. are completed by BSES Rajdhani

Power Limited/HSC & lines are generally energized. 11 KV supply is connected to HSC's sub-station for common services.

c) **Internal EI in Basement Car Parking & Internal (in unoccupied areas) & external electric installations in Wing "A", "B" & "C" including Ren Basera and Super Bazar etc.:** The installations generally consisting of internal wiring work in recessed conduits, is meant for lighting and electric power supply. The arrangement is controlled partially from the piano type switches (mounted on molded plates) and partially direct from the sub-distribution boards in groups. MCB & ELCB's have been used in the installations. The operation and maintenance of the installations shall cover the entire system from main/sub- distribution boards to the terminal of the electrical outlet points including lighting fixtures, wherever provided. This shall also include mains, sub-mains, cables, wiring etc. External lighting on poles/posts/walls, both provided in & around the complex, includes corridor lighting with fixtures at usual/unusual heights required to be regularly tested, operated & maintained as required.

d) **PA System:** The system controlled from Fire Control Room in 'B' Wings, Ground Floor, cover areas in basement & all upper floors.

e) **Fire Alarm System:** Through this system the electrical rooms have generally been provided with smoke detectors. In corridors, however manual call boxes facilities are installed. In case of fire smoke detectors will work with response indicators outside the affected area and in the central control panel shall get activated.

f) **Common Services Electric Sub-station consisting of 11 KV H.T. panel, L.T. panel & Transformer.**

g) H.T. panel & Battery charger etc. in the sub-station are connected. The equipment's are to be kept operative round the clock on all the days of the year. Main & sub DB's, distribution cable network, and control switch gears, etc. are provided for feeding different loads pertaining to common services in the complex, from the main L.T. panel installed in the substation.

h) The **important common services** are:

| |
|---|
| a. Lifts (02 No's) |
| b. Water pumps for supply to plants, A.C. make-up tanks, drinking water tanks. |
| c. Electric & diesel engine driven fire pumps are part of the installation to be periodically tested, operated & maintained. |
| d. Cable net-work from common services substation to AMF panel, emergency Electric Control Panels, and other Electric Distribution Board sets. |
| e. In HSC common services Substation, L.T. panel is installed from which cable net-work is laid to emergency panel and different DB's located in meter rooms, |
| f. Existing D.G. room etc. for the common services e.g. lighting in corridors on each floors, basement toilets, lift's M/Rooms, pumping installations etc. |
| g. Operation & maintenance of 1 no DG set of 160 KVA proposed to be installed by HUDCO shortly. |

i) Cables, rising 'Mains', Network, linking supply company's, 3 sub stations and 22 meter rooms: The Contractor shall also have to operate and maintain L.T. supply system provided by HSC from BSES's three sub-stations in the Basement to 22 meter rooms located in all the three Wings A, B and C on different floors, comprising of L.T. Panels, Cables, ACBs, Rising Mains and Meter Boards for electric connections to various occupants (Till the system is taken over by BSES).

j) All the electrical circuitries, metering, working, controlling and electric distribution system to the various installations shall be checked periodically and the defects, if any, shall be rectified promptly to keep the installations running and ready for use without any notice.

k) The firefighting system comprising of 75 HP electrical pumps (01 no), Diesel driven pumping set of 90 HP (02 no.), Jockey pump of 15 HP (01 no.), entire piping of ring main, inside car parking including sprinkler

system in car parking basement. The system also includes external hydrants in the entire campus including 2 way / 4 way fire brigade inlet and collecting heads and accessories and internal fire hydrants inside car parking basement.

- l) Fire alarm system comprising of a main fire alarm control panel and 16 Local Control panel installed in the fire control room and A, B and C wing of complex including the maintenance of connecting control cables from the LCP/Zonal panels terminating in the fire control room complete with batteries for alternative power supply.
- m) Portable Fire Extinguishers installed in the plant room area in car parking basement and in the fire hydrants cabinets of external areas of all the floors.
- n) Public Address System comprising of various speakers in Car Parking Basement, mike and amplifiers installed in the fire control room with batteries etc. complete.
- o) Anti-flooding pumps in Basement Car Parking Area: There are 16 such pumps installed at 8 locations in the basement. One such pump acts as a stand-by to the other at all the 8 locations. However, both the pumps can also be operated in case of an emergency for immediate for collecting drain out bulk quantity of water from the basement. These pumps are mounted in sumps which receive mostly rain sewage water. The water enters from outside through connected ramps specially during monsoons. These pumps during peak monsoon, therefore, assumes a great importance and the Contractor shall have to make all preparatory arrangement as flexible 4inch dia. discharge pipe-60 meters long. so as to ensure that no flooding takes place in any of the areas in the basement. The drains, linking to the sumps shall be regularly got cleaned and kept free of choking materials by HSC. During remaining period of the year which shall also cover winter & its limited rainy days, the Contractor shall maintain the installations and keep it fit for any eventualities owing to sudden working and/or testing of the water sprinkler's system in the basement.
- p) Water and firefighting pumps including suction and delivery lines, valves and control panels inside pump room: The water and firefighting pumping installations in basement's pump house are required to be tested and operated daily during general shift including Sundays and holidays. The operational arrangements are to ensure that the complete installations is well maintained and the system remains fully functional both through automatic/manual modes.
- q) The DG set with AMF panel and emergency L.T. panel and distribution boards: The DG set of 160 KVA capacity with its AMF panel installed in basement car parking area shall have to be kept functional and ready for operation for meeting any eventuality including failure of mains. For this purpose, the Contractor shall ensure periodic trial runs of the DG set for minimum/maximum duration of 5-10 minutes on alternative days.
- r) Basement Ventilation System in Basement Car Parking : Axial Flow Fans for fresh air and exhaust complete with 8mm thick MS base plate controlled from 4Nos. Electric Panels & LDP/LDS.

iii. General Maintenance

- a) Tests like insulation and earth resistance shall be carried out periodically and record of all such tests and daily working, repair etc. shall be maintained by the Contractor.
- b) The Contractor shall take over the physical charge of the installations generally described in the tender documents from HSC/working Contractor, test, run, operate and maintain the same and always keep them in, perfect working/functional conditions. Any associated works and part of the installations not specifically mentioned either in the scope of work or any part of the agreement, but found essential and integral part, shall be deemed to be covered by the contract as an integral part of the proposed operation and maintenance. Contractor is, therefore, advised to see and study the site requirements before submitting his offer.
- c) Cleaning of all main, local electric panels controlling AC Plants, Package Units, FCUS/ Exhaust system etc. both from inside and outside shall be periodically undertaken with routine checks. All the panels with mountings, HRC and other fuses, indicating lamps metering devices shall be well maintained and defective accessories replaced or repaired as required. The cost of material required shall be borne by HSC.
- d) All tools and tackles for routine maintenance of the plant and equipment shall be arranged by the Contractor within quoted amount and nothing extra shall be paid for the same.
- e) The broken glasses of the fire cabinets, if any will have to be replaced immediately. Glass shall be provided by HSC and labour charge for fixing the glass will be borne by the Contractor without any extra cost.
- f) The batteries will have to be properly maintained and kept in fully charged condition. Regular checking and toping with distilled water shall be the Contractor's responsibility only.

- g) The entire installation Fire Fighting Pumps / Installation shall have to be kept functional at all hours on automatic mode. The Contractor shall coordinate with all other agencies in this regard and render all assistance in conducting regular testing of the Fire Fighting System inclusive of sprinklers inside and outside yard hydrants by them etc.
- h) All gun metals, brass fittings/fixtures, hydrants glasses shall be kept neat, tidy, and free of dust and in perfect shines by frequent cleaning and use of brass etc.
- i) All the opera table fire extinguishers of all types shall be regularly checked, attended and kept fully charged with water/chemical and Co₂ etc. as required. Dispatch of these extinguishers for refilling by the manufacturers etc. shall be firm's responsibility.
- j) Any leakage of water or air in the pipe lines through its accessories shall be checked by the firm immediately. A welding set including welding accessories such as wire MCB etc. will, therefore, need to be kept handy at site by the Contractor for undertaking repairs to the leaking lines.
- k) The flow of water through system's pipe lines and ultimate discharge through hydrants/sprinklers/valves etc. shall have to be checked. The pipe lines, valves and other fixtures etc. needing touch ups with paints wherever required shall be done by the firm free of cost.
- l) The operation of the sump pumps shall have to be critically watched round the clock to avoid flooding of the areas either due to working of sprinklers in the event of the fire or severe leakage of water from pipe lines, or due to excessive intake in the sumps from outside areas or heavy rains etc.
- m) In case of any eventuality/emergency which does not occur on account of negligence of the working manpower such as bursting of water mains, firefighting mains, heavy leakages etc. the same will have to be attended within 24 hrs. The cost of materials thus used shall be reimbursed alongwith cartage by adding quoted percentage after due verification etc. Additional labour if needed shall be arranged by the Contractor on reimbursement basis.
- n) Contractor to continue with the existing authorized service provider i.e. M/s Kone for AMC of lifts, being proprietary item, during the contract period.

2. TENTATIVE REQUIREMENTS OF MANPOWER

a) Cleaning & sanitation services:

| Sl. No. | Category | Total Strength | Remarks |
|---------|---------------------------|----------------|----------------------------------|
| 1. | Supervisor (Semi-skilled) | 1 No. | General Shift (Six days a week) |
| 2. | Workers (Unskilled) | 14 Nos. | General Shift (six days a week) |

b) Horticulture works:

| Sl.. No. | Category | Total Strength | Remarks |
|----------|----------------------------|----------------|----------------------------------|
| 1. | Supervisor (Semi-Skilled) | 01 No. | General Shift (Six days a week) |
| 2. | Workers/Maali (Un-skilled) | 10 Nos. | General Shift (six days a week) |

c) Electrical Sub-station and Pumping Installations etc.:

| Sl. . No | Category | Total Strength | Remarks |
|----------|--|----------------|---|
| 1. | Site Engineer (Highly Skilled) | 1 | General Duty (Off- once a week) |
| 2. | Electrician (skilled) | 3.5 Nos | On round the clock duty (one in each shift) |
| 3. | Electrician with wireman license (skilled) | 3.5 Nos | On round the clock duty (one in each shift) |
| 4. | Pump Operator (skilled) | 3.5 Nos | On round the clock duty (one in each shift) |

| | | | |
|----|---------------------------|---------|---|
| 5. | Helper (Un-skilled) | 3.5 Nos | On round the clock duty (one in each shift) |
| 6. | Plumber (skilled) | 1 Nos | General Shift (6 days a week) |
| 7. | Leading Fireman (skilled) | 3.5 Nos | For manning fire control room on round the clock duty (one in each shift) |
| 8. | Lift men (semi skilled) | 2 | One in each lift General Duty |

Note :Number of manpower as mentioned above is only indicative and the actual number may depend upon circumstance and can vary in accordance with the requirement. No extra duty for unskilled and skilled shall be allowed except permitted by HSC.

SITE 2: ANDREWS GANJ PROJECT (AGP) (28°33'44" N 77°13'31" E

Andrews Ganj Project (AGP), is commercial complex with office spaces constructed and developed in South Delhi by HUDCO popularly known as HUDCO Place together with Amphitheater, 12 Blocks of Guest Houses and zonal green areas. The tender is for the services in the specified internal and external areas maintained by HSC on behalf of the Ministry of Housing and Urban Affairs on 17.6 acres community center land and 18 acre Zonal Green land.

2.1 SCOPE OF WORK

I. CLEANING & SANITATION SERVICES

The scope of work under this contract shall include arranging of manpower, material tools, equipment, transportation of garbage at all levels & leads, which may be required for the execution of work during the period of contract.

(i) Internal Area:

Complete internal floor areas of lower & upper Basement Car Parking including two toilets, Plant Room including Mezzanine Floor, Ramps, Staircases at all levels, all passages, rooms etc. (except APIL's & MTNL's Internal areas), A-2 Guest House and HSC Minar at all levels.

(ii) Cleaning of common areas of Guest House Cluster A-2.

(iii) External Areas:

All external areas over Basement Car Parking (excluding Ansal Plaza), Amphitheatre, Bridges, Walkways, Open Restaurant, approaches to 12 Blocks of Guest Houses, Roads, Open Drains, Footpaths, Parking Lots, Barriers, Signage's, Cultural Centre Site, Zonal Green Areas in Guest Houses Blocks etc.

(iv) External Sewerage System:

- (a) Maintenance & regular cleaning upto MCD connection and disposal of sludge etc. outside HSC Complex of Sewerage system for part of HSC Complex i.e. three occupied Guest Houses Block (A-2, A-5 and A-6), Shopping Arcade (Ansals Plaza).
- (b) Cleaning of grease traps of three Guest Houses (i.e. A-2, A-5 and A-6) and disposal of sludge outside HSC Place (Minimum once a month or whenever emergency arises).
- (c) In case of emergency due to any blockage in sewerage line/manhole, the cleaning job will be attended to on top priority.

(v) RAIN WATER DRAINAGE SYSTEM (17.6 Acres Community Centre and 18 Acres of Zonal Green)

Maintenance and regular cleaning upto the MCD connection of the entire rain/storm water system of HSC Place Complex in the open areas of Community Centre, Zonal Green and inside Basement Car Parking (Lower & Upper) including desilting of 09 Nos. of Sumps in the Basement Car Parking and Cascade including disposal of sludge/muck etc. outside HSC Place Complex. The schedule for maintenance shall be as under:

- (a) Manholes, sumps (7 Nos. in Car Parking Basement and one in Cascade and one in Pump House) and lines once in six months before and after rainy season.
- (b) Catch basin & covered drains – once in a month.
- (c) Drains around Ansal Plaza, Amphitheatre along Bridge and Pedestrian way of the Car Parking – twice a week.
- (d) In case of emergency due to any blockage in Rain Water Drainage System, the cleaning job will be attended on top priority.

(vi) SPRAY POND AND CASCADE SYSTEM

Brooming/ Cleaning of Spray Pond and Cascade System will be carried out once a month. But polythene bags, paper glass, loose litter etc. i.e. loose garbage will be removed on daily basis to keep them clean and disposal of garbage outside HSC Place Complex.

(vii) Hotel Site

Inside area and outside periphery shall be cleaned including all drainage, sewer pipes and manholes whenever necessary.

(viii) Miscellaneous

Any other misc. jobs not covered above pertaining to cleaning, sweeping, sanitation etc. within HSC complex and required at site to be done, as and when directed by Officer-in-charge.

(ix) Programme

| <u>Internal Areas:</u> | | |
|-------------------------------|--|--------------------|
| (i) | General cleaning & sweeping of the areas specified in the scope of work staircases (upper and lower car parking basement) to be swept and mopped | Daily |
| (ii) | Cleaning of common areas of Guest House Cluster, A-2 | Daily |
| (iii) | Mridul Tiles on side walls | As & when directed |
| (iv) | Acid / Harpic cleaning & scrubbing of toilets, W. C's, Urinals, wash-hand basins, floor & dado of the toilets including cleaning and wet mopping with phenyl (pengal Chemical/ clean so or equivalent make in container of 1 Ltr. /5 Ltr.) as approved by Engineer-in-charge | Twice a day |
| (v) | HSC Minar to be swept and mopped | Once a week |
| (vi) | Cleaning and dusting of doors, windows, ventilators, glasses, railing and signage system etc. | Once a week |
| (vii) | Removal of bird droppings, spider webs & other dirt etc. of floor, walls etc. | As & when directed |
| (viii) | Collection of garbage, litter, cans, bottles, polythene bags etc. from the areas mentioned under Scope of work, to avoid chokage in drainage system & its disposal to unobjectionable dumping area outside HSC Place and all areas shall be kept thoroughly cleaned. | Twice a day |

| | | |
|-------|---|----------------------|
| (ix) | Cleaning of floor basement both levels with chemical/detergent as directed by Engineer-in-charge | Monthly |
| (x) | Any other misc. jobs pertaining to cleaning | As & when directed |
| | <u>External Areas</u> | |
| (i) | General cleaning & sweeping of all external areas as specified in scope of work, cleaning of bird dropping dirt etc. in area | Daily |
| (ii) | Cleaning of signage boards, barriers and railing etc. | Once a week |
| (iii) | Collection of garbage, liter, cans, bottles, polythene bags etc. from the areas mentioned under Scope of work, to avoid chokage in drainage system and its disposal to unobjectionable dumping area outside HSC Place and all areas shall be kept thoroughly cleaned. | Twice a day |
| | <u>Amphitheatre</u> | |
| (i) | Cleaning of the floor viz red sand stone/kota stone/ stone masonry etc. with chemical/detergent as directed by Engineer | Monthly |
| (ii) | General cleaning of floor of Amphitheatre, sweeping & mopping | Daily |
| (iii) | Cleaning of signage board railing etc. | Once a week |
| (iv) | Collection of garbage, liter, cans, bottles, polythene bags etc. from the areas mentioned under Scope of work, to avoid chokage in drainage system and its disposal to unobjectionable dumping area outside HSC Place and all areas shall be kept thoroughly cleaned. | Twice a day |
| (v) | Cleaning of drains in Amphitheatre | As per scope of work |

II. Maintenance of Zonal Green Landscape and Horticulture Works (including Hotel Site, entrance, footpath of Gate No.1 & 2 and 3 Nos. of occupied Guest Houses, 9 Nos. unoccupied Guest Houses and Amphitheatre area) at HSC Place, Andrews Ganj, New Delhi.

A. The Scope of Work covers all the maintenance works of Zonal Green Area, Hotel Site, Landscape, Nursery, and day to day maintenance works within the campus and plantation on roads sides, boundary walls of the campus within periphery of the Complex.

i. The works comprises of high standard of maintenance of the Zonal Green area, tree plantation in green area and along the road, watering, fertilizing, Top dressing, plant protection from pests and disease, mowing and up keeping of lawns, kiaries, cutting and shaping of hedges, clipping shapes, creepers and climbers and also topiary works, rockeries, ornamental and flowering trees and other potted plants etc.

ii. Cleaning of terraces, balcony, connecting bridge, footpaths, walk ways, open drains, sitting benches, steps, plinth protection adjoining type VI flats etc. and removal and disposal of litter, garden refuse outside HSC Place Complex and keeping the garden neat and clean.

iii. Any other misc. job of horticulture nature required at site shall be carried out by the Contractor within the quoted amount.

iv. The tenderers are advised to ascertain the details of area covered under Scope before submitting tenders.

B. General Maintenance

The maintenance shall include watering, fertilizing, top dressing with sweet earth wherever directed, plant protection from pests and diseases, mowing and upkeep of lawns, sweeping and disposal of garden refuse, weeding and cultivation, cutting of edges, pruning and clipping of shrubs, trees, hedges, ground covers, topiary work and pruning. To check up raking periodical cutting and removal of wild growth from plantation areas, minor repair works etc. and all other landscape operations necessary for the proper growth of garden features and presenting a high / desired / satisfactory standard of maintenance throughout the period of contract.

C. Irrigation

- i. The Contractor shall be responsible for the daily watering of the landscape areas or if required during late hours also at his cost for labour and material (like hose pipes and garden sprinklers etc.). The running of water supply system will be the responsibility of HSC. The Contractor must ensure that unnecessary wastage of water does not occur at any time and must protect the irrigation fittings etc. from any damage due to mishandling or diggings in the garden. Any damage to existing irrigation works due to mishandling or negligence of the Contractor's staff will have to be made good by the Contractor at his cost.
- ii. The Contractor shall be responsible for washing / spraying trees, shrubs, footpath etc. and other plants with water as and when directed to do so. The cost of water used for the landscape works will be borne by HSC.

D. Manuring

The required good earth, manure, chemicals and fertilizers shall be procured by HSC as per site requirements etc. Contractor will provide manpower for spreading earth and manure and also for spraying chemicals and fertilizers etc. within quoted amount. The Contractor shall have to give the requirements of materials at least 30 days in advance for procurement.

E. Plant Protection

- i. Periodic checks are to be carried out for pests and diseases. In the event of infestation, prompt spraying of appropriate pesticides, fungicides etc. will be carried out for the eradication of the same.
- ii. Spraying of chemical / fertilizers is to be handled by trained staff in the field. The Contractor shall be held fully responsible for any damage caused to garden features by application of wrong chemicals, damage caused due to non-application of appropriate chemicals at proper time.
- iii. The spraying will be carried out by the Contractor as and when required and approved by Engineer-in-charge. Contractor will make arrangement for minimum 01 No. of manual / mechanical spraying machine in working condition at site within quoted amount.
- iv. The Contractor shall be held responsible for any mishap or injury to the staff handling insecticides and fungicides etc. The required insecticides, fungicides, chemicals etc. shall be procured by HSC and the other operations in regard to the plant protection shall be carried out by the Contractor very carefully. The Contractor shall have to give requirement of materials at least 30 days in advance for procurement.

F. Lawn Mowing and Sweeping

- i. Lawns should be mowed at regular intervals and grass should not be allowed to over grow under any circumstances. Trimming of grass, hedge and mowing margins with the help of garden sword / hedge sheer / edge sheer / khurpa etc. should be done immediately after mowing.
- ii. Cleaning of all the terraces, connecting bridge, footpaths, walk ways, open drains, sitting benches, steps, plinth protection adjoining type VI flats, the areas under the scope of work and daily clearing of litter by light garden refuse.

- iii. Disposal and removal of garden refuse (including loading and unloading) of all garden refuse, cut grass, cut/dry branches, malba including wastage etc. minimum 2 truck load in a week during lean period and minimum 2-3 truck load during peak season and removal to an unobjectionable dumping area outside HSC Place Complex by mechanical transport for which nothing extra shall be paid to the Contractor.
- iv. Cut grass / refuge shall not be left overnight in the garden area or near the garden or in nearby storm water drains. This shall be shifted to the garbage bin located near HSC office every evening and subsequently disposed of outside the HSC Complex.
- v. All the areas under the scope of work shall be kept thoroughly clean by removing litter, i.e. loose garbage, cans, bottles, glass, plates and polythene bags etc. to the garbage bin near HSC office with their subsequent disposal outside HSC Place Complex.

G. Pruning and Trimming

- i. Clippings and training of hedges, edges and trimming of shrubs, trees, creepers, bougainvillea etc. shall have to be done at regular intervals.
- ii. Stalking of plants / trees, wherever required and stalks and supports will be adjusted from time to time.
- iii. Pruning, cutting and clipping of deadwoods, water sprouts suckers shall be removed from hedges and trees to achieve formal and geometric shape.

H. Cultivation and Weeding

- i. Regular weeding and hoeing of lawns, ground covers, cutting of hedges of lawns and ground covers making basins of trees and shrub pits is to be done. The garden is to be kept free from weeds or alien plants. This operation must be carried out at frequent intervals throughout the year to keep the lawns neat and tidy all the year round.
- ii. Any addition, alteration, replacement to existing plant material due to change in planting schemes, landscape designs etc. shall be done by the Contractor. However, in the cost of plant material if required will be reimbursed by HSC on the basis of original vouchers from Govt. Nursery in support thereof, plus cartage and percentage (%) at par, below or above, as quoted by Contractor under the head utility services in the bid.

I. Material at site and stores

- i. HSC will provide a suitable place to store garden machinery, tools, chemicals etc. preferably within the vicinity of nursery. The Contractor must ensure that all garden machinery/tools/hose pipes / garden sprinklers and other garden tools etc. are removed from the site during off hours.
- ii. Any loss, damage to the machinery by any reasons including theft etc. shall be responsibility of the Contractor.

J. Repairs and Replacement

The Contractor shall carry out all minor repairs to garden features damaged due to digging in the area, negligent handling by the staff, excessive erosion caused by watering / rains and all replacement of plants that die during the period of maintenance or those that are unhealthy, unsightly or of impaired condition to be made good as soon as practicable after damage is evident. Any replacement / substitution suggested by the department shall be done by removal of existing plant material etc. making pits for new ones and actual planting, cost of the plants will be reimbursed by HSC on the basis of original vouchers from Govt. Nursery in support thereof, plus cartage and percentage (%) at par, below or above, as quoted by Contractor under the head utility services in the bid. Cartage will be paid as per actual. Newly replaced plants in any area should be protected from hot sun and

high winds and from frost etc.

K. Caring of Paths, Fountains etc.

- i. The Contractor must ensure that the paths, fountains, sprinklers and other hard landscape features in the garden area including electrical fittings and lights etc. are not damaged in any manner while carrying out landscape operations. If any damage is observed, the same will have to be made good by the Contractor at his own cost.
- ii. The Contractor must take adequate precautions to protect the edges of Krebs, paths and no petrol, oil or lubricant should spill over the grass / concrete area while operating / cleaning agriculture machinery.

L. Protection of Gardens

- i. The Contractor must take adequate precautions and handle the work carefully to protect the various garden features from damage by his staff and also protect the garden features from other agencies and vandalism. Signs Boards etc. fixed in the garden area must be protected from any damage by the garden staff.
- ii. The Contractor must report to HSC immediately occurrence of any damage to garden features by accident or other natural calamities.
- iii. The damage caused to the garden features by natural calamities and accidents will be made good by the Contractor by engaging existing labour for the maintenance work but the cost of plant material if required will be reimbursed by HSC on the basis of original voucher from Govt. Nursery in support thereof, plus cartage and percentage (%) at par, below or above, as quoted by Contractor under the head utility services in the bid. Removal of malba / damaged trees in that case will be the responsibility of the Contractor.

M. Right to collect plant material

- i. The right of propagation and multiplication of grass plants, seedling, seeds, fruit and flowers etc. rests with HSC.
- ii. The Contractor to dispose of garden waste in appropriate manner. However, is forbidden to remove, sell or gift any item from the garden area to any person or Organization without the prior written permission of HSC.

III. Operation and Maintenance of 2x2 MVA, 11/0.433KV Electric Sub-station including H.T. & L.T. Panels, Connecting bus ducts, cables, Distribution Boards etc. and internal electrical installations in car parking basement & external electrical installations at HUDCO Place, Andrews Ganj, New Delhi

A. Sub- Station Equipment

The Scope of work covers:

- a. Round the clock operation and maintenance of electric sub-station equipment such as BOCB 11 KV HT cablings, 3 panel HT Board, 2 MVA transformers, LT panel and panels in EMDB room including all accessories and cabling / bus ducts upto the fed switch boards as detailed in **Annexure -I**.
- b. The entire system of electric sub-station from the BSES metering panel to various medium voltage out going feeders upto the fed switch boards, whether specifically mentioned in the list of equipment or not shall be deemed to be covered under the scope of work.
- c. Testing and adjustment of all relays in the installation / panels.
- d. Periodic preventive maintenance of the electric sub-station equipment complete including cabling bus ducts etc. as per **Annexure-II**.

- e. Work of replacement of spare parts and general service of the equipment shall be covered under the scope of work. However, major service / overhauling of any equipment shall have to be got done through the manufacturers / their authorized dealers as per decision of the Engineer-in-charge whose decision shall be final and binding on the Contractor. Expenditure in such cases plus cartage and percentage (%) at par, below or above, as quoted by Contractor under the head utility services in the bid.
- f. Adjustment of relays and tap changing of transformers with reference to Supply Company's incoming voltage.
- g. Testing of the di-electric strength and dehydration of the oil in the OCB / other equipment, if any.
- h. Getting the Electrical installations inspected by Electrical Inspector if falls due. Fees for inspection shall be paid / reimbursed by HSC.
- i. Checking the performance of protection and interlocking system at regular intervals.
- j. Maintenance of BOCB, VCBs, Transformers as per manufacturer's maintenance manual and instructions.
- k. Spray painting with lettering of H.T. panels, L.T. panels, Bus ducts and transformers once a year only if required. However, paint shall be supplied by HSC free of cost.

B. D.G. Sets

- a. Periodical Testing of 2 Nos. D.G. Sets of 1000 KVA each complete including testing of allied equipment such as exhaust chimney, diesel transfer system with service and underground storage tanks, secondary cooling system of engines, earthing sets etc.
- b. The inventory of the D.G. sets package including allied equipment is available in **Annexure-I**.
- c. Mechanical & Electrical maintenance of both D.G. sets, their AMF panels (2 Nos.) and the Synchronizing panel shall be under the AMC with the manufacturers / their authorized service dealers as per their standard practice and Scope of Work.
- d. Painting of D.G. sets including Alternator and Day Tanks and exposed portion of underground tank cooling water pumps & fuel pumps once a year only if required. However, only paint shall be supplied by HSC free of cost.
- e. Periodic testing of oil fuel pumps near under ground oil storage tank.
- f. Periodic testing of cooling water pumps from D.G. AMF panel.
- g. Performing daily checks.
- h. Coordination with the Agency for "Hiring of DG sets for Drinking water Pumps, Car Parking Lights etc. and A-2 Guest House" so as to provide emergency supply within the least possible time.
- i. Supervision and coordination with the Agency for AMC of D.G. set.
- j. Operation & maintenance of 2 No's DG sets of 125 & 58.5 KVA proposed to be installed by HUDCO.

C. H.S.D.

- a. Transportation of HSD from nearby Petrol Pump to day tanks, if HSD required directly in the day tanks.

- b. Detection and rectification of leakage in the underground fuel tanks / pipes. The trench shall be opened and closed for repair by HSC if required. However, the cost of material plus cartage and percentage (%) at par, below or above, as quoted by Contractor under the head utility services in the bid shall be reimbursable to the Contractor.
- c. Receiving the HSD, keeping its account in the D.G. set Log Books and computing the consumption per hour every month or as and when required by the Engineer-in-charge.
- d. The equipment rooms such as panel rooms, transformer rooms, EMDB room etc. to be kept net and clean.
- e. Arrangement and Maintenance of the Log Books and other records for various equipment as per direction of the Engineer-in-charge.
- f. Detection of fault in the equipment / cable on surface installation including rectification and cutting of pucca floor / road by providing adequate work force. The cost of cable / material required shall be reimbursable with service charges by HSC. However, making good of pucca floor pavements / road etc. shall be done by the HSC.
- g. The hiring charges of pin point detecting equipment for defective underground cables shall be reimbursed with percentage (%) at par, below or above, as quoted by Contractor under the head utility services in the bid supported with original vouchers of payment. The decision of the Engineer-in-charge in respect of numbers of fault detection in a single cable shall be final and binding on the Contractor.
- h. Keeping necessary tools and instruments for maintenance at site.
- i. Checking the performance of protection system and interlocking system at regular intervals.
- j. Yearly checking and recording of resistance of earthing stations and earth continuity.
- k. Checking and recording of insulation of installation every six months.
- l. Renewal of any statutory approval in respect of Electrical Installation / D.G. sets if due. However, the fees shall be reimbursed by HSC, based on original Vouchers.

D. Internal / External Electrical Installations

- a. The subject work is to be carried out at HSC Place, an integrated urban design complex at Andrews Ganj area of south Delhi. The vital portions of the complex where installations exist consist of :
- b. Under ground Car Parking (upper & lower basement) with approaching ramps etc. with service areas excluding MTNL exchange room.
- c. Plant room areas
- d. EPABX and fire control room etc. in mezzanine floor in Car Parking basement.
- e. 12 Nos. guest houses in 2 clusters each having 6 blocks. Each 4 storeyed guest house block is a self – contained unit with an elevator, fire alarm / detection system's wiring, electric control distribution panel, telephone and antenna points.
- f. Illuminated landscape, zonal green areas.
- g. HSC Minar, Pump house meter room with 11 KV + BOCB room and Amphitheatre

E. General Maintenance

- a. The installations in unoccupied Guest Houses (to be periodically operated & maintained) generally consists of internal wiring work, carried out in recessed conduit, for lighting, light plugs, power plugs, TV antenna, telephone outlets and power points for FCU's. Fire alarm wiring has also been done in guest houses but detectors and response indicators are to be added by the occupants and the arrangement is hooked up from the zonal panels to the main control room located in upper basement car parking area. The lighting and fan point etc. are controlled from Piano switches, mounted on molded plates and / or in groups from the main / sub-distribution boards equipped with MCBs and ELCBs. The lighting fixtures of varying types have been used for functional performance.
- b. Details of the installations given in **Annexure-I** are only indicative and Contractors may acquaint themselves with actual provisions before submitting their bids.
- c. Scope of work covers operation and maintenance of the following :-
 - i. Internal E.I. round the clock operation of maintenance of Complete E.I. etc. In Car parking at 2 levels including fitting, fixtures, distribution Boards, sub-Mains and wiring, etc., with internal E.I. in ancillary areas.
 - ii. Complete internal E.I. etc. in Plant room Areas Meter Room and 11 KV BOCB Room, Blower Rooms in Car Parking Basement, Pump House, office.
 - iii. Periodic O&M of electrical installations in HSC Minar.
 - iv. Periodic O&M of E.I. in un-occupied 9 guest houses and GF of A2 Guest Houses which includes entire E.I. in stairs, corridors, terrace floors, lift machine room, AHU rooms etc. as required including fire alarm / detection, TV antenna, telephone wiring etc. with associated earthing system and also the main switch of the main LT panel and E.I. for lift, fire alarm detection system zonal panel in A5 Guest House.
- d. Operation & Maintenance of following External electrification :-
 - i. Nos. 4x400 watt sodium vapour lighting fixtures with poles, DBs and cabling (in HSC Place) along Khel Gaon Marg. These fixtures are at present not in use and shall remain in the inventory of the Contractor.
 - ii) 5 mtr. 125 watt HPMV light fixtures with poles in total 48 nos., DB and cabling with 31 Nos. bollards lights
 - iii) 24 Nos. Halogen flood gate lights at the gate of the 12 guest houses and light point on the terrace of each guest houses.
 - iv) Under water fittings installed / on inventory in spray ponds with DBs, transformers, wiring etc. Under water fittings in cascade and water fountain including bulk head fittings, its DBs and wiring and Sodium Vapour 70 watt light fixtures and incandescent lighting, in Amphitheatre, along Bridge, around Ansal Plaza with DBs and cabling etc.
 - v) 70 watt sodium vapour light fixtures with DB and cabling etc. in HSC Udhyan (Zonal Green area)
 - vi) Arrangements and Maintenance of the Log Books and other records as per the direction of the Engineer-in-charge.
 - vii) It is Contractor's responsibility of getting the electrical installations inspected by electrical inspector if falls due. Fees for inspection shall be paid / reimbursed by HSC.

- viii) Painting with lettering (if required) of distribution boards and all external light / compound light metallic poles once a year. Only paint shall be supplied by HSC.
- ix) Keeping necessary tools and instruments for maintenance at site.
- x) Yearly checking and recording of resistance of earthing stations and earth continuity.
- xi) Checking and recording of insulation of installation where required every six months.
- xii) Any other work relating to normal functioning of the installations not specifically mentioned above or in the special condition of contract, shall be deemed to be covered by this contract within the quoted cost.
- xiii) Preventive maintenance of the installations and maintaining its record.

IV. Fire Fighting and Pumping Installations - Operation / Testing and maintenance :

A. Inventory of Installation

- i) The inventory of installations for Fire Fighting System, Fire Alarm System, Co2 Flooding System, Portable Fire Extinguishers, Public Address System, Services such as Cascade Fountain System, Swimming Pool Equipment's etc. and Water Pumping System comprising of Hydro pneumatic drinking water system, Hydro pneumatic Garden Water System including Sprinklers System in Zonal Green, Tube well Water Pumping System and various other pumps and Water Treatment Plant installed in the Main Pump House for the above work is given in **Annexure-I**
- ii) The installation shall mean the entire system with all equipment's (electrical and mechanical), accessories, electrical control panels, necessary cabling/wiring, plumbing etc. complete whatsoever, whether specifically mentioned or not, shall be operated and maintained and kept functional round the clock both for working on Auto/Manual operation mode as required.

B. Scope of work

Certain component of systems, out of the following are not operational. Scope of work comprises of Operation/ Testing & Maintenances of the following which are operational as on date. Bidder shall conduct prior visit to inspect the site to understand the scope of actual work. However, bidder is to maintain inventory “as is where is basis” for all operation as well as non-operation part of installation :-

- (i) The fire fighting system comprising of 2 Nos. 150 HP electrical pumps, 1No. Diesel driven pumping set of 287 HP, 1No. Jockey pump of 25 HP, entire piping of ring main, inside car parking including sprinkler system in car parking basement (upper and lower) and up to the tapping points for the sprinkler hydrants and Fire hydrants of M/s. APIL in the Car Parking Basement. The system includes external hydrants in the entire campus of HSC Place, Community Centre including 2 way / 4 way fire brigade inlet and collecting heads and accessories and internal fire hydrants inside car parking basement and all the 12 Guest Houses with necessary accessories complete.
- (ii) Deluge system for car parking basement and transformer rooms in plant room.
- (iii) Fire alarm system comprising of a main fire alarm control panel installed in the fire control room including the maintenance of connecting control cables from the LCP/Zonal panels of 12 Guest Houses terminating in the fire control room complete with batteries for alternative power supply.
- (iv) Complete existing Co2 Flooding System for the electrical equipment's/panels in the plant room area including Co2 Flooding System Control Panel in the Fire Control Room with batteries, plumbing, wiring etc. complete.

- (v) Flow Switch control panel installed in the Fire control room complete with batteries and control wiring etc.
- (vi) Additional fire detection system in the plant room and mezzanine floor.
- (vii) Portable Fire Extinguishers installed in the plant room area in car parking basement and in the fire hydrants cabinets of external areas of all the Guest Houses of Cluster "A" and "B", LDO / HSD Store Yard Area, Minar and pump houses etc.
- (viii) Public Address System comprising of various speakers in Car Parking Basement, mike and amplifiers installed in the fire control room with batteries etc. complete.
- (ix) Cascade and fountain system comprising of 6 Nos. 20 HP Pumps, 2 Nos. 1 H.P. Pump and electrical panel and necessary connected water headers, accessories and nozzles etc. including dewatering of sump and cascade floors.
- (x) Operation / Testing of Cascade System, Swimming Equipment / System once a month including dewatering of sump of swimming pool pump, to the satisfaction of Engineering/ In charge.
- (xi) Hydro pneumatic system for treated / MCD drinking water consisting of 3 Nos. 40 HP Pump Sets, 2 Nos. 15 HP Pump Sets with necessary Air Compressors and Pressure Tank for supplying the water to all the Guest Houses, HSC Office, HSC Minar, Toilets, Air Washer etc. in the Car Parking Basement with necessary piping and accessories etc. including water line upto sluice valve fixed in the branch line for feeding type VI quarters.
- (xii) Hydro pneumatic system for garden water supply consisting of 3 Nos. 10 HP Pump Sets, Air Compressors and Pressure Tank etc. with necessary Plumbing and Sprinklers in the Zonal Green Area of HSC Place Campus including Basement Car Parking, Hotel Site, Cultural Centre Site and around 12 Blocks Guest Houses etc.
- (xiii) 5 Nos. Tube wells having 6 HP Pump Sets with necessary pipe line, cabling, electrical control panels etc. but excluding the lifting and lowering of tube well pumps in the tube wells as and when required.
- (xiv) Other Pump Sets such as 3 Nos. Raw Water Pumps of 10 HP each, 3 Nos. A.C. and Boiler Pumps of 5 HP each, Submersible Pumps 2 Nos. in Main Pump House and one in Spray Pond Pump House with necessary Cabling, Plumbing and electrical panel etc. including sweeping and cleaning in the Pump House.
- (xv) 2x9 Nos. Anti Flooding Pumps installed in 9 Sumps located at different places inside Car Parking Basement (Lower Basement) but excluding desalting of sumps as and when required. In case failure of Main power supply, Contractor will provide standby diesel pump along with piping system upto nearest manhole.
- (xvi) Water Treatment and Filtration System comprising of 2 Nos. M.S. Pressure Filters, 2 Nos. Water Softeners of 500 PPM Hardness and of capacity of 1.17 lakhs LPH and 1 No. Water Softener of 402 LPM capacity, chemical dozers for chlorination of Tube well water, 2 Nos. Brine Tanks, 1 No. RCC Tank with Air Blowers etc. complete excluding desalting and disposal from the sump in pump house. Arrangement of any Pump for dewatering and piping system if required for the purpose shall be made by the Contractor without charging extra.
- (xvii) All water main and plumbing work (in ground, under floors or on wall / ceiling) in Car Parking and Plant Room area including water main, feeding to Scrubber, Boiler Tank, Cascade, Spray Pond and Air washers etc. including Water supply mains from the ring main around cluster "A" and "B" upto the plant room (in each Guest House) including all lines, fixtures, control valves and water lines to AHU's / Scrubber Air washers / heat exchangers. The entire run of the hot water line from calorifiers

running inside the plant room shall be maintained by the Contractor within scope of work in coordination with other agencies responsible to run other services.

- (xviii) Make up water lines and fixtures etc. feeding the expansion tank installed on the terrace of Guest house B-5.
- (xix) Water lines, water meter, valves and accessories etc. from the MCD water connection upto HSC underground tanks.
- (xx) Dewatering / Filling of Spray Pond including necessary pump / piping system and electric wire for connection etc. as and when required.

(xxi) The Contractor will have to provide round the clock operation and maintenance of services.

C. H.S.D.

- i. Transportation of HSD from nearby petrol pump to service tank shall be arranged by the Contractor, as and when required for Diesel Fire Pump .
- ii. Receiving the HSD, keeping its account for Diesel engine of fire pump Log Book and computing the consumption per hour every month or as and when required by Engineer-in-charge.
- iii. The staff shall work in shifts as per clause / Para-1 of Special Conditions of contract. Their relieving staff as required for rest / leave / holidays shall be arranged by the Contractor within the contract amount.
- iv. Arrangement and Maintenance of the log books and other records for various equipment as per direction of the Engineer-in-charge.
- v. Detection of fault in the equipment/cable on surface installation including rectification and cutting of pucca floor/road by providing adequate work force. The cost of cable/material required shall be reimbursable with service charges by HSC.
- vi. Keeping necessary tools and instruments for maintenance at site.

V. Operation and Maintenance of ventilation/cooling system of Plant Room in car parking basement and Ventilation/Exhaust System for Basement Car Parking at Hudco Place, Andrews Ganj, New Delhi

A. Scope of Work

Operation of ventilation / cooling system (Air washer) for the Plant Room in car parking basement at HUDCO Place to the entire satisfaction and as required by the HSC Engineer- in-charge.

B. Broad works to be undertaken during O&M :

- i. Contractor shall plan and implement all routine and preventive maintenance schedules to be drawn by him and approved by HSC. This shall be done every fortnight.
- ii. Contractor shall ensure proper sweeping and cleaning of all ventilation rooms.
- iii. Periodic checking & cleaning of the vertical exhaust in-take risers.

- iv. Periodical lubrication and greasing of bearings etc. shall have to be undertaken by the contractor to avoid damage to the moving parts.
- v. All fresh air and other grills / diffusers shall be periodically moved adjusted and kept free from the dust and rust.
- vi. Performance and working of all fire dampers shall be watched regularly on quarterly / half yearly basis.
- vii. Minor painting work to avoid rusting of the pipes, vertical exhaust risers, body of the blower, blower fans, etc. However, paint shall be arranged by HSC.
- viii. Cleaning of all main electric panels and sub-distribution panels controlling the ventilation system, FCU's etc. both from inside and outside shall be periodically undertaken with routine checks.

B. Preventive Maintenance Schedule: AIR WASHER SYSTEM

a DAILY

- (i) Checking of water level.
- (ii) Checking of air washer panel (relay & connector).
- (iii) Checking of "V" Belt.
- (iv) Checking of current (amp) of water pump motor.
- (v) Maintain of Logbook.

b WEEKLY

- (i) Checking of all foundation bolts of air blower and water pump.
- (ii) Cleaning of air filter.
- (iii) Cleaning of water filter.

c MONTHLY

- (i) Cleaning of all water spray nozzles.
- (ii) Cleaning of water storage tank.
- (iii) Cleaning of points.

d YEARLY

- i. Descaling of nozzle and piping.
- ii. Servicing of water pump and air blower motor.
- iii. Cleaning of water filter with chemical.

2.2 TENTATIVE REQUIREMENT OF MANPOWER

(i) Cleaning & Sanitation Services :

| Sr. No. | Category | Total Strength | Remarks |
|----------------|---------------------------|-----------------------|----------------------------------|
| 1. | Supervisor (Semi-skilled) | 1 No. | General Shift (Six days a week) |
| 2. | Workers (Unskilled) | 12 Nos. | General Shift (six days a week) |

(ii) Horticulture Services :

| Sr. No. | Category | Total Strength | Remarks |
|----------------|----------------------------|-----------------------|----------------------------------|
| 1. | Supervisor (Semi-Skilled) | 01 No. | General Shift (Six days a week) |
| 2. | Workers/Maali (Un-skilled) | 16 Nos. | General Shift (six days a week) |

(iii) Electric sub-station, fire-fighting and pumping installation

| Sr. No | Category | Total Strength | Remarks |
|--------|--|----------------|---|
| 1 | Site Engineer (Highly Skilled) | 1 | General Duty (Off- once a week) |
| 2 | Electrician (skilled) | 3.5 Nos | On round the clock duty (one in each shift) |
| 3 | Electrician with wireman license (skilled) | 3.5 Nos | On round the clock duty (one in each shift) |
| 4 | Pump Operator (skilled) | 3.5 Nos | On round the clock duty (one in each shift) |
| 5 | Helper (Un-skilled) | 3.5 Nos | On round the clock duty (one in each shift) |
| 6 | Plumber (skilled) | 1 Nos | General Shift (6 days a week) |
| 7 | Leading Fireman (skilled) | 3.5 Nos | For manning fire control room on round the clock duty (one in each shift) |

SUMMARY OF TOTAL TENTATIVE REQUIREMENT OF MANPOWER, QUALIFICATION, EXPERIENCE ETC.

| SL. No | Description of manpower | Qualification / Experience | | | Remarks |
|--------|--|----------------------------|-------------|-----------|---|
| | | AKB | AGP | Total | |
| 1. | Site Engineer (Highly Skilled) | | | | |
| 1.1 | Electrical/ Mechanical | 1 | 1 | 2 | Degree in Electrical/ Mechanical Engineering with minimum three years' experience or Diploma Engineer with 5 years' experience in O&M of Sub-station, Pump House, E.I. etc. |
| 2 | Electrician (skilled) | | | | |
| 2.1 | Electrician (station operator) | 3.5 | 3.5 | 7 | Two years regular ITI in electrician trade with minimum 3 years' experience in O & M of sub-station, pump house, D.G Set and EI works Etc. |
| 2.2 | Electrician with wireman license (sub-station operator) | 3.5 | 3.5 | 7 | Two years regular ITI in electrician trade with wireman license and minimum 2 years' experience in O & M of sub-station, pump house, D.G Set and EI works Etc. |
| 2.3 | Pump operator | 3.5 | 3.5 | 7 | Two years regular ITI in mechanical (fitter) with minimum 3 years' experience in O & M of pump house etc. |
| 2.4 | Leading Fireman | 3.5 | 3.5 | 7 | One year Fire-Fighting course from any Govt. recognized Institute with 2 years of experience. |
| 2.5 | Plumber | 1 | 1 | 2 | ITI in Plumbing from Recognized Institute with 3 years of experience in relevant field. |
| 3 | Supervisor (SS) | | | | |
| 3.1 | Supervisor | 2 | 2 | 4 | 10 th passed with 3 years similar experience. |
| 3.2 | Lift man | 2 | - | 2 | 10 th passed with 2 years' experience in related field. |
| 4 | Helper/ workers/ Malli (US) | 27.5 | 31.5 | 59 | 1 year experience in related field. |
| | Total | 47.5 | 49.5 | 97 | -do- |

Note: i. Manpower of any head can be deputed at any property, depending upon requirement / exigencies.
ii. Above requirement is tentative with margin of 10% deviation, depending upon requirement / exigencies.

**SITE 3: RESIDENTIAL FLATS AT JANGPURA EXTENSION & AGVC INCLUDING
HSMI HOSTEL BLOCK (28°34'48" N 77°14'41" E & 28°32'53" N 77°13'5" E)**

- i. HUDCO has its 6 HIG residential flats at Jangpura Extension and 26 HIG flats at AGVC Khel Gaon, New Delhi for accommodation of its Senior Officers. The total built-up area of Jangpura flats is 910.62 sqm. and AGVC flats is 3630.67 sqm. Jangpura flats are G+2 storied and the AGVC flats are G+3 storied.
- ii. It is understood that there would be routine minor repair and maintenance (civil / electrical) works for which labour as well as raw material would be required. Material required for routine minor repair and maintenance works shall be procured by the Contractor on need basis. Artisans/Labour for such minor civil works is to be hired from market whereas electrical works are to be carried out with the manpower available in sub-station contract. The petty expense register shall be maintained for records and bills to be raised monthly shall be processed by HSC as per its procedure. The agreed margin, as per NIT, shall be payable to Contractor on actual cost basis.
- iii. Currently the procedure followed for small day to day repair / maintenance issues is attending complaint received in WA (what's app) group formed for each of the properties or on HSC mail, from the allottees / occupants. The complaint resolution is done by the assigned person / team as per internal allocation of work in HSC and with response from complainant the matter gets closed. Similarly, on the request for purchase of item or specific urgent task, HSC executes the assignment based on internal circular.
- iv. In case of allotment of flat due to transfer posting, a Committee is formed for assessment of the essential works needed where HUDCO official is also a member. The tentative cost of works, as suggested by Committee is derived by preparation of estimates based on prevailing DSR or Market rates and after due administrative approval tender is invited, as per internal policy of HSC.
- v. The specifications for various items of work are mainly guided by the CPWD Specifications and Maintenance Manual. However, for non-scheduled items, 3 spot quotations or visit by committee is adopted for analyzing the rates.
- vi. As a policy there is no system of mobilization advance to the Contractors while if the bills are running above Rs. 3 lacs then payment of Running bill is considered. The monitoring, measurement and verification of work is done by HSC while HUDCO representative does random checks as per requirement. The final bill is raised with complete details of estimated and actual and deviation statement due to change in any scope of work or substitution of item. HSC hold 5% security deductions for defect liability period which is released on satisfactory completion of DLP and submission of no dues certificate by the Contractors alongwith PBG. Statutory deductions are made as per Govt of India norms.
- vii. Contractor also to arrange cleaning (mechanically/manually) of underground/ overhead water tanks, as and when required. The actual cost incurred on labour, chemical, T&P etc., would be reimbursed. Any major renovation / redevelopment work shall be managed separately, as per extant procedure of HSC.

SECTION – V:

SPECIAL CONDITIONS OF CONTRACT

SECTION – V: SPECIAL CONDITIONS OF CONTRACT

(1) The number of workers indicated in the tender documents include relievers for providing weekly off. Therefore, no separate payment towards relievers shall be payable to the Contractor.

(2) Specialized technician for fire alarm and public address system shall visit once in a fortnight for full day and shall submit inspection report to Engineer-in-charge. The amount will be paid by the Contractor within the quoted amount and nothing extra shall be paid for the same.

(3) Instructions and Notices:

All notices to be given on behalf of HSC and all other actions to be taken on its behalf may be given by the Engineer-In charge of HSC or any officer authorized by ED, HSC.

(4) Identity Cards :

The Contractor shall make arrangement to issue identity cards to each of the workmen and staff for entry into the premises. The identity cards shall be issued by the Contractor at his own cost in coordination with HSC. Security and staff shall be at liberty to exercise check on any of the workers, while entering, search them in the premises during work and while leaving the premises. However, the Contractor will have to submit to ED, HSC the following details:-

- i. Name
- ii. Father's Name
- iii. Age
- iv. Address
- Permanent:
- Local:
- v. Nearest Police Station for
- Permanent
- Local
- vi. Experience and qualifications

(5) A complete list of workers/Supervisor together with detailed bio-data, photographs and Police Clearance Certificate (PCC) etc. should be submitted to HSC before they are employed. Changes should be informed to E.D., HSC as & when they take place along with PCC.

(6) The Contractor will, prior to the commencement of the operation of contract, make available to E.D., HSC, the particulars of all the employees who will be employed, such particulars inter-alia should include age, date of birth, Phone No., permanent address of the employees along with Police clearance certificate.

(7) In case of any accident to the personnel employed by the agency during 24 hours the agency alone is liable to pay workmen's compensation and any other statutory dues or payments and HSC is not liable for any liability/payment of such kind.

(8) In case of theft or damage, Contractor shall replace items lost, broken or damage with items of the same quality at his own cost and expense.

(9) There is no police case/vigilance enquiry pending against any of the partners of the firms or sole proprietor or Company as the case may be.

(10) On any given day, if any of Contractor's personnel deployed under the contract is (are) absent or fails to report in time, the Contractor must provide a suitable substitute in time, for this purpose the Contractor must monitor on a daily basis the sanction of leave to the staff deployed.

(11) The Contractor has to provide uniforms and the cost for the same shall be borne by the Contractor within quoted amount (administrative charges). Nothing extra shall be paid on this account.

(12) The consumable items, T&P and disposal of garbage (as per details given in Annexure-...) shall be provided by the Contractor within quoted amount (administrative charges) and nothing extra shall be paid.

(13) The administrative issues like leave, weekly off, discipline etc. of the workers are responsibility of the Contractor.

(14) The Agency shall deploy supervisor/workers after medical examination at its own cost and medical certificate is to be submitted with HSC at the time of deployment.

(15) **Weekly Day of Rest :** An employee (Supervisor/workers) in a scheduled employment in respect of which minimum rates of wages have been fixed under the Act, shall be allowed a day of rest every week (hereinafter referred to as “the rest day”) which shall ordinarily be Sunday but the employer may fix any other day of the week as the rest day for an employee.

(16) HSC shall have a right to get any worker removed who is considered to be undesirable at the sole discretion of the HSC. Any changes in the personnel provided by the Contractor shall be made after due approval by HSC.

(17) For any leave / off to deployed staff shall be arranged by the Contractor within the contract amount and nothing extra shall be paid.

(18) In case, additional manpower is required the same shall be provided by the Contractor in addition to the said manpower the same shall be reimbursed as per Terms &Conditions of contract.

(19) List of personnel employed by the Contractor along with their qualifications and experience will be made available to HSC, within 15 days of the commencement of the contract. In case of any change of approved deployed staff, details about the new substitute staff shall be immediately made available to HSC. The Contractor shall be abide by the decision of the Engineer-in-charge for deployment/change of staff.

(20) PENALTY

- i. Non-availability of manpower / absence will attract deduction of Wages plus other elements i.e. PF, ESI, Bonus, Leave Etc. for the number of days the Worker/Supervisor will absent in addition to this deduction will be made of Rs.300/- per day for skilled, Rs.200/- for Semi-skilled, Rs.150/- per day for the unskilled worker and Rs.400/- for Engineer/Supervisor and Rs.1,000/-per visit for specialized Technician.
- ii. In the event of delay in attending / rectification of the faults in the system or its part for a continuous period of more than 8 hours, the penalty equal to 1% of the monthly contract value shall be imposed. The decision of the Engineer-in-charge to impose the penalty will be final and binding on the Contractor.
- iii. **Uniforms:** All the staff deployed at site shall be in uniform. The uniform shall comprise shirt & trouser throughout the year with additional jacket/jersey in winter, with a badge on the pocket indicating name of company etc., In case of default a penalty @ **Rs.75/-** per worker/day shall be levied and recovered from the monthly bill. The uniform to be provided shall be of 2 pairs of shirt and trouser/pant for summer & 2 pair of woolen jersey for winter, 1 pair of safety shoes (Branded company), 2 pair of socks. The uniform quality & colors strictly needs to be approved by HSC.

(21) Contractor shall be allowed free use of water and electricity in the complex for bonafide use and performance of the contract.

- (22) In case of any accident / damage etc. caused due to the negligence of the staff deployed by the Contractor, the loss shall have to be made good by the Contractor.
- (23) The Contractor will have to organize adequate work force immediately undertake repairs, breakdowns, maintenance etc., as and when it occurs, or in the next general shift, to ensure uninterrupted services. If more staff or additional categories, than stipulated, are required for efficient working and or to meet exigencies of breakdown/emergency maintenance works, or to handle heavy equipment, the same will be provided by the Contractor on reimbursable basis plus administrative charges, as quoted by the Contractor.
- (24) Attendance register will be maintained by the Contractor's Site Engineer, which shall be made available to HSC Engineers for perusal, as and when asked for.
- (25) Contractor's Supervisor for operation and maintenance at the site shall report to designated officer of HSC, on daily basis and brief the status report of the installations/equipment.
- (26) The Contractor shall be fully responsible for smooth taking over as well as handing over of the work from & to other agency on starting/or expiry/termination of the contract. He shall be responsible & also settle all issues viz. retrenchment benefits. P/F, Gratuity, Livery, Bonus, Leaves. ESI etc. pertaining to currency of his contract to his workers as per law & acknowledgement submitted to HSC.
- (27) All the personnel employees and staff so appointed by the Contractor for the purposes of this contract will be appointed by the Contractor at his sole and own risk only after thorough medical examination. If any of such staff, employees or other persons is not found to be medically fit, prior to or during the course of his employment by the Contractor then the Contractor shall not employ or engage them and HSC shall have the right to refuse admission of such staff employees or persons into the office premises.
- (28) Contractor shall ensure that the services are provided for minimum 48 hours per week (minimum 6 days per week), and excluding applicable lunch period of half an hour per day be ensured. The staff should be available when called during the day. The workers will be allowed annually leave on National Holidays (i.e. 26th January, 15th August and 2nd October) and on major festival in North India such as Diwali, Holi and Id etc. subject to approval of E.D., HSC. They will get one day rest once a week as per site requirement. The general duty timing is 9.00 AM to 5.30 PM with half an hour lunch, however in any exigency any number of workers can be called on duty, any time.
- (29) Supervising staff over the manpower deployed shall be available at site to take instructions from time to time for smooth execution of work and ensuring close co-ordination with HSC.
- (30) Unless otherwise specified elsewhere, the reimbursement of repair job / replacement of parts shall be made to the Contractor as follows:
 - a. Repair job / replacement of parts shall be carried out by the Contractor as far as possible at site. The decision of the Engineer-in-charge shall be final in that regard. The reimbursement shall be made on actual cost basis supported with original vouchers (including GST) for the material thus procured plus administrative charges, as quoted by the Contractor. Cartage shall be paid as per actual.
 - b. If the repair has to be carried out at workshop by the third party requiring the transportation of equipment / part / machine. The reimbursement shall be made on the basis of original voucher in token of payment made by the Contractor to the third party plus administrative charges as quoted by the Contractor. The transportation charges for carriage to and from shall be paid as per actual. Rewinding the motors and specialized repair job etc. shall be covered under this clause.
- (31) The servicing & testing of Vacuum Circuit Breaker (Make: Crompton Greaves Ltd., 630 Amp.), Air Circuit Breaker (Make : G.E./L&T, 800-1000 Amp Range) and O/C and E/F relays (Make : Alstom/English Electric) shall be carried out once a year by the Contractor through the authorized

service agency, the reimbursement shall be made on actual cost basis supported with original vouchers (including GST) for the material thus procured plus administrative charges as quoted by the Contractor. Cartage shall be paid as per actual. The decision of the Engineer-in-charge shall be final in this regard.

- (32) All electrical contact points of switches, Contractor's cutouts and other joints in the electrical panels shall have to be kept fully tightened. All the electrical panels shall have to be kept properly cleaned both from inside and outside.
- (33) The test like insulation and earth resistance etc. shall be carried out periodically and results of all such tests and daily working, repairing etc. shall be maintained and shown HSC's Engineer- in-charge. Registers required for such and other records including daily log books, complaints books shall have to be purchased and cost borne by the Contractor.
- (34) Contractor shall be allowed free use of water and electricity in the complex for Bonafide use and performance of the contract.
- (35) After complete study of the installations, equipment's, the Contractor shall give list of spare or other materials required, if any, for maintaining the installations and to be arranged by the Contractor or HSC as the case maybe.
- (36) The Contractor shall prepare normal / preventive maintenance schedule for each types of installations, indicating the items to be checked daily, weekly, monthly, quarterly, yearly in line with general requirements and recommendations of the manufacture of the equipment as per their O&M manuals and get the same approved from the Engineer-in-charge and implement the same. However, a maintenance schedule is given to be followed.
- (37) The Contractor shall maintain the records of all replacement of defective, worn out parts, fixtures etc. by keeping material store tidy and all accounts shall be kept up to date till handed over to Engineer-in-charge, HSC Such unserviceable material shall be the property of HSC.
- (38) Replacements / repair / rectification and any such work shall have to be carried out as per directions of Engineer-in-charge to his entire satisfaction.
- (39) Any breakdown in installations leading to failure of electric supply in the complex shall be attended immediately and restored on top most priority.
- (40) All works under, and in course of execution shall at all times be open to inspection and supervision of the HSC's Engineer-in-charge or his authorized subordinate. Order given to the Contractor agents shall be considered as if these have been given to the Contractor.
- (41) In case of any accident / damage etc. caused due to the negligence of the staff deployed by the Contractor, the loss shall have to be made good by the Contractor.
- (42) The entire work shall have to be carried out in complete co-ordinate with the security and other working agencies. Any damage to the equipment's belonging to the other agencies shall have to be made good by the firm at, his own cost.
- (43) The Contractor shall have to ensure that power distributed by them in the campus is evenly balanced on all the three phases failing to which or because of it, if any damage occurs it is Contractor's responsibility to make it good at his own cost.
- (44) Safe custody of the entire installations shall be Firm's responsibility. However, the security staff deployed by the HSC shall assist them to guard the Installations round the clock against theft / loss / damage wherever possible.

- (45) Detection of faults in the equipment / cable on surface installation including rectification by providing adequate workforce shall be the responsibility of the Contractor. The cost of cable / material required shall be reimbursable with service charges by HSC. However, cutting of pucca floor pavement / road etc. and its making good shall be done by the HSC.
- (46) The Hiring charges of pinpoint detecting equipment for defective underground cables shall be reimbursed alongwith administrative charges as quoted by the Contractor supported with original voucher of payment. The decision of the Engineer- in-charge in respect of number of detections in a single cable shall be final and binding on the Contractor.
- (47) Various reports such as preventive maintenance, breakdown of electricity supply, list of complaints Maintenance Programs for the next month etc. shall be submitted to the satisfaction of Engineer-in-charge along with the monthly bills.
- (48) Misuse of HSD, any missing of pilferage of HSD due to Contractor's negligence shall be recoverable from them. The decision of the Engineer-in-charge shall be final and binding on the Contractor in this regard.
- (49) Overhauling of ACBs and VCBs shall be arranged and got done through the manufacturer / their authorized dealer for which the reimbursement shall be made HSC based on original vouchers plus administrative charges as quoted by the Contractor.
- (50) The batteries of fire Alarm panel of the building will have to be properly maintained and kept in fully charged condition. Regular checking and toping with distilled water shall be the firm's responsibility.
- (51) The Contractor shall ensure that the fire detection system's wiring work, manual call points, zonal control panel remain functional round the clock and meet the requirement generally stressed by local fire authorities.
- (52) The Contractor shall assist HSC and other users of the offices in installation of the detectors both below and above the fall ceiling areas to get the response indicators, on the wired system as and when the same are occupied. While all such fixtures shall be arranged directly by HSC / Allottees, contracting agency's role shall be to keep and make available the wired points fully functional and free from any open or short circuits.
- (53) Regular cleaning of all the lighting and other fittings / fixtures and their covers etc. shall be undertaken periodically and the same shall be kept free from dust and vermin's.
- (54) All main, sub-main and distribution / sub-distribution boards shall be kept clean by using a vacuum cleaner or air blowers.
- (55) The Contractor shall be responsible to hand over the entire installations or its part of the Guest Houses, as the case may be, in perfect working conditions to the allottees with full testing records etc. as required.
- (56) Number of Substation and E.I service manpower as mentioned are only indicative and the actual number may depend upon circumstance which may vary in accordance with the requirement.
- (57) The Agency shall be responsible for obtaining NOC from the Delhi Fire Services. Fees shall be paid by HSC.
- (58) The authorized representative of the Agency shall report at site/HSC office periodically within 24 hours on communication by HSC in-charge.
- (59) The Contractor shall handover the equipment as per inventory in perfect running/working order to the HSC/incoming Contractor appointed by HSC, at the expiry of the contract.

- (60) The Contractor shall be fully responsible for smooth taking over as well as handing over of the work from & to other agency on starting/or expiry/termination of the contract. He shall be responsible & also settle all issues viz. retrenchment benefits. P/F, Gratuity, Livery, Bonus, Leaves. ESI etc. Pertaining to currency of his contract to his workers as per law & acknowledgement submitted to HSC. On furnishing the document affidavit in this regard security deposit shall be refunded by HSC.
- (61) For services of left out jobs, an opportunity shall have to be taken after office hours or on any other holiday. Additional manpower shall be deployed at no extra cost to make up the lost time & finish the work to required standard failing which deductions shall be made from the bills at appropriate rates.
- (62) Supervising staff over the manpower deployed shall be available at site to take instruction from time to time for smooth execution of work and ensuring close coordination with HSC.
- (63) **Telephone Facility :** HSC shall provide one landline telephone connection in Sub-station at HUDCO Place, Andrews Ganj, New Delhi for communication purposes. The periodic bills for this phone shall be paid by the Contractor to Airtel before expiring of the due date. The expenditure on telephone facility shall be met out by Contractor from administrative charges quoted. HSC shall pay nothing extra for the same.

Note: Scope of work under various heads shall have to be read with General Terms and Special Conditions of contract. In case of discrepancy between the two, more stringent condition will apply.

LIST OF FORMS

Form A

Letter of Bid

(On BIDDER's letter head)

From:

Date:

Telephone Number----- Fax Number

E-mail ID -----

To

Executive Director
Habitat Service Center
HUDCO Place, Andrews Ganj
New Delhi 110 049

Sub : Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO's properties situated in Delhi/ NCR

Sir/Madam,

Pursuant to the notice inviting e-tender No **NIT No. HSC/AG/AK/CT/501/2024/271** Dated: 27.08.2024 on the subject above, we hereby submit our Offer to HSC for carrying out the above-mentioned assignment, we have thoroughly read and understood the NIT. Submission of Offer will not devolve any right on us to be considered for selection.

We agree to keep this offer of ours open for acceptance by HSC up to 75 days after opening of technical bid and agree not to revoke our offer at any time during such period.

As required, Rs 5,900/- towards cost of tender documents (non-refundable) and EMD of Rs. 6.65 lakh have been deposited in HSC e-wizard online account through e-mode and receipt thereof is furnished in Envelope No.1, as evidence of deposit of the same or submitted copy of MSME registration & NSIC Certificate.

Yours faithfully,
(Name & designation of the person signing with office seal)

Form B

Particulars of the BIDDER
(On BIDDER's letter head)

Ref: **NIT No. HSC/AG/AK/CT/501/2024/271** Dated: 27.08.2024

| | | |
|-----|---|--|
| 1. | Name of The Firm: | |
| 2. | Registered Office (with address, telephone No. & e-mail): | |
| 3. | Executing Office (with address, telephone No. & e-mail): | |
| 4. | Registration No./Incorporation of The Company (Document to Be Attached): | |
| 5. | Name and address of partner/Director with mobile No. | |
| 6. | PAN No. (In case of proprietor/partnership firm, Aadhar card of proprietor/partner also to be attached): | |
| a. | GST Registration No. (Document to Be Attached) | |
| 7. | Constitution of Contractor FIRM/ Legal Status: | |
| 8. | Registration with Govt. Departments/PSUs/ Govt. Banks (copies to be enclosed): | |
| 9. | EPF Certification & ESI Registration along with 6 months ECR and challans upto June, 2024 and Electrical Contractor License(Document to be attached) | |
| 10. | Main Business Activities: | |
| 11. | Details of Main Branches in India | |
| a. | Undertaking in form of Affidavit (Annexure-F) | |
| 12. | The net worth of the bidder in last three financial years should not have been eroded by 30%. | The certificate from Registered CA shall be submitted with UDIN. |
| 13. | Please mention turnover and Net Profit/Loss for last three years and enclose the copies of Balance Sheet in support of it. | |
| 14. | Details of Authorized Contact Person | |
| | Name: | |
| | Designation: | |
| | Contact Tel.: | |
| | Mobile No.: | |
| | Alternate No.: | |
| | Fax No.: | |
| | Email Address: | |
| | Alternate Email ID: | |
| | Postal Address: | |

(Signature of Authorized Signatory)

FORM-C**AGREEMENT on judicial stamp paper of Rs.100/-**

This AGREEMENT is made and entered into this _____ day of _____ Two Thousand between Executive Director, Habitat Service Center, HUDCO Place, Andrews Ganj, New Delhi-110 049 on behalf of HSC (which expression shall, unless excluded by or repugnant to the context or the meaning thereof, be deemed to include its successors and assigns) of ONE PART.

AND

M/s. (Name of Firm) _____ having their registered office and principal place of business at _____ herein after referred to as the "Contractor" (which expression shall unless excluded by or repugnant to the context or the meaning thereof, be deemed to include its successors and assigns) of the OTHER PART.

WITNESSETH THAT

WHEREAS, the HSC invited the Contractor to submit tender for the work of "**Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO's properties situated in Delhi/ NCR**"

AND

WHEREAS, the CONTRACTOR submitted his tender(s) to HSC for execution of the work in accordance with the tender documents including technical specifications, schedule of quantities/items and tender drawings vide his letters

AND

WHEREAS, HSC has accepted the tender submitted by the Contractor for the execution of the aforesaid work with reference _____ to letter No. _____

AND WHEREAS, the Contractor has agreed to execute the aforesaid work on the terms and conditions as stated in tender documents, general and special conditions of contract and has also agreed to submit to the HSC initial security deposit required to be paid on the date of signing of the agreement, in accordance with the Tender (part & parcel of the present agreement, as attached herewith).

NOW, THEREFORE, in consideration of the foregoing promises and mutual covenants herein contained, the parties hereby agree to fulfil the obligations stated in the tender documents along-with Contractor's offer.

IN WITNESS

WHEREOF HSC has set his hand for & on behalf of Client.

AND

Sh. _____ duly authorized representative of the Contractor for and on behalf of M/s. _____

has affixed his signature and the seal of the said company in accordance with Articles of Association.

Signed and delivered by

Signed and delivered by

()

()

For and on behalf of HSC

For and on behalf of M/s

Accepting Officer

Authorized representative

WITNESS

1. 1.

2. 2.

FORM D**ACCEPTANCE OF TENDER CONDITIONS**
(On BIDDER's letter head)Ref: **NIT No. HSC/AG/AK/CT/501/2024/271** Dated: 27.08.2024

We have carefully gone through the various terms and conditions as listed/described above for the work of "**Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO's properties situated in Delhi/NCR**" We agree to all these conditions. We are making this offer after carefully reading the conditions and understanding the same in the context of the stipulated work required to be carried out, without any kind of pressure or influence from any source whatsoever. We have acquainted ourselves with the tasks required to be carried out, before making this offer. We hereby sign this undertaking in token of our acceptance of various terms and conditions listed in NIT.

Name & signature of Contractor:

Address

Seal

Phone No. (O) :

(M) :

e-mail address:

Place :

Dated :

List of completed works during last seven years.
(On BIDDER's letter head)

Ref: **NIT No. HSC/AG/AK/CT/501/2024/271** Dated: 27.08.2024

| Sl. No | Details of the works executed | Name of Client along with address, e-mail, phone no. & authorized person of client | Value of the work executed | Date of Commencement/Completion |
|--------|-------------------------------|--|----------------------------|---------------------------------|
| | | | | |

The completion certificate from the client for works completed shall be enclosed along with copy of work order and form 26 AS.

Signature of the Contractor

Seal

UNDERTAKING IN FORM OF AFFIDAVIT

Ref: NIT No. HSC/AG/AK/CT/501/2024/271 Dated: 27.08.2024

To be submitted by bidder on non-judicial stamp paper of Rs. 100/ (Rupees One Hundred only or as applicable), duly attested by Notary Public - to be placed &submitted in Envelop-I

Affidavit of Mr.....S/o R/oI, the deponent above named do hereby solemnly affirm and declare as under:

1. That I am the Proprietor/Authorized signatory of M/shaving its Head Office/Regd. Office at
2. That the information/documents/Experience certificates submitted by M/s..... along with the tender for (*Name of work*) to HSC are genuine and true and nothing has been concealed.
3. No 7A/14B enquiry etc. under the EPF & Manpower Act is pending against the company.
4. The tenderer / agency of the bidding firm is not involved in any criminal cases.
5. That I shall make full payment to the employees which shall not less than as approved by the local govt. and in case of any complaint received from any employee regarding the short payment/non deposition of EPF & ESI, the security deposit will be forfeited and decision of HSC will be final.
6. I shall have no objection in case HSC verifies them from issuing authority(ies). I shall also have no objection in providing the original copy of the document(s), in-case HSC demands so for verification.
7. I hereby confirm that in case, any document, information &/ or certificates submitted by me found to be incorrect / false / fabricated, HSC at its discretion may disqualify / reject / terminate the bid/contract and also forfeit all dues/ suspend from taking part in tenders issued by HSC.
8. I hereby confirm that our firm /company is not blacklisted/ barred /banned from tendering by any Govt. Department/PSU/Govt. bank/Govt. Hospital. If this information is found incorrect, HSC at its discretion may disqualify / reject / terminate the bid/contract.

I,the Proprietor / Authorized signatory of M/s..... do hereby confirm that the contents of the above Affidavit are true to my knowledge and as per records and nothing material has been concealed there from and that no part of it is false.

DEPONENT

Verified atthis.....day of

DEPONENT

PROFORMA FOR INTEGRITY PACT**PRE CONTRACT INTEGRITY PACT****GENERAL :**

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on ---- day of the month of ----- **2024**, between M/s Habitat Service Center, HUDCO Place, Andrews Ganj, Delhi-110 049, acting through Executive Director (HSC) or authorized officer, hereinafter called the “The Employer ” , which expression shall mean and include, unless the context otherwise required, his successors in office and assigns) of the First Part and M/s. ----- represented by Shri -----, (hereinafter called the Bidder, which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the Employer proposes to get executed the work for **“Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO’s properties situated in Delhi/ NCR”**

WHEREAS the “ Bidder -----is a private company/public company/----- constituted in accordance with the relevant law in the matter.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to :-

Enabling the Employer to obtain the desired said stores/equipment at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and

Enabling Bidder to abstain from bribing or indulging in any corrupt practice in order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the Employer will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this integrity Pact and agree as follows :

1. **Commitments of the Employer :**

- 1.1 The Employer undertakes that no official of the Employer , connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the Bidder , either for themselves or for any person, organization or third party related to the contract in exchange for any advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.
- 1.2 The Employer will, during the pre-contract stage, treat all the Bidders alike, and will provide to all Bidders the same information and will not provide any such information to any particular Bidder which could afford an advantage to that particular Bidder in comparison to other Bidders.
- 1.3 All the officials of the Employer will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.

1.4 In case any such preceding misconduct on the part of such official(s) is reported by the Bidder to the Employer with full and verifiable facts and the same is *prima facie* found to be correct by the Employer , necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the Employer and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the Employer the proceedings under the contract would not be stalled.

2. **Commitments of Bidders :**

The Bidder commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following :-

2.1 The Bidder will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the Employer , connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.

2.2 The Bidder further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the EMPLOYER or otherwise in procuring the contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the Government for showing or forbearing to show favour or disfavor to any person in relation to the contract or any other contract with the Government.

2.3 Bidder shall disclose the name and address of agents and representatives and Indian Bidder shall disclose their foreign principals or associates.

2.4 Bidder shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.

2.5 The Bidder, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the Employer or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.

2.6 The Bidder will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.

2.7 The Bidder will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities.

2.8 The Bidder shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the Employer as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The Bidder also undertakes to exercise due and adequate care lest any such information is divulged.

2.9 The BIDDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.

2.10 The Bidder shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

2.11 If the Bidder or any employee of the Bidder or any person acting on behalf of the Bidder, either directly or indirectly, is a relative of any of the officers of the Employer , or alternatively, if any relative of an officer of the Employer has financial interest/stake in the Bidder's firm, the same shall be disclosed by the Bidder at the time of filing of tender.

The terms 'relative' for this purpose would be as defined in Section 2(7.7) of the Companies Act, 2013.

2.12 The Bidder shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the Employer.

3. **Previous Transgression:**

3.1 The Bidder declares that no previous transgression occurred in the last three years immediately before signing of this integrity Pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify Bidders exclusion from the tender process.

3.2 The Bidder agrees that if it makes incorrect statement on this subject, Bidder can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

4. **Sanctions for Violations**

4.1 Any breach of the aforesaid provisions by the Bidder or any one employed by it or acting on its behalf (whether with or without the knowledge of the Bidder) shall entitle the Employer to take all or any one of the following actions, wherever required.

- i. To immediately call off the pre-contract negotiations without assigning any reasons or giving any compensation to the Bidder. However, the proceedings with the other Bidder(s) would continue.
- ii. The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/ Performance Bond (after the contract is signed) , as per the Terms of Tender Document and Main Agreement/Contract, respectively, shall stand forfeited either fully or partially, as decided by the Employer and the Employer shall not be required to assign any reason therefore.
- iii. To immediately cancel the contract, if already signed, without giving any compensation to the Bidder.
- iv. To recover all sums already paid by the Employer and in case of an Indian Bidder with interest thereon at 2% higher than the prevailing Prime Lending Rate of State Bank of India. If any outstanding payment is due to the Bidder from the Employer in connection with any other contract for any other stores, such outstanding payment could also be utilized to recover the aforesaid sum and interest.
- v. To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the Bidder, in order to recover the payments, already made by the Employer , along with interest.
- vi. To cancel all or any other contracts with the Bidder. The Bidder shall be liable to pay compensation for any loss or damage to the Employer resulting from such cancellation/rescission and the Employer shall be entitled to deduct the amount so payable from the money(s) due to the Bidder.
- vii. To debar the Bidder from participating in future bidding processes of the Government of India for a minimum period of five years, which may be further extended at the discretion of the Employer
- (viii) To recover all sums paid in violation of this Pact by Bidders to any middleman or agent or broker with a view to securing the contract.
- (ix) In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the Employer with the Bidder, the same shall not be opened.
- (x) Forfeiture of Performance Bond in case of a decision by the Employer to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

4.2 The Employer will be entitled to take all or any of the actions mentioned at para 4.1(i) to (x) of this Pact also on the Commission by the Bidder or any one employed by it or acting on its behalf (whether with or without the knowledge of the Bidder), of an offence as defined in Chapter IX of the Indian Penal Code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

4.3 The decision of the Employer to the effect that a breach of the provisions of this Pact has been committed by the Bidder shall be final and conclusive on the Bidder. However, the Bidder can approach the independent Monitor(s) appointed for the purposes of this Pact.

5.Fall Clause :

The Bidders undertakes that it has not supplied/is not supplying similar product/systems or subsystems at a price lower than that offered in the present bid in respect of any other Ministry/Department of the Government of India or PSU and if it is found at any stage that similar product/systems or sub systems was supplied by the Bidder to any other Ministry/Department of the Government of India or a PSU at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the Bidder to the Employer, if the contract has already been concluded.

6. Independent Monitors :

- i. The Employer shall/may appoint independent Monitors (hereinafter referred to as Monitors) for this Pact in consultation with the Central Vigilance Commission (Names and addresses of the Monitors shall be given).
- ii. The task of the Monitors shall to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.
- iii. The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.
- iv. Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings.
- v. As soon as the Monitor notices, or has reason to believe, a violation of this Pact, he will so inform the Authority designated by the Employer.
- vi. The Bidders accepts that the Monitor has the right to access without restriction to all project documentation of the Employer including that provided by the Bidder. The Bidder will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to this project documentation. The same is applicable to Sub-Contractors. The Monitor shall be under contractual obligation to treat the information and documents of the Bidder/Sub-Contractor(s) with confidentiality.
- vii. The Employer will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the parties. The parties will offer to the Monitor the option to participate in such meetings.
- viii. The Monitor will submit a written report to the designated Authority of Employer within 8 to 10 weeks from the date of reference or intimation to him by the Employer /bidder and, should the occasion arise, submit proposals for correcting problematic situations.

7 .Facilitation of Investigation :

In case of any allegation of violation of any provisions of this Pact or payment of commission, the Employer or its agencies shall be entitled to examine all the documents including the Books of accounts of the Bidder and the Bidder shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

8. Law and Place of Jurisdiction:

This Pact is subject to Indian Law. The place of performance and jurisdiction is the seat of Employer.

9. Other Legal Actions :

The actions stipulated in this integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

10. Validity :

10.1 The validity of this integrity Pact shall be from date of its signing and extend up to 5 years or the complete execution of the contract to the satisfaction of both the Employer and the Bidder , including warranty period, whichever is later, in case Bidder is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.

10.2 Should one or several provisions of the Pact turn out to be invalid, the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their original intentions.

11. The parties hereby sign this Integrity Pact at ----- on -----

EMPLOYER :

Name of the Officer :

Designation

Dept. / Ministry / PSU

BIDDER :

Chief Executive Officer

Witness :

1. _____
2. _____

Witness :

1. _____
2. _____

- Provisions of these clauses would need to be amended / deleted in line with the policy of the EMPLOYER in regard to involvement of Indian agents of foreign supplier.

PROFORMA FOR PERFORMANCE BANK GUARANTEE

PERFORMANCE BANK GUARANTEE TO BE ISSUED FROM SCHEDULED COMMERCIAL BANK

Note: The Successful Bidder is advised to take up with their Bank to send the duly executed Performance Bank Guarantee directly to HSC Office at HUDCO Place, Andrews Ganj, and New Delhi-110049, under Speed Post/Registered A.D / By hand. The issuing Bank should also enclose with the Bank Guarantee a written confirmation to the effect that the guaranteee has been duly executed. The confirmation should be supported by the copy of Power of Attorney etc. in favour of the Bank Official(s) executing the Bank Guarantee. Further, the issuing branch should also confirm that it has obtained the approval of competent authority for furnishing the guarantee to HSC. Bank be insisted upon to send/endorse a copy of written confirmation as aforesaid to the Bank's Head Office.

)on Non-judicial stamp paper of requisite value in concerned State(

Performance Bank Guarantee No.

Executive Director
Habitat Service Center
HUDCO Place, Andrews Ganj
New Delhi 110 049

PROFORMA OF PERFORMANCE BANK GUARANTEE

)Address as mentioned in Notice Inviting Tender(

Whereas the HSC)hereinafter called HSC which expression shall include its successors and assigns(having awarded a work order/contract/supply order No. dated.....)herein after called the contract(to M/s.....)herein after called the Contractor/Supplier(at a contract price of Rs.....subject to the terms and conditions contained in the contract.

AND

WHEREAS, the terms and conditions of the contract require the Contractor to furnish a Bank Guarantee for Rs.....)Rupees.....(being 3% of the total value of the contract of Rs...../-i.e. the performance for proper execution and due fulfilment of the terms and conditions contained in the contract.

AND

In consideration thereof we(Name of Bank) having its registered/ Head Office at and one of Branches at herein after called, the Bank,)herein after called the "Bank"(do hereby unconditionally and irrevocably undertake to pay to HSC immediately on demand in writing and without protest/ or demurral moneys payable by the Contractor/ supplier to HSC in connection with the execution/supply of the performance of the works/equipment, inclusive of any loss, damages, charges, expenses and costs caused to or suffered by or which would be caused to or suffered by HSC by reason of any breach by the Contractor/ supplier of any of the terms and conditions contained in the contract as specified in the notice of demand made by HSC to the bank. Any such demand made by HSC on the bank shall be conclusive evidence of the amount due and payable by the bank under this guarantee. However, the Bank's liability under this guarantee shall be limited to Rs.....in the aggregate and the bank hereby agrees to the following terms and conditions: -

)i(This guarantee shall be continuing guarantee and irrevocable for all claims of HSC as specified above and shall be valid during the period specified for the performance of the contract including the period of maintenance/ warranty i.e. upto.....

)ii(We, the said bank further agree with HSC that HSC shall have the fullest liberty, without our consent and without affecting in any manner our obligations and liabilities here under to vary any of the terms and conditions of the said contract or to extend time for performance of contract by the Contractor from time to time or to postpone for any time or from time to time any of the powers exercisable by HSC against the Contractor/ supplier under the contract and for bear or enforce any of the terms and conditions relating to the said contract and we shall not be relieved from our liability by reason of any such variations or extension being granted to the Contractor or for any for bearance, act or omission on the part of HSC or any indulgence by HSC to the Contractor or by any such matter or thing whatsoever, which under the law relating to the sureties would, but for this provision, have effect of so relieving us.

)iii(This guarantee/ undertaking shall be in addition to any other guarantee or security whatsoever HSC may now or at any time have in relation to the performance of the works/ equipment and the company shall have full re-course to or enforce this security in preference to any other security or guarantee which the HSC may have or obtained and there shall be no for bearance on the part of the HSC in enforcing or requiring enforcement of any other security which shall have the effect of releasing the Bank from its full liability. It shall not be necessary for HSC to proceed against the said Contractor/ supplier before proceeding against the Bank.

)iv(This guarantee/undertaking shall not be determined or affected by the liquidation or winding up, dissolution or change of constitution or insolvency of the supplier/Contractor, but shall in all respects and for all purposes be binding and operative until payment of all moneys payable to HSC in terms thereof are paid by the Bank.

The Bank here by waives all rights at any time in consistent with the terms of this Guarantee and the obligations of the bank in terms here of ,shall not be otherwise affected or suspended by reasons of any dispute or disputes having been raised by the supplier/Contractor)whether or not pending be for any Arbitrator, Tribunal or Court(or any denial of liability by the supplier/contract or stopping or prevent in or purporting to stop or prevent any payment by the Bank to HSC in terms hereof.

We also agree that you shall be entitled at your option to enforce this guarantee against our Banks as the principal debtor in the first instance, notwithstanding any other security or guarantee that you have in relation to the Contractor liabilities in respect of these promises.

We, the said Bank, lastly undertake not to revoke this guarantee during its currency except with the previous consent of HSC in writing. Unless acclaim is made in writing in ----- days after the date of expiry of this guarantee i.e.....we shall be relieved from all liabilities under this guarantee thereafter.

Signed this.....day of.....at.....

For and on behalf of Bank

WITNESS.

1.

2.-----

Format for Bank Details for EMD refundRef: **NIT No. HSC/AG/AK/CT/501/2024/271** Dated: 27.08.2024

The details of bank account in which payment is to be transferred and other details are to be given in the following table.

| Sl No. | Particulars | Details |
|--------|---|---------|
| 1. | Name of the Bidder, as in bank account | |
| 2. | Name of bank | |
| 3. | Bank Account Number | |
| 4. | Bank Branch Name | |
| 5. | Bank Branch Address | |
| 6. | Bank Branch Telephone No. | |
| 7. | Type of Account (SB A/C/CA/Cash Credit with code) | |
| 8. | Bank Code No / MICR Code (9-digit code number of bank & Branch) | |
| 9. | PAN No. (copy to be attached) | |
| 10. | GST No. | |
| 11. | IFSC Code No | |

Signatures of the authorized person
(with Name, Designation and Official seal)

Form – J

CERTIFICATE

Ref: **NIT No. HSC/AG/AK/CT/501/2024/271** Dated: 27.08.2024

1. All the Operation and Maintenance works have been carried out by us satisfactorily as per the terms and conditions of the contract.
2. All the staff was present throughout the month of _____ and the attendance register has been maintained at site and has been duly checked by Engineer of Housing & Urban Development Corporation Ltd. as per terms and conditions of the contract.
3. Uniforms have been provided to all the workers.
4. Identity Cards have been provided to all the workers.
5. Provision of Payment of Wages Act 1936, Minimum Wages Act 1948, Employees Provident Fund & Misc. Provisions Act 1952, ESI Act 1948, Employees Liability Act 1938, Workmen's Compensation Act 1927, Industrial Dispute Act 1947 and Contract Labour (Regulation & Abolition) Act 1970 or any modifications thereof, or any other laws relating thereto and rules made there from time to time are being complied by us as per the terms and conditions of the contract.

Signature of Contractor:
Stamp

LIST OF ANNEXURES –

PROJECT WISE (i) AKB & (ii) AGP

LIST OF INVENTORY.**AUGUST KRANTI BHAWAN (AKB)**

(A) Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO's properties situated in Delhi/ NCR. Details of Electrical Installations at August Kranti Bhawan, Bhikaji Cama Place, New Delhi to be run, maintained & operated – Reg -

| S.No. | Description | A Wing | B Wing | C Wing |
|-------|--|--------|--------|--------|
| 1. | Light points without switches (Group controlled with MCB) | 296 | 130 | 190 |
| 2. | Light points controlled with Switch | 5A | 24 | 16 |
| 3. | No. of fixtures model TKC22/140 | 320 | 146 | 190 |
| 4. | 63A ELCB 4 pole – 01 No. 6-632 A SP MCB – 24Nos. | 2 | 1 | 1 |
| 5. | 8 Way SPMCDB | 2 | 1 | 1 |
| | 40ASPELCB - 01No. | | | |
| | 40A DP MCB isolator - 01 No. | | | |
| | 6 ASPMCB -04 Nos. | | | |
| 6 | 12 way SPMCB | | | |
| | 40ASPELCB - 01No. | | | |
| | 40A SP MCB isolator -01No. | | | |
| | 6 ASPMCB - 08Nos. | | | |

7.0 Any other installation in part or full not specified but related to the illumination lighting arrangements in and around basement car parking areas including sub- stations, pump houses, stores, stair cases, ramps etc.

B. Details of Sump pump Set at August Kranti Bhawan, Plot No.25, Bhikaji Cama Place, New Delhi—for anti-flooding arrangements.

Pump Room No.1

- (i) Sump Pump No.34/94/11 & 34/94/12 Make – HBD M/s Manufacturing Corp.
- (ii) Motor Nos. F-721/03-59 & F-721/03-86 Make –Kirloskar
- (iii) Control panel fitted with accessories.

Pump Room No.2

- (i) Sump Pump No.34/94/13 & 34/94/14 Make – HBD M/s Manufacturing Corp.
- (ii) Motor Nos. F-721/06-9 & F-721/03-63 Make –Kirloskar
- (iii) Control panel fitted with accessories.

Pump Room No.3

- (i) Sump Pump No.34/94/1 & 34/94/2 Make – HBD M/s Manufacturing Corp.
- (ii) Motor Nos. G-721/06-2 & G-721/06-5 Make –Kirloskar
- (iii) Control panel fitted with accessories.

Pump Room No.4

- (i) Sump Pump No.34/94/9 & 34/94/10 Make – HBD M/s Manufacturing Corp.
- (ii) Motor Nos. F-721/03-58 & F-721/3-62 Make –Kirloskar
- (iii) Control panel fitted with accessories.

Pump Room No.5

- (i) Sump Pump No.43/94/3 & 34/94/4 Make – HBD M/s Manufacturing Corp.
- (ii) Motor Nos. F-721/03-65 & F-721/03-79 Make –Kirloskar
- (iii) Control panel fitted with accessories.

Pump Room No.6

- (i) Sump Pump No.43/94/5 & 34/94/6 Make – HBD M/s Manufacturing Corp.
- (ii) Motor Nos. F-721/06-1 & F-721/03-73 Make –Kirloskar
- (iii) Control panel fitted with accessories.

Pump Room No.7

- (i) Sump Pump No.34/94/7 & 34/94/8 Make – HBD M/s Manufacturing Corp.
- (ii) Motor Nos. F-721/03-57 & F-721/03-78 Make –Kirloskar
- (iii) Control panel fitted with accessories.
- (iv) D.G. Room Pump :

- (i) Sump Pump : 02Nos.
- (ii) Motors : 02Nos.
- (iii) Control panel fitted with accessories.

Note: All the above pump rooms have two vertical pumps driven by 3.7 KW -5 HP, 1000 RPM Motors, suitable for handling solids upto 40 mm size. Both the pumps can work simultaneously or one by one.

C. Details of standby DG set and its AMF panel at August Kranti Bhawan ,Bhikaji Cama Place, New Delhi.

The DG Set of 1x160 KVA capacity has Cummins engine & Jyoti make alternator with automatic arrangements through an AMF panel equipped with 250-A, MCCB, KWH meter, CTS, reserves relay, neutral isolation contactors and connected to the alternator through 1-3.50 x 300 Sqm. PVC aluminum cable. The AMF panel is further connected to the emergency panel, installed in the DG Room in the basement car parking area, which feeds the emergent lighting and power load – through cable network laid on metallic trays suspended from the ceiling etc. The Contractor shall have to maintain & operate all the distribution system connected with the installations including the emergency control panel as required.

D. Inventory of Additional Electrical Installations

(1) H.T. Panel

11 KV single panel Crompton make, extensive vacuum circuit breaker indoor type dust & vermin proof/I.P.H. 3 enclosure having a breaking capacity of 350 MVA at 11 KV, comprising of a draw out type, 630 A vacuum circuit breaker & control supply suitable for 24V DC including spring charged motor. Panel is equipped with complete accessories and battery charger etc.

(2) Transformer

500 KVA, copper wound 11 KV/433 V, 3 phase, 50 C/S 3 phase, 50 c/s, Delta Star connected Dry type air cooled indoor type air cooled confirming to IS- 20268 and IS-11171 transformer with S.No.00CID006/1 Year-2000 Kirloskar Make.

(3) Normal Supply Panel (Common Services)

Incomer – 1000 A D/o Type ACB with accessories. Outgoing:

| | | |
|-----|---|----------|
| (a) | 400 A 4 pole MCCB L&T MAKE | : 02Nos. |
| (b) | 250A 4 pole MCCB L&T MAKE | : 02Nos. |
| (c) | 125 A4 pole MCCB L&T MAKE | : 02Nos. |
| (d) | 63 A 4 pole MCCB L&T MAKE | : 08Nos. |
| (e) | 125 A4 pole MCCB L&T MAKE | : 08Nos. |
| (f) | 70 A Contactors for shunt capacitor | : 08Nos. |
| (g) | 25 kvar (8x25) = 200 KVA shunt capacitor | : 08Nos. |
| (h) | Automatic power factors correction 10 stage relay | : 01No. |

(4) Emergency Supply Panel (DG Room)

Incomer-400 A4 pole MCCB L&T MAKE : 01No.

Out going

| | | |
|-----|---------------------------|----------|
| (a) | 125A 4 pole MCCB L&T MAKE | : 04Nos. |
| (b) | 63 A4 pole MCCB L&T MAKE | : 15Nos. |

(5) Main Corridor lighting control panel (DG Room)**Incomer**

| | | |
|-----------------------------|--------|--|
| 200 Amp4 pole MCCB L&T MAKE | :01No. | |
|-----------------------------|--------|--|

Out going

| | | |
|------------------------------|---------|-------|
| 125 Amp.4 pole MCCB L&T MAKE | :01No. | |
| | : 02Nos | 1 Set |

Corridor lighting D.B. (Meter Room 3A &4A)

Incomer

| | | |
|----------------------------|----------|--|
| 125 A 4 pole MCCB L&T MAKE | : 01 No. | |
|----------------------------|----------|--|

| | | |
|-----------|--------|--|
| Out going | 2 Sets | |
|-----------|--------|--|

| | | |
|-------------------|-----------|--|
| 63 A 4 pole MCB's | : 04 Nos. | |
|-------------------|-----------|--|

(6) Emergency Corridor Lighting Main DB's (1 No. DG Room)**Incomer**

| | | |
|--------------------------|--------|--|
| 63 A4 pole MCCB L&T MAKE | :01No. | |
|--------------------------|--------|--|

| | | |
|-----------|-------|--|
| Out going | 1 Set | |
|-----------|-------|--|

| | | |
|---------------------|---|--|
| 63 A 4poleMCB's | : | |
| 02 Nos.(For 3A &4A) | : | |

| | | | |
|------------|---|--------|--|
| 40ADPMCB's | : | 05Nos. | |
|------------|---|--------|--|

| | | |
|------------|---|-----------------|
| (7) | Emergency Corridor Lighting DB's | 2 Sets |
|------------|---|-----------------|

| | | |
|-----------------------------|---|------|
| 63A/4 pole MCB1 isolator | Incomer (Meter room 3A &4A) :01No. | |
|-----------------------------|---|------|

Out going

| | | | |
|-------------|---|--------|--|
| 40 ADPMCB's | : | 06Nos. | |
|-------------|---|--------|--|

| | |
|------------|--|
| (8) | Basement Lighting Main D.B. (DG Room) |
|------------|--|

Incomer

| | | |
|---|--------|--|
| 125A 4 pole MCCB L&T MAKE 1 Set | :01No. | |
|---|--------|--|

| | | | |
|----------|---|--------|--|
| Outgoing | : | 06Nos. | |
|----------|---|--------|--|

| | |
|------------|---|
| (9) | RenBasera L.T. Panel for light and power Incomer |
|------------|---|

| | | | |
|---|--|--|--|
| 200A TPN fuses with ch unit With HRC fuses | | ----- 3 phase indication lamps A.V., 2Nos. A | |
|---|--|--|--|

Outgoing

| | | | |
|---------------------------|--------|-------------|--|
| i. 125A TP &N Fuse switch | -01No. | 1Set | |
|---------------------------|--------|-------------|--|

With HRC fuses

| | | | |
|----------------------------|---------|---------------------|--|
| ii. 63 A TP &N fuse switch | -04Nos. | unit with HRC fuses | |
|----------------------------|---------|---------------------|--|

Provision space

For L. T. Meter -01No. |

II. Corridor Light Fittings & Points

- (i) 30-Watt LED FLOOD Light (make Philips) Ip 65 : 339 Nos.
- (ii) 80 watt light fixture without HPMB Lamp, : 119 Nos
(Make Crompton CV81 H)
- (iii) 125-Watt light fixture without HPMV lamp : 200 Nos.(approx.)
Crompton CMV – 121 H
- (iv) 2x40 Watt luminar Crompton complete with : 05 .tube etc. (Make IGP –24)
- (v) Light Points : 663Nos.

12. All incoming and outgoing cables for L.T. Panels; in sub-station-III, Super Bazar, Ren baser a etc. including earthing system.

13. All meter boards, LT panels in 22 Nos. meter rooms and feeding mains, rising mains with sub mains to shops, circuits/wiring for lights, power plugs, special outlets for AC's, telephone points and public address system, light fixtures including earthing system.

E. Inventory of Miscellaneous & Water Pumping Installations

- (i) Hydro pneumatic pumping system suitable for 300 LPM discharge at 35 MT head comprising of 3 domestic water pumps each with 5 HP electric motor, pressure tank, 1 set switches, air volume control, gauges, drain and other valves complete as installed
- (ii) 2 raw water horizontal pumps suitable each for 50 LPM discharge at 20 MT head connected by flexible coupling to 5 HP electric motor, pressure gauges etc. for air conditioning water requirements complete as installed 1 set
- (iii) 2 Pumps each suitable for 50 LPM discharge at 35 mts. head connected to 3 HP electric motor, for AC make up water storage tanks, complete as installed 1 set

(iv) 2 Pumps each suitable for 50 LPM discharge at 35 mts. Head connected to 3 HP electric motor, for feeding garden water system complete as installed **1 set**

(v) 1 Mono Block water pumping sets of 3 HP suitable for 720 LPM discharge at 5 M head for supply of water to fountains as installed **1 set**

(vi) Vertical self supported MS, water pressure filter capable of circulating 7000 lit/hr. with electric motor driven 2 HP air blower complete with valves, with control panel as **1 set** installed

(vii) Resin filled MS water softening plant of 3000 lit/hr. capable for reduction of hardness of 500 PPM with 6 hourly regeneration cycle complete with control panel as **1 set** installed

(viii) 2 Submersible 7.5 HP water pumps each having 15000 lit/hr. discharge at a head of 60 mtrs. Complete with 02 No. star -delta control Panel as installed **1 set**

(ix) 1 main horizontal fire pump set connected to a 75 HP electric motor through a flexible coupling and capable of delivering 2800 LPM at a suitable head with Fire Fighting **1 set** Pump Set Control Panel as installed

(x) 1 Jockey horizontal fire pump set coupled to a 15 HP electric motor having a capacity of 280 LPM at a suitable head complete with vertical MS air vessel, pressure switches, valves with Fire Fighting Pump Set Control Panel as installed **1 set**

(xi) 2-Automatic Start horizontal centrifugal fire pumps each driven by a diesel engine of suitable capacity and capable of delivering 2800 LPM at 70 MTR. Head complete with oil storage tank, exhaust piping and 02 No. Diesel Engine Control Panel as installed **1set**

(xii) Electric main control panels, switch boards, interconnecting, connecting cable/wiring, earthing system's network, all fully equipped with supporting equipment, **1set** accessories, audio, visual, preventive control devices, starting and stopping switch gears for the installations referred at (i) to (xi) above and as actually installed

(xiii) GI/MS water and air pipe lines, headers etc. in the pump house connecting adjoining water storage tanks through suction/delivery headers, NRV and other control valves etc. complete as installed. **1set**

F. Inventory of firefighting Equipment and Fire Alarm System

| S.No | DESCRIPTION OF EQUIPMENT | Unit | Qty |
|------|---|------|-----|
| 1 | Fire Hydrant | Nos | 34 |
| 2 | External Hydrant | Nos | 04 |
| 3 | Hose pipe | Nos | 90 |
| 4 | ABC type Fire Extinguishers | Nos | 50 |
| 5 | CO2 type Fire extinguishers | Nos | 94 |
| 6 | AFFF type fire Extinguishers | Nos | 4 |
| 7 | WCO2 type fire extinguishers | Nos | 21 |
| 8 | Hose Reel Hose with Drum | Nos | 34 |
| 9 | Hose Pipe | Nos | 90 |
| 10 | Fire Man Axe | Nos | 12 |
| 11 | Fire Bridge Inlet | Nos | 2 |
| 12 | Main fire alarm control panel 16 zone with battery backup | Nos | 1 |
| 13 | Local control fire panel 04 Zone | Nos | 16 |
| 14 | Manual Call point | Nos | 18 |
| 15 | Hooter | Nos | 17 |
| 16 | Smoke Detectors | Nos | 22 |
| 17 | Fire fighting pipe lines as per site | | |

| S.No. | Description of Items | Qty. | Location of Item |
|-------|--|---------|--|
| 01 | Philips 160W professional grade mixer amplifier LBD 8145 | 03 Nos. | Public Address Central Wing B, Ground Floor |
| 02. | Metallic amplifier rack with lowers for ventilation, back locking door made of 16 SWG MS sheet with provision of housing all central equipment monitor panels, mains panel, duly pre-wired (Philips) | 01 No. | -do- |
| 03. | Only dual Castaic auto reverse deck with recording facility model 211 | 01 Nos. | -do- |
| 04. | 30 line talk back master control unit (customer built) | 01 Nos. | -do- |
| 05. | Philips <u>gas mask</u> candied microphone LBD 8292 | 02 Nos. | -do- |
| 06. | Philips desk stand LBD 8230 | 02 Nos. | -do- |

Public Address System

| | | | | | |
|-----|-------------------------------|--|---|--|-------------------|
| 01 | Location of Item | Philips 4W Metallic Loudspeaker Enclosure | Philips 20W/ Sound Column LED8356 | Philips General Purposewith | Talk Back Unit |
| | Wing A | | NIL | NIL | NIL |
| | Super Market | 02 | NIL | NIL | NIL |
| | Vegetable Market | 04 | NIL | NIL | NIL |
| | Ground Floor (front side) | 03 | NIL | NIL | NIL |
| | Ist Floor | 02 | NIL | NIL | NIL |
| | 2 nd Floor | 02 | NIL | NIL | NIL |
| | Ground floor (B-III) | 01 | NIL | NIL | NIL |
| | Ist Floor (B-III) | 01 | NIL | NIL | NIL |
| | 2 nd Floor (B-III) | 01 | NIL | NIL | NIL |
| | 3rd Floor (B-III) | 01 | NIL | NIL | NIL |
| | | | | | |
| 02. | Wing B | | | | |
| | Ground Floor | 03 Nos.(01 Nos. in control room) | NIL | NIL | NIL |
| | Ist Floor | 04 Nos. | NIL | NIL | NIL |
| | 2 nd Floor | 05 Nos. | NIL | NIL | NIL |
| | 3 rd Floor | 04 Nos. | NIL | NIL | NIL |
| | | | | | |
| 03. | Wing C | | | | |
| | Ground Floor | 04 Nos. | NIL | NIL | NIL |
| | 1 st Floor | 04 Nos. | NIL | NIL | NIL |
| | 2 nd Floor | 04 Nos. | NIL | NIL | NIL |
| | | | | | |
| 04. | Basement | | | | |
| | Wing A | 03 Nos. | NIL | 04 Nos. | 04 |
| | Wing B | 02 Nos. | 02 Nos. | NIL | NIL |
| | Wing C | 01 Nos. | NIL | 06 | 02 Nos. |
| | Total | 51 Nos. | 02 Nos. | 10 Nos. | 06 Nos. |

(G). Details of AC/Ventilation Installations (non-working condition) at August Kranti Bhawan, Bhikaji Cama Place, New Delhi

(I) Part A:

1. AC Plant 60 TR with

(i) 60 Ton capacity reciprocating type water chilling units complete with compressor, Motor, Chiller Condenser, Drive Sets, Control Panels with automatic controls Return water controller, expansion valve, solenoid valves etc. complete. : 02Nos.

(ii) Electricity Hot Water Generator of

55000 K Cal Capacity Complete : 01No.

(iii) Monoblock Type Water Circulating pump for:

(a) Chilled water with 540 LPM at 25 M Head(7.5HP) : 02Nos.

(b) Condenser water with 798

LPM at 23M Head(7.5HP) : 02Nos.

2. FRP Vertical, induced draft Types cooling

Tower of 60TonCapacity : 01No.

II. Part B

(i) Package Air conditioner or 10 TR Capacity with hermetic free on compressors with motors, controls, water cooled condenser DX coil, Filter, Blower Suction with Motor & Drive complete with solenoid valves strainers etc. Hi Low Pressure cut out and Thermostat Controls. : 04Nos.

(ii) Monoblock Pump set of 5 HP, with drip proof squirrel cage induction motor delivery 608 LPM at 23 M Head. : 02Nos.

(iii) INDUCED DRAFT FRP Type Cooling Tower of 40 TR capacity complete with water basins, motor fans, fills, ladder etc. : 01No.

III. Part C – Basement Ventilation (in working condition)

i) Axial Flow Fans for fresh air and exhaust complete with 8mm thick MS base plate controlled from 4Nos. Electric Panels & LDP/LDS. : 58Nos.

Note: All GI Pipe Lines (both insulated & un-insulated) linking the above equipment with water control valves shall form part of the installations.

Annexure-II**Schedule of Preventive Maintenance Schedule**

A. 11 KV/433 V sub-station and allied equipment at August Kranti Bhawan, Bhikaji Cama Place, New Delhi

| S. No. | Description | Daily | Weekly | Monthly | Quarterly | Half Yearly | Yearly |
|-----------|--|-------|--------|---------|-----------|-------------|--------|
| A. | Cable (H.V. Side) | | | | | | |
| 1. | Physical checking and cleaning of cable and terminations & tightening the fasteners | | ✓ | | | | |
| 2. | Checking the IR Values of cables | | | | | | ✓ |
| B. | 11 KV HT Panel Board | | | | | | |
| 1. | Recording the voltage current on 3 phases PF. KW etc. | ✓ | | | | | |
| 2. | Physical checking of earthing entry points. Complete panel enclosures, gaskets and proper closing of panel doors and keeping in vermin proof condition | | ✓ | | | | |
| 3. | Removing the dust from breakers, tightening the bus bar joints, replacing the grease of contacts checking the breaker movement etc. | | | | | ✓ | |
| 4. | Checking sensibility of tripping relays | | | | | | ✓ |

| | | | | | | | |
|-----------|---|---|--|---|---|--|---|
| C. | 11KV/433V Transformer | | | | | | |
| 1. | Checking ventilation system should always be kept in 'ON' condition | ✓ | | | | | |
| 2. | Recording the load current, voltages at both input & output | ✓ | | | | | |
| 3. | Checking the lightness of nuts & bolts for HT & LT connections. | | | | ✓ | | |
| 4. | Checking IR values between HV, LV, HV-LV to earth and earth resistance at earthing connected to body and neutral | | | | | | ✓ |
| D. | LT Distribution Panel & Generator Panel | | | | | | |
| 1. | Removing the dust from enclosures, breakers but cable cleaning the blocked hole of panel louvers to allow per air Passage | | | ✓ | | | |
| 2. | Recording the voltage current PF and frequency from panel meters. | ✓ | | | | | |
| 3. | Checking the functioning of indication lamps and measuring instruments on all Panels | ✓ | | | | | |
| 4. | Checking of door-gaskets and keeping enclosures doors in vermin poof condition | ✓ | | | | | |
| 5. | Checking the IR values of bus bars, breakers, bus ducts and Cable | | | | | | ✓ |
| E. | Capacitor Panels | | | | | | |
| 1. | Checking of APFCR and capacitors working | ✓ | | | | | |
| 2. | Recording of power factor and maintaining manually, if Required. | ✓ | | | | | |
| F. | General | | | | | | |

| | | | | | | | |
|----|---|--|--|--|--|---|---|
| 1. | Lessoning on behalf of HUDCO to call supply company maintenance staff for periodical maintenance of 11 KV panel board and its Controls. | | | | | | ✓ |
| 2. | Insulation test for equipment's cabling etc. | | | | | | ✓ |
| 3. | Earthing test for all earthing stations. | | | | | ✓ | |

Note : The servicing & testing of Vacuum Circuit Breaker (Make :Crompton Greaves Ltd., 630 Amp.) -1 No., Air Circuit Breaker (Make : G.E./L&T, 800-1000 Amp Range) – 6 Nos. and O/C and E/F relays (Make : Alstom/English Electric) – 9 Nos. shall be carried out once a year by the Contractor through the authorized service agency, the reimbursement shall be made on actual cost basis supported with original vouchers (including GST) for the material thus procured plus administrative charges as quoted by the Contractor. Cartage shall be paid as per actual. The decision of the Engineer-in-charge shall be final in this regard.

B. PUMPING INSTALLATIONS INCLUDING DRINKING WATER & ANTI FLOODING PUMPS

DAILY CHECKS

1. Cleaning the installations including electrical penal boards externally
2. Recording readings of Volt, Amps and running of various pumps in the Log Book
3. Checking/ replacing of fuses indication lamps in the panel as required
4. Checking the pumps/ motors for normal working within rated parameters including noise and vibrations.
5. 'A' Check of Diesel Fire Pump (Lists of A checks to be given by Engineer In charge)

WEEKELY CHECKS

1. Motor Starters, Switches & Panels Mountings for loose connections/ contacts & lugs etc.
2. Pumps glands to be checked for tightening/replacement
3. Checking and tightening of loose bolts and nuts for end play, couplings and its bushes, and the alignment

MONTHLY CHECKS

1. Checking of all NRVS controlling& other valves in the pipe lines within the pump house for their normal opening/ closing and water leakage etc. through seals / gaskets/bodies.
2. Cleaning of the installations i.e. Air Conditioning packages including electrical panel board and pump set.

HALF YEARLY CHEKCS

1. Check and record insulation results of the motors windings & cables in Insulation Test Register.
2. Thorough checking of all the contacts of the motor starters and replacement, if necessary
3. Check play in bearing bushes of the motors and plumps

YEARLY CHECKS

1. Check and record the earthing continuity results & Earthing test of all the Earthing Stations.

C. D.G. Sets:

Daily:

1. 'A' check of the Diesel Engine shall be carried out by the Contractor. The other than 'A' check shall be covered under AMC with manufacture/ their service dealers. The day-to-day complaints shall also be attended by the AMC Agency of D.G. Set WITH AMF Panels
2. Checking & cleaning the AMF Panel
3. Testing of the D.G. Set in Auto & Manual mode, if not operated on the previous day.
4. Checking of HSD level in the Service tank
5. Recording of readings of Load, Speed, Temp etc. during operation

Weekly:

1. Visual examination of batteries and connections tightening
2. Electrolyte level checking and making good, if required.

Monthly

1. Specific gravity of electrolyte in the Batteries.

Half Yearly:

1. Insulation test of alternation & cables and recording the same

Annual

1. Earthing test of Earthing stations and earth continuity test & recording the same.

D. **INTERNAL & EXTERNAL EI**

- (1) Cleaning of EI, fittings & fixtures & DBS Quarterly
- (2) Insulation Test and recording in the Half Yearly Insulation Test Register
- (3) Earthing & Earth continuity test . Yearly
- (4) Checking of Earth pits connections / Corrosion and watering Yearly

E. P.A. System

Daily:

1. Cleaning of control panel (Main)
2. Check that the fire control panel indicates normal operation and remedial action, If any.

Weekly:

1. Visual examination of batteries and connections to ensure they are in good condition. Action should be taken to rectify defect if any, tightening
2. Check Electrolyte level and make good with distilled water, if required.

Monthly

1. Specific gravity of electrolyte in the Batteries.
2. The smoke/ heat detectors in one zone in the common areas shall be tested inducting smoke/ heat to the detectors physically. The same shall be cleaned and rectified/ replaced after testing.

Annual

- 1 Servicing of Amplifier (through authorized dealer on payment basis)

F. Maintenance of Fire Hydrant System

(a) Internal Hydrant

Daily:

1. Cleaning the fire pump installations including electrical panel boards externally.
2. Review of log book of fire pumps of the previous day and recorded frequency of operation of jockey pump and remedial action if the frequency is abnormal.
3. Checking and recording the standing pressure as gauged in the main fire water header in the pump house and compare with preset pressure.
4. Check and ensure cleanliness all-around and dryness of the pump motors.
5. Manual running of jockey pump for its normal working within their rated parameters for short duration
6. Visual examination of diesel fire pump batteries and connections to ensure they are in good condition. Action should be taken to rectify defect, if any.

Weekly:

1. Manual running of main fire electric pumps for their normal working within rated parameters for short duration.
2. Checking of vicinity of all hydrants should be done to ensure that there are no obstructions impeding accessibility.
3. Checking to ensure that all isolating valves for systems are kept locked in an 'open' position.
4. Checking of Flow and pressure to ensure that supplies have not deteriorated, leakage does not exist.
5. Checking of Electrolyte level in batteries and making good if required.
6. Operation of air compressor and pressure vessel to ensure their working within safe and satisfactory parameters for adequate balanced pressure in the fire mains.
7. Check pressure in top floor of Shopping Arcade.

Monthly :

1. Checking of all NRVs, controlling and other valves in the pipe lines for their normal opening/closing and water leakage etc.
2. Checking on loose contacts at main electrical cabling/wiring terminals, including lugs both at the electric control panel & equipment blocks.
3. Checking undue noise and misalignment of equipment & overhead mountings.
4. Draining of water, flushing and refilling with fresh water (2-3 hydrants)
5. Checking of Specific gravity of electrolyte in batteries.

Half Yearly :

1. Inspection/checking of Inlets, landing valves, drain valves, door hinges and locking arrangements to the inlet and landing valve boxes.
2. Checking and recording insulation results of the motor windings & cables.

Annual :

1. Checking and recording the earthing continuity results.
2. Inspection and checking the condition of all sluice/butterfly/NR/Air valves with fire water lines, hydrants etc. in the system & identify portions/parts needing repairs/replacements.
3. Cleaning of water storage tanks.

G. External Hydrant Monthly

1. Checking of valve pit to see that it is clean and not filled with any dirt or leaking water. If the pit is full of water, it should be emptied and cleaned.
2. Checking of valve spindles including any signs of excessive wear including leakage in the gland got rectified.
3. The valve should be opened slightly to see that water is flowing freely and there is no obstruction in the outlet.
4. Checking of brick work of the pit, the cover and its frame and the state of the roadway or ground, round the frame and making good if these are damaged.
5. Checking of the paint work of the hydrants, pit covers, etc. and redone, if necessary.
6. Cleaning & polishing of Brass parts.
7. Oiling of all cut off (isolating) valves, if necessary.
8. Draining of water, flushing and refilling with fresh water (2-3 hydrants).

Quarterly:

1. Testing of pressure and output in different areas covered by the hydrant.

Annual :

1. Overhauling of Non Return valves to remove sludge and other foreign matter collected in valve seating.
2. Painting of the exposed external fire hydrants and the pit covers and valves.

(H) Maintenance of Hose Reel Monthly :

1. Checking of the inlet valve, glands, tubing and shut off nozzle to see that they are sound and free from leaks, and also to ensure that the outlet of the nozzle is not choked.

Annual :

1. Flow test should be carried out to ensure that discharge of at least 0.5 lit/sec. (30 lit/min) is achieved.
2. **Note:** A Register shall be maintained for record of the first aid hose reels in the car parking basements and ground floors.

I. Maintenance – Water Sprinklers

Daily :

1. All the water sprinkler lines including their headers and sprinkler heads shall be checked for any apparent leakages and remedial action to be taken if necessary. Similarly all the deluge valve system lines with accessories shall be checked daily for any apparent leakages and remedial action to be taken if necessary.
2. The Flow switch control panel should be checked physically and cleaned. Any fault warning or pending repair of previous day shall be attended. Also check that the panel indicates normal working.
3. The batteries for the control panel should be visually examined for its connections.

Weekly :

1. Electrolyte level in batteries & making good if required.

Monthly :

1. Checking specific gravity of electrolyte in batteries for the Flow switch control panel.
2. The smoke detectors in mezzanine floor of plant room shall be tested by inducting smoke. The detectors shall be cleaned and residual smoke shall be removed after testing.
3. Draining of water, flushing and refilling with fresh water (5-6 Zones).
4. Sprinkler system and all the deluge valve of average one zone should be checked monthly by removing sprinkler heads for its performance in respect of (a) alarm (b) running pressure. The performance of related flow switch shall also be obviously seen.

Annual :

1. Inspection and checking the condition of all sluice/butterfly/NR/Air valves with fire water lines, hydrants etc. in the system & identify portions/parts needing repairs/replacements.

J. Maintenance of Co2 Flooding System

Daily :

1. Cleaning and physical checking of the panel.
2. Any fault warning or pending repair of previous day and further action for rectification.
3. Checking the panel indicates normal operation and remedial action if any.
4. Visual examination of batteries and connections to ensure that they are in good condition. Action should be taken to rectify defect, if any.

Weekly :

1. Electrolyte level in batteries and making good, if required.

Monthly:

1. Specific gravity of electrolyte in batteries.
2. Performance of semi-auto and manual operation of Co2 Flooding System and remedial action, if any.
3. Smoke detectors and heat detectors of one zone shall be tested by inducting smoke and heat respectively to the detectors physically every month. The same shall be cleaned and residual smoke etc. to be removed after testing.

K. Routine check, maintenance and testing of fire extinguishers.

Routine check and Quarterly maintenance:

(a) Water Type Co₂ Extinguisher

- 1) Open the extinguisher and throw away water charge.
- 2) Examine the extinguisher body internally and externally for corrosion and damaged conditions. Damaged and corroded extinguishers should be removed from service. Corroded gas cartridge should also be replaced.
- 3) Examine the gas cartridge for mass. If there is loss of more than 10 percent of original mass, the cartridge should be sent for re-charging after being replaced by a charged one. At the time of recharging the cartridge, the cartridge should be tested for hydrostatic test and should be re-used only subject to passing of hydrostatic test as per IS 4947 – 1985 amended up-to-date.
- 4) Examine nozzle, strainer, vent holes, internal discharge tube, sealing washer, replace them if not in good condition. Otherwise clean them thoroughly.
- 5) Checking the operating mechanism for free movement and piercing mechanism if working properly.
- 6) Refilling the fire extinguisher with clean water.

L. Carbon Dioxide Type Extinguisher & ABC DRY POWDER TYPE

1. To examine extinguisher body externally. Damaged or corroded extinguisher should be replaced.
2. Weigh the extinguisher, compare mass against the mass marked on it for fully, charged extinguisher. It should be sent for refilling if the loss is more than 10 percent of mass. Clean and polish externally.
3. Examine hose, horn and assembly and clean. In case of trolley mounted extinguisher, examine the wheel carriage for free movement.

M. Mechanical Foam type Extinguisher

1. Examine the extinguisher externally and internally for any corrosion or damage. Damaged and corroded extinguisher should be removed from service. Corroded gas cartridge should also be replaced at the time of refilling.
2. Examine the gas cartridge of mass. If there is loss of more than 10 percent of original mass, replace it with fully charged one.
3. Examine the foam generating nozzle, strainer, vent holes, internal discharge tube sealing washer, etc. Replace them, if not in good condition. Otherwise clean them thoroughly.
4. Check the operating mechanism for free movement and piercing mechanism for proper working.
5. Clean the hose assembly and check it for any dust/sediment at either shank ends.

N. Refilling Schedule for Fire Extinguishers:

1. Water type (gas cartridge) fire extinguishers shall be refilled/operated for performance test once a year.
2. Carbon dioxide fire extinguishers shall be refilled / operated for performance test once in 3 years.
3. Portable fire extinguishers mechanical foam type shall be refilled/operated for performance test once a year.

O. Schedule for Hydraulic Pressure Testing of Fire Extinguishers:

1. Every water type (gas cartridge) and foam type mechanical fire extinguisher shall be hydraulically pressure tested every 3 years at a pressure of 17.5 kg./cm² maintained for 2.5 minutes. There shall not be any leakage or visible distortion failing which the same shall be replaced.

2. The carbon dioxide type fire extinguisher shall be pressure tested every 5 years. The pressure test shall be carried out as specified in the relevant Indian Standard Specification. If there is any leakage or distortion, the same shall be replaced.

Note: A register shall be maintained for record of all the fire extinguishers in the car parking basements and guest houses. Each extinguisher should be allotted one full page and particulars shall be recorded as per Appendix-II.

P. PUMP HOUSE

(A) DAILY CHECKS

1. Review of Log Book of the previous day & any recorded fault needing attention.
2. Checking and recording the standing pressure as gauged in the pump house & compare with preset pressure (for hydro pneumatics system).
3. Cleaning the installations including electrical panel boards from outside.
4. Checking and ensure cleanliness and dryness of the motors.
5. Checking of all the pumps/motors for normal working within rated parameters including noise and vibrations.
6. Checking/replacing of fuses indication lamps in the panels etc. as required.
7. Recording readings of Volt, Amps and running of various pumps and other equipment.
8. Removing loose Garbage i.e. Polythene bags, cans, paper glass, plates etc. in cascade & spray pond area.

(B) WEEKLY CHECKS

1. Checking all motor starters, switches & panels mounting for loose connections/contacts & overhauling.
2. Pumps glands to be checked for tightening/replacements.
3. Checking and tightening of bolts and nuts for end play, couplings and its bushes.
4. Checking of all NRVs, controlling & other valves in the pipe lines within the pump house for their normal opening/closing and water leakage etc. through seals/gaskets/bodies.
5. Operation of Air compressor and pressure vessel to ensure their working within safe and satisfactory parameters for adequate balanced pressure in the mains.
6. Cleaning of trenches etc. with brooms brushes etc. in Spray Pond including throwing to MCD Garbage bins/unobjectionable area.

(C) MONTHLY CHECKS

1. Checking the vibrations emitted by the running equipment are within tolerable limits.
2. Checking undue noise and misalignment of equipment& overhead mountings.
3. Checking on loose contacts at main electrical cabling/wiring terminals, including lugs both at the electric control panel & equipment blocks.

(D) HALF YEARLY CHECKS

1. Checking all the gland pockets thoroughly for abnormal leakages.
2. Checking play in bearing/bushes of the motors and pumps.
3. Checking impellers casing in pumps for wearing signs.
4. Thorough checking of all the contacts of the motor starters and replacement, if necessary.

5. Checking and recording insulation results of the motors windings & cables.
6. Take up cleaning of motors by blowing hot air to keep ventilating passage clear, taking care that violent air throw is avoided.

(E) **YEARLY CHECKS**

1. Checking and recording the earthing continuity results & earthing test of all the earthing stations.
2. Inspection and checking the condition of all sluice/butterfly/NR/Air Valves with water lines, hydrants etc. in the system & identify portions/parts needing repairs / replacements.

LIST OF CONSUMABLE ITEMS AND T&P

Name of work : Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO's properties situated in Delhi/ NCR . Providing cleaning & sanitation services at August Kranti Bhawan, Bhikaji Cama Place, New Delhi –Reg-

(A) List of Consumables items of good branded quality be maintained:

| S. No. | Description of Material | Qty. |
|--------|---|-----------|
| 1. | Toilet Cleaner | 5 Ltrs |
| 2. | Floor cleaner Chemical | 30 Ltrs |
| 3. | Naphthalene balls | 1.5 Kg. |
| 4. | Soft Brushes | 2 Nos. |
| 5. | Detergent / Cleaning Powder | 10 Kg. |
| 6. | Glass Cleaning | 5 Ltrs. |
| 7. | Cloth Old Dhotis | 5 Nos. |
| 8. | Jute Brush for Cleaning by Phenyl / water | 5 Nos. |
| 9. | Floor Duster | 8 Nos. |
| 10. | Mop Pad | 5 Nos. |
| 11. | Long & Short Narial Broom | 6 Nos. |
| 12. | Wiper Big | 5 Nos. |
| 13. | Wiper small | 2 Nos. |
| 14. | Buckets | 4 Nos. |
| 15. | Dust Pane | 4 Nos. |
| 16. | Toilet Brush | 5 Nos. |
| 17. | Bleaching Powder | 5 kg |
| 18. | Urinal Cube | 10 Pkt |
| 19. | Hit & Mosquito Repellent spray | 2 Nos |
| 20. | Tissue paper | 6 pkt |
| 21. | Odonil | 12 pkt |
| 22. | Hand Wash Solution | 5 Litre |
| 23. | Cylinder for Fumigation machine | 6 Nos |
| 24. | Sodium Hypochloride | 20 litres |

(B) List of Tools and Plant Machinery

- (i) Rickshaw (Electric or Manual) : 1 No.
- (ii) Wheel Borrow : 01 No.
- (iii) Stone cleaning/scrubber machine : 01 No.
- (iv) Misc Tools & Tackles : As per site requirement

Note: The above consumable items and Tools/Instrument shall be provided by the Contractor within quoted amount (administrative charges). Nothing extra shall be paid for the same.

(C) List of Garden Tools and Plant Horticulture Machinery

- Hedge Cutter / Edge cutter - 02 Nos.
- Hose pipes for irrigation - Quantity as per site requirement.
- Spray machine for chemical - 02 Nos
- Rickshaw and Wheel Borrow - 01 No. Each
- Khurpa - 06 Nos./or more as per requirement
- Belcha/Poura - 2 Nos. each
- Long Narial Broom - 2 Nos Each

(D) Disposal of Garbage :

Dumping of garbage (Dump Yard) within the August Kranti Bhawan, Bhikaji Cama Place, New Delhi would be provided by HUDCO. However, the disposal of the same outside the complex to approved municipal dumping ground (min. 2-3 trips per month **or** as directed by Engineer-in charge), would be borne by the Contractor in the quoted amount (administrative charges)". **Nothing extra shall be paid for the same.**

Note:

- Maintenance of all T & P shall be reckoned in the cost of T&P.
- Non-availability of T&P, recovery @ Rs.200/- per day shall be made.
- Any misc. Minor tools and tackles needed for cleaning & sanitation work necessary but not mentioned shall be arranged in the cost of T&P.

(E) List of Consumables items for Electrical Sub-station

| S.No. | Details of consumable items | Qty. per month |
|-------|--|-------------------|
| 1 | Colin (make-sparkling/shine/Reckitt) | 6 Nos. |
| 2 | CRC/WD-40(make-Electro/Donmet) | 4 Nos. |
| 3 | Grease(make-Servo/Bosch/Terbo) | 1 Kg. |
| 4 | Duster | 30 Nos. |
| 5 | PVC Tape (make-Steel grip/Finolex) | 10 Nos. |
| 6 | Emery paper (Deer Fos/ISI mark) | 10 Nos. |
| 7 | Detergent (make- Surf excel/Nirma) | 1 Kg. |
| 8 | Brasso polish (make-Dazing shine) | 2 Kg./Liter |
| 9 | Lubricating oil (make-Castrol) | 1 Liter. |
| 10 | Stationery items such as Sub-station log book, Pumps Log Book, Fire fighting log book, lift log book, Earth resistance register etc. | |

Tools/Instruments

- 1 Tool Kit, electrical tool (to be available with each pump operator and Electrician/shift)
- 2 Megger 5 KV - 1 No. And Earth Resistance Test Kit - 1 No.
- 3 Clip on Multi meter/Tong Tester - 1 No.
- 4 Crimping tool (upto 10 sq. Mm to 240 sq. Mm) - 1 No.
- 5 Torches 4 Cell - 2 Nos.
- 6 Vacuum Cleaner Heavy Duty - 1 No.
- 7 Blower fan heavy duty - 1 No.
- 8 First Aid box - 1 No.
- 9 Power extension board with 50 meter 3 core 2.5 sq. mm. Cable and test lamp - 1 No.
- 10 Ladder as per requirement at site - 1 No.
- 11 emergency light 3 hrs. Back up - 1 No.
- 12 Tool kit, Plumbing Tools - 1 No.
- 13 Hydrometer for making brine solutions - 1 No.
- 14 Welding set-1 No.(As per requirement)
- 15 Pipe wrench 24" - 2 Nos.
- 16 Pipe wrench 16" - 2 Nos.
- 17 Adjustable wrench 16" - 2 Nos.
- 18 Spanner set - 1 No.
- 19 Heavy duty hammer machine - 1 No.
- 20 Heavy duty drill machine - 1 No.
Hole saw cutter machine upto 100 mm - 1 No.
- 21 Discharging Earthing Rod .
- 22 HT TAPE(As per requirement).
- 23 Copper and Aluminium thimble (As per requirement).

Note:-The above said materials, Tools, etc shall be provided by the Contractor and shall be part of the contract and nothing extra shall be paid for the above said materials, Tools etc.

ANNEXURE – I (ii) AGP**INVENTORY OF INSTALLATIONS****ANDREWS GANJ PROJECT (AGP)**

Name of work: Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO's properties situated in Delhi/ NCR Reg: Operation / Testing and maintenance of Fire Fighting and Pumping Installations etc. at HUDCO Place, Andrews Ganj, New Delhi.

INVENTORY OF INSTALLATIONS**A) CAR PARKING AND OTHER INSIDE AND OUTSIDE AREAS****Civil**

| | | |
|----|---|------------------------|
| 1. | Sprinklers heads workable on varying temperatures | 3500 Nos. (approx.) |
| 2 | M.S. Piping of sizes from Fire Pump House onwards and within the Lower and Upper Basement areas of Car Parking including, Plant Room, Boiler Room, Air Washers, Electric Sub Station and all adjoining divided/undivided spaces, ramps etc. | 01 Lot |
| 3 | Fire Hydrant's Stations Posts with Hydrant Valves RRI, Hoses (Twin), Hose Reel and Dunlop House, Branch Pipe, Valves, Axes etc. | 34 Nos. |
| 4 | M.S. Fire Hydrant's stations post of size 36"x24"x10" with glass fronted double door (with glass) etc. in security control room | 01 No. |
| 5 | Fire Extinguishers Co ₂ Water type (68 + 47) [including in plant room, pump house] | 115 Nos. |
| 6 | Foam (Mechanical) type of 9 ltrs. Capacity Fire Extinguishers in Plant Room | 04 Nos. |
| 7 | Co ₂ Gas Type Fire Extinguishers (including in plant room, pump house) | 45 Nos. |

| | | |
|--------------|--|---------------------------------|
| 8 | Alarm Valves with Water Motor Gong etc. | 05 Nos. |
| 9 | Deluge Valves and Trims etc. for Electric Transformers areas etc. i.e. common call point equipment | 3 Sets |
| 10 | Pressure Reducing Valves | 02 Nos. |
| 11(A) | Butter Fly Valve | |
| | (a) 150 mm dia | 13 Nos. |
| | (b) 200 mm dia | 02 Nos. |
| | (c) 100 mm dia | 04 Nos. |
| (B) | Air Release Valve (Brass Type) | |
| | (a) 25 mm dia | 24 Nos. |
| 12 | 2 Way Collection Heads | 02 Nos. |
| 13 | M.S. Fire Cabinet near EPABX | 01 No. |
| 14 | Water pipes supported/suspended from ceiling/walls laid on floor and in ground etc. | 1 Lot (1300 Mtr. Approx.) |
| CIVIL | | |
| 15 | Orissa Pan W.C. including Flush Valves | 09 Nos. |
| 16 | Wash Basin i.e. Bottle Traps, Angle Valves and Pillar Cocks | 09 Nos. |
| 17 | Urinals with Flush Valve, Bottle Trap | 05 Nos. |
| 18 | Cast Iron lower 'A' Class piping for drains i.e. all chambers | 1100 Mtrs. |
| 19 | Cast iron Rain Water Piping | 500 Mtrs. |
| 20 | Cast Iron lower class 'A' piping for sump discharge at ceiling level | 750 Mtrs. |
| 21 | M.S. Rain Water Piping | 1000 Mtrs. |
| 22 | GI Water Supply pipes, (15m-100mm dia) including | 1000 Mtrs. |

| | | |
|----|-------------------------------|-----------|
| | gate valves and sluice valves | (approx.) |
| | | (1 Lot) |
| 23 | C.I. NRV 150 mm dia | 02 Nos. |

ELECTRICAL

| | | |
|----|--|---------|
| 24 | Water Flow Switches | 15 Nos. |
| 25 | Micro Switches | 15 Nos. |
| 26 | Annunciation Panel for Fire Alarm Signal with interconnecting Cable Network on M.S. Trays etc. (for Guest Houses) | 01 Lot |
| 27 | Sumps Pumps (Submersible) including piping work, control valves, NRVs level controllers and Electrical control panels etc. | 18 Nos. |
| 28 | Electric Cabling Network associated with Fire Fighting/Sprinklers and Anti Flooding system | 01 Lot |
| 29 | Electrical work connected with air pressure tank including panel | 01 Lot |
| 30 | Deluge Valve No.1, 80 mm dia (L. Basement 70-80) | |

ELECTRICAL

| | | |
|------------------------------|-----|------|
| (a) Solenoid Valve | 02 | Nos. |
| (b) Cabling to Control Panel | Lot | |

CIVIL

| | | |
|-------------------------------------|-----|------|
| (a) With all fittings & accessories | 01 | No. |
| (b) G.M. Spray Nozzle | 34 | Nos. |
| (c) Piping | Lot | |
| (d) Butterfly Valve | 01 | No. |

| | |
|----|--|
| 31 | Deluge Valve No.2, 80 mm dia (L. Basement 350 – 0) |
|----|--|

ELECTRICAL

| | | |
|------------------------------|-----|------|
| (a) Solenoid Valve | 02 | Nos. |
| (b) Cabling to Control Panel | Lot | |

CIVIL

| | | |
|-------------------------------------|-------|------|
| (a) With all fittings & accessories | 01 | No. |
| (b) G.M. Spray Nozzle | 28 | Nos. |
| (c) Piping | Lot | |
| (d) Butterfly Valve | 1 No. | |

32. Deluge Valve No.3, 80mm dia (Upper Basement 70-80)

ELECTRICAL

| | | |
|------------------------------|---------|--|
| (a) Solenoid Valve | | |
| (b) Cabling to Control Panel | 02 Nos. | |

Lot

CIVIL

| | | |
|-----|---------------------------------|---------|
| (a) | With all fittings & accessories | 01 No. |
| (b) | G.M. Spray Nozzle | 35 Nos. |
| (c) | Piping | Lot |
| (d) | Butterfly | 1 No. |

33. Deluge Valve No.4, 80 mm dia (Upper Basement 0-10)

ELECTRICAL

| | | |
|------------------------------|----|------|
| (a) Solenoid Valve | | |
| (b) Cabling to Control Panel | 02 | Nos. |

Lot

CIVIL

| | | |
|-------------------------------------|----|------|
| (a) With all fittings & accessories | | |
| (b) G.M. Spray Nozzle | 01 | No. |
| (c) Piping | 31 | Nos. |

| | | | |
|-----|---|-----|-----|
| | (d) Butterfly | Lot | |
| | | 01 | No. |
| 34. | Deluge Valve No.5, 80 mm dia (Lower Basement 250-260) | | |

ELECTRICAL

| | | | |
|--|------------------------------|----|------|
| | (a) Solenoid Valve | | |
| | (b) Cabling to Control Panel | 02 | Nos. |

CIVIL

| | | | |
|--|-------------------------------------|-----|------|
| | (a) With all fittings & accessories | | |
| | (b) G.M. Spray Nozzle | 01 | No. |
| | (c) Piping | 40 | Nos. |
| | (d) Butterfly Valve | Lot | |
| | | 01 | No. |

| | | | |
|-----|---|--|--|
| 35. | Deluge Valve No.6, 80 mm dia (Upper Basement 250-260) | | |
|-----|---|--|--|

ELECTRICAL

| | | | |
|--|------------------------------|----|------|
| | (a) Solenoid Valve | | |
| | (b) Cabling to Control Panel | 02 | Nos. |

CIVIL

| | | | |
|--|-------------------------------------|-----|------|
| | (a) With all fittings & accessories | | |
| | (b) G.M. Spray Nozzle | 01 | No. |
| | (c) Piping | 44 | Nos. |
| | (d) Butterfly Valve | Lot | |

1 No.

| | | | |
|-----|---|--|--|
| 36. | Deluge Valve No.7, 80 mm dia (Lower Grid V 13 – V 14) | | |
|-----|---|--|--|

ELECTRICAL

| | | | |
|--|--------------------|--|--|
| | (a) Solenoid Valve | | |
|--|--------------------|--|--|

| | | |
|------------------------------|-----|------|
| (b) Cabling to Control Panel | 02 | Nos. |
| | Lot | |

CIVIL

| | | |
|-------------------------------------|-----|------|
| (a) With all fittings & accessories | | |
| (b) G.M. Spray Nozzle | 01 | No. |
| (c) Piping | 16 | Nos. |
| (d) Butterfly Valve | Lot | |
| | 01 | No. |

37. ADDITIONAL DETECTION AND FIRE ALARM SYSTEM FOR MEZANNINE FLOOR

| | | |
|------------------------|----|------|
| (a) Smoke Detector | | |
| (b) MCPs | 17 | Nos. |
| (c) Response Indicator | 02 | Nos. |
| | 07 | Nos. |

CO2 FLOODING SYSTEM

(B)

| | | |
|---|--------|------|
| (a) Co2 Cylinder 45 Kg. | | |
| (b) Standard Pin Type Puncturing Devices | 04 | Nos. |
| (c) Activation devices for cylinders | 04 | Nos. |
| (d) Activation devices for Direction Valves | 02 | Nos. |
| (e) Ball Type Directional Valve | 05 | Nos. |
| (f) High Pressure Hose for cylinder | 05 | Nos. |
| (g) NRV for Co2 Cylinders | 08 | Nos. |
| (h) Manual box | 04 | Nos. |
| | 07 | Nos. |
| (i) Abort Unit | | |
| | | |
| (j) Manual Call Point | 15 | Nos. |
| (k) Smoke detector | 12 | Nos. |
| (l) Heat detector | 12 | Nos. |
| (m) Control Panel | 01 | No. |
| (n) 2x1.5 Sq. MM PVC Cable | 3270.2 | mtr. |
| (o) Solenoid Bowl discharge Nozzle | 28 | Nos. |

| | | |
|--|----|------|
| (p) Pressure Switch Assembly | 05 | Nos. |
| (q) High Pressure Rubber Hose 1.5 m long | 25 | Nos. |

CIVIL

| | | |
|---|--------|------|
| (a) Cylinder Stand with mild steel weld mesh cage | | |
| [with locking arrangement | 01 | No. |
| (b) NRV for Main pipe | 05 | Nos. |
| (c) Aluminium corner pulley | 25 | Nos. |
| (d) Seamless conduit pipe 10 mm | 32.65 | RM |
| (e) Safety Valve | 02 | Nos. |
| (f) Seamless Pipe SCH 40 | | |
| 50 mm dia | 240.01 | |
| 35 mm dia | 9.1 | |
| 25 mm dia | 54.9 | |

EXTERNAL**CIVIL**

| | | |
|--|----|------|
| (i) Sluice Valves of sizes | 43 | Nos. |
| (ii) External Fire Hydrant Stations/Posts | 17 | Nos. |
| (vi) Rubberised lined reel house pipes with Male-female couplings (63 mm dia& 15 mtrs. long) | 51 | Nos. |
| (iv) GM Branch Pipes | 17 | Nos. |
| (v) Fireman'e Axe | 17 | Nos. |
| (vi) 2 Way Hydrant Valve (Collecting Head) | 02 | Nos. |
| (vii) 4 Way Hydrant Valve (Collecting Head) | 01 | No. |
| (viii) Single acting air release valves | 03 | Nos. |
| (ix) CI NR Valves 4" | 01 | No. |
| (x) Piping Work | 01 | Lot |
| (xi) Mechanical Foam Type Extinguishers (9 ltrs. Capacity) | 03 | Nos. |

D. FIRE FIGHTING INSTALLATIONS IN CLUSTER (A&B)**CIVIL**

- (i) Gun Metal full way valve 25 mm 12 Nos.
- (ii) Fire Hydrant's points 48 Nos.
- (iii) Single Acting Air release valve 12 Nos.
- (iv) Wet rising, piping of sizes terminating at 12 Sets
Hydrants Points

ELECTRICAL

- (vi) Pressure Gauges 12 Nos.

| P.A. SYSTEM IN CAR PARKING BASEMENT | | | |
|--|--------------------|-------------|----------------|
| S. No. | Description | Qty. | Remarks |
| 1. | Amplifire RAC | 01 | Set |
| 2. | Speaker | 48 | Nos. |
| 3. | Microphone | 02 | Nos. |
| 4. | Desk Stand | 02 | Nos. |

F. EXTERNAL (WATER MAINS, STORM AND SEWERAGE DRAINAGE) SYSTEM, GARDEN HYDRANTS AND SPRINKLERS ETC.**CIVIL**

- (i) Sluice Valves of sizes 100-150 m dia 34 Nos.
- (ii) Gun Metal full way valves 25 mm dia 03 Nos.
- (iii) Single Acting AV release Valves 03 Nos.
- (iv) Associated Line of (F) as laid 01 Lot
- (v) Water Meters 24 Nos.
- (vi) Sluice Valves for PR Stations (12x3) 36 Nos.
- (vii) Peripheral piping work 1 Lot

G. FOUNTAIN AND CASCADE SYSTEM**ELECTRICAL**

- (a) Cascade Pumps S-2028 06Nos.
- (b) M.C.C. Panel (in upper basement) 01No.
- (c) 32 Amps Isolator 02Nos.
- (d) Cabling and Earthing Lot

- (e) Fountain Pump H-20L 02 Nos.

CIVIL

- (f) Valves
 - Cascade (150 mm dia Butterfly) 07 Nos.
 - Sump (150 mm dia NRV) 06 Nos.
 - Fountain (50 mm dia NRV) 02 Nos.
 - Area (80 mm dia G.M. Gate Valve) 06 Nos.
 - (50 mm dia G.M. Gate Valve) 04 Nos.
 - (25 mm dia G.M. Gate Valve) 06 Nos.
 - (50 mm dia G.M. Gate Valve) 01 No.

- (g) Bubble Nozzle 75 mm dia (in fountain area) 6 Nos.
- (h) 15 mm Nozzles and Couplings 227 Nos.
- (i) M.S. Piping Lot
- (j) Overflow Nozzle 02 Nos.

H. SWIMMING POOL**(i) ELECTRICAL**

| S. No. | Description | Qty. | Remarks |
|---------------|--------------------------------|-------------|----------------|
| 1. | Pump – Horizontal Mono Block) | | |
| | Capacity – 425 LPM) | | |
| | Head – 20 M)02 Nos. | | |
| | Motor – 3 Phase – 5 HP) | | |

| | |
|---|----------|
| Make (Model – Beacon Make) |) |
| 1 ½ Dm 8 (HD) |) |
| 2. AIR Blower | |
| Make – Everest |) |
| Capacity – 0.95 cum/min. |)01 No. |
| Pressure – 0.35 kg/cm ² |) |
| Motor – 3 Phase 2 HP |) |
| 3. Suction Sweeper | |
| Type – Portable, Trolley mounted) | |
| Pump – Centrifugal |)01 No. |
| Motor – 3 Phase 2 HP |) |
| Make – Kirloskar |) |
| 4.Electrical Panel | |
| with T.P.N. SFU – 63 A |) |
| T.P.N. SFU – 32 A |)01 No. |
| Amp. Meter |) |
| Voltameter |) |
| 5. Piping work | One Lot |
| (ii) CIVIL | |
| 1.Brass gratings over overflow channel | 116 Nos. |
| 2.Pressure sand filter capacity 25,000 lph | 01 No. |
| 3.Chemical Doser (displacement type) | 03 Nos. |
| 4.PVC Hose Pipe 50 mm dia | 30 Mtrs. |
| 5.NRV 50 mm dia | 01 No. |
| 6.Brass Coupling 50 mm dia | 02 Nos. |
| 7.Plastic Floats | 06 Nos. |
| 8.Plastic Rope | 30 Mtrs. |
| 9. Suction Sweeper head with wheel 900 mm Wide spring loaded brush | 01No. |

| | |
|--|--------|
| 10.Hair Strainer | 01No. |
| 11.Sluice Valve | |
| (a) 150 mm dia | 01No. |
| (b) 100 mm dia | 04Nos. |
| (c) 80 mm dia | 01No. |
| 12.Gate Valve 50 mm dia | 04Nos. |
| 13.Gate Valve 40 mm dia | 03Nos. |
| 14.Pressure Gauge | 03Nos. |
| 15.Sample Cock 15 mm dia | 01No. |
| 16.PVC Valve (Flanged) 15 mm dia | 03Nos. |
| 17.Gate Valve 15 mm dia | 08Nos. |
| 18.Foot Valve 50 mm dia | 01No. |
| 19.Relief Valve 25 mm dia | 01No. |
| 20. Stainless Steel Grating 45 mm dia x 6 mm wide 01 No. | |
| 21.Inspection plate 300x300x3 m | 01No. |
| 22.Surflow Nozzles | 36Nos. |

I. MAIN PUMP HOUSE

I. ELECTRICAL

- Five Nos. Tubewells having multistage submersible pumps each of 6 HP, 27000 LPH capacity, 25-30 Mts. Head with starters, MCC Panel installed in the Pump House as well as having control Panel on individual tubewells etc. and Five Nos. Single Phase D.Bs for Lawn Movers (Zonal Green).
- Hydro pneumatic system for treated/MCD drinking water consisting of (i) 3 Nos. 40 HP Pumping sets each having a capacity of 1200 LPM at 70 M head (ii) 2 Nos., 15 HP pumping sets each of capacity 300 LPM at 70 M head with starters etc., (iii) 2 Nos. Air cooled Air Compressors of 3 HP having capacity 11 cft/min each and (iv) 1 No. Pressure Tank with accessories.
- Hydro pneumatic system for garden water supply consisting of (i) 3 Nos. Pumping sets each of 10 HP with starters (ii) 1 No. Air Cooled Air Compressor of 2 HP and (ii) 1 No. Pressure Tank.
- Submersible single stage single entry pumps 3 Nos. of 5 HP each 450 LPM capacity and 15 M head with starters installed in the Main pump house and spray pond pump house for anti flooding.
- (i) Fire Pumps 2 Nos. of 150 HP each, and 4050 LPM at 90 M Head (ii) 1 No. Jockey Pump of 25 HP – 450 LPM with starters (iii) 1 No. Diesel Driven pumping set of 267 HP having capacity of 8100 LPM at 90 M Head with Auto on Panel etc. (Diesel to be supplied by HUDCO) the entire sets of pumps are controlled by an Automatic Control Panel.
- 3 Nos. Raw Water Pumps/each of 10 HP having capacity of 1000 LPM at 24 M Head with starters etc.
- 3 Nos. Pumps each of 5 HP having capacity of 550 LPM with starters for Air conditioning and Boilers.
- 2 Nos. low pressure Air Blowers of 0.35 kg. Per sq. cm. Pressure and 3.8 cum/minute capacity.
- One No. 3 HP (Kirloskar) Pump spare (to be kept in functioning order).

(II) **CIVIL**

10. Water Filtration system consisting of 2 Nos. MS Pressure Filters each of 2400 mm dia and 14500 LPH/Sqm filtration rate with 58500 LPH capacity including connecting pipes and accessories.
11. Ion Exchange water softners – 2 Nos. of 500 MG/L hardness and capacity 1.17 lacs LPH with regeneration period of 16 hrs. and operating pressure of 2 kg. Per sq.cm. including connecting pipes and accessories.
12. 1 No. water softner plant for hardness of 500 MG/L and capacity 402 LPM, Regeneration period of 8 hrs. and operating pressure of 2 kg. Per sq. cm. including connecting pipes and accessories.
13. 2 Nos. displacement fine chemical dosers for chlorination of Tube well water supply on tank inlet including connecting pipes and accessories.
14. Tubewells having suction pipe water meter, NRV, Sluice Valve, Pressure gauge, Gate Valve 1" with RCC cover for all five nos. of tubewells in Zonal Green area.

PUMPS & OTHER ALLIED EQUIPMENT AT HUDCO PLACE, ANDREWS GANJ

| S.No. | Item | Fire Pump Set | Raw Water Pumps 4 | Gardening Pumps 5 | Domestic Pumps 6 | Dewatering Pumps 7 | A.C. Pumps 8 | Qty. 9 |
|-------|-----------------------------|------------------|-------------------------|-------------------------|------------------------|--------------------------|--------------------|--------------|
| 1 | 2 | 3 | | | | | | |
| 1. | Sluice Valve | | | | | | | |
| | 80mm | - | 3 Nos. | - | 2 Nos. | - | - | 5 Nos. |
| | 100 mm | 1 No. | 10 Nos. | 4 Nos. | 7 Nos. | 8 Nos. | 3 Nos. | 33 Nos. |
| | 150 mm | 1 No. | 3 Nos. | 4 Nos. | 3 Nos. | - | 4 Nos. | 15 Nos. |
| | 200 mm | 4 Nos. | 2 Nos. | - | 1 No. | - | 1 No. | 8 Nos. |
| | 250 mm | 3 Nos. | - | - | - | - | - | 3 Nos. |
| | 300 mm | 3 Nos. | - | - | - | - | - | 3 Nos. |
| 2. | Non-Return Valve | | | | | | | |
| | 80 mm | - | 3 Nos. | - | 2 Nos. | - | - | 5 Nos. |
| | 100 mm | - | - | 3 Nos. | 3 Nos. | 8 Nos. | 3 Nos. | 17 Nos. |
| | 150 mm | 1 No. | - | - | - | - | 1 No. | 2 Nos. |
| | 200 mm | 3 Nos. | - | - | - | - | - | 3 Nos. |
| 3. | MS/GI Pipes | | | | | | | |
| | 80 mm G.I. | - | - | - | - | - | 163.650 mts. | 163.650 mts. |
| | 100 mm G.I. | 0.800 mts. | 44.330 mts. | 3.200 mts. | 4.500 mts. | 40.500 mts. | - | 93.330 mts. |
| | 150 mm G.I. | 1.690 mts. | - | 25.750 mts. | - | - | 41.020 mts. | 68.460 mts. |

| | | | | | | | |
|----------------|-------------|-------------|------------|------------|---|------------|-------------|
| 150 mm M.S. | 0.300 mts. | 0.900 mts. | - | 1.500 mts. | - | 1.800 mts. | 4.500 mts. |
| 200 mm M.S. | 4.500 mts. | 12.600 mts. | - | 52.885 mts | - | 5.650 mts. | 75.635 mts. |
| 250 mm M.S. | 2.780 mts. | - | - | - | - | - | 2.780 mts. |
| 300 mm M.S. | 56.840 mts. | - | - | - | - | - | 56.840 mts |
| 100 mm M.S. | - | 26.070 mts. | 0.750 mts. | 2.240 mts. | - | 1.500 mts. | 30.560 mts. |

| Sluice Valve/ Gate Valve | Softner-I Line | Softner-II Line | A.C. Softner Line | Blower Line | Pressure Vessel Line | Pressure Filters Line | Pressure Tank (Garden) | Air Compressor to PR Tanks (Garden & Domestic) | Brine Tank | Total |
|-----------------------------------|-------------------|--------------------|-------------------------|----------------|----------------------------|-----------------------------|------------------------------|---|---------------|-------|
| 15 mm | 08 | 08 | 01 | - | - | - | - | 02 (one in each) | - | 19 |
| 25 mm | - | - | 01 | - | - | - | - | - | 02 | 03 |
| 50 mm | 02 | 02 | - | 03 | - | 02 (one in each) | 01 | - | - | 10 |
| 80 mm | - | - | 04 | - | - | - | - | - | - | 04 |
| 100 mm | 03 | 03 | - | - | 01 | - | - | - | - | 07 |
| 150 mm | 03 | 03 | - | - | - | - | - | - | - | 06 |
| 200 mm | - | - | - | - | - | - | - | - | - | - |

2. Garden Pressure Vessel & Domestic Pressure Vessel with the following accessories :
 - (a) Level gauge with $\frac{1}{2}$ " valve at both ends.
 - (b) Two Safety valve of 1" dia.
3. Six level tubes of PVC to measure level of water in the tank alongwith two valves of 1" dia at both ends and one scale in each.

Water Mixing Arrangement for Raw Water Line & Domestic Water Line for Softening purpose in Pump House

| S.No | Items | Mixing Arrangement | Garden Line | Domestic Line | Blower | Air Compressor with PR vessel Garden & Domestic | Total |
|------|-------------------------|--------------------|-------------|---------------|--------|--|--------------|
| 1 | Flow Metre 100 dia | 02 | - | - | - | - | 02 (100 dia) |
| 2 | Non Return 15 dia Valve | - | - | - | - | 02 (one in each) | 02 (15 dia) |
| | 65 dia | - | - | - | 02 | | 02 (65 dia) |
| | 100 dia | 02 | - | - | - | - | 02 (100 dia) |
| | 150 dia | - | 01 | - | - | - | 01 (150 dia) |
| | 200 dia | - | - | 01 | - | - | 01 (200 dia) |
| 3 | Butterfly Valve 100 dia | 02 | 01 | - | - | - | 03 (100 dia) |
| | 150 dia | - | - | - | - | - | -(150 dia) |
| | 200 dia | 02 | - | 01 | - | - | 03 (200 dia) |
| 4 | M.S. Pipe 100 dia | One lot | - | - | - | - | One lot |

MAINTENANCE SCHEDULE

Name of work: Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO's properties situated in Delhi/ NCR Reg: Operation and Maintenance of 2x2 MVA, 11/0.433KV Electric Sub-station including H.T. & L.T. Panels, Connecting bus ducts, cables, Distribution Boards etc. and internal electrical installations in car parking basement & external electrical installations at HUDCO Place, Andrews Ganj, New Delhi

| S. No. | Description | Frequency of Maintenance | | | | | | | | | | Date |
|-----------------------------|--|-----------------------------|-------|-------|--------|---------|-----------|----------------|--------|----------|-----|------|
| | | Hourly | Shift | Daily | Weekly | Monthly | Quarterly | Half Yearly | Yearly | Attended | Due | |
| A. | Cable & Cable trays (H.V. side) | | | | | | | | | | | |
| 1. | Cleaning of cable trays, checking the tightness of fasteners for supports and joints | | | | | | | * | | | | |
| 2. | Physical checking and cleaning of cable and terminations & tightening the fasteners | | | | | | * | | | | | |
| 4. | Checking the IR Valves of cables | | | | | | | * | | | | |
| B. 11 KV Panel Board | | | | | | | | | | | | |
| 1. | Cleaning the area | | | * | | | | | | | | |
| 2. | Removing the accumulated dust from breakers, bus bars, supports. | | | | | | | | | | | |
| | C.Ts, P.Ts, Checking the | | | | | | * | | | | | |

| | | | | | | | |
|----|--|--|--|--|--|---|--|
| | <p>tightening of fasteners for bus bars</p> <p>joints, supports etc. and cleaning</p> <p>the blocked holes of panel louvers</p> <p>for proper AIR Passage</p> | | | | | | |
| 3. | <p>Replacing the contact grease at</p> <p>male and female electric contacts,</p> <p>finger contacts of each breaker</p> <p>compartment after cleaning with</p> <p>CTC solution</p> | | | | | * | |
| 4. | <p>Checking the breaker truck movements, Bus shutter mechanism, re-tightening the</p> <p>slackened fasteners and lubrication the parts wherever necessary</p> | | | | | * | |
| 5. | <p>Checking the closing and tripping mechanism, spring charge mechanism, re-tightening of slackened bolts, setting the levers as mentioned in manufacturer's manual and lubricating wherever necessary</p> | | | | | * | |

| | | | | | | | | | |
|-----|--|---|--|---|--|--|--|---|--|
| 6. | Checking the electrical operation, interlocking circuits, protection tripping and indication circuits of breaker | | | * | | | | | |
| 7. | Checking the condition of vaccum bottles of the breaker | | | | | | | * | |
| 8. | Physical checking of earthing entry points, complete panel enclosures, gaskets and proper closing of panel doors and keeping in vermin proof condition | | | * | | | | | |
| 9. | Checking of trip circuit "Healthy" circuit for each panel | | | * | | | | | |
| 10. | Recording the voltage, current on 3 Phases, PF, KW, KVAH | * | | | | | | | |
| 11. | Checking the voltage & current pulses to protection relays & measuring instruments and sensibility of tripping relays | | | * | | | | | |
| 12. | Checking the earth resistance | | | | | | | | |
| | 11KV / 433, CRT transformers | | | | | | | * | |

| | | | | | | | | | | | |
|-----|---|--------|-------|-------|--------|---------|-----------|-------------|--------|----------|------------|
| C. | 11 KV / 433V CRT Transformers | | | | | | | | | | |
| 1. | Checking of ambient temperature and recording Ventilation system should always be kept in "ON" condition if temperature exceeds the permitted value | * | | | | | | | | | |
| S. | | | | | | | | | | | |
| No. | Description | | | | | | | | | | Due |
| | | Hourly | Shift | Daily | Weekly | Monthly | Quarterly | Half yearly | Yearly | Attended | Due |
| 2. | Checking of winding temp. at "WTI" and recording in Log Book | * | | | | | | | | | |
| 3. | Recording the load current, voltages at both input and output | * | | | | | | | | | |
| 4. | Checking the condition of WTI and WTR to ensure alarm and trip thermisters healthy | | | | * | | | | | | |
| 5. | Removing the accumulated dust, dirt, cobwebs from core coil assembly enclosures & marshalliong box by using blowers | | | | | | * | | | | |

| | | | | | | | | | |
|-----------|---|---|--|--|---|---|---|--|--|
| 6. | Checking the tightness of nuts & bolts for HT & LT connections | | | | | | * | | |
| 7. | Re-tightening the slackened bolts & nuts, tie rod nuts for core and coil assembly | | | | | | * | | |
| 8. | Checking IR values between HV, LV, HV-LV to earth and earth resistance at earthing connected to body and neutral | | | | | | * | | |
| D. | LT Distribution Panel & Generator Panel | | | | | | | | |
| 1. | Removing the dust from enclosures, breakers Bus & cable cleaning the blocked hole of panel louvers to allow per air passage | | | | | * | | | |
| 2. | Checking the cable and terminations if any colour change due to developing of heat by loose contact, Re-tightening if necessary | | | | * | | | | |
| 3. | Recording the Voltages, Current, PF and frequency from panel | * | | | | | | | |

| | | | | | | | | | |
|-----|---|---|--|--|---|--|---|--|--|
| | meters | | | | | | | | |
| 5. | Checking the functioning of indication lamps and measuring instruments on all panels | * | | | | | | | |
| 6. | Checking the tightness of every fasteners connected to bus joints, cable ends ACBs, MCBs, bus duct ends and earthing bus joints | | | | | | * | | |
| 7. | Checking of Door-gaskets and keeping enclosures, doors in vermin proof conditions | | | | * | | | | |
| 8. | Checking the availability of AC & DC Auxiliary Voltages at each panel | * | | | | | | | |
| 9. | Checking the IR values of bus bars, breakers, bus ducts, cable and control circuits | | | | | | * | | |
| 10. | Checking the earth resistance at panel earthing | | | | | | * | | |
| 11. | Checking the sensibility of tripping relays, measuring the secondary Voltage & current at relays and | | | | * | | | | |

| | | | | | | | | | |
|------------|--|--------|-------|-------|--------|---------|-----------|-------------|----------|
| | measuring | | | | | | | | |
| E. | Cables & Cable Trays | | | | | | | | |
| 1. | Cleaning of cable trays, checking the tightness of fasteners for supports & joints and tightening if necessary | | | | | * | | | |
| 2. | Checking the continuity of earthing throughout the tray and for every cable termination | | | | | | * | | |
| 3. | Checking the IR values of every cable | | | | | | * | | |
| 4. | Physical checking and cleaning of every cable termination and tightening the fasteners if necessary | | | | | * | | | |
| S. | | | | | | | | | |
| No. | Description | | | | | | | | |
| | | | | | | | | | |
| | | Hourly | Shift | Daily | Weekly | Monthly | Quarterly | Half yearly | Yearly |
| F. | Capacitor Panels | | | | | | | | Attended |
| 1. | Checking the availability of power at every power capacitor | * | | | | * | | | |
| 2. | Checking the Auto / Manual operation | | | | | | | | |

| | | | | | | | | |
|-----------|--|--|--|---|---|--|--|---|
| 3. | Checking the tightness of power cables connecting jumpers to capacitors, bus bars and tightening if | | | | | | | * |
| G. | 11 KV Supply Company's Receiving Supply | | | | | | | |
| 1. | Checking the Supply Company's cables connected into building, cleaning the cable pit, cleaning the dust, cobwebs etc. | | | | | | | * |
| 2. | Verification of Supply Company monthly power consumption bill and meter checking with the energy meters of HUDCO sub-station | | | | * | | | |
| H. | Batteries and Battery Charger | | | | | | | |
| 1. | Checking the function of battery charger, physical condition of cells about the level of electrolyte, leakages | | | * | | | | |
| 2. | Checking the voltages, specific | | | | | | | |

| | | | | | | | | | |
|-----------|---|--|---|--|--|--|--|---|--|
| | gravity of each cell Topling with distilled water, tightening & greasing of | | * | | | | | | |
| 3. | Checking all DC outlet fuses, junction boxes, cables and keeping in condition | | * | | | | | | |
| I. | Earthing Stations | | | | | | | | |
| 1. | Physical checking of earth pits, cleaning the mesh of water funnel | | * | | | | | | |
| 2. | Checking the earth resistance and making on earth pit | | | | | | | * | |
| J. | General | | | | | | | | |
| 1. | Earthing Test for all earthing stations | | | | | | | * | |
| K. | Generator & Alternators | | | | | | | | |
| 1 | Physical cleaning of D.G. Sets and surrounding areas | | * | | | | | | |
| 2 | 'A' Check | | * | | | | | | |
| 3. | Testing the function of machine | | * | | | | | | |

L. The servicing & testing of 11KV Vacuum Circuit) Air Circuit Breaker and O/C and E/F relays and 11 KV BOCB shall be carried out once a year by the Contractor through the authorized service agency, the reimbursement shall be made on actual cost basis supported with original vouchers (including GST) for the material thus procured plus administrative charges as quoted by the Contractor. Cartage shall be paid as per actual. The decision of the Engineer-in-charge shall be final in this regard.

Annexure -II**SCHEDULE OF MAINTENANCE FOR DG SETS- AGP****EVERYDAY****‘A’ – Checks for Engines**

- (a) Physical cleaning of D.G. Sets and surroundings.
- (b) Drain Water and Sediment from Fuel Tank and Fuel Filter through drain cock.
- (c) Check Engine oil level and top up, if necessary
- (d) Check for Fuel, Oil, Water and Exhaust leaks.
- (e) Start the Engine and note the oil pressure both at idling and maximum speed.
- (f) Record oil pressure
- (g) Check Fuel Tank level and fill fuel, if required.
- (h) Batteries - Gravity and Electrolyte, Level including making good , and
- (i)
- (j) terminals checking.
- (l)

B, C & D - Checks for Engines

B, C & D checks of the Engines shall be carried out by the Manufacturers/ their authorized service dealers, if required. However, the supervision shall be done by the Contractor.

Annexure -II**MAINTENANCE – SCHEDULE - AGP****E. INTERNAL & EXTERNAL E.I. ETC.**

| | |
|--|-------------------------------------|
| 1. Earthing & leakage tests including checking of relays / controls etc. | Yearly |
| 2. Insulation tests | Half yearly |
| 3. Cleaning of E.I. fittings and fixtures with vacuum cleaner apart from daily physical cleaning of panels | Once in three months (Quarterly) |
| 4. Painting of boards, DB's, surface conduits, poles etc. | Yearly |
| 5. Oiling / Greasing of fans including checking of regulators | Yearly |
| 6. Polarity tests | Random as and when required |
| 7. Cleaning of external, cascade, zonal green, Ampitheatre light fittings | Monthly |
| 8. Checking of external lights | Weekly |

F. FIRE DETECTION ALARM SYSTEM

| | |
|---|--------|
| 1. Normal operation and indication in fire control's zonal and main panel | Daily |
| 2. Faulty working recorded on earlier day to be attended | Daily |
| 3. Operation of a trigger device as well as sounder in any zone | Weekly |
| 4. Examination of the battery and its connection in panels including correction of defects logged | Weekly |

| | |
|---|-----------------------|
| 5. All checks and review as at 1, 2, 3 and 4 | Quarterly |
| 6. Ancillary functions of fire control panels by stimulating fault condition | Quarterly |
| 7. Visual inspection to know if the occupancy changes have not affected the requirements for the siting of the triggering devices and manual call boxes remain unobstructed | Quarterly |
| 8. Checks by the supplier / manufacturer of the control panels, if necessary | Quarterly |
| 9. Defects recording for proper remedial action needed, if any | Quarterly. |
| 10 Any, other special or normal checks / tests/ demonstration need on installation | As and when required. |

SCHEDE OF MAINTENANCE**1. Maintenance of Fire Detection & Alarm System****Daily:**

- Cleaning of fire control panel (Main).
- Check that the fire control panel indicates normal operation and remedial action, if any.

Weekly:

- Visual examination of batteries (for main fire alarm control panel in fire control room) and connections to ensure they are in good condition. Action should be taken to rectify defect, if any.
- Check electrolyte level and make good with distilled water if required.

Monthly:

- Specific gravity of electrolyte in batteries.
- The smoke/heat detectors of one zone in the plant room area shall be tested by inducting smoke/heat to the detectors physically every month. The same shall be cleaned and residual smoke etc. shall be removed after testing.

2. Maintenance of Public Address System**Daily:**

- Cleaning of P.A. control panel.
- Performance of Public address system by making announcement and listening of voice at different points in plant room and basement car parking.

Monthly:

- Checking of connections etc. in P.A. control panel.

Annual:

- Servicing of amplifiers through manufacturers/their authorized service dealers (on reimbursement basis).

3. Maintenance of Fire Hydrant System**Internal Hydrant****Daily:**

- Cleaning the fire pump installations including electrical panel boards externally.

- Review of log book of fire pumps of the previous day and recorded frequency of operation of jockey pump and remedial action if the frequency is abnormal.
- Check and record the standing pressure as gauged in the main fire water header in the pump house and compare with preset pressure.
- Check and ensure cleanliness alarround and dryness of the pump motors.
- Manual running of jockey pump for its normal working within their rated parameters for short duration
- Visual examination of diesel fire pump batteries and connections to ensure they are in good condition. Action should be taken to rectify defect, if any.

Weekly:

- Manual running of main fire electric pumps for their normal working within rated parameters for short duration.
- Check of the vicinity of all hydrants should be done to ensure that there are no obstructions impeding accessibility.
- Check to ensure that all isolating valves for systems are kept locked in an 'open' position.
- Checking of Flow and pressure to ensure that supplies have not deteriorated, leakage does not exist.
- Checking of Electrolyte level in batteries and making good if required.
- Operation of air compressor and pressure vessel to ensure their working within safe and satisfactory parameters for adequate balanced pressure in the fire mains.
- Check pressure in top floor of Shopping Arcade.

Monthly :

- Checking of Specific gravity of electrolyte in batteries.
- Checking of all NRVs, controlling and other valves in the pipe lines for their normal opening/closing and water leakage etc.
- Check on loose contacts at main electrical cabling/wiring terminals, including lugs both at the electric control panel & equipment blocks.
- Check undue noise and misalignment of equipment& overhead mountings.
- Draining of water, flushing and refilling with fresh water (2-3 hydrants)

Half Yearly :

- Inspection/checking of Inlets, landing valves, drain valves, door hinges and locking arrangements to the inlet and landing valve boxes.
- 'B' check of the engine of the diesel driven pump. The filters and the oil of the engine should be replaced as per recommendations of the manufacturers/authorised service dealers.
- Check and record insulation results of the motor windings & cables.

Annual :

- Check and record the earthing continuity results.
- Inspect and check the condition of all sluice/butterfly/NR/Air valves with fire water lines, hydrants etc. in the system & identify portions/parts needing repairs/replacements.
- Cleaning of water storage tanks.

(b) **External Hydrant Monthly :**

- Checking of valve pit to see that it is clean and not filled with any dirt or leaking water. If the pit is full of water, it should be emptied and cleaned.
- Checking of valve spindles and any signs of excessive wear including leakage in the gland got rectified.
- The valve should be opened slightly to see that water is flowing freely and there is no obstruction in the outlet.
- Checking of brick work of the pit, the cover and its frame and the state of the roadway or ground, round the frame and making good if these are damaged.
- Checking of the paint work of the hydrants, pit covers, etc. and redone, if necessary.
- Cleaning & polishing of Brass parts.
- Oiling of all cut off (isolating) valves, if necessary.
- Draining of water, flushing and refilling with fresh water (2-3 hydrants).

Quarterly:

- Testing of pressure and output in different areas covered by the hydrant.

Annual :

- Overhauling of Non Return valves to remove sludge and other foreign matter collected in valve seating.
- Painting of the exposed external fire hydrants and the pit covers and valves.

(c) **Maintenance of Hose Reel Monthly :**

- Checking of the inlet valve, glands, tubing and shut off nozzle to see that they are sound and free from leaks, and also to ensure that the outlet of the nozzle is not choked.

Annual :

- Flow test should be carried out to ensure that discharge of atleast 0.5 lit/sec. (30 lit/min) is achieved.

Note: A Register shall be maintained for record of the first aid hose reels in the car parking basements and guest houses.

4. Maintenance – Water Sprinklers and Deluge Valve System**Daily :**

- All the water sprinkler lines including their headers and sprinkler heads shall be checked for any apparent leakages and remedial action to be taken if necessary. Similarly all the deluge valve system lines with accessories shall be checked daily for any apparent leakages and remedial action to be taken if necessary.
- The Flow switch control panel should be checked physically and cleaned. Any fault warning or pending repair of previous day shall be attended. Also check that the panel indicates normal working.
- The batteries for the control panel should be visually examined for its connections.

Weekly :

- Electrolyte level in batteries & making good if required.

Monthly :

- Check specific gravity of electrolyte in batteries for the Flow switch control panel.
- The smoke detectors in mezzanine floor of plant room shall be tested by inducting smoke. The detectors shall be cleaned and residual smoke shall be removed after testing.
- Draining of water, flushing and refilling with fresh water (5-6 Zones).
- Sprinkler system and all the deluge valve of average one zone should be checked monthly by removing sprinkler heads for its performance in respect of (a) alarm (b) running pressure. The performance of related flow switch shall also be obviously seen.

Annual :

- Inspect and check the condition of all sluice/butterfly/NR/Air valves with fire water lines, hydrants etc. in the system & identify portions/parts needing repairs/replacements.

5. Maintenance of Co2 Flooding System**Daily :**

- Cleaning and physical checking of the panel.
- Any fault warning or pending repair of previous day and further action for rectification.
- Check that the panel indicates normal operation and remedial action if any.
- Visual examination of batteries and connections to ensure that they are in good condition. Action should be taken to rectify defect, if any.

Weekly :

- Electrolyte level in batteries and making good, if required.

Monthly :

- Specific gravity of electrolyte in batteries.
- Performance of semi-auto and manual operation of Co2 Flooding System and remedial action, if any.
- Smoke detectors and heat detectors of one zone shall be tested by inducting smoke and heat respectively to the detectors physically every month. The same shall be cleaned and residual smoke etc. to be removed after testing.

Annual :

- Performance of Auto operation of Co2 Flooding System shall be checked once a year. All puncturing seals shall be replaced by new.
- Checking of electrical wiring of the system. Remedial action to be taken if required.

6. **Routine check, maintenance and testing of fire extinguishers.**

Routine check and Quarterly maintenance:

(b) **Water Type Co₂ Extinguisher**

- Open the extinguisher and throw away water charge.
- Examine the extinguisher body internally and externally for corrosion and damaged conditions. Damaged and corroded extinguishers should be removed from service. Corroded gas cartridge should also be replaced.
- Examine the gas cartridge for mass. If there is loss of more than 10 percent of original mass, the cartridge should be sent for re-charging after being replaced by a charged one. At the time of recharging the cartridge, the cartridge should be tested for hydrostatic test and should be re-used only subject to passing of hydrostatic test as per IS 4947 – 1985 amended up-to-date.
- Examine nozzle, strainer, vent holes, internal discharge tube, sealing washer, replace them if not in good condition. Otherwise clean them thoroughly.
- Check the operating mechanism for free movement and piercing mechanism if working properly.
- Refill the fire extinguisher with clean water.

(b) **Carbon Dioxide Type Extinguisher**

- Examine extinguisher body externally. Damaged or corroded extinguisher should be replaced.
- Weigh the extinguisher, compare mass against the mass marked on it for fully, charged extinguisher. It should be sent for refilling if the loss is more than 10 percent of mass. Clean and polish externally.
- Examine hose, horn and assembly and clean. In case of trolley mounted extinguisher, examine the wheel carriage for free movement.

(c) **Foam Type Mechanical Extinguisher**

- Examine the extinguisher externally and internally for any corrosion or damage. Damaged and corroded extinguisher should be removed from service. Corroded gas cartridge should also be replaced at the time of refilling.
- Examine the gas cartridge of mass. If there is loss of more than 10 percent of original mass, replace it with fully charged one.
- Examine the foam generating nozzle, strainer, vent holes, internal discharge tube sealing washer, etc. Replace them, if not in good condition. Otherwise clean them thoroughly.
- Check the operating mechanism for free movement and piercing mechanism for proper working.
- Clean the hose assembly and check it for any dust/sediment at either shank ends.

(d) Refilling Schedule for Fire Extinguishers:

- Water type (gas cartridge) fire extinguishers shall be refilled/operated for performance test once a year.
- Carbon dioxide fire extinguishers shall be refilled / operated for performance test once in 5 years.
- Portable fire extinguishers mechanical foam type shall be refilled/operated for performance test once a year.

(e) Schedule for Hydraulic Pressure Testing of Fire Extinguishers:

- Every water type (gas cartridge) and foam type mechanical fire extinguisher shall be hydraulically pressure tested every 3 years at a pressure of 17.5 kg./cm² maintained for 2.5 minutes. There shall not be any leakage or visible distortion failing which the same shall be replaced.
- The carbon dioxide type fire extinguisher shall be pressure tested every 5 years. The pressure test shall be carried out as specified in the relevant Indian Standard Specification. If there is any leakage or distortion, the same shall be replaced.

Note: A register shall be maintained for record of all the fire extinguishers in the car parking basements and guest houses. Each extinguisher should be allotted one full page and particulars shall be recorded as per Appendix-II.

MONTHLY TESTING SCHEDULE OF FIRE FIGHTING & FIRE ALARM SYSTEM

| Week 1 | Week 2 | Week 3 | Week 4 |
|---|--|---|---|
| 1. Co2 Flooding System Mezzanine Floor Alarm System | Hose Reel & Basement Parking | Hose Reel of Guest Houses | Faults detected in three weeks will be rectified by the Agencies. |
| 2. Deluge Valve & Fire Flow Switches Sprinkler Line of Basement Parking | Hydrant of Hose Fittings of Basement Car Parking | Hydrant of Hose Fittings of Guest Houses | |
| 3. | | Fire Alarm System of Guest Houses (B-1 to B-6 & A-1 to A-4) | |
| 4. | | Fireman Switch of Guest House Lifts | |

Note: In addition to above the following will be checked:

1. Visible inspection of Fire Pumps, Main Fire Alarm Control Panel and Fire Fighting Equipment of Basement Car Parking (thrice a week).
2. Checking of Fire Hydrant & Sprinkler Line Pressure (Thrice a week).
3. Water Replacement and Gas Cartridge weight checked of Water Co2 Type Fire Extinguishers (once in three months).
4. Weight checked of Co₂ Type Fire Extinguishers (once in six months).

Appendix-I**Register of First Aid Hose Reel**

- (i) Location
- (ii) Name of manufacturer & Year
- (iii) Type : Swinging/Horizontal

| S.No. | Date of Monthly Inspection/Check | Date of Annual Inspection | Signature of Leading Fireman | Remarks |
|-------|---|--|---|----------------|
| | | | | |

Appendix-II**REGISTER OF FIRE EXTINGUISHER**

1. S.No.
2. Type
3. Capacity
4. Year of Manufacture
5. Make
6. Location

| Date of Monthly Inspection | Date of Discharge | Date of Refilling | Due Date for Refilling | Date of Pressure Tested | Due date for Pressure Testing | Remarks |
|----------------------------|-------------------|-------------------|------------------------|-------------------------|-------------------------------|---------|
| | | | | | | |

LIST OF CONSUMABLE ITEMS AND T&P -AGP

Name of work : Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO's properties situated in Delhi/ NCR. Providing cleaning & sanitation services (cleaning of Roads, Footpaths, Walkways, Parking, Sewerage, Storm Water Drainage, Spray Pond and Hotel Site etc.) at HUDCO Place Andrews Ganj, New Delhi –Reg-

List of Consumables items

| Sr. No. | Description of Material | Make | Qty. | Rate (Rs.) | Amount (Rs.) |
|---------|--|--------------------|----------|------------|--------------|
| 1. | Toilet Cleaner | Harpic | 3 Ltrs | | |
| 2. | Floor cleaner | Lizol | 5 Nos | | |
| 3. | Naphthalene balls | Trishul | 1 Kg. | | |
| 4. | Soft Brushes | Local | 5 Nos. | | |
| 5. | Cleaning Powder | Nip/ Vim Ultra | 30 Kg. | | |
| 6. | Detergent Powder | Fena / Nirma/ Surf | 30 Kg. | | |
| 7. | Liquid Metal Cleaner | Brasso | 01 Kg. | | |
| 8. | Glass Cleaning | Colin | 20 Ltrs. | | |
| 9. | Cloth Old Dhotis | Local | 20 Nos | | |
| 10. | Jute Brush for Cleaning by Phenyl / water solution | Local | 20 Nos. | | |
| 11. | Floor Duster | Local | 10 Nos. | | |
| 12. | Mop Pad | Local | 15 Nos. | | |
| 13. | Narial Broom | Local | 15 Nos. | | |
| 14. | Dust Control Mop | Local | 12 Pkt. | | |
| 15. | Wiper Big | Local | 10 Nos. | | |
| 16. | Wiper small | Local | 5 Nos. | | |
| 17. | Glass Wiper | Local | 5 Nos. | | |
| 18. | Buckets | Local | 5 Nos. | | |
| 19. | Feather Brush | Local | 10 Nos. | | |
| 20. | Dust Pane | Local | 15 Nos. | | |
| 21. | PVC Mug | Local | 5 Nos. | | |
| 22. | Toilet Brush | Local | 5 Nos. | | |
| | TOTAL | | | | |

List of Garden Tools and Plant Machinery

- (i) Rickshaw (Electric or Manual) : 2 Nos.
- (ii) Wheel Borrow : 02 Nos.
- (iii) Misc Tools & Tackles : As per site requirement
- (iv) Stone scrubbing machine : 1 nos

Note : The above consumable items and Tools/Instrument shall be provided by the Contractor within quoted amount (administrative charges). Nothing extra shall be paid for the same.

Disposal of Garbage :

Dumping of garbage (Dump Yard) within the HUDCO Place complex would be provided by HUDCO. However, the disposal of the same outside the complex to approved municipal dumping ground (min. 2-3 trips per month **or** as directed by Engineer-in charge), would be borne by the Contractor in the quoted amount (administrative charges)". **Nothing extra shall be paid for the same.**

Note:

- Maintenance of all T & P shall be reckoned in the cost of T&P.
- Non-availability of T&P, recovery @ Rs.200/- per day shall be made.
- Any misc. Minor tools and tackles needed for cleaning & sanitation work necessary but not mentioned shall be arranged in the cost of T&P.

(B) List of Garden Tools and Plant Horticulture Machinery

List of Consumables items

| S.No. | Details of Consumable items | Quantity Per month |
|--------------|---|-------------------------------|
| 1. | Narial Long Broom | 12 Nos. |
| 2. | Diesel/Petrol for lawn movers & bush cutter | 30 ltrs. (approx.) |

List of Garden Tools and Plant Horticulture Machinery

| | | |
|--------|--|--|
| (i) | Diesel Lawn Mower | : 02 Nos. |
| (ii) | Manually operated Lawn Mower | : 02 Nos. |
| (iii) | Hedge Cutter/Edge Cutter (Mechanical operated/manual) | : 05 Nos. |
| (iv) | Garden Sprinklers | : 15 Nos. |
| (v) | Hose pipes for irrigation | : As per site requirement (Minimum 20 Nos. of each of 30 mtrs.) |
| (vi) | Spray machine for chemical | : 01 No. |
| (vii) | Rickshaw (Electric and Manual) | : 2 Nos. |
| (viii) | Wheel Borrow Motorized | : 02 Nos. |
| (ix) | Bush Cutter | : 02 Nos. |
| (x) | Branch by pass copper | : 01 No. |
| (xi) | Misc Tools & Tackles | : As per site requirement |

Note:

- Maintenance of all T & P shall be reckoned in the cost of T&P.
- Diesel, petrol etc. for running the machine/equipment shall be arranged by the Contractor within the quoted amount under cost consumable materials .
- Defective Horticultural equipment's/machinery will be got repaired within 48 hours or the replacement will be arranged by the Contractor, in case of failure to do so the recovery at the rate of Rs.1000/- per day for diesel lawn mower and Rs.200/- per day for other items of T&P shall be made.
- Any misc. Minor tools and tackles needed for horticulture work necessary but not mentioned shall be arranged in the cost of T&P.

Note : The above consumable items and Tools/Instrument shall be provided by the Contractor within quoted amount (administrative charges). Nothing extra shall be paid for the same.

Disposal of Garbage :

Dumping of garbage (Dump Yard) within the HUDCO Place complex would be provided. However, the disposal of the same outside the complex to approved municipal dumping ground (on weekly basis **or** as directed by Engineer-in charge), would be borne by the Contractor in the quoted amount (administrative charges)". Nothing extra shall be paid for the same.

(C) Electric Sub-station Equipment

1. 11 KV x LPE HT Cable from Power Supply Company Metering panel to BOCB Panel.
2. 1 No. Crompton make 11 KV BOCB Panel installed near Power Supply Company metering panel.
3. 11 KV x LPE cable from BOCB Panel to HT Panel (in the Plant Room) and from H.T. Panel to two Nos. transformers of 2 MVA capacity each.
4. No. GEC Alstom make 11 KV 3 Panel HT VCB Board.
5. A bank of batteries and Battery Charger with DC DB.
6. Nos. 2000 KVA 11 KV / 433 V Voltas make transformers (cast resin type)
7. 2 sets of 3200 Amps. L.T. Bus ducts from transformers to Main L.T. Panel.
8. Main L.T. panel of Siemens make complete including all incoming and outgoing feeder panels for 12 Guest Houses, Capacitor Panels, Fire Pump Panel, HVAC Panels etc. and bus coupler and neutral bus contactors.

9. 2 sets of L.T. Bus duct of 1600 amps to MCC Panel for A.C. Plant and to centrifugal chilling A.C. machine panel.

10. (i) 2 Sets of Siemens make x 440 KVAR Capacitor Bank housed in an integrated automatic switching ON & OFF panel.

(ii) Tiny Capacitor panel of 60 KVAR aggregate capacity.

11. All L.T. Capacitor cables from Main L.T. panel in the plant room upto:

(i) 6 Guest Houses of Cluster -A.

(ii) 6 Guest Houses of Cluster -B.

(iii) To the following panels in EMDB room –

(a) EMDB – I.

(b) EMDB – II.

(c) MDB – 13.

(d) MDB – 4.

(iv) 2 sets of capacitor bank panels and tiny capacitor bank panel.

(v) Battery charger inside the H.T. Room.

(vi) Fire pump panel in the Main Pump House.

(vii) Cascade panel in Car Parking Basement near Gate No.6.

12. Sub-distribution Board DBX, DBT and DBU.

13. Siemens make Main Distribution Boards, MDB-13, EMDB-I and EMDB-2, MDB-4 and Sump Pump Panel in EMDB Room.

14. Change over switch in the EMDB room and A-2 Guest House including incoming and outgoing cabling from C.O. Switches.

15. Earthing Stations including Earthing Conductors for the sub-station equipment.

16. All L.T. cabling from the panels in EMDB room to the following:

a) Drinking water pumps in Pump House.

b) Garden / Raw Water Pumps Panel in Pump House.

c) Tube well panel in the Main Pump House.

d) All DBs in Car Parking Basement Plant Room including EPABX room. Battery Charger (EPABX) etc.

e) Sump Pump Panel in Spray Pond Pump House.

- f) Cabling from Sump Pump panel to various Sump panels in Car Parking Basement.
- g) External Lighting:-
 - (i) 14.5 Pole lighting DB(Ground Floor of Minar).
 - (ii) Street Light DB for Cluster "A" Guest Houses.
 - (iii) Street Light DB for Cluster "B" Guest Houses.
 - (iv) Zonal green street lights DB and spray pond light DB in spray pond pump house.

(B) 2 Nos. D.G. Sets 1000 KVA each and allied equipment (To be periodically tested)

1. Diesel Engine – KTA / 3067-G Kirloskar Cummins make having a rating of 1180/1100/880 (BHP/ KVA/KW)

S.No. 25186987 and 25186578 : 2 Nos.

2. Generator / Alternator Kirloskar make with a rated output of 1000 / 800 KW, 415 Volts, 50 C/S 3 Phase : 2 Nos.

1. AMF panel complete with instrumentation, with battery charger,

with boost and trickle charging facility and D.C.D.B. - and control wiring. : 2 Sets

4. 24 Volts – Capacity lead Acid Battery : 4 Sets

5. Synchronizing panel complete with accessories and control wiring : 1 Set

6. 3.5 C x 300 mm² 1.1 KV armoured cable in cable tray / on surface : Lot

(272 r.)

7. 300 mm dia M.S. piping for exhaust system including insulation,

right upto top of Minar. : 1 Lot

8. Monoblock Pump Sets 10 HP for secondary cooling of the Diesel engine. : 4 Nos.

9. Secondary Cooling System plumbing comprising of 100 mm dia G.I. pipe with sluice valves and NR valves. : 1 Lot

10. Fuel Transfer Pumps 5 H.P. having capacity 225 LPM. : 2 Nos.

11. 30 KL underground storage tank with accessories : 1 No.

12. M.S. Day Tanks with accessories. : 2 Nos.

13. 40 mm dia M.S. pipe between underground storage tank / transfer pumps and upto day tanks. : Lot (385 r.)

1. Earthing stations with inter connecting strips of size 40mm x 3mm and 50mm x 6mm : 8 Sets

2. 4C x 10mm² PVC armoured cabling for cooling water system and fuel transfer system : Lot

3. Portable Mechanical type fire extinguishers 9 litres capacity (Make Minimax) : 3 Nos.

4. 16 Litres capacity 5 Nos. fire buckets filled with sand : 2 Sets

C. Inventory of Internal E.I. and External Installation

| S.No. | Particulars | Qty. |
|---------------------------------|---|-----------|
| ----- | ----- | ----- |
| (A) Car Parking Basement | | |
| 1. | Light Points | 1119 Nos. |
| 2. | 1x40 W decorative FI fixtures | 421 Nos. |
| 3. | 2x40 W decorative FI fixtures | 127 Nos. |
| 4. | 1x40 W box type fixtures | 81 Nos. |
| 5. | 1x35 W Sox's fixtures | 260 Nos. |
| 6. | Incandescent wall bracket fixture | 08 Nos. |
| 7. | Incand. Bulk head fixtures (lower basement car parking entrance – 23, exit -18) | 41 Nos. |
| 8. | 1 x 9 Watt parking fixtures | 145 Nos. |
| 9. | 2x11 W exit fixtures | 25 Nos. |
| 10. | TPNDB (12 way 63 A) | 4 Nos. |

11. DPDB (6 way 32 A) Emergency Light 1 Nos.

(B) External Installation / Electrification

1. 70 W on fixtures 108 Nos.
(Ampitheatre 36, Around Ansal Plaza 24, Along Bridge 48)
2. 70 W son fixture (Zonal Green) 74 Nos.
3. 150 W (park light fixtures, Ampitheatre) 08 Nos.
4. Incand. Wall Bkt. Fixture 04 Nos.
5. Incand. Wall Bkt. Fixture (Ampitheatre & Cascade) 79 Nos.
6. Incand. 305 mm glass globe, ceiling fixture 29 Nos.
(Ampitheatre & Around Plaza)
7. Incand. 105 mm glass globe ceiling fixture (Ampitheatre) 08 Nos.
8. 50 W water proof halogen fixture (Cascade) 93 Nos.
9. TPNDB (6/12 way Ampitheatre, Minar, Cluster A & B) 06 Nos.
Zonal Green – In Condenser Pump House)
10. Transformer DB (Cascade-05, Spray Pond-07) 12 Nos.
11. Bollard Light 60 / 100 W (Cluster A-13, Cluster B-18) 31 Nos.
12. 125 W HPMV street light fixture (on 5 mtrs. pole 48 Nos.
Cluster A-17, Cluster B-31)
13. Halogen Gate Lights 1000 W (on Guest House Gates) 24 Nos.
14. Under Water Halogen fittings 50 w 12 v (Spray Pond) 120 points
15. 4 x 400 W SVL fixtures (on 15 mtrs. poles) 08 Nos.
16. Son -70 SVL fixtures (Cluster A-18, Cluster B-19) 37 Nos.
17. Incandescent Globe type fixture mounted on steel structure 88 Nos.
(Cluster A – 44, Cluster B - 44)
18. Incandescent globe type wall fixture (cluster A-NIL, Cluster B-20) 20 Nos.

(C) PLANT ROOM AREA

| | |
|------------------------------------|---------|
| 1. Light points | 29 Nos. |
| 2. Power plugs 15 A | 14 Nos. |
| 3. 20 Amp. Indl. Sockets | 02 Nos. |
| 4. 30 Amp. Indl. Sockets | 02 Nos. |
| 5. TPNDB with MCBs 12 way | 01 No. |
| 6. TPNDB with MCBs 06 way | 01 No. |
| 7. 2 x 65 w Indl. Type FL fittings | 91 Nos. |
| 8. 2 x 40 w Indl. Type FL fittings | 16 Nos. |
| 9. 1 x 40 w box type FL fittings | 02 Nos. |

(D) PUMP HOUSE

| | |
|-------------------------------|---------|
| 1. Light Points | 13 Nos. |
| 2. Light Plugs 05 Amp. | 04 Nos. |
| 3. Power plugs 15 Amp. | 06 Nos. |
| 4. 2 x 40 W Indl. FL Fittings | 27 Nos. |
| 5. 6 way TPN DB | 01 Nos. |
| 6. Telephone points | 02 Nos. |

(E) EPABX AREA

| | |
|---|---------|
| 1. Light points | 11 Nos. |
| 2. Light plug 05 Amp. | 09 Nos. |
| 3. Power Plug 15 Amp. | 13 Nos. |
| 4. Telephone points | 05 Nos. |
| 5. 6 Way TPNDB | 01 Nos. |
| 6. 2 x 40 W FL fittings | 14 Nos. |
| 7. 5 A Pin socket for FCU above false ceiling | 08 nos. |

| | |
|--------------------------|---------|
| 8. 1x 9 PL lamp fixtures | 08 Nos. |
|--------------------------|---------|

F. H.T. METERING ROOM

| | |
|--------------------------------|---------|
| 1. Light points | 04 Nos. |
| 2. Power Plug | 02 Nos. |
| 3. 1x40 W Box type FL fittings | 03 Nos. |

G. MINAR

| | | |
|--------------------------------------|---------|------|
| 1. 6 Amp. One way switch | 03 | Nos. |
| 2. 6 way TPNDB | 02 Nos. | |
| 3. 6 Amp. Photo switch | 01 No. | |
| 4. 1x40 w box type FL fitting | 23 | Nos. |
| 5. Incandescent Bulk head fixture | 47 | Nos. |
| 6. Incandescent wall bracket fixture | 06 | Nos. |
| 7. Lighting conductor | 04 | Nos. |
| 8. 2 x 60 W Aviation light | 1 | Set |
| 9. 250 W flood light | 03 | Nos. |
| 10. Exhaust Fan | 02 | Nos. |

(H) SPRAY POND PUMP HOUSE

| | | |
|-------------------------------------|----|------|
| 1. <u>1 x 40 W box type fixture</u> | 10 | Nos. |
|-------------------------------------|----|------|

I. GUEST HOUSES (COMMON AREAS) / SERVICES IN LOBBIES, CORRIDORS, STAIRS, PLANT ROOM, RESTAURAN, ETC.

| | |
|--|---------|
| 1(i) 400 A, capacity main incoming switch and distribution board for block's services (MDB) | 10 Nos. |
| (ii) 40 A, capacity main incoming switch | 02 Nos. |
| 2. 100 A, capacity sub-main boards for shops on ground floor (PDB) | 10 Nos. |

| | | |
|-----|---|-----------|
| 3. | TPDB's for sub-distribution of lights and power points etc. in the block including attached external / open areas light etc. with MCB's / ELCB's control. | 10 Nos. |
| 4. | Earthing sets | 20 Nos. |
| 5. | Light Points and Fan points | 2000 Nos. |
| 6. | Light Plug Points | 150 Nos. |
| 7. | FCU's / Power plug points | 700 Nos. |
| 8. | Telephone tag boxes for block's floors | 60 Nos. |
| 9. | Block's zonal control fire alarm panels with hooters, manual call boxes, wiring and cabling network etc. | 10 sets |
| 10. | Telephone points | 50 Nos. |
| 11. | Electrical fittings / fixtures both FL and Incond. with covers / louvers / globes and shades etc. (Average 200 per block) | 10 Lot |

J. GUEST HOUSES

| | | |
|----|---|-----------|
| 1. | Room's main DB switch and distribution control equipped with MCB's | 400 Nos. |
| 2. | Floor's DB with sub-mains from MDB to the rooms | Lot |
| 3. | Light and Fan points | 4000 Nos. |
| 4. | Light plug points | 2000 Nos. |
| 5. | Power Plug / FCU's points | 1500 Nos. |
| 6. | Telephone outlet points | 550 Nos. |
| 7. | TV Antenna outlet points | 500 Nos. |
| 8. | Electrical fittings / fixtures both FL and Incond. With covers, louvers, globes and shades etc. | 10 Lot |

LIST OF CONSUMABLE ITEMS AND T&P

Name of work: Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO's properties situated in Delhi/ NCR. Operation / Testing and maintenance of Fire Fighting and Pumping Installations etc. at HUDCO Place, Andrews Ganj, New Delhi –Reg-

(C) List of Consumables items

| S. No. | Details of Consumable items | Quantity Per month |
|---------------|--|---------------------------|
| 1. | CRC/WD-40 (make – Electro/Don met) | 04 Nos. |
| 2. | Grease (Make – Servo/Bosch/Terbo) | 1 Kg. |
| 3. | Duster | 30 Nos. |
| 4. | PVC Tape (make-Steel grip/Finolex) | 10 Nos. |
| 5. | Emery paper (Deer Fos/ISI mark) | 10 Nos. |
| 6. | Detergent (Make – Surf excel/Nirma) | 1 Kg. |
| 7. | Brasso Polish (make – Dazing shine) | 2 Kg./Ltr. |
| 8. | Lubricating oil (Make – Castrol) | 1 Ltr. |
| 9. | Stationery items such as Pump house Log book, Fire Fighting etc. | As per requirement |
| 10. | H.T. tape | As per requirement |
| 11. | Copper and Aluminium Thimble | As per requirement |

(D) Tools/Instrument

- (a) Tool kit, (Plumbing tools).
- (b) Hydrometer for making brine solutions.
- (c) Clip on multimeter/Tong Tester
- (d) Earth Meggar (as and when required).
- (e) Insulation Test Meggar - 500 Volts.

- (f) Crimping Tool – as and when required.
- (g) Torches 4 Cell – 2 Nos.
- (h) Welding set – 1 No.
- (i) First Aid Box.
- (j) Tool Kit, (Electrician)-1 No.
- (k) Vacuum Cleaner heavy duty -1 No.
- (l) Blower fan heavy duty -1 No.
- (m) Power extension board with 50 meter 3 core 2.5 sq mm cable - 01 No.
- (n) Ladder as per requirement at site – 01 No.
- (o) Emergency light 3 hrs back up - 01 No
- (p) Hammer machine heavy duty - 01 No.
- (q) Drill machine heavy duty - 01 No.
- (r) Discharging earthing road – 01 No.

Note : The above consumable items and Tools/Instrument shall be provided by the Contractor within quoted amount (administrative charges). Nothing extra shall be paid for the same.

Name of work: Comprehensive Operation & Maintenance Services viz. Housekeeping, Horticulture, Electrical & Mechanical Installations, Repairs of Civil & Electrical works etc., at HUDCO's properties situated in Delhi/ NCR. Operation and Maintenance of ventilation/cooling system of Plant Room in car parking basement and Ventilation/Exhaust System for Basement Car Parking at Hudco Place, Andrews Ganj, New Delhi – Reg-

INVENTORY LIST OF HVAC (HS)

| S.No. | Particulars | Qty. |
|----------|---|---------------|
| A | 750 TR Capacity Centrifugal machine(TRANE MAKE) | 1 No |
| 1 | Pressure Gauge | 02 Nos |
| 2 | Dial Type Thermometer | 02 Nos. |
| 3 | Flow switch | 01 No. |
| 4 | Butterfly Valve | 02 Nos. |
| 5 | Pressure Gauge | 02 Nos. |
| 6 | Dial Type Thermometer | 02 Nos. |
| 7 | Butterfly Valve | 1 No. |
| 8 | Balancing valve | 1 No. |
| 9 | Flow switch | 01 No. |
| 10 | Temperature Recorder | 02 Nos. |
| 11. | Gun Metal valve | 01 No. |
| B | 750 TR Capacity Vapour Absorption Machine (THERMAX MAKE) | 01 No. |
| 1. | Dial Type Thermometer | 02 Nos. |
| 2. | Temperature Recorder | 02 Nos. |
| 3. | Pressure gauge | 02 Nos |
| 4. | Flow switch | 01 No. |
| 5. | Balancing Valve | 01 No. |
| 6. | Butterfly Valve | 01 No. |

| | | |
|-----|-----------------------------|---------|
| 7. | Thermostat | 01 No. |
| 8. | Pressure Gauge | 02 Nos. |
| 9. | Dial Type Thermometer | 02 Nos. |
| 10. | Butterfly Valve | 02 Nos. |
| 11. | Heat Exchanger (High & Low) | 02 Nos. |
| 12. | Generator (High & Low) | 02 Nos. |
| 13. | Air Compressor | 01 No. |
| 14. | Steam Balancing Valve | 01 No. |
| 15. | Globe Valve in Steam Line | 01 No. |
| 16. | Anti Freeze Thermostat | 01 No. |

C Primary Chiller Pumps 03 Nos.

(Each of 75 HP)

| | | |
|-----|--|----------|
| 1 | Butterfly Valve | 06 Nos. |
| 2. | Y-Strainer | 03 Nos. |
| 3. | Pressure Gauge | 06 Nos. |
| 4. | Coupling Guard | 03 Nos. |
| 5. | Electrical panel | 01 No. |
| 6. | Control console | 01 No. |
| 7. | Chilled water lines with Valve etc | 1 Lot. |
| 8. | Plant Room ventilation / Air washers and Exhaust Systems | 02 Nos. |
| 9. | Fusible Links | 07 Nos. |
| 10. | Fire Damper | 01 No. |
| 11. | Spray Nozzle | 160 Nos. |
| 12. | Filter | 1 Lot |
| 13. | 15 HP Monoblock Pumps for Air Washer | 02 Nos. |
| 14. | Pressure Gauge | 02 Nos. |
| 15. | Butterfly valves | 04 Nos. |
| 16. | Non-Return Valve(NRV) | 02 Nos. |
| 17. | Y-Strainer | 02 Nos. |

| | | |
|-----|--|---------|
| 18. | Motors For Blower (each of 40 HP) | 02 Nos. |
| 19. | Blowers | 02 Nos |
| 20. | Exhaust & Axial Flow Fans | 13 Nos. |
| 21. | Marine Light | 02 Nos. |
| 22. | Electric control Panel For Air Washers & Blowers | 01 No. |
| 23. | Electric control Panel For exhaust & Axial Flow fans | 01 No. |
| 24. | Ducting, Grills, etc, | 01 Lot |
| 25. | 16", 2.2 KW Flow Fans For fresh Air to D/G Room Including Ducting | 02 Nos. |
| 26. | 36", Dia, Exhaust fans | 06 Nos. |
| 27. | LT Control Panel For 17&18 including interconnecting/connecting wiring/cabling network | 01 Lot. |

D CONDENSOR PUMPS

| | | |
|----|---|---------|
| 1 | Pump (each of 150 HP) | 02 Nos. |
| 2 | Pump (100 HP) | 01 No. |
| 3 | Submersible Pump (1 HP) | 01 No |
| 4 | Pressure Gauge | 06 Nos. |
| 5 | Pot-strainer | 01 No. |
| 6 | Electrical Panel | 01 No. |
| 7 | Exhaust fan (GEC) with ducting and Grills Lot | 02 Nos. |
| 31 | Condenser Water Line with Valves etc. | |

E SPRAY POND

| | | |
|----|-----------------|-----------|
| 1 | Spray Nozzles | 2092 Nos. |
| 2. | Ball Valves | 2356 Nos. |
| 3. | Drain Header | 01 Set |
| 4. | Butterfly Valve | 01 No. |

F Equipment in Cluster

| | | |
|----|------------------------|----------|
| 1. | Secondary Chiller Pump | 36 Nos. |
| 2. | Pressure Gauges | 108 Nos. |

| | |
|--------------------------------|----------|
| 3. Industrial Type Thermometer | 48 Nos. |
| 4. Butterfly valve | 168 Nos. |
| 5. Balancing Valve | 24 Nos. |
| 6. Modulating Motor | 12 Nos. |
| 7. Ball Valve -1" Dia | 12 Nos. |
| 8. Steam Trap | 02 Nos. |
| 9. Steam Control Valves | 02 Nos. |
| 10. Expansion Tank | 03 nos. |

INVENTORY LIST OF HVAC(LS)

| S.No. | Particulars | Block | Block | Total |
|-------|---|----------|---------|----------|
| | | B1-B6 | A-2 | |
| 1. | Fan Coil Units (complete with Accessories) | 335 Nos. | 54 Nos. | 389 Nos. |
| 2. | Air Handling Units (complete with Accessories) | 20 Nos. | 3 Nos. | 23 Nos. |
| 3. | Kitchen Exhaust Fan (complete with Accessories) | 6 sets | 1 set | 7 sets |
| 4. | Air Washer for Kitchen (complete with Accessories) | 6 sets | 1 set | 7 sets |
| 5. | Toilet Exhaust (complete with Accessories) | 6 sets | 1 set | 7 sets |
| 6. | HVAC (LS) pipeline and insulation with control valve etc. | Lot | Lot | Lot |

33 INVENTORY OF BOILERS

| S.No | Equipments | Location | Qty. | Work Pressure | Technical Data | Make |
|------|-------------------------|--------------|------|---------------|---|-------------------------------|
| 1. | Boilers | Boiler Room | 3 | | Horizontal Fire Tube Type Evaporation – 2000 kg/hr Out Put Press-10.54 kg./cm ² Fuel Consumption-128 kg./hr | Sterling Strips Ltd. |
| 2. | Burners | Boiler Room | 3 | | Horizontal fired pressure jet on – off type suitable for LDO/HSD/LSHS/FO | Panchal Engineers |
| 3. | Feed Water Pump Set | Boiler Room | 6 | | R.P.M. 2860 K.W. 5.5 Discharge 4500 – lit / hr. Head – 7.5 mtrs. | Crompton |
| | Motor | | | | | K.S.B. |
| | Pump | | | | | |
| 4. | Oil Pump Set | Boiler Room | 6 | | R.P.M. 1400 K.W.-1.5 Discharge 250 – lit / hr. Head – 5 mtrs. | Kirloskar |
| | Motor | | | | | K.S.B. |
| | Pump | | | | | |
| 5. | Blowers | Boiler Room | 6 | | Discharge -2430 CMH R.P.M. 2860 K.W. 5.5 | Lakshai Air Control Pvt. Ltd. |
| 6. | Cond. Pump Set | Boiler Room | 2 | | R.P.H. 2400 K.W. 5.5 Discharge 4500 lit / hr Head 7.5 mtrs. | Crompton |
| | Motor | | | | | Becon |
| | Pump | | | | | |
| 7. | Day Oil Tanks | Boiler Room | 3 | | Capacity -999 Litres | Mark |
| 8. | Feed Water Service Tank | Boiler Room | 1 | | Capacity – 3000 Litres | Mark |
| 9. | Cond. Storage Tanks | Boiler Room | 2 | | Capacity 5000 Litres | Mark |
| 10. | Oil Storage Tank | Storage Yard | 2 | | Capacity -86000 litres | Mark |

| | | | | | | |
|-----|----------------------------------|-----------------------|-------|--------------|---|---------------------------|
| 11. | Oil transfer Pump Set Motor Pump | Storage Yard | 2 | | R.P.M. 1400 K.W. 2.2 Discharge – 01 lit / min Head – 5 mtrs. | Kirloskar Tushaco |
| 12. | Pipe | | | | | |
| | 250 dia | Boiler Room | 11.9 | 10.5 kg./cm2 | Seamless | Mannesmann (IBR Approved) |
| | 150 dia | Boiler Room | 50.1 | 10.5 kg./cm2 | ERW "C" Class | Tata (IBR Approved) |
| | 125 dia | Boiler Room | 46.39 | 10.5 kg./cm2 | ERW "C" Class | Tata (IBR Approved) |
| | 100 dia | Boiler Room | 70.00 | 10.5 kg./cm2 | ERW "C" Class | Tata (IBR Approved) |
| | 80 dia | Boiler Room | 82.47 | 10.5 kg./cm2 | ERW "C" Class | Tata (IBR Approved) |
| | 65 dia | Boiler Room | 34.40 | 10.5 kg./cm2 | ERW "C" Class | Tata (IBR Approved) |
| | 50 dia | Boiler Room | 90.25 | 10.5 kg./cm2 | ERW "C" Class | Tata (IBR Approved) |
| | 40 dia | Boiler Room | 62.17 | 10.5 kg./cm2 | ERW "C" Class | Tata (IBR Approved) |
| 13. | Valve | | | | | |
| | 250 dia | On Steam Header | 3 | 13 kg / cm2 | C.I. Body with SS trim | Hawa (IBR Approved) |
| | 125 dia | On Steam Header | 1 | 13 kg / cm2 | C.I. Body with SS trim | WJ (IBR Approved) |
| | 100 dia | Feed Water Tank | 1 | 13 kg / cm2 | C.I. Body with SS trim | Leader (IBR Approved) |
| | 80 dia | On Steam Header | 4 | 13 kg / cm2 | C.I. Body with SS trim | Leader (IBR Approved) |
| | 50 dia | A / c return oil line | 8 | 13 kg / cm2 | C.I. Body with SS trim | Leader (IBR Approved) |
| | 40 dia | F.W. and drain | 5 | 13 kg / cm2 | G.M. Body G.M. Internal | Leader (IBR Approved) |
| 14. | Oil Pipe Line | | | | | |
| | (a) 65 dia | Steam to Boiler room | 375 | 2 kg / cm2 | ERW "C" Class | Tata (IBR Approved) |
| | (b) Electrical Tracer | " | 390 | - | FTT 25 | Thermopad Pvt. Ltd.(*) |
| | Ivalves (i) 65 dia | " | 2 | 2 kg. / cm2 | G. M. Body G.M. Internal | Leader |
| | (ii) 50 dia | " | 3 | 2 kg. / cm2 | G.M. Body G.M. Internal | Leader |

| | | | | | | |
|-----|--|--------------|--------|---|-------------------|-----------------------|
| 15. | Insulation | | | | | |
| | 250 dia | Boiler Room | 11.9 | - | 75 mm Fibre Glass | Twiga Fibre Glass |
| | 125 dia | Boiler Room | 46.39 | - | 75 mm Fibre Glass | Twiga Fibre Glass |
| | 100 dia | Boiler Room | 70.00 | - | 50 mm Fibre Glass | Twiga Fibre Glass |
| | 80 dia | Boiler Room | 82.47 | - | 50 mm Fibre Glass | Twiga Fibre Glass |
| | 50 dia | Boiler Room | 124.65 | - | 50 mm Fibre Glass | Twiga Fibre Glass |
| | 40 dia | Boiler Room | 62.17 | - | 50 mm Fibre Glass | Twiga Fibre Glass |
| 16. | Co2 Analyser | Boiler Room | 3 | - | Model No. FG0143 | Fobresons Engineers |
| 17. | Flow Meter | Boiler Room | 1 | - | Model No. | Spirax |
| 18. | Flow Chart Recorder | Boiler Room | 4 | - | Model No.CCR 398 | Cambridge Instruments |
| 19. | Level Indicator / Indicating Controller | | 3 | - | Model No. LC176 | |
| | | | - | - | Model No. LC112 | Level Tech System |
| 20. | Level Controller | Storage Yard | 2 | - | Model No.II.176 | Level Tech System |
| 21. | Panels | | | | | |
| | (a) Boiler Main Panel | Boiler Room | 1 | - | TCL 90 KW | Sterling Strips |
| | (b) Boiler Panel | Boiler Room | 3 | - | TCL 28 KW | Sterling Strips |
| | © Storage Yard Panel | Boiler Room | 1 | - | TCL 54 KW | Beejay Electrical |
| | (d) Heater Panel | Boiler Room | 1 | - | TCL 9 KW | Beejay Electrical |

(*) Non-existing

IV. INVENTORY OF STEAM PIPING AND ACCESSORIES

| S.No. | Description | Location | Qty. | Unit | Work Pressure / Technical Data | Make |
|-------|------------------|----------------------------|------|-------|--------------------------------|---------------------|
| 1. | PRS | In Blocks | 12 | Nos. | 31.69 kg./ cm ² | Mark |
| | PRV | | | | | Spirax |
| | Valve | | | | | Leader |
| | Separator | | | | | Spirax |
| | T.D. Trap | | | | | Spirax |
| | P.G. | | | | | Fiebig |
| 2. | Strainer | | | | | Leader |
| | TCS | In Blocks | 12 | Nos. | 13 kg./ cm ² | |
| | Valves | | | | | Leader |
| | Sarco Contorl | | | | | Spirax |
| | Valve | | | | | Spirax |
| 3. | Strainer | | | | | Leader |
| | Flash Exchangers | In Blocks | 12 | Nos. | 2.8 kg./ cm ² | Mark |
| | | | | | | |
| | | | | | | |
| 4. | Water Meters | In Blocks | 12 | Nos. | 2.8 kg./ cm ² | Capston |
| 5. | ERW Pipes | | | | | |
| | 100 dia | Boiler Room to Clusters | 300 | Mtrs. | 10.5 kg./ cm ² | Tata (IBR Approved) |
| | 80 dia | | | | | Tata (IBR Approved) |
| | 65 dia | | | | | Tata (IBR Approved) |
| | 50 dia | | | | | Tata (IBR Approved) |
| | 40 dia | | | | | Tata (IBR Approved) |
| | 25 dia | | | | | Tata (IBR Approved) |

| | | | | | | |
|-----|--------------------|-------------------------|----|------|------------------------|----------------------------|
| 6. | M.S. Flanges | Boiler Room to Clusters | | | | |
| | | | | | | |
| | | | | 203 | Nos. | 10.5 kg. / cm ² |
| | | | | 281 | Nos. | 10.5 kg. / cm ² |
| | | | | 251 | Nos. | 10.5 kg. / cm ² |
| | | | | 390 | Nos. | 10.5 kg. / cm ² |
| 7. | Supports | Boiler Room to Clusters | | | | |
| | | | | | | |
| | | | | 84 | Nos. | Mark |
| | | | | 175 | Nos. | Mark |
| | | | | 190 | Nos. | Mark |
| | | | | 165 | Nos. | Mark |
| 8. | Expansion Loop | Boiler Room to Clusters | | | | |
| | | | | | | |
| | | | | 5 | Nos. | 10.5 kg / cm ² |
| | | | | 10 | Nos. | 10.5 kg. / cm ² |
| | | | | 7 | Nos. | 10.5 kg. / cm ² |
| | | | | 3 | Nos. | 10.5 kg. / cm ² |
| 9. | T.D. Trap Assembly | Boiler Room to Clusters | 20 | Nos. | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | Valves | | | | 13 kg./cm ² | Leader |
| | T.D. Trap | | | | 13 kg./cm ² | Spirax |
| | Sight Glass | | | | 13 kg./cm ² | Spirax |
| 10. | F.T. Assembly | In trenches | 12 | Nos. | | |

| | | | | | | |
|-----|---|---|-----|-------|--------------------------|----------------------------|
| | Valves | around Clusters | | | 13 kg./cm ² | Leader |
| | Float Trap | | | | 4.5 kg./cm ² | Spirax |
| | Strainer | | | | 13 kg./cm ² | Leader |
| | Sight Glass | | | | 4.5 kg./cm ² | Spirax |
| 11. | Steam Stop Valve 100 dia | On Steam Header And Blow down Chamber Soft Water inlet of Cond. | 3 | Nos. | 13 kg./cm ² | Leader |
| | 50 dia | Storage Tanks | 2 | Nos. | 13 kg./cm ² | Leader |
| 12. | Insulation | Boiler Room to Clusters | | | | |
| | 100 dia | | 300 | Mtrs. | | Tata (IBR Approved) |
| | 80 dia | | 575 | Mtrs. | | Tata (IBR Approved) |
| | 65 dia | | 525 | Mtrs. | | Tata (IBR Approved) |
| | 50 dia | | 400 | Mtrs. | | Tata (IBR Approved) |
| | 40 dia | | 225 | Mtrs. | | Tata (IBR Approved) |
| | 25 dia | | 80 | Mtrs. | | Tata (IBR Approved) |
| 13. | Non Return Valve | At Flast Exchanger Outlets | 12 | Nos. | 13 kg./cm ² | Leader |
| 14. | Safety Valve | On Flash Exchanger | 12 | Nos. | 2.8 kg./cm ² | WJ |
| 15. | Heat Exchanger for hot water supply to Guest Houses at Hudco Place, | Plant Room | 12 | Nos. | 4.5 kg./ cm ² | Heatex Engineers Pvt. Ltd. |

| | | | | |
|---|--|--|--|--|
| Andrews Ganj, New Delhi, with associated valves, controls, piping within the Plant Room, Water Circulation Pumps, Control Panels etc. | | | | |
|---|--|--|--|--|

(c) **INVENTORY OF SCRUBBER PLANT**Details of Equipment Erected in Minar at Hudco Place for Scrubber System

| S.No. | Description | Qty. | Technical Data | Make |
|-------|--------------------------------|-------------------|-------------------------------|------------|
| 1. | Impingment Scrubber | 02 Nos. | BR 939 1563 1564 | Batliboi |
| 2. | I.D. Fans | 02 Nos. | 93209 & 93210 | Batliboi |
| 3. | Motors for I.D. Fan | 02 Nos. | 15 H.P. 654517 & 654520 | ABB |
| 4. | Recirculation Pumps | 04 Nos. | 3194 to 97 | Process |
| 5. | Motors for Recirculation Pumps | 04 Nos. | 5 H.P. 654451 to 54 | ABB |
| 6. | Dosing Pumps | 04 Nos. | 94070232 to 35 | V.K. Pumps |
| 7. | Motors for Dosing Pumps | 04 Nos. | 0.5 HP 656941, 46, 58 & 69 | ABB |
| 8. | Stirrer | 02 Nos. | 11113 & 14 | Remi |
| 9. | Motors for Stirrer | 02 Nos. | 1 H.P. WK 969 & 710 | Remi |
| 10. | Recirculation Tank | 02 Nos. | -- | Batliboi |
| 11. | Dosing Tank | 02 Nos. | -- | Batliboi |
| 12. | Inlet & Outlet Duct | 01 Lot | -- | -- |
| 13. | Cables of various sizes | 01 Lot | -- | -- |
| 14. | MCC & Instrument Panel | 01 No. | -- | -- |
| 15. | Instrument Panel - PH Meter | 01 Lot 02 Nos. | -- -- | -- -- |

| | | | | |
|-----|--|--------------------|------------------------|-----------|
| | <ul style="list-style-type: none"> - Auto Stroke Controller - Level Controller | 02 Nos. 04 Nos. | -- -- | -- -- |
| 16. | Duct & Equipment Support | 01 Lot | -- | -- |
| 17. | Butterfly Dampers | 07 Nos. | Manual (One motorised) | -- |
| 18. | Recirculation Piping | 01 Lot | -- | -- |
| 19. | Lifting arrangement for caustic soda with electrically operated hoisting motor mode P 150 for 150 kg. Capacity and 30 mtrs. Lift complete with MS bucket, supporting guarder, rope and hand control device | 01 No. | -- | Polipasto |

**INVENTORY OF INSTALLATION OF VENTILATION/EXHAUST SYSTEM FOR
VI. HUDCO'S**

BASEMENT CAR PARKING

| S.No | Description | Capacity | Qty. |
|------|---|-------------------------------------|---------|
| 1. | Centrifugal blower in Class-I construction as per manufactured standard of CEC make. | 3000 CMH – static pressure 30 mm. | 11 Nos. |
| 2. | 10 HP TEFC 4 pole sq. cage induction motor make – A.B.B. | 10 H.P. | 11 Nos. |
| 3. | Centrifugal blower in class construction of C.E.C. make | 5780 CMH at static pressure 30 min. | 02 Nos. |
| 4. | 15 HP TEFC4 pole sq. cage induction motor make – A.B.B. | 15 H.P. | 02 Nos. |
| 5. | Exhaust vertical in-take risers of 6mm. thick M.S. pipes. | | |
| | 1 Type - I (98 Nos.) | | |
| | 2 Type - II (12 Nos.) | | |
| | 3 Type - III (13 Nos.) | | |
| | 4 Type - IV (156 Nos.) | | |
| | 5 Type - V (17 Nos.) | | |
| | 6 Type - VI (13 Nos.) | | Lot |
| | Note: 4 Nos. vertical intake risers removed for subway work and are under the custody of HSC Engineer-in-Charge. | | |
| 6. | Volume control duct dampers: | | |
| | (a) Size – 1050 x 1050 | | 11 Nos. |
| | (b) Size – 1400 x1400 | | 02 Nos. |
| 7. | Fire Dampers | | |
| | (a) – 800 x 1200 | | 11 Nos. |
| | (b) – 1100 x 1100 | | 11 Nos. |
| | (c) – 1450 x 1450 | | 02 Nos. |

| | | | |
|-----|--|--|--|
| 8. | (d) – 1100 x 1500 Back Draught Damper (a) – 800 x 1200 (b) – 100 x 1500 | | 02 Nos. 11 Nos. 02 Nos. |
| 9. | Main Control / Motor feeder panel: | | 01 No. |
| 10. | Tricolite make as installed for controlling all the 13 Nos. Ventilation Blowers | | 13 Nos. |
| 11. | Electric Control Panel for individual Ventilation Blower | | (6+2) Nos. |
| 12. | Fan Coil unit in Mezzanine Floor at C.P. Area Capacity 1.5 T.R. 2.0 T.R. | | installed & (6+2) Nos. in store with J.E. (E&M) |
| 13. | (Note: 1.5 TR - 6 Nos., 2.0 TR - 2 Nos. not installed.) | | |
| 14. | Electric & control cable network functional at equipments | | Lot |
| 15. | Exhaust Fans (Battery and Fire Control Room) | | 02 Nos. |
| 16. | M.S. Grills & Diffusers as installed for FCU's | | Lot |
| 17. | Chilled water piping for FCU's | | Lot |
| 18. | G.S.S. ducting of Gauges 20 G. 18 G. | | Lot |
| 19. | Fresh Air Louvers | | Lot |
| 20. | False Ceiling in Blower Rooms | | Lot |
| 21. | Diaphragm | | Lot |