(भारत सरकार का उपक्रम–जल शक्ति मंत्रालय)
(A Government of India Undertaking-Ministry of Jal Shakti)

TENDER DOCUMENT FOR

Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)

WAP/CMU-I/2024-25/ CBSE/NOIDA/08

Date: 24.02.2025

Executing Agency:

WAPCOS LIMITED
1st floor, Plot no. 148, Sector- 44, Gurugram,
Haryana-122015

February, 2025

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NOTICE INVITING TENDER (NIT)

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NIT No. WAP/CMU-I/2024-25/CBSE/NOIDA/08 **Dated 24-02-2025**

WAPCOS Limited (A Govt. of India Undertaking) on behalf of Central Board of Secondary Education (CBSE), invites open online Item Rate tender from experienced, competent and eligible bidders in a two-envelope system as per below:

1.	**Work/ Project**	Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)
2.	Site / Location	Plot no. A-004, Sector 33, Noida (UP)
3.	Website for viewing tender, Corrigendum/ Addendum, if any.	www.wapcos.co.in & www.etenders.gov.in/eprocure
4.	Website for Registration/ uploading of Tender	www.etenders.gov.in/eprocure
5.	Estimated / NIT Cost	Rs. 46.04 Crore excluding GST
6.	Cost of Tender Document	Rs. 10,000/- (Rupees Ten thousand Only) as Tender Processing Fee in the form of Demand Draft
7.	Earnest Money Deposit (EMD) / Bid Security	Rs. 56.04 Lakhs (Refundable) in the form of Insurance Surety Bonds/ Account Payee Demand Draft/ Fixed Deposit Receipt/ Banker's Cheque or Payment through RTGS/ NEFT in favor of 'WAPCOS Limited' payable at Gurugram, Haryana. OR A part of EMD is acceptable in the form of Bank Guarantee including e- Bank Guarantee also. In this cases Rs. 20 lakhs EMD to be deposited in shape prescribed above and balance Rs. 36.04 lakhs will be accepted in form of Bank Guarantee issued by Nationalized/ Scheduled Commercial Bank approved by Reserve Bank of India (RBI). The bank account as per details: Name of Bank: Indian Overseas Bank Bank Account Number: 193502000000405 IFSC Code: IOBA0001935 Branch Name: National Horticulture Board (NHB) Building, G-85, Industrial Area, Sector-18, Gurugram-122015, Haryana **Note: Bid Security shall remain valid for a period of 45 days beyond final bid validity period**.
8.	Solvency Certificate - **specific to this Bid submission only and mentioning the name of the work/project**	Rs. 18.42 crore in original from a Nationalized/ Scheduled Commercial Bank approved by Reserve Bank of India (RBI). The Certificate should be issued between the publishing of NIT & last date of submission of Bids, including extensions if any and shall be addressed to WAPCOS Limited, 76-C,

		Institutional Area, Sector-18, Gurugram, Haryana quoting the name of the work. The certificate should carry name, designation of the bank official, who has the authority to issue Solvency Certificate. **Note:** This Certificates will be verified from the issuing authority by WAPCOS.
9.	Project Completion Period	18 Months from the Date of Commencement of work or the first date of handing over of the site, whichever is later
10.	Bid Validity Period	90 days from the date of opening of Technical bid
11.	Site Visit	Bidders are advised/encouraged to visit the site for actual assessment of the project site location and its consequences during execution of work
12.	Pre Bid Meeting	04/03/2025 at 11:30 AM to be held in the office of Sr. General Manager, Construction Management Unit-I
13.	Last date & time for online submission of Technical & Financial Bid	17/03/2025 up to 15:00 hours
14.	Offline Submission of Technical document, Tender Fees, EMD etc. as detail in Tender for bidders.	17/03/2025 up to 15:00 hours in the office of Sr. General Manager, Construction Management Unit-I at 1st Floor, NPCC Building, Plot No. 148, Sector- 44 Gurugram- 122003, Haryana
15.	Online opening of Technical Bid	18/03/2025 up to 15:00 hours
16.	Online opening of Financial Bid	Intimated to Technical Qualified Bidders.
17.	Tender Inviting Authority & Communication address during Tendering and Execution of Works	Sr. General Manager Construction Management Unit-I 1st floor, Plot no. 148, Sector- 44, Gurugram, Haryana-122003 **Email:** wss@wapcos.co.in **Contact No**. +91124-4488018
18.	The Bid Security/ EMD / Solvency Certificate / BG against Performance Security/ BG against Mobilization Advance/ shall be addressed to WAPCOS Corporate Office	WAPCOS Limited 76-C, Institution Area Sector-18, Gurugram, Haryana-122015

- The tender document has to be viewed/ downloaded from above specified websites. Bidders are advised to visit above specified websites regularly for updates /Amendments/ Corrigendum, if any and not be published elsewhere. The Updates/Corrigendum/Addendum shall be followed up to submission of tender and it will be the part of tender.
- The purpose of this NIT is to provide interested parties with information to assist the preparation of their bid. While WAPCOS Limited has taken due care in the preparation of the information contained herein, and believe it to be complete and accurate, neither it nor any of its authorities or agencies nor any of its respective officers, employees, agents or advisors give any warranty or make any representations, expressed or implied as to the completeness or accuracy of the information contained in this document or any information which may be provided in association with it. The

Bidders must read all the terms and conditions of bidding document carefully and only submit the bid, if eligible and in possession of all the documents required. Corrigendum while all efforts have been made to avoid errors in the drafting of the tender documents, the Bidder is advised to check the same carefully. No claim on account of any errors detected in the tender documents shall be entertained.

- Further, WAPCOS Limited does not claim that the information is exhaustive. Respondents to this NIT are required to make their own inquiries/ surveys and will be required to confirm, in writing, that they have done so and they did not rely solely on the information in NIT. WAPCOS Limited is not responsible if no due diligence is performed by the bidders.
- If the office of WAPCOS Limited happens to be closed on the last date and time mentioned for any of the event, the said event will take place on the next working day at the same time and venue.
- WAPCOS Ltd. reserves the right to accept or reject any or all bids without assigning any reasons. No Bidder shall have any cause of action or claim against the WAPCOS Ltd. For rejection of his Bid and will not be bound to accept the lowest or any other tender.
- No reimbursement of cost of any type or on any account will be paid to persons or entities submitting their Bid.
- All information submitted in response to this NIT shall be the property of WAPCOS Limited and it shall be free to use the concept of the same at its will.
- It is hereby declared that WAPCOS is committed to follow the principle of transparency, equity and competitiveness in public procurement. The subject Notice Inviting Tender (NIT) is an invitation to offer made on the condition that the Bidder will sign the integrity Agreement, which is an integral part of tender/bid documents, failing which the tenderer/bidder will stand disqualified from the tendering process and the bid of the bidder would be summarily rejected. This declaration shall form part and parcel of the Integrity Agreement and signing of the same shall be deemed as acceptance and signing of the Integrity Agreement on behalf of the WAPCOS.

For and on behalf of WAPCOS LIMITED
Sr. General Manager

SECTION– I

INSTRUCTIONS TO BIDDER

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INSTRUCTIONS TO BIDDER

1.0 SPECIAL INSTRUCTIONS TO BIDDERS FOR E-TENDERING

1.1 GENERAL

Submission of Online Bids is mandatory for this Tender. E-Tendering is a methodology for conducting Public Procurement in a transparent and secured manner. For conducting electronic tendering, bidders shall use the portal www.etenders.gov.in/eprocure. Tender is invited in Single Stage -Two Envelope system, one Technical Bid and second as financial bid. Accordingly, bidder is directed to make all formalities and registration on www.etenders.gov.in/eprocure website and submit the Technical Bid and Financial bid.

The bidders are required to submit soft copies of their bids electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the bidders in registering on the CPP Portal, prepare their bids in accordance with the requirements and submitting their bids online on the CPP Portal.

More information useful for submitting online bids on the CPP Portal may be obtained from website: https://etenders.gov.in/eprocure/app .

1.2 REGISTRATION

a) Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: https://etenders.gov.in/eprocure/app) by clicking on the link "Online bidder Enrollment" on the CPP Portal which is free of charge.
b) As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.
c) Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
d) Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra etc.), with their profile.
e) Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.
f) Bidder then logs in to the site through the secured log-in by entering their user ID /password and the password of the DSC / e-Token.

1.3 SEARCHING FOR TENDER DOCUMENTS

a) There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a tender published on the CPP Portal.
b) Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e- mail in case there is any corrigendum issued to the tender document.
c) The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

1.4 PREPARATION OF BIDS

a) Bidder should take into account any corrigendum, Addendum published on the web portal along with tender document before submitting their bids.

b) Bidder should read the tender document, corrigendum, Addendum and any other related correspondence, carefully to understand the documents required to be submitted as part of the bid.

c) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. Bid documents may be scanned with 100 dpi with black and white option which helps in reducing size of the scanned document.

1.5 SUBMISSION OF BIDS

a) Please uninstall any Java version if installed already. Then go to this link https://eprocure.gov.in/cppp/jre-windows-i586.exe and download this prescribed version of java for this portal.

b) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.

c) Bidder should log into the site well in advance for bid submission so that they can upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.

d) The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.

e) Bidder has to select the payment option as "offline" to pay the tender fee / EMD as applicable and enter details of the instrument.

f) Bidder should prepare the EMD as per the instructions specified in the tender document. The original should be posted/couriered/given in person to the concerned official, latest by the last date of bid submission or as specified in the tender documents. The details of the DD/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time. Otherwise the uploaded bid will be rejected.

g) Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BoQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BoQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BoQ file is found to be modified by the bidder, the bid will be rejected.

h) The server time (which is displayed on the bidders' dashboard) will be considered as the standard time for referencing the deadlines for submission of the bids by the bidders, opening of bids etc. The bidders should follow this time during bid submission.

i) All the documents being submitted by the bidders would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any bid document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/bid opener's public keys. Overall, the uploaded tender documents become readable only after the tender opening by the authorized bid openers.

j) The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
k) Upon the successful and timely submission of bids (i.e. after Clicking "Freeze Bid Submission" in the portal), the portal will give a successful bid submission message & a bid summary will be displayed with the bid no. and the date & time of submission of the bid with all other relevant details.
l) The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings.

2.0 INSTRUCTIONS TO BIDDER

The purpose of these instructions to serve as a guide to Bidders for preparing offer for carrying out the project in all respect.

a) Submission of a tender by a tenderer implies that the bidder has read Each Section of Tender Document, Corrigendum, Addendum and other related correspondence and has made himself aware about the complete scope of work under the tender document. Accordingly, Contract shall be governed by each Section of Tender Document and all other Conditions mentioned in the tender documents.
b) WAPCOS Limited desires that the bidders, suppliers, and sub-contractors under the Project, observe the highest standard of ethics during the performance, procurement and execution of such contracts. In pursuance of this requirement, WAPCOS Limited, defines, for the purposes of this provision, the terms set forth below:
    i. "Corrupt Practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;
    ii. "Fraudulent Practice" means any act of submission of forged documentation, or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation, or to succeed in a competitive bidding process;
    iii. "Coercive Practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
    iv. "Collusive Practice" means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party.

Will reject the award of Contract, even at a later stage, if it determines that the bidder recommended/ selected for award/awarded has, directly or through an agent, engaged in Corrupt, Fraudulent, Collusive, Or Coercive Practices incompeting for the Contract;
Will sanction a party or its successors, including declaring ineligible, either indefinitely or for a stated period of time, to participate in any further bidding/procurement proceedings under the Project, if it at any time determines that the party has, directly or through an agent, engaged in Corrupt, Fraudulent, Collusive, Or Coercive Practices in competing for, or in executing, the contract; and the party may be required to sign an Integrity Pact, if required; and WAPCOS Limited will have the right to require the bidders, or its suppliers, contractors and consultants to permit WAPCOS Limited to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by WAPCOS Limited at the cost of the bidders.

The Bidder must obtain for himself on his own responsibility and at his own expenses all the information which may be necessary for the purpose of making a bid and for entering into a contract, must examine the Drawings, must inspect the sites of the work, acquaint himself with all local conditions, means of access to the work, nature of the work and all matters pertaining

thereto. WAPCOS Limited will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

a) All Bidders are hereby explicitly informed that conditional offers or offers with deviations from the Conditions of Contract, the bids not meeting the minimum eligibility criteria, Technical Bids not accompanied with EMD and Tender Document Fees of requisite amount in acceptable format, Bids in altered/modified formats, or in deviation with any other requirements stipulated in the tender documents are liable to be rejected.
b) The company reserves the right to waive minor deviations if they do not materially affect the capability of the Tenderer to perform the contract
c) The bidders shall not tamper or modify any part of the tender documents in any manner. In case in part of the bid is found to be tampered or modified at any stage, the bids are liable to be rejected, the contract is liable to be terminated and the full earnest deposit/retention money/performance guarantee will be forfeited and the bidder will be liable to be banned from doing any business with WAPCOS Limited.
d) Incomplete Price bid shall be liable to be rejected, at the discretion of WAPCOS Limited. The total bid price shall cover the entire scope of works covered in the tender.

3.0 EARNEST MONEY DEPOSIT (EMD) / BID SECURITY

The Earnest Money Deposit shall be as per the details mentioned in NIT. EMD shall not carry any interest. The Bid Security/ EMD of the unsuccessful bidder shall be returned at the earliest after expiry of final bid validity period and latest by 30th days after the award of the contract. Bid Security shall be refunded to the successful bidder on receipt of Performance Security.

The successful bidder shall accept the Letter of Award (LOA) within 15 (Fifteen) days from receipt of the same, failing which the EMD shall be forfeited and the award of work may be liable to be cancelled.

If any bidder withdraws or make any changes in his offer already submitted before the expiry of the validity period or any extension thereof without the written consent of the company, the EMD amount will be forfeited for such act of the bidder.

WAPCOS Limited reserves the right of forfeiture of Earnest Money deposit (EMD) in case of the successful bidder.

i. After opening of Tender, revokes his tender within the validity period or increases his earlier quoted rates.
ii. Does not commence the work within the period as per LOA/Contract. In case the LOA/Contract is silent in this regard then within 15 days after award of contract.

The Bid Security will be forfeited in the bidder

i) withdraws or amends its/ his tender;
ii) impairs or derogates from the tender in any respect within the period of validity of the tender;
iii) If the bidder does not accept the correction of his bid price during evaluation; and
iv) If the successful bidder fails to sign the contract or furnish the required performance security within the specified period.

4.0 LANGUAGE OF BID

The Bid and all related correspondence and documents relating to the Project shall be in English language. Supporting documents and printed literature furnished by the Bidder may be in another language provided they are accompanied by an accurate English translation which shall be certified by a qualified translator. Any material that is submitted in a language other than English and which is not accompanied by an accurate English translation will not be considered.

5.0 BIDDERS RESPONSIBILITY

The Bidder is solely responsible for the details of their Bid and the preparation of bids. In no case shall the WAPCOS be responsible for any part of the tender documents submitted by him. Any Site information given in this tender document is for guidance only. The Bidder is advised to visit and examine the Site of works and its surroundings at their cost and obtain for themself on their own responsibility, all information that may be necessary for preparing the tender and entering into a Contract. Irrespective of whether or not the Bidders have attended the pre-bid meeting, they shall be deemed to have inspected the Site and its surroundings beforehand and taken into account all relevant factors pertaining to the Site and clarifications/ modifications/ additions given in Pre-Bid meeting or addendum issued in the preparation and submission of the Bid.

The Bidder shall bear all costs associated with the preparation and submission of his Bid, and the Employer will in no case be responsible and liable for those costs. WAPCOS Limited shall in no case be responsible or liable for these costs, regardless of the conduct or outcome of the bidding process.

6.0 PERIOD OF COMPLETION

The completion period shall be as per NIT. The completion period is for the entire work of planning, execution, approvals, arrangement of materials, equipment, delivery at site including transportation, construction/ installation, testing, commissioning, NoCs & statutory approvals from local bodies and successfully handing over of the entire project to the satisfaction of the Principal Employer/ Employer.

7.0 AMENDMENT OF BID DOCUMENTS

At any time prior to the deadline for submission of bids, the Employer may, for any reason (s), whether at their own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by the issuance of a corrigendum/ addendum. No modification of Bid shall be permissible after last date of submission, whatever may be the reason. The Employer may at their discretion may extend the deadline for submission of Tender/ Bid, if considered necessary.

Any corrigendum/ addendum thus issued shall be part of the bidding documents. Prospective Bidders shall download the same from the e-portal and submit along with the submission of Bid as token of acceptance.

8.0 BID VALIDITY PERIOD

Bids validity will be as per NIT. In exceptional circumstances, on expiry / prior to expiry of original bid validity period, the WAPCOS may request the successful bidder for a specified extension in the period of validity. A Bidder may accept OR refuse the request of extension of validity period. A Bidder agreeing Extension of validity period will not be required/nor permitted to modify his bid. In case of refuse of request of extension of validity period tender will be cancelled.

9.0 CURRENCY OF BID

Bid prices shall be quoted in Indian Rupees.

SECTION– II

SELECTION AND QUALIFYING CRITERIA

SECTION-II

SELECTION AND QUALIFYING CRITERIA

1.0 SITE VISIT

Intending Bidder(s) are advised to inspect and examine the site at his own cost and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (so far as is practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their bid in order to avoid impractical and non-serious bids. A bidder(s) shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charge consequent on any misunderstanding or otherwise shall be allowed.

The bidder(s) shall be responsible for arranging and maintaining at his own cost all materials, tools & plants, water, electricity access, facilities for workers and all other services required for executing the work unless otherwise specifically provided for in the contract documents. Submission of a bid by a bidder(s) implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the work to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by the Government and local conditions and other factors having a bearing on the execution of the work

The bidder and any of its personnel or agents will be granted permission by the Employer/Owner to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the bidder, its personnel, and agents will release and Indemnify the Employer/Owner and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.

2.0 PRE-BID MEETING

Prospective Bidder requiring any clarification of the bidding documents may notify the Employer via email mentioned in NIT, at least one working day prior to pre-bid meeting. The queries shall be discussed during the pre-bid meeting. Thereafter no further queries/clarifications shall be entertained. The Employer will reply to only those queries which are received before the scheduled time as mentioned above, which are essentially required for submission of bids. The Employer will not reply to the queries which are not considered fit like replies of which can be implied /found in the NIT/Tender Documents or which are not relevant or in contravention to NIT/Tender Documents.

The pre-bid meeting shall be held at the communication address mentioned in NIT. The Addendum/ Corrigendum/Replies to pre bid queries as per Pre bid meeting, shall be uploaded on e-portal & WAPCOS website.

3.0 QUALIFYING CRITERIA: ONLINE TECHNICAL BID SUBMISSION

The intending bidders should only submit bid if he considers himself eligible and will be Technically Qualified, if have all the Documents as mentioned below in Table-1: " Documents for Technical Qualification".

Table-1 shall also be considered as "**CHECK LIST"** for submission of documents. **The bidder will upload all the required documents as per Table-1 on Online Portal and same shall be submitted Offline.**

The "MANDATORY GUIDELINES" for "Uploading of Technical Bids" and "Submission of Offline Bids" are as below:

a) **UPLOADING OF TECHNICAL BIDS**

1) **Bidder will arrange & prepare the all required documents as per Table no.-1.**
2) **After that Bidder will arrange all these documents serial wise as per order given in Table-1 i.e. S.N: a) to v) below**
3) **After that bidder will put continuous page number (without any break) on each page.**
4) **These page numbers shall be mentioned by bidder in "Check List" against each required documents**
5) **This numbered check list prepared by bidder shall be put on top of arranged numbered documents as per above Sno.2.**
6) **After that Authorized representative of bidder shall Sign & Stamp on each page of these arranged numbered documents.**
7) **The numbered Check List along with required Qualifying Documents arranged as per above Sno-1 to 6 shall be scanned in coloured by bidder and will be uploaded Online for "Technical Evaluation". If file size is increasing, these documents may be split in parts, however serial / order will be kept as per above Sno. 2 & 3 for ease of "Technical Evaluation"**
8) **Note: There is no need to add any other additional documents apart from the documents asked in Table-1, as additional documents will not be considered during Technical Evaluation**

b) **SUBMISSION OF OFFLINE BID**

9) **The proper binded, above Qualifying Documents arranged & page numbered by bidder along with Check List on top (as per above S.no. 1 to 6) with Signed & Stamped on Each Page shall be submitted in one (1) separate sealed envelope clearly labeled as "TECHNICAL BID" for the Work (Write Name of Work as mentioned in NIT) along with Details of Bidders Address, Phone, E-mail on Envelope.**
10) **NOTE:- The above offline documents shall be submitted by bidder on WAPCOS address as per date & time mentioned in NIT, otherwise bids will be rejected.**

Note: If bidder not follow the above Guidelines, then bid may be rejected by WAPCOS

Table -1: Documents for Technical Qualification	
CHECK LIST	
Name of Bidder	**M/s……..**
Name of Work:	**Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)**

SN	Particular of Document	Page Nos. (from – to)	WAPCOS Remarks	
			Yes	No
a)	Authority to Sign the Tender c) In case of proprietary firm, the Proprietor shall sign with full name, current address OR by the authorized person holding Notarized Power of Attorney issued by the Proprietor for signing of business proposal. The Power of Attorney shall **be submitted in original and shall be specific to this Bid submission only and mentioning the name of the work/project** d) In case of a Limited Company or Corporation, the Application shall be signed by an authorized person holding the Power of Attorney for signing of business proposal. A certified copy of the Power of Attorney shall accompany the Application. **Note:** Power of Attorney duly notarized and on a stamp paper of appropriate value, issued for signing the tender documents, make corrections/ modifications, to interact with the Employer and act as the contact person, shall be submitted along with Technical Bid.			
b)	Scanned copy of EMD Documents.			
c)	Scanned copy of Demand Draft for Tender Fees			
d)	Letter of Transmittal For Technical Bid and Financial bid along with Declaration by the Bidder on bidder's original letter Head as per given format			
e)	Bidder shall submit "**Financial Information"** regarding Turnover, Profit/Loss and Net Worth certificate for Last 5 (five) years ending on the financial year 2022-23 in **Form-A** duly certified by Statutory Auditor of the firm/company which must carry **UDIN (Unique Document Identification Number)** in original. • **Profit / loss (after Tax):** The Bidder should not have incurred any loss (profit after tax should be positive) in more than two years during last five years ending 2023-24. • **Turnover:** Average annual financial turnover of Bidder should be at least 50% of the estimated cost of work during the immediate last 3 consecutive financial years ending 2023-24 • **Net Worth:** Net worth of the Bidder should be positive during the last financial year 2023-24. The requisite certificates must be certified by statutory			

	auditor of the firm/company. • Bidder shall attach Balance Sheet and Profit & loss Statement, duly audited by Statutory Auditor of the firm for last 5 (five) years ending on the financial year 2023-24 in support of **Form-A** **Note: This Certificate will be verified through ICAI Portal using UDIN number mentioned in Form-A** **Note: There is no need to upload entire voluminous balance sheet. However, summarized balance sheet (Audited) and summarized Profit & Loss Account (Audited) for last 05 years shall be uploaded.**			
f)	**Solvency Certificate** The bidder contractor should not be insolvent, in receivership, bankrupt or being wound up, not have had their business activities suspended. Bank Solvency Certificate issued from a Nationalized / Scheduled Commercial Bank approved by Reserve Bank of India (RBI) should be at least 40% (18.42 Crores) of the estimated cost of the work. The Certificate should be issued between the publishing of NIT & last date of submission of Bids, including extensions if any and shall be addressed to WAPCOS Limited, 76-C, Institutional Area, Sector-18, Gurugram, Haryana **specific to this Bid submission only and mentioning the name of the work/project.** The certificate shall be submitted in original and the colour / b&w copy / scanned copy shall not be accepted. The certificate should carry name, designation of the bank official, who has the authority to issue Solvency Certificate **Note:** This Certificate will be verified from the issuing authority by WAPCOS			
g)	**Completed Similar Work Criteria:** The bidder should have satisfactorily completed the similar types of works as mentioned below during the last seven years ending previous day of last date of submission of tender. i) One similar completed work costing not less than 80% (36.83 Crores) of the estimated cost of work. Or ii) Two similar completed works of order value each not less than 50% (23.02 Crores) of the estimated cost of work. Or iii) Three similar completed works of order value not less than 40% (18.42 Crores) of the estimated cost of work. Note: **Similar work shall mean completed buildings with**			

	Non-residential Steel Structure Framed Building e.g. Office/Administrative/Institutional Steel Structure Buildings only with G+3 Structure minimum including Mechanical/ Electrical/ Plumbing works during last seven years executed for State or Central Governments/ Departments/ Ministries/ Authorities/ Public Sector Undertakings The bidder shall submit Completion Certificate(s) for the same along-with LOI(s)/W.O(s) from respective Owner(s)/Client(s). The value of the work done declared is to be without GST / Taxes. For the works, where the Taxes or GST is not clearly defined, the value of works shall be considered as including GST and GST @12% shall be deducted for the works completed up to 31.12.2021 and GST @18% shall be deducted for the works completed after 01.01.2022 to establish the value of work done. The value of executed works shall be brought to the current level by enhancing the actual value of work done at a simple rate of 7% per annum, calculated from the actual date of completion mentioned in the completion certificate to the date of floating of this tender. The bidders submitting experience certificate for the works done in joint venture (JV)/consortium with other firms/companies, their proportionate experience to the extent of its share in the JV/consortium or work done by them shall only be allowed on submitting the valid proof of their share/ work done Note: The completion / experience certificates, along with the supporting documents, shall be got verified from the issuing authority / organizations prior to opening of Financial Bid. In case, the works / certificates are not verified by the issuing authority, WAPCOS reserves the right to reject the bid of the bidder.			
h)	The contractor should also have satisfactorily completed following works executed for State or Central Governments/ Departments/ Ministries/ Authorities/ Public Sector Undertakings during the last seven years ending previous day of last date of submission of tender: 1. One Completed work of Heating, Ventilation and Air conditioning (HVAC) 2. One Completed work for supply and installation of furniture The bidder shall submit Completion Certificate(s) for the same along-with LOI(s)/W.O(s) from respective Owner(s)/Client(s).			

	The copy of completion certificates shall be got verified from the issuing authority/organizations prior to award of works.			
i)	**Verification of Solvency Certificate and Completion & Performance Certificates**. Verification should be done from the official email id of issuing Authorities. The bidder will provide official e-mail, Landline number of the Issuing Authorities in prescribed **Form-C** with undertaking. Bidder will ensure the email ids and landline are in working condition. If Solvency Certificate, completion, performance certificates are not verified by the issuing authority, then it will not be considered for technical evaluation.			
j)	**Bid Capacity** as prescribed in **Form-D**. The bidder should possess the bidding capacity as calculated by the specified formula. The formula generally used is: **Available bid capacity = A x 1.5 x N – B, where** A = Maximum value of engineering (Civil/ Electrical/ Mechanical as relevant to work being procured) works executed in any one year during the last five years (updated at the current price level), taking into account the completed as well as works in progress. N = Number of years prescribed for completion of the work in question. B = Value (updated at the current price level) of the existing commitments and ongoing works to be completed in the next 'N' years. **NOTE:** The bidder shall furnish statements showing the value of existing commitments and on-going works as well as stipulated period of completion remaining for each of the works separately. The value of executed works shall be brought to the current level by enhancing the actual value of work done at a simple rate of 7% per annum, calculated from the actual date of completion mentioned in the completion certificate to the date of floating of this tender.			
k)	**EPF Registration:** The agency should have EPF registration.			
l)	**GST Registration & PAN:** Bidder shall submit valid GST registration certificate for the state where work is to be executed and PAN Card. If not registered till date of submission of bid, bidder will give undertaking on bidder letter head stating that they will			

	get registered in GST as per Govt. norms before submitting of 1st bill of executed works.			
m)	**Indian Registered Company:** The bidder should be an Indian Registered Company under Companies Act 1956/ Proprietorship Firm/ Partnership Firm. **Joint ventures are not accepted**. Copy of Certificate of Incorporation/ Registration/ Partnership Deed Registration or any other relevant document, as applicable, should be submitted along with a copy of address proof. **NOTE:** Proprietor firms shall submit registration details or shall submit the copy of relevant page of Pass book for the Current Account in the name of Proprietor Firm.			
n)	**Structure & Organization:** The bidder will submit Name, address, details of the organization, Name(s) of the Owner/partners/promoters and Directors of the firm/ company as prescribed in **Form-E**.			
o)	**Undertaking for Manpower Deployment:** The bidder will submit "**Undertaking for Manpower Deployment"** as prescribed in **Form -F**			
p)	**Non - Conviction Certificate:** The bidder will submit the undertaking regarding **"Non – Conviction Certificate"** as prescribed in **Form-G.**			
q)	**No Deviation Certificate:** The bidder will submit **'No Deviation Certificate'** as prescribed in **Form-H.**			
r)	**Undertaking regarding Blacklisting / Non Debarment** The bidder will submit the "Undertaking regarding Blacklisting / Non Debarment" as prescribed in **Form-I.**			
s)	**Undertaking regarding Restriction under Rule 144(XI) of the General Finance Rules (GFRs) 2017** The bidder will submit the "Undertaking regarding Restriction under Rule 144(XI) of the General Finance Rules (GFRs) 2017" as prescribed in **Form –J**.			
t)	**Preference to Make in India:** The bidder shall submit undertaking indicating percentage of local content used during the execution of work as per the order of Public Procurement (Preference to Make in India) as prescribed in **Form-K** duly signed by Statutory Auditor and must carry **UDIN (Unique Document Identification Number)**			

	Note: This Certificate will be verified through ICAI Portal using UDIN number mentioned in Form-K			
u)	Undertaking for Performance of Works Awarded by WAPCOS (Completed & Ongoing) **(FORM L)**			
v)	**Understanding The Project Site** The bidder will submit the "Understanding The Project Site" as prescribed in **Form –M**.			

Date:

Place:

(Signature, Name, Designation of the Authorized signatory with Seal)

4.0 CONTENTS OF FINANCIAL BID

The Financial Bid should be uploaded online before last date & time of submission of Tender Document.

Quoted amount by the Bidder shall be firm during the performance of the Contract. Quoted amount by the Bidder with any condition shall not be accepted and same is liable to be rejected Quoted amount by the Bidder shall include all Materials, Tools & Plant, labour, supervision, profit; other levies together with all general risks, liabilities and obligations set out or implied in the contract, applicable Labour Cess, cost of insurance to this contract, all applicable tax liabilities like Income Tax & Surcharges, etc. Any other taxes /cess as per Government directives shall be deducted from each bill paid to the Contractor, from time to time. GST shall be payable extra as per prevailing rates.

The Contractor shall submit e-invoice / Tax Invoice (as applicable for the bidder's Firms) to WAPCOS showing (i) Basic amount (ii) GST amount separately in each bill. It is mandatory to bidders to deposit GST within time limit framed by Govt. of India, if applicable. The Goods and Services Tax (GST), shall be reimbursed to the Agency only after uploading of bills by Contractor on GST Portal "to avail Input benefit of GST".

The WAPCOS shall be performing all its duties of deduction of TDS and other deduction on payment made to the contractor as per applicable legislation in force on the date of submission of bid or to be newly/amended introduced during the execution of the Contract.

5.0 OPENING OF FINANCIAL BID

The financial bids of the technically qualified bidders shall be opened at the notified date & time. Final selection of the bidder will be made based on the least cost method.

6.0 SIGNING OF THE CONTRACT

The letter of Award will be issued to the successful bidder by WAPCOS which will be duly signed & stamped by the successful bidder as token of unequivocal acceptance and confirmation within 5 working days. Subsequently, successful bidder shall submit the Performance Security of required value within the specified time period. Thereafter, on a date and time mutually agreed upon, the successful Bidder or his authorized representative shall attend the office for signing of the Contract Agreement.

Failure on the part of the successful Bidder to comply with the above requirements will constitute sufficient grounds for the annulment of the Award and forfeiture of the Bid Security.

SECTION – III

FORMS

	LETTER OF TRANSMITTAL FOR TECHNICAL BID AND FINANCIAL BID ALONG WITH DECLARATION
FORM-A	**FINANCIAL INFORMATION**
FORM-B	**SOLVENCY CERTIFICATE**
FORM-C	**CORRESPONDENCE DETAILS OF ISSUING AUTHORITY**
FORM-D	**BID CAPACITY**
FORM-E	**STRUCTURE & ORGANISATION**
FORM-F	**UNDERTAKING FOR MANPOWER DEPLOYMENT**
FORM-G	**NO CONVICTION CERTIFICATE**
FORM-H	**NO DEVIATION CERTIFICATE**
FORM-I	**UNDERTAKING REGARDING BLACKLISTING / NON DEBARMENT**
FORM-J	**UNDERTAKING FOR RESTRICTION UNDER RULE 144(XI) OF GFRs**
FORM-K	**PREFERENCE TO MAKE IN INDIA**
FORM-L	**UNDERTAKING FOR PERFORMANCE OF WORKS AWARDED BY WAPCOS (COMPLETED & ONGOING)**
FORM-M	**UNDERSTANDING THE PROJECT SITE**

(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)

LETTER OF TRANSMITTAL FOR TECHNICAL BID

To,
Sr. General Manager
Construction Management Unit-I
1st floor, Plot no. 148,
Sector- 44, Gurugram, Haryana-122003
Email: wss@wapcos.co.in
Contact No. +91124-4488018

Subject: Submission of Bids for Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)

Sir,

Having examined the details given in tender document for the above work, I/we hereby submit the relevant information.

i. I / We acknowledge that the WAPCOS will be relying on the information provided in the Bid and the documents accompanying the Bid & detailed provided in the enclosed "Forms" for selection of the Contractor for the aforesaid Project, and we certify that all information provided in the Bid are true and correct; nothing has been omitted which renders such information misleading; and all documents accompanying the Bid are true copies of their respective originals.
ii. I/we have furnished all information and details necessary for eligibility and have no further pertinent information to supply.
iii. I/we submit the requisite Solvency Certificate, Completion Certificates and Financial Information's and authorize WAPCOS Ltd. to approach the Issuing Authority to confirm the correctness thereof. I/we also authorize WAPCOS Ltd. to approach individuals, employers, firms and corporation to verify our competence and general reputation.
iv. I/ We acknowledge the right of the Authority to reject our Bid without assigning any reason or otherwise and hereby waive, to the fullest extent permitted by applicable law, our right to challenge the same on any account whatsoever.
v. I/we submit the following certificates in support of our suitability, technical knowledge and capability for having successfully completed the following eligible similar works:

Name of work	Certificate from

Date:

Place:

(Signature, Name, Designation of the Authorized signatory with Seal)

(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)

LETTER OF TRANSMITTAL FOR FINANCIAL BID

Dated:

To
Sr. General Manager
Construction Management Unit-I
1st floor, Plot no. 148,
Sector- 44, Gurugram, Haryana-122003
Email: wss@wapcos.co.in
Contact No. +91124-4488018

Sub: Financial Bid for the Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)

Dear Sir,

With reference to this Tender Document, I/we, having examined the Bidding Documents and understood their contents, hereby submit my/our Bid for the aforesaid Project. The Bid is unconditional and unqualified.

1. The Cost has been quoted by me/us for bid after taking into consideration all the terms and conditions stated in the Tender Document, our own estimates of costs and after a careful assessment of the site and all own the conditions that may affect the project cost and implementation of the project.
2. I / We shall keep this offer valid as period specified in the NIT.
3. I / We hereby submit our FINANCIAL BID and Offer Cost as filled in format given on online portal for undertaking the aforesaid Project in accordance with the Bidding Documents and the Agreement.

Yours faithfully,

Date:

(Signature, name and designation of the Authorized signatory)

Place:

Name and seal of Bidder

(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)

DECLARATION BY THE BIDDER

This is to certify that We, M/s ……., in submission of this offer confirm that:-

We have inspected the site of work and have made myself/ourselves fully acquainted with local conditions in and around the site of work. We have carefully gone through each & every section of the tender document for the work **Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)**".

1. Our tender is offered taking due consideration of all factors mentioned in tender documents.
2. We promise to abide by all the stipulations of the Contract documents and carry out and complete the work to the satisfaction of the Employer/ Principal Employer.
3. We also agree to procure Plants and Machineries at our cost required for the work. We also submit that we have Organizational Structure comprising adequate Technical Personnel in the line of requirement. We also agree to accomplish the job entrusted to us in the stipulated time laid out in document except situations not under our control.
4. We have not made any misleading or false representation in the forms, statement and attachments in proof of the qualification requirements;
5. We do not have records of poor performance such as abandoning the work, not properly completing the Contract, inordinate delays in completion or financial failures etc.
6. We have submitted all the supporting documents and furnished the relevant details as per prescribed format.
7. We are financially sound and have not applied or be under corporate debt restructuring.
8. List of Similar Works satisfying Qualification Criterion as indicated hereinafter, does not include any work which has been carried out by us through a Subcontractor on a back-to-back basis.
9. The Cost has been quoted by me/us for bid after taking into consideration all the terms and conditions stated in the Tender Document, our own estimates of costs and after a careful assessment of the site and all own the conditions that may affect the project cost and implementation of the project.
10. I / We shall keep this offer valid as period specified in the NIT.
11. I / We hereby submit our FINANCIAL BID and Offer Cost for undertaking the aforesaid Project in accordance with the Bidding Documents and the Agreement.
12. In the event of my/ our being declared as the Selected Bidder, I/we agree to enter into a Agreement in accordance with the format of Contract Agreement. We agree not to seek any changes in the aforesaid format of Contract Agreement and agree to abide by the same.

Certificate:

It is certified that the information given in the enclosed bid are correct. It is also certified that I/we shall be liable to be debarred, disqualified / cancellation of enlistment in case any information furnished by me/us found to be incorrect.

Date:

Place:

(Signature, Name, Designation of the Authorized signatory with Seal)

[TO BE SUBMITTED ON ORIGINAL LETTER HEAD OF STATUTORY AUDITOR OF BIDDER]

FORM-A: FINANCIAL INFORMATION

Years	Gross Annual turnover	Profit/Loss (After Tax)	Net worth
2019-2020			
2020-2021			
2021-2022			
2022-2023			
2023-2024			

Above Details are being furnished as per the figures in balance sheet for the last five years in respect of M/s …….(Name & address of firm of bidder), as submitted by the firm to the Income Tax Department.

Date:

Place:

(Signature of Statutory Auditor with Seal)
UDIN No. :

[TO BE SUBMITTED ON ORIGINAL LETTER HEAD OF ISSUING BANK]

FORM- B: SOLVENCY CERTIFICATE

To
WAPCOS Limited,
76-C, Institutional Area,
Sector-18, Gurugram, Haryana

Name of Work: **Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)**

This is certify that to the best of our knowledge and information that M/s ……(name of bidder &
address)……
……
……
……
……..

(Signature for The Bank)

(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)

FORM-C: CORRESPONDENCE DETAILS OF ISSUING AUTHORITY

Solvency Certificate/ Completion Certificate / Performance Certificate

Name of Work: Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)

A. Solvency Certificate

Present address of the Issuing Branch	Official Email Id	Landline no	Other Contact no.

B. Completion Certificate for Similar works, HVAC works and Furniture Works

Present address of the Issuing Authority	Official Email Id	Landline no	Other Contact no.

This is to certify that above information is correct and is gathered from the Issuing Authorities by us for the verification of concerned documents. We understand that if the documents is not verified by the issuing authority, then our bid is liable to be rejected.

Date:

Place:

(Signature, Name, Designation of the Authorized signatory with Seal)

(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)

FORM- D: BID CAPACITY

Name of Work: **Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)**

Available bid capacity = A x 1.5 x N – B

Where,
A = Maximum value of engineering (Civil/ Electrical/ Mechanical as relevant to work being procured) works executed in any one year during the last five years (updated at the current price level), taking into account the completed as well as works in progress.

N = Number of years prescribed for completion of the work in question.

B = Value (updated at the current price level) of the existing commitments and ongoing works to be completed in the next 'N' years.

Existing Commitments & on-going works details:

Description of work	Location	Contract no.	Name of address of Client	Value of Contract (Rs. Cr.)	Stipulated period of completion	Value of remaining work (Rs. cr.)	Anticipated date of completion

NOTE:

The bidder shall furnish statements showing the value of existing commitments and on-going works as well as stipulated period of completion remaining for each of the works separately.

The value of executed works shall be brought to the current level by enhancing the actual value of work done at a simple rate of 7% per annum, calculated from the date of completion of last day of the month previous to the one in which applications are invited.

Date: **(Signature, Name, Designation of the Authorized signatory with Seal)**

Place:

(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)

FORM- E: STRUCTURE & ORGANISATION

Name of Work: **Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)**

S.No.	Particulars	Details
1.	Name & Registered Address of the Bidder	
2.	Address and Email on which correspondence will be made during Tendering & after Award of Work	**Name of Person: …who will sign tender** **Mobile No. :** **Email:** **Address:**
3.	Telephone no./Mobile no./Fax no.	
4.	Legal status of the Bidder (attach copies of original document defining the legal status) (a) A Proprietary Firm (b) A Partnership Firm (c) A Limited Company or Corporation (d)A Company registered under company's Act 1956/2013	
5.	Particulars of Registration with various Government Bodies (Attach attested photocopy) **Organization/Place of Registration** 1. 2. 3.	 **Registration No**. 1. 2. 3.
6.	Names and Titles of Directors with designation as per Legal Status of Company	
7.	Designation of Senior Level Officers authorized to act for this work	
8.	Any other information considered necessary but not included above.	

Date:

Place:

(Signature, Name, Designation of the Authorized signatory with Seal)

(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)

FORM- F: - UNDERTAKING FOR MANPOWER DEPLOYMENT

Name of Work Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)

This is to certify that We, M/s ……., in submission of this offer confirm that:-

I. Our tender is offered taking due consideration of all factors including site requirements information and conditions stated in the detailed Instructions to Bidders to execute the work up to the standards as laid out in Employer's Requirements and other sections of Tender Document.

II. We agree to employ the number of technical staff during the execution of this work as defined in the tender document. We shall deploy additional manpower as deemed fit and required to complete the project within stipulated completion period, without any additional cost to the Employer.

III. WAPCOS shall have full power and without giving any reason to us, immediately to get removed any representative, staff and workmen or employees on account of misconduct negligence or incompetence or whose continued employment may in his opinion be undesirable. We shall not claim any compensation on this account.

IV. In case we fail to deploy the technical staff as mentioned in the tender document, we shall be liable to pay recovery for each month of default as mentioned in Tender Documents. The details of Deployment of Technical Staff will be submitted with each Bill duly certified by The Project Manager, WAPCOS. We shall not raise any objection if deduction is made for the same from Running Bills.

Date:

Place:

(Signature, Name, Designation of the Authorized signatory with Seal)

(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)

FORM-G: NO-CONVICTION CERTIFICATE

Name of Work: **Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)**

This is to certify that _____ (Name of the organization), having registered office at _____ (Address of the registered office) has never been convicted by any Central / State Government Department or Court of law anywhere in the country.

This is also to certify that we are not involved in any form of Corrupt and Fraudulent Practices in past and will never be involved in future.

Date:

Place:

(Signature, Name, Designation of the Authorized signatory with Seal)

(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)

FORM-H: NO DEVIATION CERTIFICATE

Name of Work: Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)

This is to confirm that as per Tender conditions we have visited site before submission of our Offer and noted the job content and site condition etc. We also confirm that we have not changed/modified the above tender document and in case of observance of the same at any stage it shall be treated as null and void.

We hereby also confirm that we have not taken any deviation from Tender Clause together with other reference as enumerated in the above referred Notice Inviting Tender and we hereby convey our unconditional acceptance to all terms & conditions as stipulated in the Tender Document.

In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null and void.

Date:

Place:

(Signature, Name, Designation of the Authorized signatory with Seal)

(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)

FORM-I: UNDERTAKING REGARDING BLACKLISTING / NON DEBARMENT

Name of Work: **Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)**

This is to certify that we have taken the cognizance of Blacklisting Policy of WAPCOS Ltd. Further, we hereby Confirm and declare that we, M/s_____ , is not blacklisted/De-registered/debarred by any Government Department/Public Sector Undertaking /Private Sector/ or any other agency for which we have Executed / Undertaken the works/ Services during the last 5 Years.

Date:

Place:

(Signature, Name, Designation of the Authorized signatory with Seal)

(TO BE SUBMITTED ON BIDDER ORIGINAL LETTER HEAD)

FORM-J: UNDERTAKING FOR RULE 144 (XI) IN THE GENERAL FINANCIAL RULES-2017

Name of Work: Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)

I / we ……(Name of the Firm) well aware about the Restrictions under RULE 144 (XI) In General Financial Rules (GFR), 2017 on procurement from country which shares a land border with India.. I/ we hereby certify that we are eligible to participate in the tender as per Rule 144 (xi) In The General Financial Rules (GFR), 2017

Date:

Place:

(Signature, Name, Designation of the Authorized signatory with Seal)

[TO BE SUBMITTED ON ORIGINAL LETTER HEAD OF STATUTORY AUDITOR OF BIDDER]

FORM-K: UNDERTAKING REGARDING PERCENTAGE OF LOCAL CONTENT

Name of Work: Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)

We, …… , a Chartered Accountant firm having our registered office address…… hereby state that, we are Statutory Auditor of the Company M/s…… (CIN : ……..).

The Bidder is bidding for the "..……. (Name of work)

We have understood the provisions of Public Procurement (Preference to make in India) Local content Policy against WAPCOS Tender NIT No. …… Date -……..

We on the basis of the bidder's representation received, hereby confirm that, offer is achieving the minimum local content target as per of above Policy shall be **50%.**

Date: **(Signature of Statutory Auditor with Seal)**
UDIN No. :

Place:

[To be submitted by Bidder on their Original Letter Head]

FORM-L: UNDERTAKING FOR PERFORMANCE OF WORKS AWARDED BY WAPCOS (COMPLETED & ONGOING)

Name of Tender: Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)

This is to declare that our firm is/was engaged in the following completed and ongoing projects of WAPCOS as detailed below:

SN	Name of Project	Location & state	Date of Award	Date of Completion (Actual/Stipulated)	Award Value

It is mandatory to enclose all award letters/completion certificates for above mentioned project for verification.

Declaration:

We hereby declare that, to the best of our knowledge, the following statements hold true for all of the above-mentioned projects:

1. The firm has never been blacklisted by WAPCOS Limited.
2. The firm has never failed to fulfill a contract and has never been terminated for any of the above projects.
3. No Liquidated damages (LD) has been imposed on any of the above mentioned projects.
4. No Performance Bank Guarantee (PBG) has been forfeited for any of the above mentioned projects.

Date: (Signature, name and designation of the Authorized signatory)

Place: **Name and seal of Bidder**

NOTE:

1. If bidder is not engaged by WAPCOS ever, then bidder will submit above information as NIL and their bid will be considered during evaluation.
2. As per the declaration, if bidder is not in comply of 04 points then he is not eligible to participate in the tender. Despite, If the bid is submitted than it shall be rejected.
3. It is mandatory for the bidder to disclose all the completed and ongoing projects in WAPCOS and to submit the Form L. If the Bidder hide any project which is under progress or completed in WAPCOS, then his bid will not be considered for evaluation.

[TO BE SUBMITTED BY BIDDER ON THEIR ORIGINAL LETTER HEAD]

FORM-M: UNDERSTANDING THE PROJECT SITE

Name of Work: Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)

I/we hereby certify that I/we have examined & inspected the site & its surrounding satisfactorily, where the project is to be executed. I/ We are well aware about the following

- Location of the land demarcated for the execution of work and approach/ accessibility to the site.
- Availability of all construction material required for the execution of work.
- Location of the proposed buildings and its allied works on demarcated land.
- Sources from where electric connection is to be taken by contractor at the time of mobilization or other arrangements for electricity is to be made.
- Sources from where suitable water for construction is to be arranged.
- Site clearance and location of matured trees.
- Awareness about the surrounding local conditions, villagers etc.
- Topography, contouring and any other relevant feature like Pond, nallah etc. of the land where the project is to be executed.
- Nature of the ground & sub-soil of the site and accessibility to the site.
- Location of local electrical supply line and other relevant services
- Hindrances / dispute, if any, which may arise during the execution of work

I / We hereby submit our BID considering above all facts gathered during site visit and each & every aspect have been considered in the Quoted percentage Rates / price.

Date:

Place:

(Signature, Name, Designation of the Authorized signatory with Seal)

SECTION – IV

GENERAL CONDITIONS OF CONTRACT

SECTION – IV

GENERAL CONDITIONS TO CONTRACT

1.0 GENERAL RULES AND DIRECTIONS

General Rules & Directions	1.	The work proposed for execution by contract will be notified in a form of invitation to tender by publication in website. This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the tender, and the amount of the security deposit and Performance Security to be deposited by the successful tenderer and the percentage, if any, to be deducted from bills.
	2.	In the event of the tender being submitted by a Partnership firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a Power of Attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act, 1952.
	3.	Receipts for payment made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm
Applicable for Items Rate tender only	4.	The rate(s) must be quoted in decimal coinage. Total Amount must be quoted in full rupees by ignoring fifty paisa and considering more than fifty paisa as rupee one. In case the lowest tendered amount (worked out on the basis of quoted rate of Individual items) of two or more contractors is same, then such lowest contractors may be asked to submit sealed revised online offer (through limited tender process) quoting rate/ cost of work of each item of the schedule of quantity for all sub sections/sub heads as the case may be, but the revised quoted rate of each item of schedule of quantity for all sub sections/sub heads should not be higher than their respective original rate quoted already at the time of submission of tender. The lowest tender shall be decided on the basis of revised offer. If the revised tendered amount (worked out on the basis of quoted rate of individual items) of two or more contractors received in revised offer is again found to be equal, then the lowest tender, among such contractors, shall be decided by draw of lots in presence of WAPCOS and the lowest contractors those have quoted equal amount of their tenders. In case of any such lowest contractor in his revised offer quotes rate of any item more than their respective original rate quoted already at the time of submission of tender, then such revised offer shall be treated invalid. Such case of revised offer of the lowest contractor or case of refusal to submit revised offer by the lowest contractor shall be treated as withdrawal of his tender before acceptance and 50% of his earnest money shall be forfeited. In case all the lowest contractors those have same tendered amount (as a result of their quoted rate of individual items), refuse to submit revised

		offers, then tenders are to be recalled after forfeiting 50% of EMD of each lowest contractors. Contractor, whose earnest money is forfeited because of non-submission of revised offer, or quoting higher revised rate(s) of any item(s) than their respective original rate quoted already at the time of submission of his bid shall not be allowed to participate in the retendering process of the work
Applicable for Percentage Rate/ EPC tender only	4A	**In case of Percentage Rate /EPC Tenders**, contractor shall fill up the usual printed`form, stating at what percentage below/above (in figures as well as in words) the total estimated cost given in Schedule of Quantities , he will be willing to execute the work. The tender submitted shall be treated as invalid if :- 1. The contractor does not quote percentage above/below on the total amount of tender or any section/sub head of the tender. 2. The percentage above/below is not quoted in figures & words both on the total amount of tender or any section/sub head of the tender. 3. The percentage quoted above/below is different in figures & words on the total amount of tender or any section/sub head of the tender. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort including conditional rebates, will be summarily rejected.
	4B	In case the lowest tendered amount (estimated cost + amount worked on the basis of percentage above/below) of two or more contractors is same, such lowest contractors will be asked to submit sealed revised offer in the form of letter mentioning percentage above/ below on estimated cost of tender including all sub sections/sub heads as the case may be, but the revised percentage quoted above/below on tendered amount or on each sub section/ sub head should not be higher than the percentage quoted at the time of submission of tender. The lowest tender shall be decided on the basis of revised offers. In case any of such contractor refuses to submit revised offer, then it shall be treated as withdrawal of his tender before acceptance and 50% of earnest money shall be forfeited. If the revised tendered amount of two more contractors received in revised offer is again found to be equal , the lowest tender, among such contractors, shall be decided by draw of lots in the presence WAPCOS & the lowest contractors those have quoted equal amount of their tenders. In case all the lowest contractors those have quoted same tendered amount, refuse to submit revised offers, then tenders are to be recalled after forfeiting 50% of EMD of each contractor, whose earnest money is forfeited because of non-submission of revised offer, shall not be allowed to participate in the re-tendering process of the work.
	5.	The designated committee will open tenders in the presence of any intending contractors who may be present at the time, and will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, a receipt for the earnest money shall thereupon be given to the contractor who shall thereupon for

		the purpose of identification sign copies of the specifications and other documents. In the event of a tender being rejected, the earnest money shall thereupon be returned to the contractor remitting the same, without any interest.
	6.	The officer Inviting Tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender
	7.	The receipt of an accountant or clerk for any money paid by the contractor will not be considered as any acknowledgment or payment to the officer inviting tender and the contractor shall be responsible for seeing that he procures a receipt signed by the officer inviting tender or a duly authorized Cashier.
Applicable for Items Rate tender only	8.	In the case of Item Rate Tenders, only rates quoted shall be considered. Any tender containing percentage below/above the rates quoted is liable to be rejected. Rates quoted by the contractor in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, if a discrepancy is found, the rates which correspond with the amount worked out by the contractor shall unless otherwise proved be taken as correct. If the amount of an item is not worked out by the contractor or it does not correspond with the rates written either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct. Where the rates quoted by the contractor in figures and in words tally, but the amount is not worked out correctly, the rates quoted by the contractor will unless otherwise proved be taken as correct and not the amount. In event no rate has been quoted for any item(s), leaving space both in figure(s), word(s), and amount blank, it will be presumed that the contractor has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly. However, if a tenderer quotes nil rates against each item in item rate tender, the tender shall be treated as invalid and will not be considered as lowest tenderer and earnest money deposited shall be forfeited.
Applicable for Percentage Rate /EPC tender only	9.	**In case of Percentage Rate / EPC Tenders** only percentage quoted shall be considered. Any tender containing item rates is liable to be rejected. Percentage quoted by the contractor in percentage rate tender shall be accurately filled in figures and words, so that there is no discrepancy
Applicable for Percentage Rate EPC tender only	10.	In Percentage Rate /EPC Tender, the tenderer shall quote percentage below/above (in figures as well as in words) at which he will be willing to execute the work. He shall also work out the total amount of his offer and the same should be written in figures as well as in words in such a way that no interpolation is possible. In case of figures, the word 'Rs.' should be written before the figure of rupees and word 'P' after the decimal figures, e.g. 'Rs. 2.15P and in case of words, the word 'Rupees' should precede and the word 'Paisa' should be written at the end.
	11.	i. The Contractor, whose tender is accepted, will be required to furnish **Performance Security of 5% of the Tendered Value**. This Security shall be in the form of cash (in case Security amount is less than Rs. 10,000/-) or Deposit at call receipt of any scheduled bank/Banker's cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay order of any scheduled bank (in case Security amount is less than Rs. 1,00,000/-) or Government Securities or Fixed Deposit

		Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in the with the prescribed form. ii. The contractor whose tender is accepted will also be required to furnish by way of **Security Deposit for the fulfillment of his contract, an amount equal to 5% of the value of each Running & Final bill**. The Security deposit will be collected by deductions from the running bills as well as final bill of the contractor at the rates mentioned above. The Security amount will also be accepted in cash or in the shape of Government Securities. Fixed Deposit Receipt of a Scheduled Bank or State Bank of India will also be accepted for this purpose provided confirmatory advice is enclosed
	12.	On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be communicated in writing to the Engineer-in-Charge.
	13.	GST or any other tax applicable in respect of inputs procured by the contractor for this contract shall be payable by the Contractor and Government will not entertain any claim whatsoever in respect of the same.
	14.	The contractor shall give a list of WAPCOS employees related to him.
	15.	The tender for composite work includes, in addition to building work, all other works such as sanitary and water supply installations drainage installation, electrical work, horticulture work, roads and paths etc.

2.0 CONDITIONS OF CONTRACT

Definitions	1.	The "**Contract"** means the documents forming the tender and acceptance thereof and the formal Agreement executed between the WAPCOS and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-In-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
	2.	In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:- i. **"Employer**" shall mean WAPCOS Limited/ WAPCOS, A Government of India undertaking- Ministry of Jal Shakti, for execution of the Work / Project as mentioned in NIT, having their Registered office at 5th floor, Kailash building, 26-Kasturba Gandhi Marg, New Delhi-110001, India & include Engineer-in-charge, Project Manager, their successors & permitted assigns as well as their authorized officer / representatives. WAPCOS Limited is a company registered under the Indian Company Act 1956, with its registered office at New Delhi or its Administrative officers or its Engineer or other employees authorized to deal with any matter with which these persons are concerned and authorized on its behalf. ii. **Principal Employer/Owner"** Central Board of Secondary Education (CBSE), Ministry of Education, Govt. of India, who has appointed WAPCOS Ltd. as Project Management Consultant for the work mentioned in NIT. iii. **"Bidder/Tenderer/Contractor/Supplier"** shall mean the individual, firm or company, whether incorporated or not, undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company who are participating in Bidding process and will Execute the project after award of the Works as Contractor/Supplier. They should be an Indian Registered Company under Companies Act 1956/ 2013, Proprietorship Firm/ Partnership Firm iv. **"Work or Project"** means as mentioned in NIT. v. **"Site and location"** means the land/or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract as mentioned in NIT. vi. "**Engineer-in-Charge"** means the Officer appointed by WAPCOS who shall direct, supervise and sign the Contract Agreement on behalf of WAPCOS, for the purpose of Contract or his duly authorized representative. vii. **"Project Manager, WAPCOS"** shall mean the officer appointed by WAPCOS to supervise the works at site on behalf of WAPCOS

		and Authorized by the Engineer-in charge. viii. **Excepted Risk** are risks due to riots (other than those on account of contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Government, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the Engineer-in-charge or causes solely due to use or occupation by Government of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Government's faulty design of works. ix. **"Market Rate"** shall be the rate as checked & verified by the Project Manager, WAPCOS and agreed by the Engineer-in-Charge on the basis of the cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in Special Conditions of Contract to cover, all overheads and profits. x. **"Schedule(s)"** referred to in these conditions shall mean the relevant schedule(s), standard Schedule of Rates of the government mentioned in Special Conditions of Contract. xi. **"Consultant"** means any consultant nominated by the WAPCOS xii. **"Tendered Amount"** means the value as quoted by the Bidder during bidding process excluding GST. xiii. **"Tendered Value"** means the value of work as stipulated in the letter of award excluding GST. xiv. **"Contract Price"** means the value of work executed under the Contract including tendered value, cost of extra items, cost of substituted items, cost of deviated items, works executed under the Contract including GST. xv. **"Date of Commencement of Work"** The date of commencement of work shall be the date of start as specified in Letter of Award or the first date of handing over of the site, whichever is later, in accordance with the phasing if any, as indicated in the tender document. xvi. **GST** means Goods & Service tax- Central, State and Inter State
Scope and Performance	3.	Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa.
	4.	Headings and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.
	5.	The contractor shall be furnished, free of cost one certified copy of the contract documents except standard specifications, and such other printed and published documents, together with all drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract.
Works to be carried out	6.	The work to be carried out under the Contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works. The descriptions given in the Schedule of Quantities/ Building Components shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting,

		fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion of the work as aforesaid in accordance with good practice and recognized principles.
Sufficiency of Tender	7.	The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the cost quoted in the Schedule of Quantities/ Building Components, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.
Discrepancies and Adjustment of Errors	8.	The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions.
	8.1	In the case of discrepancy between the schedule of Quantities/Building Components, the Specifications and/ or the Drawings, the following order of preference shall be observed:- i. Description of Schedule of Quantities/ Building Components. ii. Particular Specification and Special Condition, if any. iii. Drawings. iv. Standard Specifications. v. Indian Standard Specifications of B.I.S.
	8.2	If there are varying or conflicting provisions made in any one document forming part of the contract, the Engineer-in-charge shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.
	8.3	Any error in description, quantity or rate in Schedule of Quantities or any omission therefrom shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract.
Signing of Contract	9.	The letter of Award will be issued to the successful bidder by WAPCOS which will be duly signed & stamped by the successful bidder as token of unequivocal acceptance and confirmation. Subsequently, successful bidder will submit the Performance Security of required value within time specified in Tender document. Thereafter, on a date and time mutually agreed upon, the successful Bidder or his authorized representative shall attend the office for signing of the Contract Agreement. The contract Agreement consisting of complete Tender Document along with all the documents Corrigendum/Amendments if any, Clarifications / Correspondences and any other documents as forming part of the contract. No payment for the work done will be made unless contract is signed by the contractor. Failure on the part of the successful Bidder to comply with the above requirements will constitute sufficient grounds for the annulment of the Award and forfeiture of the Bid Security.

2.0 CLAUSES OF CONTRACT

CLAUSE 1: PERFORMANCE SECURITY (OR PERFORMANCE BANK GUARANTEE)

i. The contractor shall submit an irrevocable **Performance Security of 5% (Five percent) of the "Tendered Value"** in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Special Conditions of Contract from the date of issue of letter of acceptance. This period can be further extended by the Engineer-in-Charge up to a maximum period as specified in Special Conditions of Contract on written request of the contractor stating the reason for delays in procuring the Performance Security, to the satisfaction of the Engineer-in-Charge. This Security shall be in the form of Cash (in case Security amount is less than Rs. 10,000/-) or Banker's Cheque of any scheduled bank/Demand Draft of any scheduled bank/Pay Order of any scheduled bank (in case Security amount is less than Rs. 1,00,000/-) or Fixed Deposit Receipts or Guarantee Bonds of any Scheduled Bank or the State Bank of India in accordance with the form annexed hereto. In case a fixed deposit receipt of any Bank is furnished by the contractor to the WAPCOS as part of the performance Security and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the WAPCOS to make good the deficit.

ii. **The Performance Security shall be initially valid up to period** of 60 (sixty) days beyond the date of completion of all contractual obligations of the contractor, including Defect Liability Period (DLP) **plus 1 year claim period beyond that**. In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance Security extended to cover such enlarged time. The performance Security shall be refunded to the contractor without interest, after he duly performs and completes all obligations under the contract including completion of the Defect Liability Period.

iii. The Engineer-in-Charge shall make a claim under the performance Security except for amounts to which the WAPCOS is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:

iv. Failure by the contractor to extend the validity of the Performance Security as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Security.

   a) Failure by the contractor to pay WAPCOS any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.

v. In the event of the contract being determined or rescinded under provision of any of the Clause/Condition of the agreement, the performance Security shall stand forfeited in full and shall be absolutely at the disposal of the WAPCOS.

CLAUSE 1A: SECURITY DEPOSIT / RETENTION MONEY

The Bidder whose tender(s) may be accepted shall permit WAPCOS at the time of making any payment to Contractor for work done under the contract to deduct a sum at the rate of 5% from each running and final bill excluding GST.

The Security Deposit as deducted above shall be released within 60 days of successful completion of Warranty/Defect Liability as Certified by the Engineer-in-Charge or till the final bill has been prepared and passed whichever is later.

CLAUSE 2: COMPENSATION FOR DELAY i.e. LIQUIDITY DAMAGE

If the contractor fails to maintain the required progress or to complete the work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under purview of the Contract on account of such breach, pay compensation for delay i.e. Liquidity Damage, a sum not less than 0.5% (Zero point five percent) of the Tendered Value as

aforesaid for each week and limited to 10% of the Contract Price. If, still work is not completed by the Contractor after deduction of full Liquidity Damage i.e. 10% of the Contract Price, then Performance Security shall be invoked and deducted security money shall be forfeited and project will be terminated. After that the balance work will be executed by Employer on risk and cost (amount recovered from invocation of Performance Security and Security deposit) of contractor.

In case Liquidity Damage imposed by Principal Employer to the project at any point of time, then full amount of Liquidity Damage (10% of the Contract Price) will be recovered from the up-coming interim bills/ final bill. If the amount of up-coming interim bills/ final bill is less than the amount of Liquidity Damage, then balance amount of Liquidity Damage will be recovered from the Performance Security, Security Deposit and any other financial deposit of Contractor with Employer.

CLAUSE 3: WHEN CONTRACT CAN BE DETERMINED

Subject to other provisions contained in this clause, the Engineer-in-Charge may, without prejudice to his any other rights or remedy against the contractor in respect of any delay, inferior workmanship, any claims for damages and/or any other provisions of this contract or otherwise, and whether the date of completion has or has not elapsed, by notice in writing absolutely determine the contract in any of the following cases:

i. If the contractor having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or unworkman like manner shall omit to comply with the requirement of such notice for a period of seven days thereafter.

ii. If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-Charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continues to do so after a notice in writing of seven days from the Engineer-in-Charge.

iii. If the contractor fails to complete the work or section of work with individual date of completion on or before the stipulated or justified extended date, on or before such date of completion; and the Engineer-in-charge without any prejudice to any other right or remedy under any other provision in the contract has given further reasonable time in a notice given in writing in that behalf as either mutually agreed or in absence of such mutual agreement by his own assessment making such time essence of contract and in the opinion of Engineer-in-Charge the contractor will be unable to complete the same or does not complete the same within the period specified.

iv. If the contractor persistently neglects to carry out his obligations under the contract and/ or commits default in complying with any of the terms and conditions of the contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge.

v. If the contractor shall offer or give or agree to give to any person in WAPCOS service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for WAPCOS.

vi. If the contractor shall enter into a contract with WAPCOS in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-Charge.

vii. If the contractor had secured the contract with WAPCOS as a result of wrong tendering or other non-bonafide methods of competitive tendering or commits breach of Integrity Agreement.

viii. If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary

liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.

ix. If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.

x. If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.

xi. If the contractor assigns (excluding part(s) of work assigned to other agency(s) by the contractor as per terms of contract), transfers, sublets (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer -in-Charge. When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the WAPCOS shall have powers:

(a) To determine the contract as aforesaid so far as performance of work by the Contractor is concerned (of which determination notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination, Security Deposit already recovered, Security deposit payable and Performance Security under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the Government.

(b) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be un-executed out of his hands and to give it to another contractor to complete the work. The contractor, whose contract is determined as above, shall not be allowed to participate in the tendering process for the balance work including any new items needed to complete the work. In the event of above courses being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reasons of his having purchased or procured any materials or entered into any engagements or made any advances on account or with a view to the execution of the work or the performance of the contract. And in case action is taken under any of the provision aforesaid, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until the Engineer-in-Charge has certified in writing the performance of such work and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

Note:

Actions under Clause 2 and 3 are independent.

The compensation under Clause 2 is for loss caused due to delay in performance, whereas, the compensation under Clause 3 is for consequential losses due to non-performance of the Contract. Hence, the Employer is entitled to compensation under Clause 3 and Clause 2 independently. Hence, the Employer is empowered to take action under Clause 2 for levy of compensation depending on liability of Contractor under Clause 2 based on the delay at the stage of Clause 3 action, before determination.

CLAUSE 3A

In case, the work cannot be started due to reasons not within the control of the contractor within 1/6th of the stipulated time for completion of work or one month whichever is higher, either party may close the contract. In case contractor wants to close the contract, he shall give notice to the WAPCOS stating the failure on the part of WAPCOS. In such eventuality, the Performance Security of the contractor shall be refunded within following time limits :

a)	Tendered value of work is up to Rs. 1.0 Crore	15 days
b)	If the Tendered value of work is more than Rs.1.0 crore and up to Rs. 10 Crore	21 days
c)	If the Tendered value of work exceeds Rs. 10 Crore :	30 days

Neither party shall claim any compensation for such eventuality. This clause is not applicable for any breach of the contract by either party

CLAUSE 4: CONTRACTOR LIABLE TO PAY COMPENSATION EVEN IF ACTION NOT TAKEN UNDER CLAUSE 3

In any case in which any of the powers conferred upon the Engineer-in-Charge by Clause-3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work/or any part thereof, paying or allowing for the same in account at the contract rates, or, in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final, and binding on the contractor, clerk of the works, foreman or other authorized agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice) in the event of the contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

CLAUSE 5: TIME AND EXTENSION FOR DELAY

The time allowed for execution of the Works as specified in Contract or the extended time in accordance with these conditions shall be the essence of the Contract. The execution of the works shall commence from such time period as mentioned in Contract or from the date of handing over of the site whichever is later. If the Contractor commits default in commencing the execution of the work as aforesaid, WAPCOS shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the performance Security absolutely.

5.1 As soon as possible but within 7 (seven) days from the date of commencement of work, the Contractor shall submit a Time and Progress Chart for each milestone and get it approved by the Engineer-in-Charge. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Employer and the Contractor within the limitations of time imposed in the Contract documents, and further to ensure good progress during the execution of the work, the Contractor shall in all cases in which the time allowed for any work, exceeds 15 days (save for special jobs for which a separate programme has been agreed upon) complete the work as per scheduled date of completion**.**

In case of non submission of construction programme by the contractor, the program approved by the Engineer-in-Charge shall be deemed to be final.

The approval by the Engineer-in-Charge of such programme shall not relieve the contractor of any of the obligations under the contract.

The contractor shall submit the Time and Progress Chart and Progress Report using the mutually agreed software or in other format decided by Engineer-in-Charge for the work done during previous month to the Engineer-in-charge on or before 5th day of each month failing which a recovery of Rs. 2500/- per day basis in case of delay in submission of Time and Progress Chart and Rs. 1000/- per day in case of delay in submission of the monthly progress report.

5.2 If the work(s) be delayed by:-

(i) force majeure, or
(ii) abnormally bad weather, or
(iii) serious loss or damage by fire, or
(iv) civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
(v) delay on the part of other contractors or tradesmen engaged by Engineer-in- Charge in executing work not forming part of the Contract, or
(vi) any other cause which, in the absolute discretion of the Engineer-in-Charge is beyond the Contractor's control.

then upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the authority, but shall nevertheless use constantly his best endeavours to prevent or make good the delay and shall do all that may be reasonably required to the satisfaction of the Employer/ Principal Employer to proceed with the works. The Employer will give the "Extension of Time" only after the approval of the same from Principal Employer.

If, Employer/Principal Employer are not satisfied with the reasons stated by the contractor for delay then, Provision Extension of Time shall be granted to complete the balance works and keep the contract alive. In the period of Provisional Extension of time, Employer shall have the right to impose Liquidity damage as per above Clause 2, if Principal Employer impose the Liquidity Damage to the project at any point of time.

During the granted provisional extension of time, 10% amount of bill amount excluding GST, shall be withheld from each running bill as per the discretion of the Engineer-in-charge. The withheld amount will be accountable to Liquidity damage as per clause-2 and shall only be released to the contractor, if work is completed within the given Provisional Extension of time and Principal Employer didn't impose the Liquidity Damage to the project.

The contractor shall have no claim of damages for extension of time granted or rescheduling of milestone/s for above events listed.

5.3 In case the work is hindered by the Employer/ Principal Employer for any reason / event, the Engineer-in-Charge, if justified, give a fair and reasonable extension of time and reschedule the mile stones for completion of work. Such extension of time or rescheduling of milestone/s shall be without prejudice to any other right or remedy of the parties in contract or in law; provided further that for concurrent delays under this sub-clause and sub-clause 5.2 to the extent the delay is covered under sub-clause 5.2 the Contractor shall be entitled to only extension of time and no compensation/damages.

5.4 Request for rescheduling of Milestones and extension of time, to be eligible for consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed form to the Engineer-in-Charge. The Contractor may also, if practicable, indicate in such a request the period for which extension is desired. The Contractor

shall indicate in such a request the period by which rescheduling of milestone/s or extension of time is desired. With every request for rescheduling of milestones, or if at any time the actual progress of work falls behind the approved programme by more than 10% of the stipulated period of completion of contract, the Contractor shall produce a revised programme which shall include all details of pending drawings and decisions required to complete the contract and also the target dates by which these details should be available without causing any delay in execution of the work. An amount as deemed appropriate by the Engineer-in-Charge shall be deducted on per day basis in case of delay in submission of the revised programme.

5.4.1 In any such case the Engineer-in-Charge may give a fair and reasonable extension of time for completion of work or reschedule the mile stones. Engineer-in-Charge shall finalize/ reschedule a particular mile stone before taking an action against subsequent mile stone. Such extension or rescheduling of the milestones shall be communicated to the Contractor by the Engineer-in-Charge in writing, within 21 days of the date of receipt of such request from the Contractor in prescribed form. In event of non-application by the Contractor for extension of time Engineer-in-Charge after affording opportunity to the Contractor, may give, supported with a programme, a fair and reasonable extension within a reasonable period of occurrence of the event.

5.5 In case the work is delayed by any reasons, in the opinion of the Engineer-in-Charge, by the Contractor for reasons beyond the events mentioned in sub clause 5.2 and beyond the justified extended date; without prejudice to right to take action under Clause 3, the Engineer-in-Charge may grant extension of time required for completion of work without rescheduling of milestones. The Contractor shall be liable for levy of compensation for delay for such extension of time.

CLAUSE 6 : COMPUTERIZED MEASUREMENT BOOK

Project Manager, WAPCOS shall, except as otherwise provided, ascertain and determine by measurement the value of work done in accordance with the contract.

All measurements of all items having financial value shall be entered by the contractor and compiled in the shape of the Computerized Measurement Book having pages of A-4 size as per the format of the WAPCOS so that a complete record is obtained of all the items of works performed under the contract.
All such measurements and levels recorded by the contractor or his authorized representative from time to time, during the progress of the work, shall be got checked by the contractor from the Project Manager, WAPCOS as per interval or program fixed in consultation with Engineer-in-Charge or his authorized representative. After the necessary corrections made by the Project Manager, WAPCOS, the measurement sheets shall be returned to the contractor for incorporating the corrections and for resubmission to the Project Manager, WAPCOS, for the dated signatures by the Project Manager, WAPCOS, and the contractor or their representatives in token of their acceptance.

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

The final, fair, computerized measurement book given by the contractor, duly bound, with its pages machine numbered, should be 100% correct, and no cutting or over-writing in the measurements

would thereafter be allowed. If at all any error is noticed, the contractor shall have to submit a fresh computerized MB with its pages duly machine numbered and bound.

The contractor shall also submit to the WAPCOS separately his computerized Abstract of Cost and the bill based on these measurements, duly bound, and its pages machine numbered. Thereafter, this bill will be processed by the Project Manager, WAPCOS.

The contractor shall, without extra charge, provide all assistance with every appliance, labour and other things necessary for checking of measurements/levels by the Project Manager, WAPCOS.

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

The contractor shall give not less than seven days' notice to the Project Manager, WAPCOS in charge of the work before covering up or otherwise placing beyond the reach of checking and/or test checking the measurement of any work in order that the same may be checked and/or test checked and correct dimensions thereof be taken before the same is covered up or placed beyond the reach of checking and/or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Project Manager, WAPCOS in charge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and/or test checking measurements without such notice having been given or Project Manager, WAPCOS consent being obtained in writing the same shall be uncovered at the Contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

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

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

CLAUSE 7: PAYMENT ON INTERMEDIATE CERTIFICATE TO BE REGARD AS ADVANCE

The interim or running account bill shall be submitted by the Contractor for work executed on the basis of recorded measurements on the format of the Employer on or before the date of every month fixed by Project Manager of WAPCOS. Contractor shall submit the bill with all requisite certificates/ documents. Project Manager of WAPCOS shall arrange to have the bill verified by taking or causing to be taken where necessary, the requisite measurement of the work within 15 working days. Observations if any shall be conveyed by the Project Manager, WAPCOS to the Contractor within 25 working days. Contractor shall resubmit the bill to Project Manager, WAPCOS after compliance of observations and duly signed by the Project Manager of WAPCOS for further processing.

Payment on account of amount admissible shall be made by the Engineer-in-Charge certifying the sum to which the Contractor is considered entitled by way of interim payment at such rates as decided by Engineer-in-Charge. The amount shall be paid by 45 working days after the day of presentation of the corrected bill by the Contractor to the Engineer-in-Charge or his representative, or 45 days after receive of the payments from Principal Employer whichever is later. As Bidder/Contractor acknowledges that under the present Contract agreement, the Employer is only working as intermediary between Principal Employer and Contractor. Thus, the Contractor unconditionally acknowledge that the payments under the present Contract shall be made proportionately by the Employer only on back-. to-back basis i.e., after 45 days subject to receipt of payment from Principal Employer. The Contractor also unconditionally agree that in the event the payment or part thereof, under the present Contract is not received from Principal Employer, then WAPCOS and/or any of its Employee/Officer shall not be responsible to pay any amount to Contractor. The said condition shall supersede any and all other conditions of Contract/Agreement/Work Order/Arrangement between the parties.

All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-Charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates is/are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-Charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.

Pending consideration of extension of date of completion, interim payments shall continue to be made as herein provided without prejudice to the right of the WAPCOS to take action under the terms of this contract for delay in the completion of work, if the extension of date of completion is not granted by the competent authority.
It is clearly agreed and understood by the Contractor that notwithstanding anything to the contrary that may be stated in the agreement between Employer and the Contractor; the Contractor shall become entitled to payment only after Employer has received the corresponding payment(s) from the Principal Employer for the work done by the Contractor. Any delay in the release of payment by the Principal Employer to Employer leading to a delay in the release the corresponding payment by Employer to the Contractor shall not entitle the Contractor to any compensation/interest from Employer.

All payments shall be released by way of e-transfer through RTGS in India directly at their Bank account by Employer.

Clause 7A

No Running Account Bill shall be paid for the work till the applicable labour licenses, registration with EPFO, ESIC / BOCW Welfare Board, whatever applicable are submitted by the Contractor to the Project Manager, WAPCOS.

CLAUSE 8: COMPLETION CERTIFICATE AND COMPLETION PLANS

Within ten days of the completion of the work, the contractor shall give notice of such completion to the Engineer-in-Charge and within thirty days of the receipt of such notice, the Engineer-in-Charge or his representative shall inspect the work with Project Manager, WAPCOS and if there is no defect in the work, shall furnish the contractor with a final certificate of completion, otherwise a provisional certificate of physical completion indicating defects (a) to be rectified by the contractor and/or (b) for which payment will be made at reduced rates, shall be issued. But no final certificate of completion

shall be issued, nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work shall be executed all scaffolding, surplus materials, rubbish and all huts and sanitary arrangements required for his/their work people on the site in connection with the execution of the works as shall have been erected or constructed by the contractor(s) and cleaned off the dirt from all wood work, doors, windows, walls, floor or other parts of the building, in, upon, or about which the work is to be executed or of which he may have had possession for the purpose of the execution; thereof, and not until the work shall have been measured by the Engineer-in-Charge. If the contractor shall fail to comply with the requirements of this Clause as to removal of scaffolding, surplus materials and rubbish and all huts and sanitary arrangements as aforesaid and cleaning off dirt on or before the date fixed for the completion of work, the Engineer-in-Charge may at the expense of the contractor remove such scaffolding, surplus materials and rubbish etc., and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the contractor shall have no claim in respect of scaffolding or surplus materials as aforesaid except for any sum actually realized by the sale thereof.

The completion certificate shall be issued by Employer to the Contractor after successful handing/taking over by Principal Employer; submitting of **Occupational Certificates** issued by the local urban bodies/Municipal Corporation by contractor along with submission of all necessary NOC's/statutory approvals from all concerned departments such as local urban bodies, Fire Department, Electricity Board/Chief Electrical Inspector, Forest, Lift etc. of that area in accordance with Government norms to enable Principal Employer/Owner to occupy the project with all required service. The Completion Certificate shall only be issued after the submission of "**No Claim Certificate**" by contractor as per the format given in the **Section of Annexures**.

CLAUSE 8A : COMPLETION PLANS TO BE SUBMITTED BY THE CONTRACTOR

The contractor shall submit completion plans for Internal and External Civil, Electrical and Mechanical Services within thirty days of the completion of the work, provided that the service plans having been issued for execution, unless the contractor, by virtue of any other provision in the contract, is required to prepare such plans. The "As Built" Drawings and completion report shall be submitted by the Contractor within 30 days from the date of completion works in 3 sets.

In case, the contractor fails to submit the completion plan/drawings as aforesaid, he shall be liable to pay a sum of 0.25% (zero point two five percent) of Tendered value.

CLAUSE 9 : PAYMENT OF FINAL BILL

The final bill shall be submitted by the Contractor in the same manner as specified in interim bills within three months of physical completion of the work or within one month of the date of the final certificate of completion furnished by the Engineer-in- Charge whichever is earlier. No further claims shall be made by the Contractor after submission of the final bill and these shall be deemed to have been waived and extinguished.

CLAUSE 10A: MATERIALS TO BE PROVIDED BY CONTRACTOR

The contractor shall, at his own expense, provide all materials, required for the works.

The contractor shall, at his own expense and without delay, supply to the Project Manager, WAPCOS samples of materials to be used on the work and shall get these approved in advance. All such materials to be provided by the Contractor shall be in conformity with the specifications laid down or referred to in the contract. The contractor shall, if requested by the Engineer-in-Charge furnish proof, to the satisfaction of the Engineer-in-Charge that the materials so comply. The Project Manager, WAPCOS shall within thirty days of supply of samples or within such further period as he may require intimate to

the Contractor in writing whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Project Manager, WAPCOS for his approval, fresh samples complying with the specifications laid down in the contract. When materials are required to be tested in accordance with specifications, approval of the Engineer-in-Charge/ Principal Employer shall be issued after the test results are received.

The Contractor shall at his risk and cost submit the samples of materials to be tested or analyzed and shall not make use of or incorporate in the work any materials represented by the samples until the required tests or analysis have been made and materials finally accepted by the Engineer-in-Charge/ Principal Employer. The Contractor shall not be eligible for any claim or compensation either arising out of any delay in the work or due to any corrective measures required to be taken on account of and as a result of testing of materials.

The contractor shall, at his risk and cost, make all arrangements and shall provide all facilities as the Project Manager, WAPCOS may require for collecting, and preparing the required number of samples for such tests at such time and to such place or places as may be directed by the Project Manager, WAPCOS and bear all charges and cost of testing unless specifically provided for otherwise elsewhere in the contract or specifications. The Engineer-in- Charge or his authorized representative shall at all times have access to the works and to all workshops and places where work is being prepared or from where materials, manufactured articles or machinery are being obtained for the works and the contractor shall afford every facility and every assistance in obtaining the right to such access.

The Engineer-in-Charge or his authorized representative shall have full powers to require the removal from the premises of all materials which in his opinion are not in accordance with the specifications and in case of default, the Engineer-in-Charge shall be at liberty to employ at the expense of the contractor, other persons to remove the same without being answerable or accountable for any loss or damage that may happen or arise to such materials. The Engineer-in-Charge or his authorized representative shall also have full powers to require other proper materials to be substituted thereof and in case of default, the Engineer-in-Charge or his authorized representative may cause the same to be supplied and all costs which may attend such removal and substitution shall be borne by the Contractor.
The Contractor shall at his own expense, provide a material testing lab at the site for conducting routine field tests. The lab shall be equipped at least with the testing equipment as specified in Contract.

If the Engineer-in-Charge or his authorized representative instructs the Contractors to carry out a test not specified in the Specification to check whether any work has a Defect. Such tests are to be carried out by the Contractor by deploying agencies and paying all the cost for such tests.

CLAUSE 10B :

(i) SECURED ADVANCE ON NON-PERISHABLE MATERIALS AND RECOVERY

The contractor, on signing an indenture in the form to be shall be entitled to be paid during the progress of the execution of the work up to 75% of the assessed value of any materials which are in the opinion of the Project Manager, WAPCOS non-perishable, non-fragile and non-combustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and/or protected against damage by weather or other causes but which have not at the time of advance been incorporated in the works. When materials on account of which an advance has been made under this sub-clause are incorporated in the work, the amount of such advance shall be recovered/ deducted from the next payment made under any of the clause or clauses of this contract.

Such secured advance shall also be payable on other items of perishable nature, fragile and combustible with the approval of the Engineer-in-Charge provided the contractor provides a

comprehensive insurance cover for the full cost of such materials. The decision of the Engineer-in-Charge shall be final and binding on the contractor in this matter. No secured advance, shall however, be paid on high-risk materials such as ordinary glass, sand, petrol, diesel etc.

The secure Advance shall be recovered as per consumption of material from the contractor which secure advance is given to the contractor. If any value of secure advance is remaining to recover, then it will be fully recovered after completion of 80% work of the Tendered Value.

(ii) MOBILISATION ADVANCE

On request of contractor, the Employer shall make interest bearing advance payment for mobilization of labour, stores and workshops including camps, labour sheds, machineries and construction plant, etc. for preliminary and enabling Works, after the signing of Contract agreement to the extent of 10 (ten) per cent of the Tendered Value of an unconditional BG. Such BG shall remain effective until the advance payment has been fully repaid.

The aforesaid advance of 10 (ten) per cent shall be paid in two instalments, each of five per cent. The first one shall be paid on commencement of the work and on submission of unconditional BG in respect of the advance.

The second instalment shall be paid on certification by the engineer in charge for achieving a financial progress of 10 (ten) per cent of the Tendered Value, as also provision of a BG by the contractor for this part of the advance. Mobilisation expenditure mentioned herein shall not include the margin money and bank commission, and so on, paid by the contractor for procurement of BGs against performance security and mobilisation advance.

The request of contractor for aforesaid mobilization advance will be considered within 3 (three) months from the commencement of work.

(iii) INTEREST & RECOVERY OF MOBILISATION ADVANCE

The mobilization advance bears simple interest at the rate 10 % and shall be calculated from the date of payment to the date of recovery (365 days in a year) both days inclusive, on the outstanding amount of advance.

Before any installment of advance is released, the contractor shall execute a one single Bank Guarantee Bond from Scheduled Bank for the amount equal to 110% of the amount of mobilization advance and valid up to stipulated period of completion as mentioned in NIT. This (Bank Guarantee from Scheduled Bank for the amount equal to 110% of the balance amount of advance) shall be kept renewed from time to time to cover the balance amount and likely period of complete recovery.

Recovery of such sums advanced shall be made by the deduction from the contractor's bills commencing after first 10% of the gross value of the work is executed and paid, on pro-rata percentage basis to the gross value of the work billed beyond 10% in such a way that the entire advance is recovered by the time 80% of the gross value of the contract is executed and paid, together with interest due on the entire outstanding amount up to the date of recovery of the installment. Along with aforesaid condition of recovery of mobilization advance, if contractor wants to recover more or full mobilization advance from the interim bills, then accordingly mobilization advance may be recovered by Employer. The said request will be given by the contractor along with the interim bill to the Engineer-In-Charge. The Bank Guarantee will be returned after recovery of the mobilization advance against particular Bank guarantee.

CLAUSE 10C : PAYMENT ON ACCOUNT OF INCREASE IN PRICE / WAGES DUE TO STATUTORY ORDER – NOT APPLICABLE

CLAUSE 10CA : PAYMENT DUE TO VARIATION IN PRICES OF MATERIALS AFTER RECEIPT OF TENDER – NOT APPLICABLE

CLAUSE 10CC: PAYMENT DUE TO INCREASE / DECREASE IN PRICES/ WAGES (EXCLUDING MATERIALS COVERED UNDER CLAUSE 10 CA) AFTER RECEIPT OF TENDER FOR WORKS – NOT APPLICABLE

CLAUSE 10D : DISMANTLED MATERIAL PROPERTY

The contractor shall treat all materials obtained during dismantling of a structure, excavation of the site for a work, etc. as WAPCOS/Government/Principal Employer property and such materials shall be disposed off to the best advantage of WAPCOS according to the instructions in writing issued by the Engineer-in-Charge or his authorized representative.

CLAUSE 11 : WORKS TO BE EXECUTED IN ACCORDANCE WITH SPECIFICATIONS, DRAWINGS, ORDERS ETC.

The Contractor shall execute the work as per the sequence submitted by Contractor and approved by Engineer-in-Charge from time to time so that all other items of the work to be executed by other agencies are completed progressively along with the main work.

The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect of the work and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instructions as are not included in the standard specifications or in any Bureau of Indian Standard or any other, published standard or code or, Schedule of Rates or any other printed publication referred to elsewhere in the contract.

The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The Contractor shall take full responsibility for adequacy, suitability and safety of all the works and methods of construction.

At least to 10% of prescribed Tests as per Central Public Works Department Manual/IS Codes of construction materials shall be carried out from the outside approved/NABL recognized Laboratory as may be approved by Engineer-In-Charge without any extra expenditure to Employer.

The Contractor shall establish a field test laboratory on the site with latest equipment's for carrying out field tests of construction materials and will maintain proper records of all the test results.

CLAUSE 12 : DEVIATIONS / VARIATIONS EXTENT AND PRICING

The Engineer-in-Charge shall have power (i) to make alteration in, omissions from, additions to, or substitutions for the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and (ii) to omit a part of the works in case of non-availability of a portion of the site or for any other reasons and the contractor shall be bound to carry out the works in accordance with any instructions given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall form part of the contract as if originally provided therein and any altered, additional or substituted work which the contractor may be directed to do in the manner specified above as part of the works, shall be carried out by the contractor on the same conditions in all respects including price on which he agreed to do the main work except as hereafter provided.

12.1 The time for completion of the works shall, in the event of any deviations resulting in additional cost over the Tendered Value sum being ordered, be extended, if requested by the contractor, as follows:

(i) In the proportion which the additional cost of the altered, additional or substituted work, bears to the original Tendered Value plus

(ii) 25% of the time calculated in (i) above or such further additional time as may be considered reasonable by the Engineer-in-Charge.

12.2 Deviations, Extra Items, Substituted item and Pricing

(a) **In the case of extra item(s)** (items that are completely new, and are in addition to the items contained in the contract), the contractor may within fifteen days of receipt of order or occurrence of the item(s) claim rates, supported by proper analysis, for the work and the Project Manager, WAPCOS shall within prescribed time limit of the receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined after approval of Engineer-in -charge.

(b) **In the case of substituted items** (items that are taken up with partial substitution or in lieu of items of work in the contract), the rate for the agreement item (to be substituted) and substituted item shall also be determined in the manner as mentioned in the following para.

- If the market rate for the substituted item so determined is more than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so increased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).
- If the market rate for the substituted item so determined is less than the market rate of the agreement item (to be substituted), the rate payable to the contractor for the substituted item shall be the rate for the agreement item (to be substituted) so decreased to the extent of the difference between the market rates of substituted item and the agreement item (to be substituted).

(c) **In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in Special Conditions of Contract**, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Project Manager, WAPCOS shall within prescribed time limit of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined after approval of Engineer-in -charge.

The prescribed time limit for finalizing rates for Extra Item(s), Substitute Item(s) and Deviated Quantities of contract items is within 45 days after submission of proposal by the contractor without observation of the Engineer-in-Charge or his authorized representative.

12.3 Any operation incidental to or necessarily has to be in contemplation of tenderer while filing. tender, or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said schedule of rates, as the case may be. Nothing extra shall be admissible for such operations.

CLAUSE 13: FORECLOSURE OF CONTRACT DUE TO ABANDONMENT OR REDUCTION IN SCOPE OF WORK

If at any time after acceptance of the tender, Engineer-in-charge shall decide to abandon or reduce the scope of the works for any reason whatsoever and hence not require the whole or any part of the works to be carried out, the Engineer-in-Charge shall give notice in writing to that effect to the contractor and the contractor shall act accordingly in the matter. 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 the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

The contractor shall be paid at contract rates, full amount for works executed at site and, in addition, a reasonable amount as certified by the Engineer-in-Charge for the items hereunder mentioned which could not be utilized on the work to the full extent in view of the foreclosure;

(i) Any expenditure incurred on preliminary site work, e.g. temporary access roads, temporary labour huts, staff quarters and site office; storage accommodation and water storage tanks.

(ii) Employer shall have the option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work). For materials taken over or to be taken over by WAPCOS, cost of such materials as detailed by Engineer-in- Charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor.

(iii) Reasonable compensation for transfer of T & P from site to contractor's permanent stores or to his other works, whichever is less. If T & P are not transported to either of the said places, no cost of transportation shall be payable.

The contractor shall, if required by the Engineer- in-Charge, furnish to him, books of account, wage books, time sheets and other relevant documents and evidence as may be necessary to enable him to certify the reasonable amount payable under this condition.

The reasonable amount of items on (i), (iv) and (v) above shall not be in excess of 2% of the cost of the work remaining incomplete on the date of closure, i.e. total stipulated cost of the work as per accepted tender less the cost of work actually executed under the contract and less the cost of contractor's materials at site taken over by the WAPCOS as per item (ii) above. Provided always that against any payments due to the contractor on this account or otherwise, the Engineer-in-Charge shall be entitled to recover or be credited with any outstanding balances due from the contractor for advance paid in respect of any tool, plants and materials and any other sums which at the date of termination were recoverable by the WAPCOS from the contractor under the terms of the contract.

In the event of action being taken under Clause 13 to reduce the scope of work, the Contractor may furnish fresh Performance Security on the same conditions, in the same manner and at the same rate for the balance tendered value and initially valid up to the extended date of completion or stipulated date of completion if no extension has been granted plus minimum 60 days beyond that. Wherever such a fresh Performance Security is furnished by the Contractor the Engineer-in-Charge may return the previous Performance Security.

CLAUSE 14 : CARRYING OUT PART WORK AT RISK & COST OF CONTRACTOR

If contractor:

(i) At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 days in this respect from the Engineer-in-Charge; or

(ii) Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or
Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge.

(iii) The Engineer- in-Charge without invoking action under clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to WAPCOS, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to:
   (a) Take possession of the site and any materials, constructional plant, implements, stores, etc., thereon; and/or
   (b) Carry out the part work / part incomplete work of any item(s) by any means at the risk and cost of the contractor.

The Engineer-in-Charge shall determine the amount, if any, is recoverable from the contractor for completion of the part work/ part incomplete work of any item(s) taken out of his hands and execute at the risk and cost of the contractor, the liability of contractor on account of loss or damage suffered by WAPCOS because of action under this clause shall not exceed 10% of the Contract Price.

In determining the amount, credit shall be given to the contractor with the value of work done in all respect in the same manner and at the same rate as if it had been carried out by the original contractor under the terms of his contract, the value of contractor's materials taken over and incorporated in the work and use of plant and machinery belonging to the contractor.
The certificate of the Engineer-in-Charge as to the value of work done shall be final and conclusive against the contractor provided always that action under this clause shall only be taken after giving notice in writing to the contractor. Provided also that if the expenses incurred by the WAPCOS are less than the amount payable to the contractor at his agreement rates, the difference shall not be payable to the contractor.

Any excess expenditure incurred or to be incurred by WAPCOS in completing the part work/ part incomplete work of any item(s) / rectification works during Defect Liability Period or the excess loss of damages suffered or may be suffered by WAPCOS as aforesaid after allowing such credit shall without prejudice to any other right or remedy available to WAPCOS in law or per as agreement be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

If the contractor fails to pay the required sum within the aforesaid period of 30 days, the Engineer-in-Charge shall have the right to sell any or all of the contractors' unused materials, constructional plant, implements, temporary building at site etc. and adjust the proceeds of sale thereof towards the dues

recoverable from the contractor under the contract and if thereafter there remains any balance outstanding, it shall be recovered in accordance with the provisions of the contract.

In the event of above course being adopted by the Engineer-in-Charge, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any materials or entered into any engagements or made any advance on any account or with a view to the execution of the work or the performance of the contract.

CLAUSE 15 : SUSPENSION OF WORK

(i) The contractor shall, on receipt of the order in writing of the Engineer-in-Charge, (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reasons:
   (a) on account of any default on the part of the contractor or;
   (b) for proper execution of the works or part thereof for reasons other than the default of the contractor; or
   (c) for safety of the works or part thereof.

   The contractor shall, during such suspension, properly protect and secure the works to the extent necessary and carry out the instructions given in that behalf by the Engineer-in-Charge.

(ii) If the suspension is ordered for reasons (b) and (c) in sub-para (i) above:
   (a) the contractor shall be entitled to an extension of time equal to the period of every such suspension PLUS 25%, for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and;
   (b) If the total period of all such suspensions in respect of an item or group of items or work for which a separate period of completion is specified in the contract exceeds thirty days, the contractor shall, in addition, be entitled to such compensation as the Engineer-in-Charge may consider reasonable in respect of salaries and/or wages paid by the contractor to his employees and labour at site, remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within fifteen days of the expiry of the period of 30 days.

(iii) If the works or part thereof is suspended on the orders of the Engineer-in-Charge for more than three months at a time, except when suspension is ordered for reason (a) in subpara (i) above, the contractor may after receipt of such order serve a written notice on the Engineer-in-Charge requiring permission within fifteen days from receipt by the Engineer-in-Charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the contractor, if he intends to treat the suspension, where it affects only a part of the works as an omission of such part by WAPCOS or where it affects whole of the works, as an abandonment of the works by WAPCOS, shall within ten days of expiry of such period of 15 days give notice in writing of his intention to the Engineer-in-Charge. In the event of the contractor treating the suspension as an abandonment of the contract by WAPCOS, he shall have no claim to payment of any compensation on account of any profit or advantage which he might have derived from the execution of the work in full but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries and/or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect

expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within 30 days of the expiry of the period of 3 months.

CLAUSE 16 : ACTION IN CASE WORK NOT DONE AS PER SPECIFICATIONS

All works under or in course of execution or executed in pursuance of the contract, shall at all times be open and accessible to the inspection and supervision of the Project Manager, WAPCOS and all the superior officers, officer of the Quality Assurance Unit of the WAPCOS or any organization engaged by the WAPCOS for Quality Assurance and of the Chief Technical Examiner's Office, and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

If it shall appear to the Engineer-in-charge or his authorized subordinates incharge of the work or to the Engineer-in-charge of Quality Assurance or Project Manager, WAPCOS or his subordinate officers or the officers of the organization engaged by the WAPCOS for Quality Assurance or to the Chief Technical Examiner or his subordinate officers, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months (six months in the case of work costing Rs. 10 Lac and below except road work) of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in- Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause 2 of the contract (for non-completion of the work in time) for this default.

In such case the Engineer-in-Charge may not accept the item of work at the rates applicable under the contract but may accept such items at reduced rates as the authority specified in Special Conditions of Contract may consider reasonable during the preparation of on account bills or final bill if the item is so acceptable without detriment to the safety and utility of the item and the structure or he may reject the work outright without any payment and/or get it and other connected and incidental items rectified, or removed and re-executed at the risk and cost of the contractor. Decision of the Engineer-in-Charge to be conveyed in writing in respect of the same will be final and binding on the contractor.

CLAUSE 17: CONTRACTOR LIABLE FOR DAMAGES, DEFECTS DURING DEFECT LIABILITY PERIOD

The Warranty (on site)/**Defect Liability Period shall be 12 (Twelve) Months.**

The contractor will deploy sufficient manpower (i.e. Technical Supervisor, Mason, Electrician, Plumber etc.) and materials, accessories tools and plants required for the maintenance of the buildings, services, landscaping works, external development works during defect liability period. No extra charge in this account shall be paid to the contractor. Therefore, contractor is advised to quote the cost accordingly.

The Warranty/Defect Liability Period shall commence from the date of issue of the Taking Over Certificate by Principal Employer or issue of Completion Certificate by Principal Employer or agreed

date of start of Defect Liability Period by the Principal Employer whichever is later. The Warranty period of equipments/items shall be provided as per the manufacturer norms or upto end of Defect liability period whichever is more. When the equipment is under Warranty/Defect Liability Period, it shall be the sole responsibility of the Contractor/Supplier to rectify defect of equipment, spare parts, replacement equipment as deemed necessary by the Employer/Owner and install the same without any cost implications to Employer/ Owner.

If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb, fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within twelve months (six months in the case of work costing Rs. Ten lacs and below except road work) after a certificate final or otherwise of its completion shall have been given by the Engineer-in- Charge as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Engineer-in-Charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof.

Contractor shall take required works / rectification of defects immediately after receiving of complaints from Principal Employer / Employer. If Contractor fails to attend the complaints within the given time frame by Engineer-in-charge, then any expenditure incurred by WAPCOS in completing works / rectification of defects shall be recovered from any money due to the contractor on any account, and if such money is insufficient, the contractor shall be called upon in writing and shall be liable to pay the same within 30 days.

CLAUSE 18: CONTRACTOR SUPPLY TOOLS & PLANTS ETC.

The contractor shall provide at his own cost all materials, machinery, tools & plants as specified in tender. In addition to this, appliances, implements, other plants, ladders, cordage, tackle, scaffolding and temporary works required for the proper execution of the work, whether original, altered or substituted and whether included in the specifications or other documents forming part of the contract or referred to in these conditions or not, or which may be necessary for the purpose of satisfying or complying with the requirements of the Engineer-in-Charge as to any matter as to which under these conditions he is entitled to be satisfied, or which he is entitled to require together with carriage therefore to and from the work. The contractor shall also supply without charge the requisite number of persons with the means and materials, necessary for the purpose of setting out works, and counting, weighing and assisting the measurement for examination at any time and from time to time of the work or materials. Failing his so doing, the same may be provided by the Engineer-in-Charge at the expense of the contractor and the expenses may be deducted, from any money due to the contractor, under this contract or otherwise and/or from his security deposit or the proceeds of sale thereof, or of a sufficient portions thereof.

CLAUSE 18A : RECOVERY OF COMPENSATION PAID TO WORKMEN

In every case in which by virtue of the provisions sub-section (1) of Section 12, of the Workmen's Compensation Act, 1923, WAPCOS is obliged to pay compensation to a workman employed by the contractor, in execution of the works, WAPCOS will recover from the contractor, the amount of the compensation so paid; and, without prejudice to the rights of the WAPCOS under sub-section (2) of

Section 12, of the said Act, WAPCOS shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by WAPCOS to the contractor whether under this contract or otherwise. WAPCOS shall not be bound to contest any claim made against it under sub-section (1) of Section 12, of the said Act, except on the written request of the contractor and upon his giving to WAPCOS full security for all costs for which WAPCOS might become liable in consequence of contesting such claim.

CLAUSE 18B: ENSURING PAYMENT AND AMENITIES TO WORKERS, IF CONTRACTOR FAILS

ln every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and of the Contract Labour (Regulation and Abolition) Central Rules, 1971, WAPCOS is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19H or under the C.P.W.D. Contractor's Labour Regulations, or under the Rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by C.P.W.D. Contractors, WAPCOS will recover from the contractor, the amount of wages so paid or the amount of expenditure so incurred; and without prejudice to the rights of the WAPCOS under sub-section(2) of Section 20, and sub-section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, WAPCOS shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by WAPCOS to the contractor whether under this contract or otherwise WAPCOS shall not be bound to contest any claim made against it under sub-section (1) of Section 20, sub-section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to the WAPCOS full security for all costs for which WAPCOS might become liable in contesting such claim.

CLAUSE 19 : LABOUR LAWS TO BE COMPLIED BY CONTRACTOR

The contractor shall obtain a valid license under the Contract Labour (R&A) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work.

The contractor shall also comply with provisions of the Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act, 1979.

The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986.

The contractor shall also comply with the provisions of the building and other Construction Workers (Regulation of Employment & Conditions of Service) Act, 1996 and the building and other Construction Workers Welfare Cess Act, 1996.

Any failure to fulfill these requirements shall attract the penal provisions of this contract arising out of the resultant non-execution of the work

CLAUSE 19A

No labour below the age of fourteen years shall be employed on the work.

CLAUSE 19B : PAYMENT OF WAGES

i. The contractor shall pay to labour employed by him either directly or through subcontractors, wages not less than fair wages as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

ii. The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub-contractors in connection with the said work, as if the labour had been immediately employed by him.

iii. In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the Contractor's Labour Regulations made by WAPCOS from time to time in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions unauthorizedly made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.

iv. (a) The Engineer-in-Charge concerned shall have the right to deduct from the moneys due to the contractor any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non-fulfilment of the conditions of the contract for the benefit of the workers, non-payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non-observance of the Regulations.

(b) Under the provision of Minimum Wages (Central) Rules, 1950, the contractor is bound to allow to the labours directly or indirectly employed in the works one day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-Charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to any labours and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-Charge concerned.

In the case of Union Territory of Delhi, however, as the all inclusive minimum daily wages fixed under Notification of the Delhi Administration No.F.12(162)MWO/DAB/ 43884-91, dated 31-12-1979 as amended from time to time are inclusive of wages for the weekly day of rest, the question of extra payment for weekly holiday would not arise.

v. The contractor shall comply with the provisions of the Payment of Wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractor's Labour (Regulation and Abolition) Act 1970, or the modifications thereof or any other laws relating thereto and the rules made thereunder from time to time.

vi. The contractor shall indemnify and keep indemnified WAPCOS against payments to be made under and for the observance of the laws aforesaid without prejudice to his right to claim indemnity from his sub-contractors.

vii. The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.

viii. Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the workmen directly without the intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise.

ix. The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.

CLAUSE 19C

In respect of all labour directly or indirectly employed in the work for the performance of the contractor's part of this contract, the contractor shall at his own expense arrange for the safety provisions as per Safety Code framed from time to time and shall at his own expense provide for all facilities in connection therewith. In case the contractor fails to make arrangement and provide necessary facilities as aforesaid, he shall be liable to pay a penalty of Rs.500/- for each default and in addition, the Engineer-in- Charge shall be at liberty to make arrangement and provide facilities as aforesaid and recover the costs incurred in that behalf from the contractor.

CLAUSE 19 D

The contractor shall submit by the 4th and 19th of every month, to the Engineer-in-Charge, a true statement showing in respect of the second half of the preceding month and the first half of the current month respectively:-

(1) The number of labourers employed by him on the work,
(2) Their working yours,
(3) The wages paid to them,
(4) The accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, and
(5) The number of female workers who have been allowed maternity benefit according to Clause 19F and the amount paid to them.

Failing which the contractor shall be liable to pay to WAPCOS, a sum not exceeding Rs.500/- for each default or materially incorrect statement. The decision of the Engineer-In-Charge shall be final in deducting from any bill due to the contractor; the amount levied as fine and be binding on the contractor.

CLAUSE 19 E

In respect of all labour directly or indirectly employed in the works for the performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with all the rules framed by Government from time to time for the protection of health and sanitary arrangements for workers employed by the WAPCOS and its contractors.

CLAUSE 19 F

Leave and pay during leave shall be regulated as follows:-

1. Leave :
- (i) in the case of delivery - maternity leave not exceeding 8 weeks, 4 weeks up to and including the day of delivery and 4 weeks following that day,
- (ii) in the case of miscarriage - upto 3 weeks from the date of miscarriage.

2. Pay :
- (i) in the case of delivery - leave pay during maternity leave will be at the rate of the women's average daily earnings, calculated on total wages earned on the days when full time work was done during a period of three months immediately preceding the date on which she gives notice that she expects to be confined or at the rate of Rupee one only a day whichever is greater.
- (ii) in the case of miscarriage - leave pay at the rate of average daily earning calculated on the total wages earned on the days when full time work was done during a period of three

months immediately preceding the date of such miscarriage.

3. Conditions for the grant of Maternity Leave:
No maternity leave benefit shall be admissible to a woman unless she has been employed for a total period of not less than six months immediately preceding the date on which she proceeds on leave.

4. The contractor shall maintain a register of Maternity (Benefit) in the Prescribed Form as shown in Appendix -I and II, and the same shall be kept at the place of work.

CLAUSE 19 G

In the event of the contractor(s) committing a default or breach of any of the provisions of the WAPCOS, Contractor's Labour Regulations and Model Rules for the protection of health and sanitary arrangements for the workers as amended from time to time or furnishing any information or submitting or filing any statement under the provisions of the above Regulations and' Rules which is materially incorrect, he/they shall, without prejudice to any other liability, pay to the Government a sum not exceeding Rs.500/- for every default, breach or furnishing, making, submitting, filing such materially incorrect statements and in the event of the contractor(s) defaulting continuously in this respect, the penalty may be enhanced to Rs.500/- per day for each day of default subject to a maximum of 5 per cent of the estimated cost of the work put to tender. The decision of the Engineer-in-Charge shall be final and binding on the parties.

Should it appear to the Engineer-in-Charge that the contractor(s) is/are not properly observing and complying with the provisions of the Labour Regulations and Model Rules and the provisions of the Contract Labour (Regulation and Abolition) Act 1970, and the Contract Labour (R& A) Central Rules 1971, for the protection of health and sanitary arrangements for work-people employed by the contractor(s) (hereinafter referred as "the said Rules") the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said Rules be complied with and the amenities prescribed therein be provided to the work-people within a reasonable time to be specified in the notice. If the contractor(s) shall fail within the period specified in the notice to comply with and/observe the said Rules and to provide the amenities to the work-people as aforesaid, the Engineer-in-Charge shall have the power to provide the amenities hereinbefore mentioned at the cost of the contractor(s). The contractor(s) shall erect, make and maintain at his/their own expense and to approved standards all necessary huts and sanitary arrangements required for his/their work-people on the site in connection with the execution of the works, and if the same shall not have been erected or constructed, according to approved standards, the Engineer-in-Charge shall have power to give notice in writing to the contractor(s) requiring that the said huts and sanitary arrangements be remodelled and/or reconstructed according to approved standards, and if the contractor(s) shall fail to remodel or reconstruct such huts and sanitary arrangements according to approved standards within the period specified in the notice, the Engineer-in-Charge shall have the power to remodel or reconstruct such huts and sanitary arrangements according to approved standards at the cost of the contractor(s).

CLAUSE 19 H

The contractor(s) shall at his/their own cost provide his/their labour with a sufficient number of huts (hereinafter referred to as the camp) of the following specifications on a suitable plot of land to be approved by the Engineer-in-Charge.

(i) (a) The minimum height of each hut at the eaves level shall be 2.10m (7 ft.) and the floor area to be provided will be at the rate of 2.7 sq.m. (30 sq.ft.) for each member of the worker's family staying with the labourer.

(b) The contractor(s) shall in addition construct suitable cooking places having a minimum area of 1.80m x 1.50m (6'x5') adjacent to the hut for each family.

(c) The contractor(s) shall also construct temporary latrines and urinals for the use of the labourers each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.

(d) The contractor(s) shall construct sufficient number of bathing and washing places, one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.

(ii) (a) All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in-Charge. In case of sun-dried bricks, the walls should be plastered with mud gobri on both sides. The floor may be kutcha but plastered with mud gobri and shall be at least 15 cm (6") above the surrounding ground. The roofs shall be laid with thatch or any other materials as may be approved by the Engineer-in-Charge and the contractor shall ensure that throughout the period of their occupation, the roofs remain water-tight.

(b) The contractor(s) shall provide each hut with proper ventilation.

(c) All doors, windows, and ventilators shall be provided with suitable leaves for security purposes.

(d) There shall be kept an open space of at least 7.2m (8 yards) between the rows of huts which may be reduced to 6m (20 ft.) according to the availability of site with the approval of the Engineer-in-Charge. Back to back construction will be allowed

(iii) **Water Supply** - The contractor(s) shall provide adequate supply of water for the use of labourers. The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purposes and three gallons of clean water per head per day for bathing and washing purposes. Where piped water supply is available, supply shall be at stand posts and where the supply is from wells or river, tanks which may be of metal or masonry, shall be provided. The contractor(s) shall also at his/ their own cost make arrangements for laying pipe lines for water supply to his/ their labour camp from the existing mains wherever available, and shall pay all fees and charges therefore.

(iv) The site selected for the camp shall be high ground, removed from jungle.

(v) **Disposal of Excreta** - The contractor(s) shall make necessary arrangements for the disposal of excreta from the latrines by trenching or incineration which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incineration is not allowed, the contractor(s) shall make arrangements for the removal of the excreta through the Municipal Committee/authority and inform it about the number of labourers employed so that arrangements may be made by such Committee/authority for the removal of the excreta. All charges on this account shall be borne by the contractor and paid direct by him to the Municipality/authority. The contractor shall provide one sweeper for every eight seats in case of dry system.

(vi) **Drainage** - The contractor(s) shall provide efficient arrangements for draining away sullage water so as to keep the camp neat and tidy.

(vii) The contractor(s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.

(viii) **Sanitation -** The contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Local Public Health and Medical Authorities.

CLAUSE 19 I

The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors' employ upon the work who may be incompetent or misconduct himself and the contractor shall forthwith comply with such requirements. In respect of maintenance/repair or renovation works etc. where the labour have an easy access to the individual houses, the contractor shall issue identity cards to the labourers, whether temporary or permanent and he shall be responsible for any untoward action on the part of such labour.

CLAUSE 19J

It shall be the responsibility of the contractor to see that the building under construction is not occupied by anybody unauthorizedly during construction, and is handed over to the Engineer-in-Charge with vacant possession of complete building. If such building though completed is occupied illegally, then the Engineer-in-Charge shall have the option to refuse to accept the said building/buildings in that position. Any delay in acceptance on this account will be treated as the delay in completion and for such delay, a levy upto 5% of Contract Price of work may be imposed by the WAPCOS whose decision shall be final both with regard to the justification and quantum and be binding on the contractor.
However, Employer, through a notice, may require the contractor to remove the illegal occupation any time on or before construction and delivery.

CLAUSE 19K : Employment of Skilled / Semi Skilled Workers

The contractor shall, at all stages of work, deploy skilled/semi skilled tradesmen who are qualified and possess certificate in particular trade from Industrial Training Institute/National Institute of construction Management and Research (NICMAR)/ National Academy of Construction, CIDC or any similar reputed and recognized Institute managed/ certified by State/Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled/semi skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer-in-charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs. 100 per such tradesman per day. Decision of Engineer-in-charge as to whether particular tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding.

Provided always, that the provisions of this clause, shall not be applicable for works with estimated cost put to tender being less than Rs. 5 crores.

For work costing more than Rs. 10 Crores, and upto Rs. 50 Crores, the Contractor shall arrange on site training as per National Skill Development Corporation (NSDC) norms for at least 20% of the unskilled workers engaged in the project in co-ordination with the Employer & National Skill Development Corporation (NSDC) for certification at the level of skilled/semi-skilled tradesmen.

For works costing more than Rs. 50 Crores, the Contractor shall arrange on site training as per National Skill Development Corporation (NSDC) norms for at least 30% of the unskilled worker engaged in the project in co-ordination with the Employer & National Skill Development Corporation (NSDC) for certification at the level of skilled/semi-skilled tradesmen. The cost of such training as stated above shall be borne by the Government. The necessary space and workers shall be provided by the Contractor and no claim what so ever shall be entertained.

CLAUSE 20 : MINIMUM WAGES ACT TO BE COMPLIED WITH

The contractor shall comply with all the provisions of the Minimum Wages Act, 1948, and Contract Labour (Regulation and Abolition) Act, 1970, amended from time to time and rules framed thereunder and other labour laws affecting contract labour that may be brought into force from time to time.

CLAUSE 21 : WORK NOT TO BE SUBLET/ACTION IN CASE OF INSOLVENCY

The contract shall not be assigned or sublet without the written approval of the Engineer-in Charge. And if the contractor shall assign or sublet his contract, or attempt to do so, or become insolvent or commence any insolvency proceedings or make any composition with his creditors or attempt to do so, or if any bribe, gratuity, gift, loan, perquisite, reward or advantage pecuniary or otherwise, shall either directly or indirectly, be given, promised or offered by the contractor, or any of his servants or agent to any public officer or person in the employ of WAPCOS in any way relating to his office or employment, or if any such officer or person shall become in any way directly or indirectly interested in the contract, the Engineer-in-Charge on behalf of the WAPCOS shall have power to adopt the course specified in Clause 3 hereof in the interest of WAPCOS and in the event of such course being adopted, the consequences specified in the said Clause 3 shall ensue.

CLAUSE 22

All sums payable by way of compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of WAPCOS without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

CLAUSE 23 : CHANGES IN FIRM'S CONSTITUTION TO BE INTIMATED

Where the contractor is a partnership firm, the previous approval in writing of the Engineer-in-Charge shall be obtained before any change is made in the constitution of the firm. Where the contractor is an Proprietor Firm, such approval as aforesaid shall likewise be obtained before the contractor enters into any partnership agreement where under the partnership firm would have the right to carry out the works hereby undertaken by the contractor. If previous approval as aforesaid is not obtained, the contract shall be deemed to have been assigned in contravention of Clause 21 hereof and the same action may be taken, and the same consequences shall ensue as provided in the said Clause 21.

CLAUSE 24: LIFE CYCLE COST

The contractor shall be responsible for safety, quality and soundness of the buildings including structural elements beyond maintenance period. The contractor shall have obligation to rectify such defects minimum up to 5 (five) years from the date of completion of work. The defects have to be rectified within a reasonable time not exceeding forty five days after issue of notice by Engineer- in-Charge. If contractor does not take corrective action within 45 days, then action for debarring of the agency shall be taken by the appropriate authority.

CLAUSE 25: SETTLEMENT OF DISPUTES & ARBITRATION

25.1 Settlement of Disputes

Except where otherwise provided in the contract, all questions and disputes relating to the meaning of the specifications, design, drawings and instructions here-in 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 of or relating to the contract, designs, drawings, specifications, estimates, 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 cancellation, termination, completion or abandonment thereof shall be dealt with as mentioned hereinafter:

I. If the Contractor considers any work demanded of him to be outside the requirements of the Contract, or disputes any drawings, record or decision given in writing by the Engineer-in-Charge on any matter in connection with or arising out of the Contract or carrying out of the work, to be unacceptable, he shall promptly within 15 days request Engineer-in-Charge in writing for written instruction or decision. Thereupon, the Engineer-in-Charge shall give his written instructions or decision within a period of one month from the receipt of the Contractor's letter.

II. In case the Contractor is not satisfied with the decision of Engineer-in-Charge, he may proceed for arbitration as detailed in Clause 25.2 hereinafter.

III. It is a term of Contract that each party invoking arbitration must exhaust the aforesaid mechanism of settlement of claims/disputes prior to invoking arbitration.

IV. Performance of this Agreement/ Contract shall continue during arbitration proceedings or any other dispute resolution mechanism pursuant to Clause 25.2. No payment due or payable by the Employer shall be withheld on account of pending reference to the arbitration or other dispute resolution mechanism excepts to the extent that such payment of dispute.

25.2 Arbitration

Any dispute, controversy of claims arising out of or relating to this Agreement or the breach, termination or invalidity thereof, shall be settled through following mechanism:

a. Firstly, the aggrieved party shall write a letter to the other party detailing its grievances and calling upon the other party to amicably resolve the dispute by convening a joint meeting. Accordingly, the parties as per their convenience shall jointly convene the said meeting(s), wherein minutes of the said meeting(s) shall be prepared and countersigned by all the parties. It is mandatory to prepare minutes of meeting(s) and to be countersigned by all the parties, irrespective of the outcome of the said meeting(s).

b. In the event the parties are unable to reach on any settlement in the said meeting(s), then the aggrieved party shall mandatorily resort to pre-litigation mediation mechanism with Delhi High Court Mediation Cell, New Delhi.

c. It is only upon failure of the pre-litigation mediation mechanism with Delhi High Court Mediation Cell, then the aggrieved party shall resort to resolution of disputes through arbitration of a Sole Arbitrator. The appointing authority of Sole Arbitrator is CMD, WAPCOS Limited, to which neither of the parties have any objection nor they shall ever object.

d. Subject to the parties agreeing otherwise, the Arbitration proceedings shall be conducted in accordance with the provisions of the Indian Arbitration and Conciliation Act, 1996 (amended as on date).

e. It is also acknowledged and accepted that the Employer is only working as intermediary between the Contractor/Supplier and the Principal Employer/Owner, thus in the event, any dispute arises under the present agreement and referred to Arbitration for adjudication, then subject to corresponding clause in the Contract between Principal Employer/Owner & the Employer, Principal Employer/Owner shall also be made party to the said Arbitration proceedings. Also, the award including costs if any passed against the Employer and costs incurred in the proceedings shall be the sole responsibility of Principal Employer/Owner. The

said clause if found inapplicable, even then the other terms of the Arbitration Clause shall survive and shall be acted upon.

f. The place/seat of arbitration shall be Delhi and any award whether interim or final, shall be made, and shall be deemed for all purposes between the parties to be made, in Delhi. The arbitral procedure shall be conducted in English language and any award or awards shall be rendered in English. The procedural law of the arbitration shall be Indian Law. The award of the arbitrator shall be final and conclusive and binding upon the Parties.

g. The Contract and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims) shall be governed by and construed in accordance with the laws of India and the Parties submit to sole & exclusive jurisdiction of courts at Delhi."

25.3 English Language

The request for arbitration, the answer to the request, the terms of reference, any written submissions, any orders and awards shall be in English and, if oral hearings take place, English shall be the language to be used in the hearings.

25.4 Performance during Arbitration

Pending the submission of and/or decision on a Dispute and until the arbitral award is published, the Parties shall continue to perform their respective obligations under the Contract without prejudice to a final adjustment in accordance with such award.

25.5 No arbitration for decision on sub-standard work

The decision of Engineer-in-Charge regarding the quantum or reduction as well as justification thereof in respect of payment for sub-standard work which may be decided to be accepted will be final and would not be open to arbitration.

CLAUSE 26 : CONTRACTOR INDEMNIFY EMPLOYER AGAINST PATENT RIGHTS

The contractor shall fully indemnify and keep indemnified the Employer against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties which may be payable in respect of any article or part thereof included in the contract. In the event of any claims made under or action brought against Employer in respect of any such matters as aforesaid, the contractor shall be immediately notified thereof and the contractor shall be at liberty, at his own expense, to settle any dispute or to conduct any litigation that may arise therefrom, provided that the contractor shall not be liable to indemnify the Employer if the infringement of the patent or design or any alleged patent or design right is the direct result of an order passed by the Engineer-in-Charge in this behalf.

CLAUSE 27 : LUMPSUM PROVISIONS IN TENDER – NOT APPLICABLE

CLAUSE 28 : ACTION WHERE NO SPECIFICATIONS ARE SPECIFIED

In the case of any class of work for which there is no such specifications as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers' specifications, if not available then as per District Specifications. In case there are no

such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

CLAUSE 29 : WITHOLDING AND LIEN IN RESPECT OF SUM DUE FROM CONTRACTOR

a) Whenever any claim or claims for payment of a sum of money arises out of or under the contract or against the contractor, the Engineer-in-Charge or the WAPCOS shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any deposited by the contractor and for the purpose aforesaid, the Engineer-in-Charge or the WAPCOS shall be entitled to withhold the security deposit, if any, furnished as the case may be and also have a lien over the same pending finalisation or adjudication of any such claim. In the event of the security being insufficient to cover the claimed amount or amounts or if no security has been taken from the contractor, the Engineer-in-Charge or the WAPCOS shall be entitled to withhold and have a lien to retain to the extent of such claimed amount or amounts referred to above, from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Engineer-in-Charge of the WAPCOS or any contracting person through the Engineer-in-Charge pending finalization of adjudication of any such claim.

   It is an agreed term of the contract that the sum of money or moneys so withheld or retained under the lien referred to above by the Engineer-in-Charge or WAPCOS will be kept withheld or retained as such by the Engineer-in-Charge or WAPCOS till the claim arising out of or under the contract is determined by the arbitrator(if the contract is governed by the arbitration clause) by the competent court, as the case may be and that the contractor will have no claim for interest or damages whatsoever on any account in respect of such withholding or retention under the lien referred to above and duly notified as such to the contractor. For the purpose of this clause, where the contractor is a partnership firm or a limited company, the Engineer-in-Charge or the WAPCOS shall be entitled to withhold and also have a lien to retain towards such claimed amount or amounts in whole or in part from any sum found payable to any partner/limited company as the case may be, whether in his individual capacity or otherwise.

b) Employer shall have the right to cause an audit and technical examination of the works and the final bills of the contractor including all supporting vouchers, abstract, etc., to be made after payment of the final bill and if as a result of such audit and technical examination any sum is found to have been overpaid in respect of any work done by the contractor under the contract or any work claimed to have been done by him under the contract and found not to have been executed, the contractor shall be liable to refund the amount of over-payment and it shall be lawful for WAPCOS to recover the same from him in the manner prescribed in sub-clause (i) of this clause or in any other manner legally permissible; and if it is found that the contractor was paid less than what was due to him under the contract in respect of any work executed by him under it, the amount of such under payment shall be duly paid by WAPCOS to the contractor, without any interest thereon whatsoever.

   Provided that the Government shall not be entitled to recover any sum overpaid, nor the contractor shall be entitled to payment of any sum paid short where such payment has been agreed upon between the WAPCOS on the one hand and the contractor on the other under any term of the contract permitting payment for work after assessment by WAPCOS.

CLAUSE 29A : LIEN IN RESPECT OF CLAIMS IN OTHER CONTRACTS

Any sum of money due and payable to the contractor (including the security deposit returnable to him) under the contract may be withheld or retained by way of lien by the Engineer-in-Charge or the

Employer or any other contracting person or persons through Engineer-in-Charge against any claim of the Engineer-in-Charge or Employer or such other person or persons in respect of payment of a sum of money arising out of or under any other contract made by the contractor with the Engineer-in-Charge or the Employer or with such other person or persons.

It is an agreed term of the contract that the sum of money so withheld or retained under this clause by the Engineer-in-Charge or the Employer will be kept withheld or retained as such by the Engineer-in-Charge or the Employer or till his claim arising out of the same contract or any other contract is either mutually settled or determined by the arbitration clause or by the competent court, as the case may be and that the contractor shall have no claim for interest or damages whatsoever on this account or on any other ground in respect of any sum of money withheld or retained under this clause and duly notified as such to the contractor.

CLAUSE 30 : WATER FOR WORKS

The contractor(s) shall make his/their own arrangements for water required for the work and nothing extra will be paid for the same. This will be subject to the following conditions.

(i) That the water used by the contractor(s) shall be fit for construction purposes to the satisfaction of the Project Manager, WAPCOS.
(ii) The contractor(s) shall make his/their own arrangement of water connection and laying of pipelines from existing main of source of supply.
(iii) The water charges @ 1 % on tendered value shall be recovered if water supplied by Government/ Principal Employer is used by contractor.

CLAUSE 30A : ALTERNATE WATER ARRANGEMENTS

The contractor shall be allowed to construct temporary wells in Government land for taking water for construction purposes only after he has got permission from the concerned Government Authority and inform the same to Engineer-In-Charge in writing. No charges shall be recovered from the contractor on this account, but the contractor shall be required to provide necessary safety arrangements to avoid any accidents or damage to adjacent buildings, roads and service lines. He shall be responsible for any accidents or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work.

CLAUSE 31 : HIRE OF PLANT & MACHINERY

The contractor shall arrange at his own expense all tools, plant, machinery and equipment (hereinafter referred to as T&P) required for execution of the work.

CLAUSE 32 : EMPLOYMENT OF TECHNICAL STAFF AND EMPLOYEES

The contractor shall provide and employ skilled, semiskilled and unskilled labour as is necessary for proper and timely execution of the work with full quality control. The contractor shall provide all necessary superintendence during execution of the work and all along thereafter as may be necessary for proper fulfilling of the obligations under the contract.

The contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge, the name(s), qualifications, experience, age, address(s) and other particulars along with certificates, of the principal technical representative to be in charge of the work and other technical representative(s) who will be supervising the work. Even of the contractor (or partner(s) in case of firm/ company) is himself / herself an Engineers, it is necessary on the part of the contractor to Employ principal technical representative / technical representative (s).

The contractor shall provide and employ on the site only such technical assistants as are skilled and experienced in their respective fields and such foremen and supervisory staff as are competent to give proper supervision to the work.

The Engineer-in-Charge shall be at liberty to object to and require the contractor to remove from the works any person who in his opinion misconducts himself, or is incompetent or negligent in the performance of his duties or whose employment is otherwise considered by the Engineer-in-Charge to be undesirable. Such person shall not be employed again at works site without the written permission of the Engineer-in- Charge and the persons so removed shall be replaced as soon as possible by competent substitutes.

CLAUSE 33 : LEVY/TAXES PAYABLE BY CONTRACTOR

(i) The Contract price is inclusive of Goods and Service Tax (GST) and any other taxes, levies, royalties together with all general risks, liabilities and obligations set out or implied in the Contract, applicable Labour Cess, cost of insurance to this Contract, all applicable tax liabilities, Income Tax & Surcharges, etc. However, only the payment of GST shall be reimbursed by the Employer to the Contractor.

(ii) The Contractor shall issue E-Invoice (if applicable for contractor firm)/Tax Invoices to Employer showing (a) Basic Amount (b) GST amount separately for each bill. The payment of GST amount shall be reimbursed to the Contractor only after uploading of GST amount by Contractor on GST portal to avail input benefit of GST by Employer.

(iii) Notwithstanding anything contained above, the Contractor shall ensure payment of appropriate tax on the supplies made under the Contract. The Contractor shall comply with all applicable provision of Goods and Service Tax (GST) levied by Union Government and State Governments. The Contractor shall get himself registered and discharge his obligations for payment of taxes, filing of returns etc. under the appropriate provisions of law in respect of all the taxes, duties, levies, cess, etc. The Employer would have right to seek necessary evidence that the Contractor is registered under the law and duly discharging its obligations under the tax law, enabling the Employer to avail input tax credit.

(iv) In case any law requires the Employer to pay tax on the Contract price on reverse charge basis, the amount of tax deposited by Employer would be considered as paid to the Contractor and, accordingly, the price payable to the Contractor would stand reduced to that extent.

(v) In case the Contractor does not deposit the tax payable on execution of the Contract, or has not provided the tax invoice to Employer showing the amount of tax, or has not uploaded the document in computerized tax network as per prevailing law, leading to non-availability of inputs credit of the tax to Employer, the amount equivalent to such tax shall be deducted from the any amount payable to Contractor.

(vi) The contractor shall deposit royalty and obtain necessary permit for supply of the red bajri, stone, kankar, etc. from local authorities.

If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by the Employer and does not any time become payable by the Contractor to the State Government, Local authorities in respect of any material used by the Contractor in the works, then in such a case, it shall be lawful to the Employer and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the Contractor.

CLAUSE 34 : CONDITIONS FOR REIMBURSEMENT OF LEVY/TAXES IF LEVIED AFTER RECEIPT OF TENDERS

All tendered cost shall be inclusive of all taxes and levies (except GST) payable under respective statutes. However, if any further tax or levy or cess is imposed by Statute, after the last stipulated date

for the receipt of tender including extensions if any and the contractor thereupon necessarily and properly pays such taxes/levies/cess, the contractor shall be reimbursed the amount so paid, provided such payments, if any, is not, in the opinion of the WAPCOS attributable to delay in execution of work within the control of the contractor.

Provided further that for Building and Other Construction Workers Welfare Cess or any tax (other than GST), levy or cess varied or imposed after the last date of receipt of tender including extension if any, any increase shall be reimbursed to the contractor only if the contractor necessarily and properly pays such increased amount of taxes/levies/cess.

(i) Provided further that such increase including GST shall not be made in the extended period of contract for which the contractor alone is responsible for delay as determined by WAPCOS for extension of time.

(ii) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorized representative of the Government and/or the Engineer-in-Charge and shall also furnish such other information/document as the Engineer-in-Charge may require from time to time.

(iii) The contractor shall, within a period of 30 days of the imposition of any such further tax or levy or cess, or variation or repeal of such tax or levy or cess give a written notice thereof to the Engineer-in-charge that the same is given pursuant to this condition, together with all necessary information relating thereto.

CLAUSE 35 : TERMINATION OF CONTRACT ON DEATH OF CONTRACTOR

Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Engineer-In-Charge on behalf of the WAPCOS shall have the option of terminating the contract without compensation to the contractor.

CLAUSE 36 : IF RELATIVE WORKING IN WAPCOS THEN THE CONTRACTOR NOT ALLOWED TO TENDER

The contractor shall not be permitted to tender for works in the WAPCOS responsible for award and execution of contracts in which his near relative is posted in WAPCOS. He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any Officer in the WAPCOS. Any breach of this condition by the contractor would render him liable to be debarred from tendering in WAPCOS any breach of this condition.

NOTE: By the term "near relatives" is meant wife, husband, parents and grand parents, children and grand children, brothers and sisters, uncles, aunts and cousins and their corresponding in-laws.

CLAUSE 37: NO GAZETTED ENGINEER TO WORK AS CONTRACTOR WITHIN ONE YEAR OF RETIREMENT

No engineer of gazetted rank or other gazetted officer employed in engineering or administrative duties in an engineering department of the Government of India shall work as a contractor or employee of a contractor for a period of one year after his retirement from government service without the previous permission of Government of India in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of Government of India as aforesaid, before submission of the tender or engagement in the contractor's service, as the case may be.

CLAUSE 38 : THEORETICAL CONSUMPTION OF MATERIAL- NOT APPLICABLE

CLAUSE 39 : COMPENSATION DURING WARLIKE SITUATION

The work (whether fully constructed or not) and all materials, machines, tools and plants, scaffolding, temporary buildings and other things connected therewith shall be at the risk of the Contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or warlike operation, the Contractor shall when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack or remove in store all serviceable materials salvaged from the damaged work and shall be paid at the Contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking or removal of serviceable material and for reconstruction of all works ordered by the Engineer-in-Charge, such payments being in addition to compensation upto the value of the work originally executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but not already measured and paid for, the compensation shall be assessed the Engineer-in-Charge upto Rs. 2,00,000/- and by the next higher officer concerned for a higher amount. The Contractor shall be paid for the damages/destruction suffered and for restoring the material at the rate based on analysis of rates tendered for in accordance with the provision of the Contract. The certificate of the Engineer-in-Charge regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on all parties to this Contract.

Provided always that no compensation shall be payable for any loss in consequence of hostilities or warlike operations (a) unless the Contractor had taken all such precautions against air raid as are deemed necessary by the A.R.P. (Air Raid precaution) Officers or the Engineer-in-Charge (b) for any material etc. not on the site of the work or for any tools, plant, machinery, scaffolding, temporary building and other things not intended for the work.

In the event of the Contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Engineer-in-Charge.

CLAUSE 40 : APPRENTICES ACT PROVISIONS TO BE COMPLIED WITH

The contractor shall comply with the provisions of the Apprentices Act, 1961 and the rules and orders issued thereunder from time to time. If he fails to do so, his failure will be a breach of the contract and the WAPCOS may, in his discretion, cancel the contract. The contractor shall also be liable for any pecuniary liability arising on account of any violation by him of the provisions of the said Act.

CLAUSE 41 : RELEASE OF SECURITY DEPOSIT AFTER LABOUR CLEARANCE

Release of Security Deposit of the work shall not be refunded if any complaint from labour / labour department against the contractor deployed at site for execution of works. As soon as the work is virtually complete the contractor shall apply for the clearance certificate to the Labour Officer under intimation to the Engineer-in-Charge.

CLAUSE42: INSURANCE

1. **Requirements**

   Before commencing execution of works, it shall be obligatory for the contractor to obtain at his own cost stipulated insurance cover under the following requirements:

   a) Contractor's all risk and Third Party Cover.
   b) Liability under the workmen's compensation Act, 1923, Minimum Wages Act, 1948 and Contract Labour (Regulation and Abolition) Act, 1970.

c) Accidents to staff, Engineers, Supervisors and others who are not governed by workmen's compensation Act.
d) Damage to material, machinery and works due to fire theft etc.
e) Any other risk to be covered by insurance as specified by the employer.

2. Policy in Joint Names of Contractor and Employer

The policy referred above shall be obtained in the joint names of the contractor and the employer and shall inter-alia provide coverage against the following, arising out of or in connection with execution of works, their maintenance and performance of the contract.

a) Loss of life or injury involving public, employee of the contractor, or that of employer and Engineer, labour etc.
b) Injury, loss or damage to the works or property belonging to public, government bodies, local authorities, utility organizations, contractors, employer or others.

3. Third Party Insurance

Contractor is required to take third party insurance cover for an amount of 5% (five percent) of contract value from Nationalized insurance company for insurance against any damage, injury or loss which may occur to any person or property including that of Employer / Owner, arising out of the execution of the Works or Temporary works. Wherever required by Employer the Contractor shall produce the policy or the policies of Insurance and the receipt of payment of the current premiums.

Above policies shall remain in force throughout the period of execution of the works.

CLAUSE 43 : PREFERENCE TO MAKE IN INDIA

The provisions of revised 'Public Procurement (Preference to Make in India) Order 2017-Revision' issued by Department of Industrial Policy and Promotion under Ministry of Commerce and Industry vide letter no.-P45021/2/2017-PP (BE-II) as amended on 16.09.2020 shall be applicable to the bidding process and award of the contract shall be done accordingly.

Verification of Local Content

i. The bidder at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement of the tender. They shall also give details of the location(s) at with the local value addition is made.
ii. In cases of procurement for a value in excess of Rs 10 Crores, the bidder shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

CLAUSE- 44: RULE 144 (XI) IN GENERAL FINANCIAL RULES (GFRS) 2017

i. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority.

ii. Bidder from a country which shares a land border with India" for the purpose of this Order means:-
   a) An entity incorporated, established or registered in such a country; or
   b) A subsidiary of an entity incorporated, established or registered in such a country; or
   c) An entity substantially controlled through entities incorporated, established or registered in

such a country; or

d) An entity whose beneficial owner is situated in such a country; or
e) An Indian (or other) agent of such an entity; or
f) A natural person who is a citizen of such a country; or
g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above

iii. The beneficial owner for the purpose of clause above will be as under:

1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercise control through other means.
2. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. Of shares or capital or profits of the company;
3. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
4. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
5. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone of together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profit of such association or body of individuals;
6. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
7. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

iv. An Agent is a person employed to do any act for another, or to represent another in dealings with third person. The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

SECTION– V

SPECIAL CONDITIONS OF CONTRACT

SECTION–V

SPECIAL CONDITIONS OF CONTRACT

1.0 SPECIAL CONDITIONS OF CONTRACT

The Special Condition of Contract (SCC) shall be followed by the Contractor in addition to the General Condition of Contract (GCC) of tender document. The following General Condition of Contract of this tender are modified/added as detailed below. In case of any discrepancy between GCC and SCC, the SCC will succeed over GCC.

GENERAL RULES AND DIRECTIONS under GCC		
DEFINITIONS		
2 (ix)	Market Rate Percentage on cost of materials and labour to cover all overheads and profits	15%
2(x)	Schedule(s)	Delhi Schedule Rates- 2023 (CPWD DAR-2023) for Civil; DSR-2022 for E&M; DSR-2018 for Horticulture & Landscaping works

GCC Clause No.	**Particular**	**Modified/ Added**
Clause 1	Performance Security	**a)** Within 21 (Twenty one) days of receipt of the Letter of Award, but not later than the date of the signing of the Agreement, the successful Bidder shall deliver to the Employer a Performance Security in any of the forms given below for an amount equivalent to **5% of the Tendered Value:** • a Bank Guarantee issued by a Scheduled Commercial Bank approved by Reserve Bank of India (RBI) as per Annexure-I of Bid document; or • a deposit receipt of a Scheduled Commercial Bank approved by Reserve Bank of India (RBI) in favour of WAPCOS Limited payable at Delhi/ Gurgaon. b) The Bidder quoting below Minus (-) 5% of the estimated cost put to tender shall submit the additional performance guarantee of amount equal to the percentage of quoted amount by which the bidder has quoted below -5% of the estimated cost. For example: if the bidder quotes -5% of the estimated cost, then no additional performance guarantee is required. If the bidder quotes -6% of the estimated cost, then the bidder has to submit additional performance guarantee equal to 1% of the quoted amount. Similarly, if the bidder quotes -7% of the estimated cost, then the bidder has to submit additional performance guarantee equal to 2% of the quoted amount and so on. The validity of the Additional Performance Security shall be same as the original performance Security. The

GCC Clause No.	Particular	Modified/ Added
		Additional Performance Security may be submitted in the same format of Performance Security or this additional amount may be added to the Performance Security. The conditions for Additional Performance Security shall be same as are for 5% Performance Security mentioned at Clause 1 in Section of General Condition of Contract. c) The confirmation of the Bank Guarantee shall be sought from the issuing bank through Structured Financial Messaging System (SFMS), from our banker Indian Overseas Bank, NHB, Gurugram, Branch Code: 1935, IFSC code: IOBA0001935 and Beneficiary as WAPCOS Limited. This shall also be applicable in respect of confirmation of any extension of the Bank Guarantee as and when required.
Clause 10 B(iv)	Recovery of Mobilization advance	Applicable The mobilization advance shall be recovered @15% of the value of advance from each running bill after the 2nd running bill of the contractor till the complete mobilization advance is recovered from the contractor.
Clause 12	Deviations / Variations Extent and Pricing	
	Clause 12.1	Not applicable
	Clause 12.2(a)	Modified as "In the case of extra item(s) (items that are completely new and not in the scope of works as per tender condition), the rates for extra items shall be determined on basis of latest DSR (Delhi Schedule of rates). In case, extra items are not available in DSR, market rates shall prevail with proper justification of rates and the contractor shall be paid in accordance with rate approved by WAPCOS.
	Clause 12.2(b)	Modified as "The specification mentioned in Tender may be substituted as per the requirement of Owner/ WAPCOS. • In this case of substituted item(s) being DSR item, the rates for substituted items shall be determined on basis of latest DSR (Delhi Schedule of rates) as approved by WAPCOS. • In this case of substituted item(s) being Non DSR item, market rates shall prevail with proper justification of rates and the contractor shall be paid in accordance with rate approved by WAPCOS.
	Clause 12.2(c) Deviation Limit for all items of	Project & Original Works 100%

GCC Clause No.	Particular	Modified/ Added
	work	• Modified as "In the case of deviation, the rates for deviation items shall be determined on basis of latest DSR (Delhi Schedule of rates).

2.0 ADDITIONAL CONDITIONS OF CONTRACT

2.1 Third Party Inspection of Works

Notwithstanding the any other conditions of Contract, the Employer shall get the work inspected by any third party (IIT/ NIT as appointed by WAPCOS/CBSE) during the progress of work or any time after the construction and development of project up to the defect liability period. The Contractor, his consultant, subcontractors of all tiers and suppliers thereof shall make available during the inspection with all records necessary to demonstrate that the Works have been executed in accordance with the Contract Agreement.

The Contractor shall also be responsible for consequential effects arising out during the inspection done by the third party from time to time and will take appropriate action for rectification of defective work. Rectification of defective works or replacement of sub-standard materials or articles, as pointed out by the third party authorized by Employer, will be carried out or replaced by the Contractor at his own risk and cost. The Employer will not pay any extra amount for such rectification or replacement

2.2 The Contractor shall submit the Standard Operating Procedure (SOP) / Quality Control & Quality Assurance Plan as finalized by the CBSE and submit to the WAPCOS & Third Party Quality Assurance Agency (TPQAA) for checking & verification during visit of TPQAA. The reports of TPQAA will be the part of the Running Account Bills which will be raised after completion of important milestones / critical activities as defined by CBSE.

2.3 Inspection of the work by any Government Agency

The Contractor shall be responsible for consequential effects arising out during the inspection done by the Chief Technical Examiner Cell, Central Vigilance Commission or Committee constituted by the Principal Employer or construction site visiting team of Principal Employer or by the Building Works Committee or third party authorized by WAPCOS or any Statuary Committee or by any duly authorized representative of WAPCOS, during the progress or any time after the construction and development of project up to the defect liability period, and will take appropriate action for rectification of defective work and modifications as suggested by the above teams/ group/ individual. Rectification of defective works or replacement of sub-standard materials or articles or modifications, as pointed out by the Chief Technical Cell, Central Vigilance Commission, committee constituted by Principal Employer, construction site visiting team of Principal Employer, Building Works Committee or authorized representative of WAPCOS or third party authorized by Employer/ Principal Employer or any Statuary Committee, will be carried out or replaced/ modified by the Contractor at his own risk and cost.

2.4 Prior Approval from Fire Department & Electrical Department

Contractor shall take prior approval well in advance of electrical substation, layout, drawings, electrical equipment, solar installation drawings/documents etc. from concern Electrical Department/ local Authorities before order of procurement & commencing the Electric work. Contractor shall take prior NOC from Local Fire Department & submit the project drawings to

the Fire Department before commencing the construction works for checking and verification of fire department as per the fire norms of that particular region. After the completion of work, Contractor shall apply and provide final fire department NOC.

2.5 Site Facilities

- The contractor shall provide fully equipped office for Engineer- in-charge/ site engineer/ Principal Employer along with facility of 24 hours electric and drinking water supply, sanitary facilities, one inspection vehicle, furniture and desktop computers of latest version along with printers and internet connection at construction site and any other miscellaneous requirement as directed by Engineer-in-charge for finalizing immediate technical solutions/decisions on the site, so that the work progress may not be hampered. An amount equal to 1% of the gross amount of running account bills and final bill will be deducted, if above facilities are not provided at site.
- The Contractor shall provide at his own cost, One Site sign Board, at directed location of overall size 2.40 metres wide and 1.50 metres height and of approved design. The names of the Project, Employer, Consultants, Engineer and Contractor etc. shall be exhibited as directed
- The Contractor has to make own security arrangement. Contractor shall maintain upto date record of in & out of the material & labour / staff at the security gate of campus at its own expenses.
- The Contractor shall provide safety equipment to the Employers/officers (whenever required).
- Contractor shall deploy security/ watchmen for 24 hours on site at entire execution period and up to successful handing over of the project to the Principal Employer.
- Contractor shall properly cover up & protect all the work throughout the duration of work at his cost until successful handing over to the Principal Employer, particularly flooring, risers, mouldings, steps, terrace or special floor finishes (by a layer of 25 mm thick Plaster of Paris over Polyethylene sheet as approved by Engineer-in-Charge) staircases and balustrades, doors and glass, paint work, furniture and all finishing

2.6 Approach Roads and Transportation of Equipment & Materials

Contractor will be permitted to use the existing roads in the establishment area for the purpose of transporting equipment and materials and for use of labour etc if Principal Employer permits the same. The Engineer-in-Charge, however, will not undertake to provide any approach roads to the actual site of work. It shall be the entire responsibility of the Contractor to provide and maintain such temporary approach roads including cross drainage works if any at his own cost for the purpose of movement of men, materials and equipment.

2.7 Supply of Water for Construction Purpose

Contractor shall make his own arrangement of water required for the work, at his own cost, subject to the approval of the Engineer-in-Charge. However, the Contractor will be permitted to drill bore well/s at site and the Contractor shall pay all charges to local bodies / authorities / royalty if any and obtain statutory approvals, geological survey provide pump, pipeline, casing with all accessories required for functioning of the bore well. The water should be tested in an approved laboratory and should be permitted to use in work if found suitable for construction. However, Contractor shall make alternate arrangements in case the water is not found fit for construction. After completion of work the Contractor will handover complete bore well/s with pump/s and accessories to the Employer at no cost.

The water storage tanks should be leak proof and wastage and misuse of water is strictly prohibited, Contamination and pollution of water to be strictly avoided. Construction water should not be used for drinking or for domestic purpose.

2.8 Monthly Bill of Electric & Water Department

The Contractor shall make his own arrangement for the Temporary connection for Supply of Electricity & Water for Construction Purpose as required at his own cost and pay their monthly bill. After getting permanent connection during final stage of construction for Principal Employer/ Project, contractor shall pay monthly billing charges of Permanent electric and water connection (taken by contractor on behalf of Principal Employer, to run project) up to the successful handing over of the project to Principal Employer, from the date of installation of connections. These charges will be borne by the contractor. Hence contractor shall quote the cost in tender accordingly

2.9 Handing Over of the Project

Contractor shall apply/ laison, well before the completion of project, for permanent electricity connection, Electric load enhancement, solar net metering from concerned Electrical Departments for Permanent supply of electricity to the project within the completion period of the project. After completion of installation of electric equipments & connections, Contractor shall arrange necessary testing of equipment, panels, transformer, DG set, solar installation etc. at site as per norms and provide test reports to Employer/local Authorities. After that Contractor will arrange all necessary approval/NOC from Chief Electrical Inspector Department/ local Authorities etc. to submit further to the electricity department for getting permanent electrical supply to the project.

Contractor shall apply/ laison, well before the completion of project, permanent water connection & Sewerage Connection, gas connection, etc. from concerned Departments/ Government Authorities which are mandatory to make the project operational and get the connection within the completion period of the project.

Contractor shall provide necessary Statutory Approvals/NOCs/ License from all local Government/ Statuary Authorities including Fire, Forest, Electrical, Pollution, Environment, Lift, DG Set, final Occupancy Certificate required before handing over the project to the Principal Employer.

Contractor will hand over the project to Employer/Principal Employer after successful completion of each component of the project along with submission of all the required documents i.e. As- built drawings, Inventory list, guarantee / warranty bonds, certificates & invoices of equipment, lock and key of each room, NoCs form various Departments and final Occupancy Certificate from Local Body with complete satisfaction and acceptance by Principal Employer within the completion period of the project.

The statutory fees, if any will be deposited by the contractor for the above will be reimbursable to the contractor by Employer after providing the original receipt of the concern department. No other amount will be paid to the contractor for above works.

The partial handing over of works components shall not be considered. The Warranty/Defect Liability Period shall commence from the date of issue of the Taking Over Certificate by Principal Employer or issue of Completion Certificate by Principal Employer or agreed date of start of Defect Liability Period by the Principal Employer whichever is later along with submission of all the required documents i.e. As- built drawings, Inventory list, guarantee / warranty bonds, certificates & invoices of equipment, lock and key of each room and NoCs

form various Departments.

2.10 Ceremony/Inaugural Function

The contractor shall make all arrangements for Foundation Stone/ Ground Breaking Ceremony/Inaugural Function etc. for the project as required and the cost towards it deemed to be included in quoted cost by the contractor. Any expenditure already incurred/to be incurred by Employer on account of ground breaking ceremony/inaugural function etc, shall be recovered from the Contractor.

2.11 Setting out Base Lines and Levels

The Contractor shall establish at site the layout of each component of the work from base lines and grids established by the Employer and shall be responsible for all measurements in connection therewith. The Contractor shall, at his own expenses, furnish all stakes, templates, platform, equipment, ranges and labour that may be required in setting out or laying out any part of the work. The Contractor shall be held responsible for the proper execution of the work to such lines, levels and grids as may be established or indicated on the drawings and specifications. The Contractor shall check the bench marks and stakes existing at the site for laying out lines and levels.

The Contractor has to construct and maintain proper bench marks at all salient locations/positions in order that the lines and levels may be accurately checked at all times.

Theodolite/ Total Station, Levels, Prismatic Compass, Chain, Steel and FRP Tapes and all other surveying instruments found necessary on the works shall be provided by the Contractor for use at site in connection with this work.

2.12 Co-operation & Co-ordination with other Agencies:

The Contractor shall have to make Coordination with other agencies engaged at the site by the Employer at no extra cost and share the Site with other Contractors/agencies, public authorities, utilities working in the area, if any. The Contractor will carry out the entire work in a planned manner by coordinating his work with other agencies, who will be simultaneously carrying out work in the same area and also co-ordinate in connection with the position of various fixtures, inserts, embedment's and other allied work connected with the completion of the building / subject work.

In case of any dispute between the agencies engaged on the same work, decision of Engineer-in-Charge shall be final and binding.

2.13 Operations and Storage Areas

All operations of the Contractor shall be confined to areas authorized by the Project Manager, WAPCOS and storage of materials shall be over the areas specially indicated by the Project Manager, WAPCOS. Materials like sand and metal of different sizes shall be stored in properly constructed bins with hard floor to avoid inter mixing as well as mixing with objectionable materials. The Contractor shall be obliged to keep the premises in hygienic conditions by proper drainages of the area provided with suitable approaches throughout the period of Contract. He shall rectify all damages caused to the Government property within the areas thus allotted. He shall be responsible to clear all rank, vegetation at site at his own cost.

2.14 Contractor's Storage and Site Office

The Contractor shall make own arrangement for storing his equipment, plant, materials etc. and for his site office and cement godown. The Contractor be solely responsible for watching or guarding his property and materials. Contractor shall cover all materials at site with requisite insurance against theft, larceny, dacoits, fire tempest and flood. The Contractor, however, shall have to dismantle the shed and vacate the land after the receipt of due notice from the Project Manager, WAPCOS if the same is obstructing any work. The Contractor should obtain necessary permission / approval from Statutory Authorities such as Municipal corporations /

Local bodies etc. for construction of temporary structures at site of work such as cement godown, stores, site office etc. It will be responsibility of the Contractor to prepare proper plans, to pay any requisite fees to statutory authorities and to execute the work for the temporary structure at their own cost as per the conditions and rules laid by statutory authorities.

The Engineer-in-Charge or his authorized representative shall have a right at any time to inspect and examine any stores and materials intended to be used in or on the works either on the site or at any factory or workshops or other places where such stores or materials are being constructed or manufactured or processed or any place from where they are being obtained and the Contractor shall give such facilities as required to be given for such inspection and examination.

The Engineer-in-Charge or his authorized representative shall be entitled to have tests made without any extra cost to the Employer at the laboratory selected by the Employer for any stores and or materials supplied by the Contractors, who shall provide at his own expense all the facilities which the Engineer-in-Charge may require for this purpose.

Any stores and materials brought to site for use on the work and which has been rejected by Engineer-in-Charge shall be immediately removed off the site by Contractor at his own expenses and intimate in writing accordingly to the Engineer-in-Charge. The rejected materials shall not be used in any manner in the construction of the project.

2.15 Temporary Buildings

Any temporarily buildings and office facilities as required by the Contractor shall be arranged by the Contractor at his own expense. Area for the same will be made available by the Employer, if available. After the work is over, all these temporary facilities shall be removed by the Contractor at his own expense within 10 days from the date of completion.

Labour Camp is permitted at site after approval of Principal Employer. However, no labour shall be permitted to stay in the partly completed building at any time. Unauthorized occupation of any area/partly completed building by the Contractor's labourer will be treated as trespass and action will be taken to evict them including termination of Contract if deemed fit. Sanitary as well as water supply and drainage facilities as required by the labour laws in force, are to be provided by the Contractors at his own cost. The labour camp should be dismantled by the Contractor before handing over the buildings.

2.16 Traffic Interference & Inconvenience to the Public

The Contractor shall so conduct his operations as to interfere as little as possible with the traffic/public. When interference to traffic is inevitable, a notice of such interference shall be given to the Project Manager, WAPCOS well in advance (at least 2 days) at any stage, if it becomes necessary to divert the traffic, the Contractor shall obtain permission from the local traffic authorities at his own expense. The Employer will render reasonable assistance in the matter. The Contractor shall take all precautionary and other measure, such as providing warning signals, temporary diversion etc. all as directed by the Project Manager, WAPCOS.

The Contractor shall not deposit materials anywhere at work site which will seriously inconvenience the public. The Project Manager, WAPCOS may require the Contractor to remove any materials which are considered to be a danger or inconvenience to the public or cause them to be removed at the Contractor's cost.

The Contractor shall exercise full care to ensure that no damage is caused by him or his workmen, during the operation to the existing water supply and power lines. The cost of any such damage and risks arising out of this shall be entirely borne by the Contractor.

2.17 Drainage around the Buildings and Foundation for other Works

The Contractor shall be entirely responsible for the provision and maintenance of efficient drainage arrangements in the work site to lead all water whatsoever pumped out from the excavations on account of rains, floods, springs or any other source whatsoever. The foundation

trenches shall be kept free from water while all the works below ground level are in progress. Flooding or ponding of water in the work site shall not be permitted under any circumstances whatsoever and the Contractor shall take all necessary precautions to prevent the same by providing suitable pumps and other dewatering arrangement.
The cost of repairing damages if any, to the work under execution or to any government property in and around the site shall be entirely borne by the Contractor where such damages are due to his non-compliance with the above conditions.

2.18 Maintenance of Entire Electrical Installation

As mentioned above, the Contractor shall maintain his entire electrical installation, appliances etc. in good and safe condition as required under relevant rules and BIS codes of practice etc. till completion of works at his own cost. However, the following precautions and directives shall be followed in addition to observing other essential rules:

a. The minimum clearance (measured at the lowest sag point) to be maintained for all overhead lines shall be 4 Mtrs. cross country or along roads and 6.1 metres across roads.
b. Metallic poles as a general rule should be avoided and if used should be earthed individually.
c. All loose hanging of wires and cables should be avoided. The line wires should be properly supported and an approved method of fixing shall be adopted.
d. Installation shall not cause any hindrance to the normal movement of men and materials at site.
e. All cables and wires should be adequately protected against mechanical damage during construction activity of all Contractors, working at site.
f. In case the cable is required to be laid in ground, it should be adequately protected by covering the same with bricks, R.C.C. tiles or any other approved means and cable markers provided at suitable intervals as per approval of the Engineer-in-Charge.
g. Laying of cable and wires direct on floor shall not be allowed but if absolutely necessary for some very short lengths, the same shall be taken through suitable mechanical covering like G.I. / M.S. Pipes etc.
h. All the cut door switch boards, equipment etc., should be adequately protected against rain or preferably they should not be exposed to weather.
i. If overhead lines using bare conductors are installed, a guard wire system of adequate size shall run along the cables / wires and earthed effectively.
j. The connection for portable machines shall be taken only through suitably rated 3 pin socket points. Iron clad industrial type outlets are preferred. While taking supply through socket outlet a plug top must be used, avoiding inserting of loose wires in the sockets. The third pin of the plug shall invariably be earthed and 3 core wire of appropriate specifications and capacity shall be used.
k. All three-phase equipment shall be provided with duplicate earthing. All metallicframes, light fixtures, portable equipment's etc. should be effectively earthed to main earthing.
l. Duly authorized persons having valid wireman's license / competence certificate must be employed under the supervision of a qualified and experienced Electrical Supervisor for carrying out electrical work and repair of electrical equipment, installation and maintenance etc. at site.
m. Special precaution shall be taken by the Contractor not to disturb the sapling/trees recently planted by the side of the compound wall. The sapling/trees fall within the building/road etc. shall be transplanted to suitable place with written approval of the Engineer-in-Charge and maintained by the Contractor till completion of works at his own cost.

2.19 Proper drawings and instructions

The Contractor shall provide shop drawings and other drawings to the Engineer-in-Charge in line

with the requirement of contract agreement from time to time for approval for the purpose of proper and adequate execution and maintenance of the work and the Contractor shall carry out the work and be bound by the same.
Copies of the drawings approved by the Engineer-in-Charge and the construction drawings issued shall be kept by the Contractor at the site and the same shall at all reasonable times be made available for inspection and use by the Engineer-in-Charge and any other person authorized by the Engineer-in-Charge.

2.20 Employment of Staff for Plumbing & Electrical Works

- Employment of certified plumber: Certified plumbers should be employed by the Contractor on the work for main sewer, filtered and unfiltered main.
- Employment of licensed electrical foreman: The Contractor should employ a licensed electrical foreman to supervise the Electrical works.

2.21 Urgent repairs

If by reason of any accident or failure or other event occurring to or in connection with the work or any part thereof either during the period of construction or maintenance, any remedial or other work or repair shall in the opinion of the Project Manager, WAPCOS be urgently necessary for security etc. and the Contractor is unable or unwilling, at once, to do such work or repair, the Project Manager, WAPCOS may be his own or other workmen do such work or repair as he may consider necessary. If the work or repair so done which in the opinion of the Project Manager, WAPCOS, the Contractor was liable to do at his own expenses under the Contract and all cost and charges properly incurred by the Project Manager, WAPCOS in so doing shall on demand be paid by the Contractor or may be deducted from any sum due or which may become due to the Contractor provided always that the Project Manager, WAPCOS shall soon after the occurrence of any such emergency as may be reasonable, practicable, notify the Contractor thereof in writing.

2.22 Security Regulations

The Contractor has to strictly follow the security regulations at the work site regarding entry of personnel, material etc. and any other regulation that might be enforced from time to time.
All materials and articles brought by the Contractor to the work site shall have to be declared at the security gate. Similarly, no materials shall be taken out from the premises without proper gate pass.

The Contractors, Suppliers, vendors, workers engaged in work/business will be issued with renewable entry permit to avoid unauthorized entry in the work site on scrutiny of applications in prescribed form.

For working on Sundays, Holidays and late hours, even though permission will be accorded by the Engineer-in-Charge, the Contractor will have to make application to the Engineer-in-Charge also and keep them informed well in advance.

The area where the proposed work is to be carried is residential / non-residential area under the control of Security authorities, entry to the site of work shall be through the main gate only. The Contractor shall follow strictly the security regulations at site of work regarding entry of personnel, materials etc. and other regulations that might be enforced from time to time at the work site and also in the campus for smooth and efficient operation. The Contractors, his agents, representatives, workmen etc. and his materials, carts, trucks or other means of transport etc. will be allowed to enter through and leave from such point of entry/exit at such times, the authorities in charge of the area, at their sole discretion, may permit.

The Contractors, his agents and representatives are required to be in possession of the

individual identity / muster cards or passes. The muster cards or passes are examined by the security staff at the time entry / exit inside the premises and also at any time or number of times within such area.

The Contractor will have to apply for entry/muster permits of likely number of labour to be engaged during the week for the workers and authorize their representatives to collect the entry permits for labour from the Employer's Security Authorities.

It will be the responsibility of the Contractor to maintain the list of laborers permitted to work inside the premises in a register and the representative of Contractor's labour will have to issue entry pass to each labour after making necessary entry in the registers.

The Contractor, his agents, representatives, workmen shall strictly observe the orders pertaining to prevailing fire precautions.

In addition to the above, other security regulations as may be imposed by the Security authorities / Project Manager, WAPCOS shall be complied with / observed by the Contractor and his workmen, in addition to the above.

Any breach of above security regulations and rules in force from time to time will be viewed seriously. No claim whatsoever will be entertained by the Employer on account of the observation of the Security regulations.

2.23 Watch and Ward and Lighting

The Contractor shall in connection with the works provide and maintain at his own cost all lights, guards, fencing and watching when and where necessary or as required by the Project Manager, WAPCOS and duly constituted authority for the protection of the workers or for safety and convenience of the public or others. The Contractor shall be responsible for all damages and accidents caused due to negligence in this regard.

It will be the entire responsibility of the Contractor to protect the work(s) carried out by them including the fittings, fixtures and other accessories provided by them till the entire work is satisfactorily handed over to the Employer.

2.24 Removal of rejected/sub-standard materials.

The following procedure shall be followed for the removal of rejected/sub-standard materials from the site of work:

(i) Whenever any material brought by the contractor to the site of work is rejected, entry thereof should invariably be made in the Site Order Book under the signature of the Project Manager, WAPCOS, giving the approximate quantity of such materials.

(ii) As soon as the material is removed, a certificate to that effect shall be recorded by the Project Manager, WAPCOS against the original entry, giving, the date of removal and mode of removal, i.e., whether by truck, carts, or by manual labour. If the removal is by truck, the registration number of the truck should be recorded.

(iii) When it is not possible for the Project Manager, WAPCOS to be present at the site of work at the time of actual removal of the rejected/sub-standard materials from the site, the required certificate should be recorded by the Authorized Representative of WAPCOS, and the Project Manager, WAPCOS should countersign the certificate recorded by the Authorized Representative.

As the basement is to be excavated at site hence soil as excavated shall remain in surplus to be disposed-off from site. In the estimation the financial impact of same is taken and has been deducted from the NIT cost. Thus, the soil excavated from site in surplus may be used or sell by the contractor. Documentation for same should be made available to CBSE if desired.

2.25 Special Conditions for Steel:

The contractor shall procure TMT bars of Fe500/Fe500D/Fe550/Fe550D grade (the grade to procured is to be specified) from primary steel producers as per the list of approved makes or any other producer as approved by WAPCOS who are using iron ore as the basic raw material / input and having crude steel capacity of 2.0 Million tonnes per annum and above

2.26 Special conditions for Cement

The contractor shall procure 43 grade Ordinary Portland Cement (conforming to IS : 8112), Portland pozzolona cement (confirming to IS : 1489 : Part –I) as required in the work, from reputed manufacturers of cement as per the list of approved makes or from any other reputed cement manufacturer, having a production capacity not less than one million tones per annum as approved by WAPCOS. The tenderers may also submit a list of names of cement manufacturers which they propose to use in the work. The tender accepting authority reserves right to accept or reject name(s) of cement manufacture(s) which the tenderer proposes to use in the work. No change in the tendered rates will be accepted if the tender accepting authority does not accept the list of cement manufactures, given by the tenderer, fully or partially. The cement brought to the site for execution of work shall be in bags bearing manufacturer's name & ISI marking. Weight of cement in each bag shall be 50 kg. Samples of cement arranged by the contactor shall be taken by the Engineer- in-Charge and got tested in accordance with provisions of relevant BIS codes. In case the test results indicate that the cement arranged by the contractor does not conform to the relevant BIS codes, the same shall stand rejected and it shall be removed from the site by the contractor at his own cost within 7 days of written order from the Engineer-in-Charge to do so.

2.27 Special Conditions for Waterproofing and Testing

The contractor shall associate himself with the specialized firm, to be approved by the Engineer-in-Charge in writing, for water proofing treatment as contractor shall provide Guarantee Bond in the prescribed format for 10 years. After laying and jointing of pipes for PHE works contractor shall carry out Pressure test as per CPWD Specification 2019 to check the leakage and sustainability of whole pipe network system. Similarly after water proofing works and finalization of roof top surface/exposed surfaces, the entire surface thus treated shall be flooded with water by making kiaries with weak cement mortar, for a minimum period of two weeks.

2.28 Other Conditions

a) Contractor shall use good quality Steel Props and steel shuttering material for RCC works. Use of wooden props and shuttering is affecting the line, level and alignment of RCC members. No payment shall be released for RCC work where use of wooden centering & shuttering material is noticed or reported.

b) All mass Reinforced Cement Concrete work shall be design mix concrete of specified grade and initial design mix shall be carried out from the NIT/IIT only immediately after award of work. The Design Mix report shall be submitted to WAPCOS before commencement of the RCC works at site.

c) The Contractor shall be responsible to co-ordinate with service provider/concerned authorities for cutting of trees, shifting of utilities and removal of encroachments etc. and making the site un-encumbered from the project construction area required for completion of work. This shall include initial and frequent follow up meetings/ actions/ discussions with each involved service provider/ concerned authorities. The contractor shall not be entitled for any additional compensation for delay in cutting of trees, shifting of utilities and removal of encroachments by the service provider/ concerned authorities.

d) Contractor shall provide R.O. Plant sufficient for workers employed at site, his technical

staff and site staff.

e) Any cement slurry added over base surface (or) for continuation of concreting for better bond is deemed to have been in-built in the items and nothing extra shall be payable (or) extra cement considered in consumption on this account.

f) No payment shall be made for any damage caused by rain, snowfall, flood or any other natural calamity, whatsoever during the execution of the work. The Contractor shall be fully responsible for any damage to the govt. property and work for which the payment has been advanced to him under the contract and he shall make good the same at his risk and cost. The Contractor shall be fully responsible for safety and security of his material, T&P, Machinery brought to the site by him.

g) Wherever work is specified to be done or material procured through specialized agencies, their names shall be got approved well in advance from Engineer-in-Charge. Failure to do so shall not justify delay in execution of work. It is suggested that immediately after award of work, Contractor should negotiate with concerned specialist agencies and send their names for approval to Engineer-in-Charge. Any material procured without prior approval of Engineer-in-Charge in writing is liable to be rejected. Engineer-in-Charge reserves right to get the materials tested in laboratories of his choice before final acceptance. Nonstandard materials shall not be accepted.

h) The construction joints shall be provided in predetermined locations & as per the approved drawings only.

i) The Contractor shall invariably prepare the samples of finishing items i.e. flooring of different types, external & internal finishing i/c colour scheme of paint, tiles in dado, flooring in platforms & staircase, water supply & sanitary fittings and any other item as per direction of Project Manager, WAPCOS. The Contractor shall proceed with further finishing items only after getting the samples of these items approved in writing from Engineer-in-Charge. No extra claim whatsoever beyond the payments due at agreement rates will be entertained from the Contractor on this account.

j) Contractor shall not divert any advance payments or part thereof for any work other than that needed for completion of the contracted work. All advance payments received as per terms of the contract (i.e., mobilization advance, secured advance against materials brought at site, secured advance against plant & machinery and/or for work done during interim stages, etc.) are required to be re-invested in the contracted work to ensure advance availability of resources in terms of materials, labour, plant & machinery needed for required pace of progress for timely completion of work.

k) Any Circular/Guidelines/SOP issued by the Principal Employer/ Government during the progress/ execution of the construction work shall be followed by the contractor without any dispute. The contractor shall comply with proper and legal orders and directions of the local or public authority or municipality and abide by their rule and regulations and pay all fees and charges which he may be liable.

l) All the modifications and any additional works (basic requirement after use of premises by user) suggested by Principal Employer at the time of handing over of the project and after occupancy of premises by Principal Employer during Defect Liability Period must be taken up by contractor without any disputes.

m) If any dispute/ hindrance may arise during construction due to any reason whatsoever, the contractor is not liable for any financial claim or damages due to such circumstances.

n) If the work is carried out in more than one shift or during night, no claim on this account shall be entertained. The contractor has to take permission from the police & local authorities etc. if required for work during night hours. No claim / hindrance on this account shall be considered if work is not allowed during night time. The requisite supervision shall be made available by the WAPCOS along with necessary issue of material under joint custody.

o) In case of any inconsistency between clauses, the clause favorable/ beneficiary to the

project will prevail which will be decided by the Principal Employer and Employer.

p) One sample room complete in all shape for each category, shall be prepared by the contractor and got approved from Engineer-in-charge in writing. The contractor shall be allowed to proceed with further rooms only after getting the sample room approved in writing from Engineer-in-charge No extra claim whatsoever beyond the payments due at agreement rates will be entertained from the contractor on this account.

q) It must be ensure that all materials to be used in work bear BIS certification mark. In cases where BIS certification system is available for a particular material/product but not even a single producer has so far approached BIS for certification the material can be used subject to the condition that it should confirm to CPWD specification and relevant BIS codes. In such case written approval of the Engineer-In-Charge may be obtained before use of such material in the work.

r) In case of works where a ready mix concrete (RMC) is stipulated to be used from an approved source/manufacturer, cement register need not be maintained. However, the computerized dispatch slips that are sent with each dispatch of RMC shall be kept as record.

SECTION – VI

ANNEXURES

ANNEXURE - I	**FORMAT FOR CONTRACT AGREEMENT AND LETTER OF AWARD**
ANNEXURE - II	**FORMAT FOR PERFORMANCE BANK GUARANTEE**
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ANNEXURE-I

(Format for "Contract" to be signed on Non-Judicial Stamp Paper of Rs. 100 by successful bidder)

CONTRACT AGREEMENT

This Contract made on the____ day of ___ 20____between WAPCOS Limited, a Company in corporate under Indian Company's Act and having its registered office at 5th floor, Kailash Building, 26, K. G. Marg, New Delhi (hereinafter called "WAPCOS" of the one part) and (Name of Contractor Firm & Address)_____ (hereinafter called "Contractor" of the other part).

WHEREAS the WAPCOS is desirous that Work known as "_____". (Herein after referred to as "Work/ Project") under the Tender no._____ dated_____ should be executed by the Contractor AND WHEREAS by a Letter of Award No._____ dated _____ issued by WAPCOS Limited and accepted by the contractor. WAPCOS Limited has accepted a Bid submitted by the Contractor for the execution and completion of such Work AND WHEREAS the Contractor has agreed to undertake such Work and furnish a Performance Security_____(details) pursuant to Tender conditions.

NOW THIS AGREEMENT WITNESSETH as follows;

In this Contract words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
The following documents shall be deemed to form and be read and construed as part of this Contract, viz;

a) Tender Document no._____dtd._____
b) Letter of Award to Contractor by WAPCOS
c) Documents furnished by the Contractor during Bidding process
d) Corrigendum/Amendments, if any
e) Clarifications / Correspondences, if any
f) Any other documents as forming part of the contract

1. The aforesaid documents shall be taken as complementary and mutually explanatory of one another.

2. In consideration of the payment to be made by WAPCOS to the Contractor as indicated in this Contract, the Contractor hereby covenants with WAPCOS to execute and complete the Works in conformity, in all respects, with the provisions of the Contract.

3. WAPCOS hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein the Contract Price or such other sum as may become payable under the provisions of the contract at the time and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with Laws of India on the day, month & year indicated above.

SIGNED, SEALED AND DELIVERED

For and on behalf of the WAPCOS	For and on behalf of the Contractor
NAME _____	NAME _____
Designation	Designation
in the presence of witness:	**in the presence of Witness**
1_____	1_____
2 _____	2 _____

NOTE: Contractor shall submit the Original Power of Attorney on Non-Judicial Stamp Paper for this particular Work / Project, in the name of Person who will sign the Contract with WAPCOS after award of Work.

FORMAT FOR LETTER OF AWARD

No. …… **Date:……**

M/s ……..(Name of successful Bidder)
……. (Address of successful bidder)
……

Subject: Award Letter for Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)

Reference: Tender No. …….. ……

Dear Sir,

We are pleased to inform that work of "……." is awarded to your firm, in cost of Rs. ---------- excluding GST, according to submission of your technical & financial bids against referred tender for the subjected work.

Project	Awarded Cost excluding GST
Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)	Rs. ……..

1. The "Date of Commencement of Work" shall be 15 days after Date of Award or Handing over of Site whichever is later and accordingly, planning should be started for deploying manpower, resources as per Terms & Conditions of Tender document.
2. The tender document wholly accepted by you along with all related correspondences at the time of bidding shall form a part of this letter of award.
3. You are requested to submit the following as per Terms & Conditions of tender
   - Performance Security @5% of Tendered Value as per the form enclosed in the tender document before signing of the Agreement within 21 (Twenty One) days of the date of acceptance of the letter of award and sign the Contract Agreement.
   - Detailed Schedule Plan/ Bar chart of each component of work to complete the work in stipulated time period
   - Labour License from concerned Labour Department of State
   - Contractor All Risk (CAR) and Third Party Cover Policy.
   - Liability under the workmen's compensation Act, 1923, Minimum Wages Act, 1948
   - Details of manpower to be deployed at site along with CVs
   - List of Lab Equipment required for the work for approval of Engineer-in charge.
4. The terms & conditions of the Work will be governed as mentioned in the tender document.

This letter of award is being issued to you in duplicate. You are requested to return the duplicate copy of the letter of award immediately duly signed and stamped as a token of your unequivocal acceptance and confirmation of the same.

Thanking You,

Yours faithfully,
(Name & Designation

Annexure – II

(To be submitted on non-judicial stamp paper of Rs. 100)

FORMAT FOR PERFORMANCE BANK GUARANTEE

To,
The WAPCOS Limited,
76-C, Sector 18, Institutional Area
Gurugram, Haryana-122015.

In consideration of _____ (Employer's name) (hereinafter referred to as "the Employer") which expression shall, unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to _____ (Contractor's name & address) (hereinafter referred to as "the Contractor" which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) a contract, by issue of Employer's Notification of Award No. _____ dt. _____ and the same having been unequivocally accepted by the Contractor, resulting into a contract valued at Rs. _____(Rupees _____only) for **Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)** (hereinafter called "the contract") and the Contractor having agreed to provide a Contract Performance Security for the faithful performance of the entire contract equivalent to Rs. _____ (Rupees _____only) (5% of the said value of the Contract to the Employer).

We, _____ (name & address of bank) (hereinafter referred to as "the Bank" which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Employer, on demand any or, all monies payable by the Contractor to the extent of Rs. _____ (Rupees _____only) as aforesaid at any time upto _____ without any demur, reservation, contest , recourse or protest and/or without any reference to the Contractor or court. Any such demand made by the Employer on the bank shall be conclusive and binding notwithstanding any difference between the Employer and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. The Bank undertakes not to revoke this guarantee during its currency without previous consent of the Employer and further agrees that the guarantee herein contained shall continue to be enforceable till the Employer discharges this guarantee.

We the said Bank further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and that it shall continue to be enforceable till all the dues of the Employer under or by virtue of the said contract have been fully paid and its claims satisfied or discharged or till the Employer certifies that the terms and conditions of the said Contract have been fully and properly carried out by the said Contractor and accordingly discharges the guarantee.

The Employer shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee, from, time to time to extend the time for performance of the Contract by the Contractor. The Employer shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor and to exercise the same at any time in any manner and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Employer and the Contractor or any other course or remedy or security available to the Employer. The bank shall not be released of its obligations under these presents by any exercise by the Employer of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other

acts of omission or commission on the part of the Employer or any other indulgence shown by the Employer or by any other matter or thing whatsoever which under law would but for this provision, have the effect of relieving the Bank. The guarantee shall not be affected by a change in the constitution of the bank or of the employer.

The bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance, without proceeding against the Contractor and notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

We The Said Bank do hereby declare that we have absolute and unconditional power to issue this guarantee in your favour under the Memorandum and Articles of Association or such other constitutional documents of the Bank and the undersigned have full power to execute this guarantee under the Power of Attorney / Post Approval Authorization dated _____ of the bank granted to him / us by the Bank. We the said bank do hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the powers of the bank or its officials and the guarantee shall be deemed to have been issued as if the bank and its officials have all the powers and authorization to give this guarantee on behalf of the bank.

We the said bank do hereby certify the genuineness and appropriateness of the Stamp paper and stamp value used for issuing the guarantee. We the said bank do hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the stamp paper or its stamp value.

We the said bank do hereby declare that our payments hereunder shall be made to you , free and clear of and without and deduction, reduction on account of any reasons including any and all present and future taxes, levies, charges of withholding whatsoever imposed or collected with respect thereto.

Notwithstanding anything contained hereinabove our liability under this guarantee is restricted to Rs. _____(Rupees _____ only) and it shall remain in force upto and including _____ and shall be extended from time to time for such period as may be desired by M/s WAPCOS Limited to whom this bank guarantee has been given.

Notwithstanding anything contained herein

i) Our liability under this guarantee shall not exceed Rs. _____ (Rupees_____ only);
ii) This bank guarantee shall be valid upto _____; and
iii) our liability to make payment shall arise and we are liable to pay the guaranteed amount or any part thereof under this guarantee, only and only if you serve upon us a written claim or demand in terms of the guarantee on or before _____ **(indicate a date twelve month after validity of Guarantee**)

Dated this _____day of _____ at New Delhi.

Authorized Signatory of …… Bank

Signature **Signature**

Name……. **Name……..**

Signature Code/ S.S no. …… **Signature Code/ S.S no. ……**

ANNEXURE – III

(To be submitted on non-judicial stamp paper of Rs. 100)

FORMAT FOR MOBILIZATION ADVANCE PAYMENT BANK GUARANTEE

To,
The WAPCOS Limited,
76-C, Sector 18, Institutional Area
Gurugram, Haryana-122015

In consideration of WAPCOS LTD. (hereinafter referred to as "the Employer") which expression shall, unless repugnant to the context or meaning thereof include its successors, administrators and assigns) having awarded to _____ (Contractor's name) with its Registered /Head Office at _____(hereinafter referred to as "the Contractor" which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) a contract, by issue of Employer's Notification of Award No. _____ dt. _____ and the same having been unequivocally accepted by the Contractor, resulting into a contract valued at Rs._____ (Rupees_____only) for _____ (hereinafter called "the contract") and the Employer having agreed to make an advance payment to the Contractor for performance of the above Contract amounting to Rs. _____ (Rupees _____only) as an advance against bank guarantee to be furnished by the Contractor.

We, _____ (name & address of bank) having its Head Office at _____ (hereinafter referred to as "the Bank" which expression shall, unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) do hereby guarantee and undertake to pay the Employer immediately on demand any or, all monies payable by the Contractor to the extent of Rs. _____ (Rupees _____only) as aforesaid at any time upto _____ without any demur, reservation, contest, recourse or protest and/or without any reference to the Contractor. Any such demand made by the Employer on the bank shall be conclusive and binding notwithstanding any difference between the Employer and the Contractor or any dispute pending before any Court, Tribunal, Arbitrator or any other authority. We agree that the Guarantee herein contained shall be irrevocable and shall continue to be enforceable till the Employer discharges this guarantee. We further agree that no change in the constitution of the Bank or of the Employer shall affect this guarantee.

The Employer shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee, from time to time, to vary the advance or to extend the time for performance of the Contract by the Contractor. The Employer shall have the fullest liberty without affecting this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Contractor and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract between the Employer and the Contractor or any other course or remedy or security available to the Employer. The bank shall not be released of its obligations under these presents by any exercise by the Employer of its liberty with reference to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Employer or any other indulgence shown by the Employer or by any other matter or thing whatsoever which under law would but for this provision, have the effect of relieving the Bank.

The bank also agrees that the Employer at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Contractor and

notwithstanding any security or other guarantee that the Employer may have in relation to the Contractor's liabilities.

We the Said Bank do hereby declare that we have absolute and unconditional power to issue this guarantee in your favour under the Memorandum and Articles of Association or such other constitutional documents of the Bank and the undersigned have full power to execute this guarantee under the Power of Attorney/ Post Approval Authorization dated _____ of the bank granted to him / us by the Bank. We the said bank do hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the powers of the bank or its officials and the guarantee shall be deemed to have been issued as if the bank and its officials have all the powers and authorization to give this guarantee on behalf of the bank.

We the said bank does hereby certify the genuineness and appropriateness of the Stamp paper and stamp value used for issuing the guarantee. We the said bank does hereby declare and undertake that your claim under the guarantee shall not be affected by any deficiency or other defect in the stamp paper or its stamp value.

We the said bank do hereby declare that our payments hereunder shall be made to you , free and clear of and without and deduction, reduction on account of any reasons including any and all present and future taxes, levies, charges of withholding whatsoever imposed or collected with respect thereto.

Notwithstanding anything contained hereinabove our liability under this guarantee is limited to Rs._____ (Rupees _____ only) and it shall remain in force upto and including _____ and shall be extended from time to time for such period (not exceeding one year), as may be desired by M/s _____ on whose behalf this bank guarantee has been given.

Notwithstanding anything contained herein

i) Our liability under this guarantee shall not exceed Rs._____(Rupees _____only);

ii) This bank guarantee shall be valid upto _____ and

iii) our liability to make payment shall arise and we are liable to pay the guaranteed amount or any part thereof under this guarantee, only and only if you serve upon us a written claim or demand in terms of the guarantee on or before _____ **(indicate a date twelve months after the validity of the guarantee).**

Dated this _____ day of _____ at……...

Authorized Signatory of …… Bank

Signature **Signature**

Name…….. **Name……..**

Signature Code/ S.S no. …… **Signature Code/ S.S no. ……**

ANNEXURE-IV

(On non-judicial stamp paper of Rs. 100 duly attested by Notary / Magistrate)

FORMAT FOR INDENTURE FOR SECURED ADVANCES

THIS INDENTURE made the…… day of ……..20……. BETWEEN …… (hereinafter called the Contractor which expression shall where the context so admits or implies be deemed to include his executors administrators and assigns) of the one part and the WAPCOS (hereinafter called the WAPCOS which expression shall where the context so admits or implies be deemed to include his successors in office and assigns) of the other part.

WHEREAS by an agreement dated…….. (hereinafter called the said agreement) the Contractor has agreed AND WHEREAS the Contractor has applied to the WAPCOS that he may be allowed advances on the security of materials absolutely belonging to him and brought by him to the site of the works the subject of the said agreement for use in the construction of such of the works as he has undertaken to execute at rates fixed for the finished work (inclusive of the cost of materials and labour and other charges) AND WHEREAS the WAPCOS has agreed to advance to the Contractor the sum of Rupees ……. on the security of materials the quantities and other particulars of which are detailed in Accounts of Secured Advances attached to the Running Account Bill for the said works signed by the Contractor on ……and the WAPCOS has reserved to himself the option of making any further advance or advances on the security of other materials brought by the Contractor to the site of the said works. Now THIS INDENTURE WITNESSETH that in pursuance of the said agreement and in consideration of the sum of Rupees ……on or before the execution of these presents paid to the Contractor by the WAPCOS (the receipt whereof the Contractor doth hereby acknowledge) and of such further advances (if any) as may be made to him as aforesaid the Contractor doth hereby covenant and agree with the WAPCOS and declare as follows: -

(1) That the said sum of Rupees ……..so advanced by the WAPCOS to the Contractor as aforesaid and all or any further sum or sums advanced as aforesaid shall be employed by the Contractor in or towards expediting the execution of the said works and for no other purpose whatsoever.

(2) That the materials detailed in the said Account of Secured Advances which have been offered to and accepted by the WAPCOS as security are absolutely the Contractor's own property and free from encumbrances of any kind and the contractor will not make any application for or receive a further advance on the security of materials which are not absolutely his own property and free from encumbrances of any kind and the Contractor indemnifies the WAPCOS against all claims to any materials in respect of which an advance has been made to him as aforesaid.

(3) That the materials detailed in the said Account of Secured Advances and all other materials on the security of which any further advance or advances may hereafter be made as aforesaid (hereinafter called the said materials) shall be used by the Contractor solely in the execution of the said works in accordance with the directions of the Divisional Officer ……. Division (hereinafter called the Divisional Officer) and in the term of the said agreement.

(4) That the Contractor shall make at his own cost all necessary and adequate arrangements for the proper watch, safe custody and protection against all risks of the said materials and that until used in construction as aforesaid the said materials shall remain at the site of the said works in the Contractor's custody and on his own responsibility and shall at all times be open to inspection by the Divisional Officer or any officer authorised by him. In the event of the said materials or any part thereof being stolen, destroyed or damaged or becoming deteriorated in a greater degree than is due to reasonable use and wear thereof the Contractor will forthwith replace the

same with other materials of like quality or repair and make good the same as required by the Divisional Officer.

(5) That the said materials shall not on any account be removed from the site of the said works except with the written permission of the Divisional Officer or an officer authorised by him on that behalf.

(6) That the advances shall be repayable in full when or before the Contractor receives payment from the WAPCOS of the price payable to him for the said works under the terms and provisions of the said agreement. Provided that if any intermediate payments are made to the Contractor on account of work done than on the occasion of each such payment the WAPCOS will be at liberty to make a recovery from the Contractor's bill for such payment by deducting there from the value of the said materials then actually used in the construction and in respect of which recovery has not been made previously, the value for this purpose being determined in respect of each description of materials at the rates at which the amounts of the advances made under these presents were calculated.

(7) That if the Contractor shall at any time make any default in the performance or observance in any respect of any of the terms and provisions of the said agreement or of these presents the total amount of the advance or advances that may still be owing to the WAPCOS shall immediately on the happening of such default be repayable by the Contractor to the WAPCOS together with interest thereon at twelve per cent per annum from the date or respective dates of such advance or advances to the date of repayment and with all costs charges, damages and expenses incurred by the WAPCOS in or for the recovery thereof or the enforcement of this security or otherwise by reason of the default of the Contractor and the Contractor hereby covenants and agrees with the WAPCOS to repay and pay the same respectively to him accordingly.

(8) That the Contractor hereby charges all the said materials with the repayment to the WAPCOS of the said sum of Rupees ……and any further sum or sums advanced as aforesaid and all costs charges, damages and expenses payable under these presents PROVIDED ALWAYS and it is hereby agreed and declared that notwithstanding anything in the said agreement and without prejudice to the powers contained therein if and whenever the covenant for payment and repayment herein before contained shall become enforceable and the money owing shall not be paid in accordance therewith the WAPCOS may at any time thereafter adopt all or any of the following courses as he may deem best :-

(a) Size and utilize the said materials or any part thereof in the completion of the said works on behalf of the Contractor in accordance with the provisions in that behalf contained in the said agreement debiting the Contractor with the actual cost of effecting such completion and the amount due in respect of advances under these presents and crediting the Contractor with the value of work done as if he had carried it out in accordance with the said agreement and at the rates thereby provided. If the balance is against the Contractor he is to pay same to the WAPCOS on demand.

b) Remove and sell by public auction the seized materials or any part thereof and out of the moneys arising from the sale retain all the sums aforesaid repayable or payable to the WAPCOS under these presents and pay over the surplus (if any) to the Contractor.

(c) Deduct all or any part of the moneys owing out of the security deposit or any sum due to the Contractor under the said agreement.

(9) That except in the event of such default on the part of the Contractor as aforesaid interest on the said advance shall not be payable.

(10) That in the event of any conflict between the provisions of these presents and the said agreement the provisions of these presents shall prevail and in the event of any dispute or difference arising over the construction or effect of these presents the settlement of which has not been herein before expressly provided for the same shall be finally resolved as per provisions of clause 25 of the contract.

In witness whereof the said Contractor and WAPCOS by the order and under the direction of the WAPCOS have hereunto set their respective hands the day and year first above written.

SIGNED, SEALED AND DELIVERED

For and on behalf of the Contractor	**For and on behalf of the WAPCOS**
NAME _____	**NAME**_____
Designation _____	**Designation**_____
in the presence of witness:	**in the presence of Witness**
1_____	1_____
2 _____	2 _____

ANNEXURE-V

(To be submitted on non-judicial stamp paper of Rs. 100)

FORMAT FOR BANK GUARANTEE OF EMD

To,
The WAPCOS Limited,
76-C, Sector 18, Institutional Area
Gurugram, Haryana-122015.

WHEREAS, M/s …….. having their Registered/Head Office at …….. (hereinafter called "the Bidder") has submitted his Bid dated …… for the …… [hereinafter called "the Bid"] to M/s WAPCOS Limited (hereinafter called the Employer)
KNOW ALL PEOPLE by these presents that we …… (name of the Bank) having our head office at …… (hereinafter called "the Bank") are bound unto Employer in the sum of …… for which payment well and truly to be made to the Employer, the Bank binds itself, its successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this …… day of ……month…… year.

THE CONDITIONS of this obligation are:
(1) If after Bid opening the Bidder withdraws his bid during the period of Bid validity specified;

OR

(2) If the Bidder having been notified of the acceptance of his bid by …… during the period of Bid Validity:

We undertake to pay to the …… up to the above amount upon receipt of his first written demand, without the Employer having to substantiate his demand, provided that in his demand the Bidder will note that the amount claimed by him is due to him owing to the occurrence of one or any of the above mentioned two conditions and specify the occurred condition or conditions.
This Guarantee will remain in force up to and including the date …… after the deadline for submission of Bids as is stated in the instructions to Bidders or as it may be extended by the …… notice of which extension(s) to the Bank is hereby waived and notice to the bidder would constitute sufficient notice to the Bank. Any demand in respect of this guarantee should reach the Bank not later than the above date.
Notwithstanding anything contained herein

i) Liability under this guarantee shall not exceed ……
ii) This bank guarantee shall be valid upto …… and;
iii) Our liability to make payment shall arise and we are liable to pay the guaranteed amount or any part thereof under this guarantee only and only if you serve upon us a written claim or demand in terms of the guarantee on or before …… (indicate a period twelve months after the date of issue of Bank Guarantee).

Dated this _____ day of _____ at……...
Authorized Signatory of …… Bank

Signature	**Signature**
Name…….	**Name…….**
Signature Code/ S.S no. ……	**Signature Code/ S.S no. ……**

ANNEXURE-VI

(To be submitted on Contractor's original Letter Head)

FORMAT FOR SEEKING EXTENSION OF TIME

1. Name of Contractor:
2. Name of work:
3. Agreement No. and Date:
4. Date of commencement of work as per Agreement:
5. Period and Stipulated date of completion as per Agreement:
6. Period for which extension of time already given:

Extension	Period	Reasons Stated earlier for seeking EoT
(a) 1st extension		
(b) 2nd extension		
(c) 3rd extension		
(d) 4th extension		
(e) 5th extension		

9) Reasons for present extension

10) Period for which extension is applied for

It is understood that we will not claim any additional cost due to above extension of time and also understand that WAPCOS have rights to act in accordance with provisions in relevant clauses of Contract Agreement.

Dated……..

Contractor's Signature and Stamp

Annexure – VII

(On Rs. 100 non- Judicial Stamp Paper duly attested by Notary / Magistrate and will be signed by the person who sign the Original Agreement)

FORMAT FOR GUARANTE BONDS

To Be Executed by Contractor for Structural Stability, Removal of Defects after completion of work

This Supplementary Agreement made this ____ day of _____ 20___ between (Name of Contractor firm & address) _____ (hereinafter called the CONTRACTOR / GUARANTOR of the one part) and the WAPCOS LIMITED, 5th floor, Kailash Building, 26, K. G. Marg, New Delhi (hereinafter called WAPCOS of the other part) for the Work of **Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)** in respect of Contract Agreement (hereinafter called the "Original Agreement" signed between ……(Name of Contractor firm) and WAPCOS on…….. dated ……..), whereby the contractor interalia, under look to render the work in the said contract recited structurally stable workmanship and use of sound materials.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said work will remain structurally stable and guarantee against faulty workmanship, manufacturing defects of materials etc.

NOW THE GUARANTOR hereby guarantee that work executed by him will remain structurally stable, for the minimum life of ten years, to be reckoned from the date of start of Defect Liability Period or Maintenance Period which ever is later, prescribed in the Contract.

The decision of the WAPCOS with regard to nature and cause of defects shall be final. During the period of guarantee the Guarantor shall make good all defects to the satisfaction of the WAPCOS calling upon him to rectify the defects, failing which the work shall be got done by the WAPCOS by some other agencies at the Guarantor's cost and risk. The decision of the WAPCOS as to the cost payable by the Guarantor shall be final and binding.

That if the Guarantor fails to make good all the defects, commits breach thereunder then the guarantor will indemnify the Principal and his successor against all loss, damage cost expense or otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this Supplementary Agreement. As to the amount of loss and / or damage and / or cost incurred by the WAPCOS the decision of the WAPCOS will be final and binding.

IN WITHNES WHEREOF those presents have been executed by the GUARANTOR ……..(Name and Designation who sign the Original Contract Agreement) on behalf of .....(Name of Contractor Firm) and WAPCOS on the day, month and year first above written.

SIGNED, SEALED AND DELIVERED

For and on behalf of the Contractor	For and on behalf of the WAPCOS
NAME _____	NAME _____
Designation	Designation
in the presence of witness:	**in the presence of Witness**
1_____	1_____
2 _____	2 _____

Annexure – VIII

(On Rs. 100 non- Judicial Stamp Paper duly attested by Notary / Magistrate and will be signed by the person who sign the Original Agreement))

FORMAT FOR GUARANTE BONDS
To Be Executed by Contractor for Water Proofing after Completion of Work

This Supplementary Agreement made this ____ day of _____ 20___ between (Name of Contractor firm & address) _____ (hereinafter called the CONTRACTOR / GUARANTOR of the one part) and the WAPCOS LIMITED, 5th floor, Kailash Building, 26, K. G. Marg, New Delhi (hereinafter called WAPCOS of the other part) for the Work of **Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)** in respect of Contract Agreement (hereinafter called the "Original Agreement" signed between ……(Name of Contractor firm) and WAPCOS on…….. dated ……..), whereby the contractor interalia, under look to render the buildings and structures in the contract recited completely water and leak-proof for Toilets, Shower , Under Ground Tank, Roof, Over Head Tank, Basement and any other allied areas of building.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said structures will remain water and leak-proof for **ten years** from the date after the Defect Liability Period or Maintenance Period which ever is later, prescribed in the contract. NOW THE GUARANTOR hereby guarantees that water proofing treatment given by him will render the structures completely leak proof and the minimum life of such water proofing treatment shall be **ten years** to be reckoned from the date after the Defect Liability Period / Maintenance Period which ever is later, prescribed in the contract.

Provided that the Guarantor will not be responsible for the leakage caused by earthquake or structural defects or misuse of roof or alteration and for such purpose:

a. Misuse of roof shall mean any operation which will damage proofing treatment, like chopping of firewood and things of the same nature which might cause damage to the roof.
b. Alteration shall mean construction of an additional storey or a part of the roof or construction adjoining to existing roof whereby proofing treatment is removed in parts.
c. The decision of the Principal Employer with regard to cause of leakage/seepage shall be final.

During this period of guarantee the Guarantor shall make good all defects and in case of any defect being found, render the building water proof to the satisfaction of the Principal Employer at his cost and shall commence the work for the rectification within seven days from the date of issue of the notice from the Principal Employer calling upon him to rectify the defects failing which the work shall be done by the Principal Employer by some other agency at the GUARANTOR's risk and cost. The decision of the Principal Employer as to the cost payable by the Guarantor shall be final and binding. That if Guarantor fails to make good all defects or commits breach there under then the Guarantor will indemnify the principal and his successors against all loss, damage, cost expense otherwise which may be incurred by him by reason of any default on the part of the GUARANTOR in performance and observance of this Supplementary Agreement. As to the amount of loss and/or damage and/or cost incurred by the Principal Employer the decision of the owner will be final and binding on the parties.

IN WITHNES WHEREOF those presents have been executed by the GUARANTOR ……..(Name and Designation who sign the Contract) on behalf of .....(Name of Contractor Firm) and Principal Employer on the day, month and year first above written.

SIGNED, SEALED AND DELIVERED

For and on behalf of the Contractor	**For and on behalf of the Principal Employer/Employer**
NAME _____ Designation **in the presence of witness:** 1_____ 2 _____	NAME _____ Designation **in the presence of Witness** 1_____ 2 _____

ANNEXURE VIII (a)

FORM OF BANK GUARANTEE BOND FOR WATER PROOFING WORK

1. In considerable of the …….(Name of Principal Employer) (hereinafter called "The Owner") having agreed to exempt..... (Hereinafter called the said contractor(s)) from the demand, under the terms and conditions of the Agreement No..... dated.....Made between ..... and ..... For the work of..... (hereinafter called "The said Agreement") security deposit for the due fulfillment by the said contractor(s) of the terms & conditions contained in the said Agreements for the work of Anti water proofing work on production of an irrevocable Bank Guarantee for Rs. 10 Lakhs for ten years we ..... (Indicate the name of the bank) (Hereinafter referred to as "the Bank) hereby undertake to pay to the Owner an amount not exceeding Rs. ……(Rupees ……only) on demand by the Owner

2. We..... (indicate the name of the bank) do hereby undertake to pay the amounts due and payable under this Guarantee without any demure, merely on a demand from Principal Employer stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the bank under the Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs. ……(Rupees ……only).

3. We..... (indicate the name of the bank) further undertake to pay to Principal Employer any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or Tribunal relating thereto, our liability under this present being absolute and unequivocal.
   The payment so made by as under this bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.

4. We..... (indicate the name of the Bank) further agree that the guarantee hereinafter contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of Principal Employer under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Principal Employer certified that the terms and condition of the said agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee.

5. We…….. (indicate name of the bank) further agree with Principal Employer that Principal Employer shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by Principal Employer against the said contractor(s) and to for bear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said contractors(s) or for any bearance, act of commission of the part of Principal Employer or any indulgence by Principal Employer to the said contractor(s) or by any such matter of thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This guarantee will not be discharged due to the change in the constitution of Bank or the contractor(s).

7. We…… (indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of Principal Employer in writing

8. This guarantee shall be valid upto ..... unless extended on demand by Principal Employer. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. ……(Rupees ……only) and unless a claim in writing is lodged with us within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged

Dated this _____ day of _____ at……...

Authorized Signatory of …… Bank

Signature **Signature**

Name…….. **Name……..**

Signature Code/ S.S no. …… **Signature Code/ S.S no. ……**

Annexure – IX

(On Rs. 100 non- Judicial Stamp Paper duly attested by Notary / Magistrate and will be signed by the person who sign the Original Agreement))

FORMAT FOR GUARANTE BONDS FOR ANTI-TERMITE TREATMENT

To Be Executed by Contractor for Anti Termite Treatment after Completion of Work

This Agreement made on this ____ day of _____ 20___ between_____ (Name of Contractor firm & address) _____ (hereinafter called the CONTRACTOR / GUARANTOR of the one part) and the _____(hereinafter called Principal Employer/Employer of the other part) for Anti Termite Treatment Works for **Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)**

WHEREAS This Agreement is Supplementary, to a Contract (hereinafter called the Contract) Contract no._____ dated _____and made between the _____ (Name of Contractor) and WAPCOS LIMITED, 5th floor, Kailash Building, 26, K. G. Marg, New Delhi, whereby the contractor, inter alia, undertook to render the wooden work in the said contract recited completely Termite proof.

THE GUARANTOR hereby guarantee that the anti-termite treatment given by him will render the wooden works completely Termite proof and the minimum life of such Anti-Termite treatment shall be five years to be reckoned from the from the date after the Defect Liability Period or Maintenance Period which ever is later, prescribed in the contract.

During the period of guarantee the Guarantor shall make good all defects and in case of any defects being found render the wooden works termite proof to the satisfaction of the Principal Employer at his cost and shall commence the work for such rectification within seven days from the date of issue of notice from the Principal Employer calling upon him to rectify the defects, failing which the work shall be got done by the Principal Employer through some other Agency at the Guarantor's cost and risk. The decision of the Principal Employer as to the cost payable by the Guarantor shall be final and binding.

That if the guarantor fails to execute the Anti-termite works, or commits breach thereunder then the guarantor will indemnify the Principal and his successor against all loss, damage, cost of expenses or otherwise which may be incurred by him by reason of any of any default on the part of the GUARANTOR in performance and observance of this Supplementary Agreement. As to the amount of loss and / or cost incurred by the Principal Employer on the decision of the Principal Employer will be final and binding.

IN WITHNES WHEREOF those presents have been executed by the GUARANTOR ……..(Name and Designation who sign the Contract) on behalf of .....(Name of Contractor Firm) and Principal Employer on the day, month and year first above written.

SIGNED, SEALED AND DELIVERED

For and on behalf of the Contractor	**For and on behalf of the Principal Employer/Employer**
NAME _____ Designation	NAME _____ Designation
in the presence of witness:	**in the presence of Witness**
1_____	1_____

2 _____ 2 _____

ANNEXURE – X

SAFETY CODES

1. Suitable scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than ¼ to 1(¼ horizontal and 1 vertical).

2. Scaffolding of staging more than 3.6 m (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.

3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.

4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm. (3ft.).

5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30ft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11½") for ladder upto and including 3 m. (10 ft.) in length. For longer ladders, this width should be increased at least ¼" for each additional 30 cm. (1 foot) of length. Uniform step spacing of not more than 30 cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit; action or proceedings to any such person or which may, with the consent of the contractor, be paid to compensate any claim by any such person

6. (a) Excavation and Trenching - All trenches 1.2 m. (4ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30 m. (100ft.) in length or fraction thereof, Ladder shall extend from bottom of the trench to at least 90 cm. (3ft.) above the surface of the ground. The side of the trenches which are 1.5 m. (5ft.) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated materials shall not be placed within 1.5 m. (5ft.) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances, undermining or undercutting shall be done.

   (b) Safety Measures for digging bore holes:-

i. If the bore well is successful, it should be safely capped to avoid caving and collapse of the bore well. The failed and the abandoned ones should be completely refilled to avoid caving and collapse;
ii. During drilling, Sign boards should be erected near the site with the address of the drilling contractor and the Engineer-in-charge of the work;
iii. Suitable fencing should be erected around the well during the drilling and after the installation of the rig on the point of drilling, flags shall be put 50m all round the point of drilling to avoid entry of people;
iv. After drilling the borewell, a cement platform (0.50m x 0.50m x 1.20m) 0.60m above ground level and 0.60m below ground level should be constructed around the well casing;
v. After the completion of the borewell, the contractor should cap the bore well properly by welding steel plate, cover the bore well with the drilled wet soil and fix thorny shrubs over the soil. This should be done even while reparing the pump;
vi. After the borewell is drilled the entire site should be brought to the ground level.

7. Demolition - Before any demolition work is commenced and also during the progress of the work,
   (i) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
   (ii) No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.
   (iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.

8. All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned. The following safety equipment shall invariably be provided.
   (i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
   (ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes, shall be provided with protective goggles.
   (iii) Those engaged in welding works shall be provided with welder's protective eyeshields.
   (iv) Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
   (v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated atleast for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measure are adhered to :-
      (a) Entry for workers into the line shall not be allowed except under supervision of the JE or any other higher officer.
      (b) At least 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.
      (c) Before entry, presence of Toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.
      (d) Presence of Oxygen should be verified by lowering a detector lamp into the

manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with Oxygen kit.

(e) Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.

(f) The area should be barricaded or cordoned of by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.

(g) No smoking or open flames shall be allowed near the blocked manhole being cleaned.

(h) The malba obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the malba.

(i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time up to which a worker may be allowed to work continuously inside the manhole.

(j) Gas masks with Oxygen Cylinder should be kept at site for use in emergency.

(k) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non sparking gas engines also could be used but they should be placed at least 2 metres away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.

(l) The workers engaged for cleaning the manholes/sewers should be properly trained before allowing to work in the manhole.

(m) The workers shall be provided with Gumboots or non sparking shoes bump helmets and gloves non sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.

(n) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.

(o) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.

(p) The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.

The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken:-

(a) No paint containing lead or lead products shall be used except in the form of paste or readymade paint.

(b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.

(c) Overalls shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.

9. The Contractor shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form, wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use :

(i) White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.

(ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of a paint in the form of spray.
(iii) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.
(iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
(v) Overall shall be worn by working painters during the whole of working period.
(vi) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.
(vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man.
(viii) WAPCOS may require, when necessary medical examination of workers.
(ix) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.

10. When the work is done near any place where there is risk of drowning, all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.

11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions :-
(i) (a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept repaired and in good working order.
(b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
(ii) Every crane driver or hoisting appliance operator, shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.
(iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load each safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
(iv) In case of departmental machines, the safe working load shall be notified by the Electrical Engineer-in-Charge. As regards contractor's machines the contractors shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the Electrical Engineer concerned.

12. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.

13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.

14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.

15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer or Engineer-in-Charge of the department or their representatives.

16. Notwithstanding the above clauses from (1) to (15), there is nothing in these to exempt the contractor from the operations of any other Act or Rule in force in the Republic of India.

ANNEXURE – XI

MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS

FOR WORKERS EMPLOYED BY CONTRACTORS

1. APPLICATION

These rules shall apply to all buildings and construction works in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

2. DEFINITION

Work place means a place where twenty or more workers are ordinarily employed in connection with construction work on any day during the period during which the contract work is in progress.

3. FIRST-AID FACILITIES

(i) At every work place, there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.

(ii) The first-aid box shall be distinctly marked with a red cross on white back ground and shall contain the following equipment:-

(a) For work places in which the number of contract labour employed does not exceed 50- Each first-aid box shall contain the following equipments :-

1) 6 small sterilised dressings.
2) 3 medium size sterilised dressings.
3) 3 large size sterilised dressings.
4) 3 large sterilised burn dressings.
5) 1 (30 ml.) bottle containing a two per cent alcoholic solution of iodine.
6) 1 (30 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label.
7) 1 snakebite lancet.
8) 1 (30 gms.) bottle of potassium permanganate crystals.
9) 1 pair scissors.
10) 1 copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institutes, Government of India.
11) 1 bottle containing 100 tablets (each of 5 gms.) of aspirin.
12) Ointment for burns.
13) A bottle of suitable surgical antiseptic solution

(b) For work places in which the number of contract labour exceed 50. Each first-aid box shall contain the following equipments.

1) 12 small sterilised dressings.
2) 6 medium size sterilised dressings.
3) 6 large size sterilised dressings.
4) 6 large size sterilised burn dressings.
5) 6 (15 gms.) packets sterilised cotton wool.
6) 6.1 (60 ml.) bottle containing a two per cent alcoholic solution iodine.
7) 1 (60 ml.) bottle containing salvolatile having the dose and mode of administration indicated on the label
8) 1 roll of adhesive plaster.
9) 1 snake bite lancet.

10) 1 (30 gms.) bottle of potassium permanganate crystals.
11) 1 pair scissors.
12) 1 copy of the first-aid leaflet issued by the Director General Factory Advice Service and Labour Institutes / Government of India.
13) A bottle containing 100 tablets (each of 5 gms.) of aspirin.
14) Ointment for burns.
15) A bottle of suitable surgical antiseptic solution.

(iii) Adequate arrangements shall be made for immediate recoupment of the equipment when necessary

(iv) Nothing except the prescribed contents shall be kept in the First-aid box.

(v) The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.

(vi) A person in charge of the First-aid box shall be a person trained in First-aid treatment in the work places where the number of contract labour employed is 150 or more.

(vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works. First-aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.

(viii) Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

4. DRINKING WATER

(i) In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.

(ii) Where drinking water is obtained from an Intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.

(iii) Every water supply or storage shall be at a distance of not less than 50 feet from any latrine drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and waterproof.

(iv) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for cleaning or inspection which shall be done at least once a month.

5. WASHING FACILITIES

(i) In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein.

(ii) Separate and adequate cleaning facilities shall be provided for the use of male and female workers.

(iii) Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

6. LATRINES AND URINALS

(ii) Latrines shall be provided in every work place on the following scale namely :-

(a) Where female are employed, there shall be at least one latrine for every 25 females.

(b) Where males are employed, there shall be at least one latrine for every 25 males.

Provided that, where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females as the case may be upto the first 100, and one for every 50 thereafter.

(iii) Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.

(iv) Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat-resisting nonabsorbent materials and shall be cement washed inside and outside at least once a year, Latrines shall not be of a standard lower than borehole system.

(v) (a) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers "For Men only" or "For Women Only" as the case may be.

(b) The notice shall also bear the figure of a man or of a woman, as the case may be.

(vi) There shall be at least one urinal for male workers upto 50 and one for female workers upto fifty employed at a time, provided that where the number of male or female workmen, as the case may be exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females upto the first 500 and one for every 100 or part thereafter.

(vii) (a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.

(b) Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of the Public Health Authorities.

(viii) Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.

(ix) Disposal of excreta: - Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm. layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure).

(x) The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

7. PROVISION OF SHELTER DURING REST

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 metres (10 ft.) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sqm (6 sft) per head.
Provided that the Engineer-in-Charge may permit subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

8. CRECHES

(i) At every work place, at which 20 or more women worker are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedroom. The rooms shall be constructed with specifications as per clause 19H (ii) a,b & c.

(ii) The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.

(iii) The contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bed room.

(iv) The contractor shall provide one ayaa to look after the children in the creche when the number of women workers does not exceed 50 and two when the number of women workers exceed 50.

(v) The use of the rooms earmarked as creches shall be restricted to children, their attendants and mothers of the children.

9. CANTEENS

a. In every work place where the work regarding the employment of contract labour is likely to continue for six months and where in contract labour numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.

b. The canteen shall be maintained by the contractor in an efficient manner.

c. The canteen shall consist of at least a dining hall, kitchen, storeroom, pantry and washing places separately for workers and utensils.

d. The canteen shall be sufficiently lighted at all times when any person has access to it.

e. The floor shall be made of smooth and impervious materials and inside walls shall be limewashed or colour washed at least once in each year.
Provided that the inside walls of the kitchen shall be lime-washed every four months.

f. The premises of the canteen shall be maintained in a clean and sanitary condition.

g. Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.

h. Suitable arrangements shall be made for the collection and disposal of garbage.

i. The dining hall shall accommodate at a time 30 per cent of the contract labour working at a time.

j. The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square metre (10 sft) per diner to be accommodated as prescribed in sub-Rule 9.

k. (a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.
(b) Washing places for women shall be separate and screened to secure privacy.

l. Sufficient tables stools, chair or benches shall be available for the number of diners to be accommodated as prescribed in sub-Rule 9.

m. (a) 1. There shall be provided and maintained sufficient utensils crockery, furniture and any other equipments necessary for the efficient running of the canteen.
2. The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.
(b) 1. Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.
2. A service counter, if provided, shall have top of smooth and impervious material.
3. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipments.

n. The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.

o. The charges for food stuffs, beverages and any other items served in the canteen shall be based on 'No profit, No loss' and shall be conspicuously displayed in the canteen.

p. In arriving at the price of foodstuffs, and other article served in the canteen, the following items shall not be taken into consideration as expenditure namely:-
(a) The rent of land and building.
(b) The depreciation and maintenance charges for the building and equipment provided for the canteen.
(c) The cost of purchase, repairs and replacement of equipment including furniture, crockery, cutlery and utensils.
(d) The water charges and other charges incurred for lighting and ventilation
(e) The interest and amounts spent on the provision and maintenance of equipment

provided for the canteen.

q. The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

10. ANTI-MALARIAL PRECAUTIONS

The contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.

11. The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contracts.

12. AMENDMENTS

Government may, from time to time, add to or amend these rules and issue directions - it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.

ANNEXURE-XII

Contractor's Labour Regulations

1. **GENERAL**

These Labour regulations shall be followed by the Contractor.

2. **DEFINITIONS**

(i) Workman means any person employed by contractor directly or indirectly through a subcontractor with or without the knowledge of the WAPCOS to do any skilled, semiskilled or unskilled manual, supervisory, technical or clerical work for hire or reward, whether the terms of employment are expressed or implied but does not include any person :-

(a) Who is employed mainly in a managerial or administrative capacity : or

(b) Who, being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercises either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature: or

(c) Who is an out worker, that is to say, person to whom any article or materials are given out by or on behalf of the Employer/ Principal Employers to be made up cleaned, washed, altered, ornamental finished, repaired adopted or otherwise processed for sale for the purpose of the trade or business of the Employer/ Principal Employers and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer.

(i) No person below the age of 14 years shall be employed to act as a workman.

(ii) Fair Wages means wages whether for time or piece work fixed and notified under the provisions of the Minimum Wages Act from time to time.

(iii) Contractors shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a subcontractor.

(iv) Wages shall have the same meaning as defined in the Payment of Wages Act.

3. (i) Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.

(ii) When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week, he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages.

(iii) Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.

(iv) Where the minimum wages prescribed by the Government under the Minimum Wages Act are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day,

(iv) provided he has worked under the same contractor for a continuous period of not less than 6 days.

(v) Where a contractor is permitted by the Engineer-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day on one of the five days immediately before or after the normal weekly holiday and pay wages to such worker for the work performed on the normal weekly holiday at overtime rate.

4. **DISPLAY OF NOTICE REGARDING WAGES ETC.**

The contractor shall before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clear and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers giving the minimum rates of wages fixed under Minimum Wages Act, the actual wages being paid, the hours of work for which such wage are earned, wages periods, dates of payments of wages and other relevant information as per Appendix 'III'.

5. **PAYMENT OF WAGES**

(i) The contractor shall fix wage periods in respect of which wages shall be payable.

(ii) No wage period shall exceed one month.

(iii) The wages of every person employed as contract labour in an establishment or by a contractor where less than one thousand such persons are employed shall be paid before the expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.

(iv) Where the employment of any worker is terminated by or on behalf of the contractor the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.

(v) All payment of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.

(vi) Wages due to every worker shall be paid to him direct by contractor through Bank or ECS or online transfer to his bank account.

(vii) All wages shall be paid through Bank or ECS or online transfer.

(viii) Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act 1956.

(ix) A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Charge under acknowledgment.

(x) It shall be the duty of the contractor to ensure the disbursement of wages through bank account of labour.

(xi) The contractor shall obtain from the Junior Engineer or any other authorised representative of the Engineer- in-Charge as the case may be, a certificate under his signature at the end of the entries in the "Register of Wages" or the "Wage-cum-Muster Roll" as the case may be in the following form:-

6. **FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES**

i) The wages of a worker shall be paid to him without any deduction of any kind except the following:-

a. Fines

b. Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.

c. Deduction for damage to or loss of goods expressly entrusted to the employed person for custody or for loss of money or any other deduction which he is required to account, where such damage or loss is directly attributable to his neglect or default.
d. Deduction for recovery of advances or for adjustment of overpayment of wages, advances granted shall be entered in a register.
e. Any other deduction which the Central Government may from time to time allow.

ii) No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Chief Labour Commissioner.
Note :- An approved list of Acts and Omissions for which fines can be imposed is enclosed at Appendix-X

iii) No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.

iv) The total amount of fine which may be imposed in any one wage period on a worker shall not exceed an amount equal to three paise in a rupee of the total wages, payable to him in respect of that wage period.

v) No fine imposed on any worker shall be recovered from him by instalment, or after the expiry of sixty days from the date on which it was imposed.

vi) Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

7. LABOUR RECORDS

i) The contractor shall maintain a Register of persons employed on work on contract in Form XIII of the CL (R&A) Central Rules 1971 (Appendix IV)

ii) The contractor shall maintain a Muster Roll register in respect of all workmen employed by him on the work under Contract in Form XVI of the CL (R&A) Rules 1971 (Appendix V).

iii) The contractor shall maintain a Wage Register in respect of all workmen employed by him on the work under contract in Form XVII of the CL (R&A) Rules 1971 (Appendix VI).

iv) Register of accident - The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars:
a. Full particulars of the labourers who met with accident.
b. Rate of Wages.
c. Sex
d. Age
e. Nature of accident and cause of accident.
f. Time and date of accident.
g. Date and time when admitted in Hospital,
h. Date of discharge from the Hospital.
i. Period of treatment and result of treatment.
j. Percentage of loss of earning capacity and disability as assessed by Medical Officer.
k. Claim required to be paid under Workmen's Compensation Act.
l. Date of payment of compensation.
m. Amount paid with details of the person to whom the same was paid.
n. Authority by whom the compensation was assessed.
o. Remarks

v) The contractor shall maintain a Register of Fines in the Form XII of the CL (R&A) Rules 1971 (Appendix-XI) The contractor shall display in a good condition and in a

conspicuous place of work the approved list of acts and omissions for which fines can be imposed (Appendix-X)

vi) The contractor shall maintain a Register of deductions for damage or loss in Form XX of the CL (R&A) Rules 1971 (Appendix-XII)

vii) The contractor shall maintain a Register of Advances in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIII)

viii) The contractor shall maintain a Register of Overtime in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIV)

8. **ATTENDANCE CARD-CUM-WAGE SLIP**

i) The contractor shall issue an Attendance card-cum-wage slip to each workman employed by him in the specimen form at (Appendix-VII)

ii) The card shall be valid for each wage period.

iii) The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.

iv) The card shall remain in possession of the worker during the wage period under reference.

v) The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.

vi) The contractor shall obtain the signature or thumb impression of the worker on the wage slip at the time of disbursement of wages and retain the card with himself.

9. **EMPLOYMENT CARD**

The contractor shall issue an Employment Card in Form XIV of the CL (R&A) Central Rules 1971 to each worker within three days of the employment of the worker (Appendix-VIII).

10. **SERVICE CERTIFICATE**

On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a Service certificate in Form XV of the CL (R&A) Central Rules 1971 (Appendix-IX)

11. **PRESERVATION OF LABOUR RECORDS**

All records required to be maintained under Regulations Nos. 6 & 7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge or Labour Officer or any other officers authorised by the Ministry of Urban Development in this behalf.

12. **POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY**

The Labour Officer or any person authorised by Central Government on their behalf shall have power to make enquires with a view to ascertaining and enforcing due and proper observance of Fair Wage Clauses and the Provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor or subcontractor in regard to such provision.

13. **REPORT OF LABOUR OFFICER**

The Labour Officer or other persons authorised as aforesaid shall submit a report of result of his investigation or enquiry to the Engineer-in-charge concerned indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractor's bill be made and the wages and other dues be paid to the labourers concerned. In case an appeal is made by the contractor under Clause 13 of these regulations, actual payment to labourers will be made by the Engineer-in-charge after the Competent Authority of WAPCOS has given his decision on such appeal.

(i) The Engineer-in-charge shall arrange payments to the labour concerned within 45 days from the receipt of the report form the Labour Officer as the case may be.

14. **APPEAL AGAINST THE DECISION OF LABOUR OFFICER**

Any person aggrieved by the decision and recommendations of the Labour Officer or other person so authorised may appeal against such decision to the Engineer-in-charge concerned within 30 days from the date of decision, forwarding simultaneously a copy of his appeal to the Engineer-in-charge concerned but subject to such appeal, the decision of the officer shall be final and binding upon the contractor.

15. **PROHIBITION REGARDING REPRESENTATION THROUGH LAWYER**

(i) A workman shall be entitled to be represented in any investigation or enquiry under

(ii) these regulations by:-
   a. An officer of a registered trade union of which he is a member.
   b. An officer of a federation of trade unions to which the trade union referred to in clause (a) is affiliated.
   c. Where the employer is not a member of any registered trade union, by an officer of a registered trade union, connected with the industry in which the worker is employed or by any other workman employed in the industry in which the worker is employed.

(iii) An employer shall be entitled to be represented in any investigation or enquiry under these regulations by :-
   a. An officer of an association of employers of which he is a member.
   b. An officer of a federation of associations of employers to which association referred to in clause (a) is affiliated.
   c. Where the employers is not a member of any association of employers, by an officer of association of employer connected with the industry in which the employer is engaged or by any other employer, engaged in the industry in which the employer is engaged.

(iv) No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these regulations.

16. **INSPECTION OF BOOKS AND SLIPS**

The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorised by the Central Government on his behalf.

17. **SUBMISSIONS OF RETURNS**

The contractor shall submit periodical returns as may be specified from time to time.

18. **AMENDMENTS**

The Central Government may from time to time add to or amend the regulations and on any question as to the application/Interpretation or effect of those regulations the decision of the Engineer-in-charge concerned shall be final.

NOTE: ***APPENDICES*** *mentioned in above "Contractor's Labour Regulation" will be as per the General Conditions of Contract-2020 – Construction Works of CPWD.*

ANNEXURE – XIII

NO CLAIM CERTIFICATE

Address to :
The Engineer- in-Charge
WAPCOS Ltd.,

Sub: Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)-Reg. No Claim Certificate

Ref: 1. Work Order no.:-
2. Contract Agreement no.:-

Sir,

We have submitted ----------nos. of bills including final bill total gross amounting for the subjected project of Rs. ----------/- (Rupees ---------- only).

However, following payment are due with Employer:

1. Balance Net amount (if any) of Rs. ----------/- against RA Bill No.----------
2. Balance GST (if any) of Rs. ----------/- against RA Bill No.----------
3. Performance Guarantee no. ----------dated ---------- amounting to Rs.----------/- issued by --------Bank which will be released by Employer as per tender conditions.
4. Security Deposit amounting to Rs.----------/- which will be released by Employer as per tender conditions

We declare unequivocally that the above payments are full and final amount for execution of subjected works against referred Contract Agreement with WAPCOS. We will not raise any further claim and have no dispute of any description whatsoever, regarding the amounts worked out as payable to us and that we shall continue to be bound by the terms and conditions of the Contract Agreement, as regards Performance of the Contract.

Yours faithfully,

Date: (Signature, name and designation of the Authorized signatory)

Place: **Name and seal of Bidder**

SECTION – VII

SCOPE OF WORK

SECTION-VII
SCOPE OF WORK

1.0 INTRODUCTION

WAPCOS Limited, as Executing Agency on behalf of Central Board of Secondary Education (CBSE), Ministry of Education (MoE), Govt. of India, New Delhi invites item rate bid from interested Bidders for Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)", herein after referred to as the Project/ Work.

2.0 Scope of Work

2.1.1 General

The scope of work covered in this tender shall be as per the Schedule / Bill of Quantities, specifications, drawings, instructions, orders issued to the Contractor from time to time during the entire period of execution. The brief scope of works covered are listed below but not limited to the following:

S. No	List of Works
1.	Civil Works Main Block
2.	Guard Room (3 Nos.)
3.	Services (Plumbing Works & Electrical Works)
4.	Fire Fighting Works & Alarm System
5.	HVAC Works
6.	Boundary Wall
7.	U G Tank
8.	Road Works
9.	Horticulture Works
10.	Furniture
11.	Lifts
12.	Sewage Treatment Plant

The Scope of work shall include "NAME OF WORK/PROJECT AS MENTIONED IN NIT" as per the Drawings, Specification and details set forth under this Tender document. And to obtain all approvals from statutory authorities for start to complete the work of "NAME OF WORK/PROJECT AS MENTIONED IN NIT". **After the final completion and handing over of work, the comprehensive maintenance service & defect liability for the period of 12 (Twelve) months.**

Notwithstanding the Employer has provided certain information, data etc., the scope of work shall include obtaining necessary approvals including statutory approvals for any part of work which are required for the necessary completion of the project." The bidder shall be responsible right through the entire duration of the Project for execution of all works till commissioning and handing over of project complete with all respects ready to move and shall remove all defects, if any, developed during Defects Liability Period (DLP).

The data given by the WAPCOS LIMITED is only for information and guidance of the bidder who shall verify these data and shall be responsible for the overall execution of the project. WAPCOS shall not be responsible for the technicality/accuracy of the attachments. WAPCOS Limited reserves the right to modify the scope of work as per the

requirement of user department at any stage if necessary without assigning any reason whatsoever. The Bidder shall visit the site also to collect whatever information he may require.

The responsibility of the Bidder shall include carrying out all the activities for the completion of the Project, which generally shall include the following, and any additional activities incidental to these:-

WAPCOS Limited may in their absolute discretion issue further drawings and/or written instructions, details, directions and explanations, which are, hereafter collectively referred to as "WAPCOS Limited's instructions" in regard to:

i) The variation or modification of the quality or quantity of works or the addition or omission or substitution of any work.
ii) Any discrepancy in the drawings or between the Schedule of Quantities and/or drawings and/or specification.
iii) The removal from the site of any defective material brought thereon by the Contractor and the substitution of any other material thereof.
iv) The demolition removal and/or re-execution of any work executed by the Subcontractor(s).
v) The dismissal from the work of any persons employed there upon.
vi) The opening up for inspection of any work covered up.
vii) The rectification and making good of any defects under clauses herein after mentioned and those arising during the maintenance period (retention period) /defect liability period.
viii) Royalty at the prevalent rates and all other incidental expenditure including Environmental & Pollution Clearance Charges etc. if any shall have to be paid by the Contractor on all the materials like boulders, stone metals, earth, sand, bajri etc. collected by him for the execution of the work directly to the concerned revenue Authority of the State or Central Government. His rates are deemed to include all such expenditure and nothing extra shall be paid.

The Contractor shall forthwith comply with and duly execute any work comprised in such WAPCOS Limited's instructions, provided always that verbal instructions, directions and explanations given to the Contractor or his representative upon the works by WAPCOS Limited shall if involving a variation be confirmed in writing to the Contractor/s within seven days. No works, for which rates are not specifically mentioned in the priced schedule or quantities, shall be taken up without written permission of WAPCOS Limited. Rates of items not mentioned in the priced Schedule of Quantities shall be fixed by WAPCOS Limited as provided in the corresponding clauses of the tender document.

Regarding all factory-made products for which ISI marked products are available, only products bearing ISI marking shall be used in the work. Other products should be supplied as per the brand name mentioned in the Technical Specifications and Special Conditions of Contract.

Contractor is advised to visit the site to understand the Scope of Work clearly before quoting the rates for the works.

The work shall be executed as per the details in Schedule of Quantities and direction of Engineer-in Charge and shall be completed in all respect with full satisfaction of Engineer-

in-Charge as per the Government guidelines, Indian standard codes & Manuals. The Bidder may assess the quantum of work before filling of tender.

Contractor will take necessary approvals/clearance from the Central Board of Secondary Education (CBSE) and Local Authorities and pay the fees at his own cost before start of the work.

The payment of final bill will be made after successful completion, commissioning and handing over of the works with complete satisfaction of Engineer In-Charge as well as Central Board of Secondary Education (CBSE).

The Contractor shall dispose off all the dismantled materials, debris, garbage, waste at his own cost and provide clear and clean site at the time of handing over the works.

It is required that Contractor shall take the responsibility to install the furniture (as per BOQ) with best suitability, convivence and best use of space available. The contractor shall prepare and submit the layout drawings for same as required by Engineer in Charge.

The building has to be constructed as a steel structure framed building as per latest Indian Codal provisions. Contractor shall be responsible to prepare and submit the vetted shop drawings for all sections, member, joints, base plates, splices etc. The drawings shall be prepared in confirmation to the DPR/Quantities available in the Tender so that no deviation occurs. The contractor shall be required to do the number of revisions as per satisfaction of engineer in charge before execution at site.

The WAPCOS/CBSE representative shall be free to visit the manufacturers/fabricator work (Steel structure components) at all reasonable times to witness and inspect the testing. It is the duty of the contractor to see the all the components supplied at site are tested as per relevant IS/BS specifications. The contractor shall furnish three copies of manufacturer test certificate for the routine and type test conducted. The contractor shall arrange these visits for WAPCOS and CBSE Officials at respective manufactures locations before dispatch of materials.

3.0 NOC'S / APPROVALS/ CLEARANCE FROM LOCAL BODIES/ AUTHORITIES

All the necessary Statuary Approvals/ NOCs/ Clearances such as Forest NoC, Pollution if necessary; approval of local Govt. body for architectural plans; Approval of ground water board, if necessary; clearance of height from concerned authority, if any; Fire NoC, Lift NoC, DG Sets, if any; which are required from any Govt. Department / body, before start of the work / during execution of work / after execution of work & before handing over the project, are the responsibility of the Contractor and are in the scope of work of the Contractor.

If any modification/revision is required in all the above mentioned Statuary Approvals/ NOCs/ Clearances, before start of the work / during the work / after execution of work are the responsibility of the Contractor and are in the scope of work of the Contractor. The fee deposited for getting approvals, shall be deposited by the Contractor to the concerned Department / Authorities and will be reimbursable to the Contractor on producing of original receipt of deposited fee and no extra cost for the same shall be claimed by the contractor.

4.0 TOPOGRAPHICAL SURVEY

The detail Topographical Survey work of entire site has already been carried out. However,

Contractor/Bidder shall do site detail survey at his own cost, immediately after award of work to verify the survey data and demarcation of site as provided in the tender Master Layout Plan (MLP) to ensure the actual demarcation of the land as per MLP & related activities in consultation with WAPCOS. The details of survey done by contractor will be submitted to WAPCOS to handover the site.

In case if there is no any deviation in MLP, then site will be handed over to Contractor for start of execution. In case, any deviation in the MLP/ boundary line, the approval of revised MLP with reference to actual available land area/boundary shall be obtained by Contractor from WAPCOS / CBSE before start of the work. After approval of revised MLP, Site will be handed over to Contractor for start of execution. The contractor shall only mobilise the site after handing over of the land.

In any case, WAPCOS shall be informed regarding final position of buildings at site including site development plan, contour level, etc. before commencement of building works.

No claim of Contractor in respect of discrepancy in topographical survey /levels, revision in MLP shall be entertained.

5.0 Reference to the Standard Codes of Practice

All Standards, Technical Specifications and Codes of practice referred to shall be latest editions including all applicable official amendments and revisions. The Contractor shall make available at site hard copies of all latest editions of relevant codes and specifications such as CPWD Specifications, Delhi Schedule Rates (2021), CPWD Specifications for Horticulture and Landscaping work (2022), and relevant/ applicable BIS codes.

Wherever Indian Standards do not cover some particular aspects of design/ construction, relevant International Standards shall be referred to. The Contractor shall make available at site such standard codes of practice.

6.0 LIST OF MAKE

Acceptable makes of materials to be used in the work are as follows. In case of non-availability of these makes, after the approval of WAPCOS/ CBSE, the Contractor can use the alternative makes only BIS marked materials of equivalent reputed brand. Non BIS marked materials may be permitted by the WAPCOS only when BIS marked materials are not manufactured. If any make / brand of the "Material / Article" is not mentioned in following make list, then standard top 5 Manufacturers/ Agencies /Brand Make for that " Material / Agency" will be considered for approval by WAPCOS / CBSE.

LIST OF ACCEPTABLE MAKE OF MATERIALS				
CIVIL				
S.No	Material	Makes / Brands		
1	Anti-Termite Treatment (Chemical	VAM Organics	Indian Pest Control	Termisol
	Manufacturer)	Pyramid		
2	Synthetic Enamelpaint(FirstQuality)	Asian Paints Ltd	Berger Paints Ind. Ltd	Nerolac
		ICI dulux		
3	Oil Bound Distemper	Asian Paints Ltd	Berger Paints Ind. Ltd	Nippon paints ind. Ltd
4	Acrylic Emulsion Exterior	Asian Paints Ltd	Berger Paints Ind. Ltd	Nippon paints ind. Ltd
		Nerolac	Sakarni	
5	Cement BasePaint	Asian Paints Ltd	Berger Paints Ind. Ltd	Nippon paints ind. Ltd
		Nerolac	Sakarni	
6	Cement Primer/ Wood Primer Pink / Red Oxide Steel Primer	Asian Paints Ltd	Berger Paints Ind.Ltd	Nippon Paints ind. Ltd
		Nerolac		
7	UPVC Doors & Windows	Aluplast	Deceuninck	Fenesta
		SaintGobain		
8	Dry Distemper	M/s. Power Paints India Pvt Ltd	M/s Godawari Paints	M/s Evershine
9	Stainless Steel Sections (Grade304)	TataSteel	Jindal/JSW	SAIL
10	Precast Terrazzo tiles / Paving Blocks / Chequered Cement concrete tiles / PCC	M/s Northern India Tiles Corp. (NITCO)	Somani Tiles	Hindustan Tiles
11	Water Proofing Membrane	M/s Texsa India Ltd	M/s Pidilite Industries	Asian Smart care
		Chryso (Sain Gobain)	Sakarni	
12	Water Proofing Compound	M/s Pidilite Industries	M/s FOSROC	Penetron
		SIKA	Chryso (SainGobain)	Sakarni
13	Concrete Additives	M/s Pidilite Industries	SIKA	FOSROC
		Chryso (Sain Gobain)	Sakarni	Home Pride
14	Wood Adhesive	Fevicol	Vamicol	Dunlop
		Pidilite		
15	Wall Putty	BirlaWallPutty	JkwallPutty	Asianpaints
		Sakarni		
16	Floor & Wall ceramic Tiles & VitrifiedTiles	Somany	Kajaria	Orient
		Johnson	Varmora	
17	Tile Adhesive (Stone/AAC Blocks)	Sakarni	Home Pride	Birla
18	Flush Doors	Merinolam	Archid Ply	Century
		Action tessa	Samrat Ply	Jayna
18	Laminates	Merinolam	Kitply	Century
		Archidply	Samrat Ply	
19	Plain/Veneered Particle Board	Merinolam	M/s Kitply	M/s Archid ply
		Century	Samrat Ply	
20	Pre laminated particle Board	Archidply	Action tessa	M/sKit Ply
		Century		
21	Block Board / Ply Wood	Merino	Archidply	Action Tessa
		Century	Kit Ply	Samrat Ply
22	Plain & Prelaminated MDF Board	Merino	Action Tessa	Century
		Archidpanel	Kit Ply	Samrat Ply

23	TMT SteelMain Producers	M/sSAIL	TATASteel	M/sRINL/Vizag
		M/s JSW Steel Ltd.	Jindal Steel & Power Ltd.	
24	Structure Steel/ M.S.Tube	SAIL	TATASteel	Jindal Steel & Power Ltd.
		JSW Steel Ltd.		
25	Heat ResistantTile	THERMATEK	Orient bell	UltraTech
26	Anodised/ Powercoated Aluminum Hardware (heavyDuty)	Hindalco / Dorest	Jindal	Indalco
27	Aluminum Structural Members-Windows Glazing and partitions	Jindal	Indalco	Hindalco
		Nalco		
28	Dry wall Partitions	Sakarni / Gyptech	Boral	Saint Gobain
29	S S Railing, accessories etc in grade SS316,304 Fabricators	Ozone	Koncept	Rinox
29	Hermitically Sealed performance glass Toughened Glass	SaintGobain	GuardainGlass	Modiguard
30	Aluminum CompositePanels	Alstrong	Alstone	Viva
31	Friction Stays Hinges	Dorma	Hafele	Hettich
32	EPD MGasket	Hanu	Osaka	Keithpayne
33	RCC Hume Pipes	M/s Orient Ceramics & Refraction Pvt.Ltd	M/s Anand Pipes, Firozpur/ISI Approved manufacture	Jain & Co.
34	FRP Doors	M/s Sintex BAPL	M/sRajshree	M/s Ergaen Plastics, jodhpur
		M/s Simba FRPP.Ltd	Jayna	
35	PVC Doors	M/s Sintex BAPL	Saint Gobain	Jayna
36	Fire CheckDoors, FireRatedGlass Doors, Partitions	Navair	Dorma	Sukriti
	Firerated hardware	Dorset	Hafele	Dorma
37	Synthetic Triangular Fiber for Concrete&Cement	M/s Reliance Industries	M/sFIBREMESH	M/sFORTA
38	Ordinary Portland Cement/Portland Pozzolona Cement	ACC	J&K	BIRLA
		Ultratech	Ambuja	
39	White Cement	Birla Cement	J.K. White	
40	Water proofing Compound (Crystalline)	Kryton	Penetron	Fosroc
		Chryso (Sain Gobain)		
41	EPDM Water proofing membrane	Polygomma	Pidilite	AsianSmartcare
		Chryso (Sain Gobain)		
42	Shuttering Ply	Century	Archid	Kitply
		Merino		
43	AAC Block	Ferrouscrete	Ultratech	JK
		Aerocon		
44	AAC Mortar	Ferrouscrete	Ultratech	JK
45	Acoustical Tile False Ceiling /wall	Armstrong	USGBoral	Gyptech
		Anakon	Sakarni	
46	Mosaic/Chequered Tile	NITCO	Orientbell	Unistone
48	Curtain Rods	Roselle	Vista	Marvel
		Deck		

49	SFRC Manhole Cover and Frame	ISI Marked as Approved by Engineer in Charge		
50	Stainless Screws	Epi-trque	Trutek	Zenith
		Crown		
51	Dash Fastener & Stone Clamps	Hilti	Fischer	Bosch
		Koncept		
53	Furniture	Herman Miller	Zura	INDOINNVATION
		STEELCASE	URBANGREY	Swani/Kano
54	False Ceiling Metal	USG Boral	Gyptech	Armstrong
		Saint Gobain	Anakon	
55	Toughen partitions	Saint Gobain	Modiguard	AsahiIndia
56	Passengers lifts	Otis	Kone	Schindler
58	Blinds	Roselle	Vista	Marvel
		Hunter Douglas	Deck	
59	Carpet Flooring	Standard UAE	Wellspun	Unitex
		Ecosoft		
60	Laminate wooden Flooring	Kronos	Germany	BPERGO
		Green Panel	Mikasa	
61	Sports Flooring	Poland	FabFloorings	Ecoflex
		Advance Sports Tech (LLP)		
62	Looking Mirror	CERA	Modiguard	SaintGobain
63	Clear Glass	GuardianGlass	Modiguard	SaintGobain
64	Giwire Mesh	Tiger	Elite Shutter Industries	M/s S.S. Steel Industries, N.Delhi
		Selected Products Co.		
65	Cockroach Trap	Chilly	Kingston	Jayana RAEngineering
66	Plate Rack	Kingston	Dhawan Sanitary Udyog	Works(Comet)
		M/sAnupamIndustries(BLUE STAR)	Player/Selected ProductsCo.	
67	Hardware/locks	Hettich	Dorset	Hafele
		Zura	Fordela	
68	Internal Signage’s	M3M	Isuzu	Prolite
		Prosafe	Fordela	
69	Fountain	Aqvastar	Zodiac	Astral
70	Landscape automatic irrigation System	Rain bird	Irrigation Products International	Jain Irrigation System
71	Iron Mongery Mild Steel (ISI Marked)	Oxford	Jyoti	MC Maojoo & Co Kolkata
		Shree Ganapathi Doors		
72	Art Work	Zura	lightaxxis	Fordela impex
73	WaterProofingTreatment	Pidilite	BASF	Asain Smartcare
		Sika		
74	Louvers	Vox India	Laminex	Histeel/Europratik

LIST OF ACCEPTABLE MAKE OF MATERIALS				
Electrical & Elv				
S.No	**Details of Materials / Equipment**	**Make / Brands**		
1	Air Circuit Breaker	L&T - U Power Omega (MTX3.5)	Schneider - Masterpact MVS	Legrand - DMX3 MP4 LSIG
		Siemens (3wl)	ABB (e max2 ekiphitouch)	
2	Moulded Case Circuit Breaker With rotary operati	Schneider (Easy pact CVS)	Siemens (SENTRON3VA)	L&T
		ABB	Legrand (DPX3)	
3	Transformer / Compact Substation	ABB	Schneider	Sudhir
		Crompton	LS Power	Voltamp
4	Digital meters	El Measure	L & T (Vega)	Conserve
		Trinity	Neptune Ducati	Siemens (PAC)
		Schneider (Conzerve)	Siemens (PAC)	
5	Contactors, Timers	Schneider (Tesys)	ABB	L & T
		Legrand(CTX 3)	Siemon (Sicop)	Mitsubishi
6	Capacitors / capacitor with relay	Schneider	EPCOS	L & T
7	Voltmeter & Ammeter	Conzerve	Enersol	HPL
8	Switch Gear	Schneider (Easy pact CVS)	Siemens (SENTRON 3VA)	L&T (Exora)
		ABB	Crompton	Legrand (DX3)
9	Selector Switch	ABB	L & T	Legrand
		Siemens	Scheinder	Mitsubishi
10	Current Transformer	Matrix	Siemens	C&S
		G&M	Maxwell	Scheinder
11	Indicating Lamp	L & T	Siemens	AE
		Schneider-Electric	C&S	
12	Protective Relays	ABB	L & T	Siemens
		Schneider	GE	Mitsubishi
13	Multi functional meter	L&T	Legrend	Conzerv
14	APFC Relay (Microprocessor based)	Syntron	Enercon	L & T
		Ducati	Schneider	Mitsubishi
15	Batteries	Exide	Amar Raja	Okaya
		Luminous	Panasonic	
16	Battery Charger	Uptron	Voltstat Electronics	Statcon
		Max Power	Caldyne	
17	L.T. / H.T. Cable	Polycab	Havells	Rallison
		KEI	Orbit	RR
18	DC Miniature Circuit Breaker	Schneider	Siemens	Polycab
		Legrand		
19	Cable Lug (Tinned Copper)	Dowells	Multi	3M
		Raychem	Comet	APC
20	Cable Gland	Peeco	Commet	Gripwell
		APS	Raychem	Polycab
21	TTA Authorised Channel partner for Electrical Panel (MV, HT, Feeder Pillar, AMF, APFCR)	SPC Electrotech	Tricolite	Adlec
		BBN pvt ltd.	Advance	supertech control
		Zeniya	Kruti	P.control
22	Emergency Lighting	Prolite	Autoglo	Acculite
23	Cable Tray / Raceway	Pilco	CTM Engineers	AKG
		Slotco	Steelways	Advance
		Legrand	OBO	supertech control
25	Energy Analyzer Meter	Conzerve	Elemeasure	Enersol
26	Voltmeter & Ammeter	Conzerve	Elemeasure	Enersol
27	Distribution Boards with Miniature Circuit Breaker	Schneider - Acti9	Legrand Ekinox3	Siemens Beta Guard 10KA
		L&T(Exora)	ABB	

28	PVC Insulated copper conductor single core Stranded wires of 650/1100 volt grade	Havells	KEI	Polycab
		RR	Rallison	Finolex
29	Telephone Tag Block	Krone	TVS R&M	
30	PVC Conduit	BEC	NORPACK	Polycab
		Steel Craft	RMCON	AKG
31	M.S. Conduit	BEC	AKG	JINDAL
		Steel Craft	RMCON	
32	Modular Switches & Sockets	Legrand Lyncus	MK-Blenze	Clipal-X
		ABB	Schneider	Anchor(Roma Pluse)
33	LV System Wire	Siemens	Legrand	Havells
		polycab	Rallison	RR
34	TV/Telephone outlet	Siemens	Legrand	Havells
		polycab	Anchor(Roma Pluse)	ABB
35	Data Outlet	Siemens	Legrand	Havells
		polycab	Anchor(Roma Pluse)	ABB
36	Data Rack	Siemens	APW	Legrand
		Wipro	Comrack	Netrock
37	Light Fixture	Philips	Regent	Thorn
		Wipro	Jaquar	Futura
38	Fascade light	Forma	Meyer	Cnc india
		Orient	Futura	
39	Ceiling Fan	Bajaj	Havells	Crompton Greaves
		Orient	Finolex	Usha
40	Exhaust Fan with louvers	Bajaj	Havells	Crompton Greaves
		Finolex	Usha	
41	Geyser	A-O Smith	Bajaj	Havells
42	RCC Hume Pipe for Electrical Works	ISI Marked of Reputed Company	Jaguar	Crompton Greaves
43	PLC	Siemens	Allen Bradley	ABB
44	Telephone / Co axial Wire	Polycab	Allen Bradley	Orbit
		KEI	RR	Legrand
45	Professional LED Panel	Panasonic	finolex	Havells
46	Public Address System	Honeywell	Samsung	Sony
		Edwards	Edwards	Tyco
47	D.G. Set (Engine)	Cummins	Catter pillar	Kirloskar
		Ashoka Leyland	Jakson	Mahindra Rise
48	D.G. Set (Alternator)	Stamford	Catter pillar	Kirloskar
		Leroy Somer	AVK-Seg	
49	D.G. Acoustic Enclosure	Jakson	Lerroy Sommer	Catterpillar
		Sudhir	Sterling	OEA
		ABB		
50	H.T. Panel	Raychem	Schneider	Siemens
		Advance	LS Power	
51	H.T. Termination Kit	ABB	Denson	
52	UPS	Siemens	Vertive	APC Numeric
		Delta	Numeric	Emerson-Vertiv
53	Lighting Protection	Den	CAPE	JMV
		OBO	Dehn	LPI
54	Earthing	Dehn	OBO	Cape
		ARC IMPLASE	JMV	
55	Low Voltage integrators	SD infosis	Momentum	P.tech
56	Wireless Access Point	Alcatel	OBO	Cape
57	WAP Controller	Alcatel	Aruba	Indio Networks
58	IP EPABX	NEC	Aruba	Indio Networks
		Tadiran	Cisco	Panasonic
59	IP Phone	NEC	Alcatel	Matrix
		Tadiran	Cisco	Panasonic
60	24 Port Networking Switch	Cisco	Alcatel	Matrix
		Impluse	Extreme	Netgear
61	24 Port PoE Networking Switch	Cisco	Alcatel	Extreme

		Impluse	Extreme	Netgear
62	CAT 6A Information Outlet	Indio Networks	Alcatel	Extreme
		Siemon	Delton	Anchor
63	FACE PLATE for IO	Legrand	Systimax	Panduit
		Siemon	Delton	Anchor
64	CAT 6A PATCH PANEL	Legrand	Systimax	Panduit
		Anchor	Delton	Belden
65	CAT 6A CABLE	Legrand	Systimax	Panduit
		Anchor	Delton	Belden
66	CAT 6A PATCH CORD 1MTR	Legrand	Systimax	Panduit
		Anchor	Delton	Belden
67	CAT 6A PATCH CORD 2MTR	Legrand	Systimax	Panduit
		Anchor	Delton	Belden
68	42U RACK	APC	Systimax	Panduit
		Comrack	Rittal	Netrock
69	24U RACK	APC	Legrand	Valrack
		Comrack	Rittal	Netrock
70	PVC Conduit	Finolex	Legrand	Valrack
		AKG	Steel Craft	
71	PVC Trunking	AKG	Polycab	NORPACK
		Finolex		
72	Display	AKG	Polycab	Atul
		Sony	Legrand	Samsung
73	Wall Mount	Chief	Samsung	Christie
74	Cable Cubby	Logic	Btech	Logic
75	Meeting Space Collaboration System	AMX	Kramer	Extron
76	LED Screen	Samsung	Ordain	One Beyond
		Technitia	Sony	
77	Bullet, Dome & PTZ Camera, Channel network video manager server, Network management and monitoring software	Axis	LG	Panasonic
		Bosch	Pelco	
78	AV over IP	AMX	Avigilon	Honeywell
		Bosch	Pelco	Axis
79	Networking Switches	Netgear	Aurora	Extron
80	Digital Signal Processor	Clock Audio	TP-Link	Cisco
		Siemens		
81	Chairman Unit	Clock Audio	Solvision	Audio Technica
82	Delegate Unit	Clock Audio	Solvision	Audio Technica
83	Digital Signal Processor	Solvision	Solvision	Audio Technica
84	Ceiling Speaker	Amate Audio	Xilica	Biamp
		sennheise	Honeywell	Siemens
85	Amplifier	Amate Audio	WorkPro	TW Audio
		sennheise	Honeywell	Siemens
86	Control Processor	AMX/Aurora	WorkPro	TW Audio
		Siemens		
87	Tablet	AMX/Aurora	Aurora	Extron
88	Router	Netgear	Aurora	Apple
89	HDMI	Kramer	Indio Networks	Cisco
		legrand	Siemon	crestron
90	15 mtr Active Extension Cable	Kramer	Extron	Tasker
		Orbit	crestron	
91	Microphone Cable	Krystals	Manhattan	Aten
		RR	Orbit	Finolex
92	Speaker Cable	Krystals	Kramer	Tasker
		RR	Orbit	Finolex
93	Cat 6A Cable	Legrand	Kramer	Tasker
		Siemon	Anchor	Belden
94	Networking Rack	APC	Beldon	Systimax
		Siemens		

95	Projector	Panasonic	Legrand	Valrack
96	Motorized Screen	Draper	Christie	Barco
97	Projector Mount Kit	Logic	Dalite	Ordain
98	Recording & Streaming Device	Arec	Custom	Ordain
99	Touch Panel	Viewsonic	Mediapoint	Sinew
100	Digital Podium	AHA	Acer	Ordain
101	Microphone	Shure	Ordain	Tcomm
		Audio Technica	Sennheiser	
102	Gas Suppression	Honeywell	Sennheiser	Beyerdynamic
		Siemens	Suprema	
103	Access Control	ONGUARD 7.5(LENEL)	Komtes	Tyco(Ansul)
		Suprema	Virdhi	Honeywell
104	Multiclass Smart Card readers	HID	CCURE 9000 (SOFTWARE HOUSE)	Honeywell -(Pro- Watch)
		Suprema	Invixion	Honeywell
105	Fire Alarm system	Honeywell (Notifier)	Lenel	Detnov
		Schrack	Tyco	Edwards
106	Smoke Detectors	Honeywell (Notifier)	Lenel	Detnov
		Schrack	Tyco	Edwards
107	Heat Detectors	Honeywell (Notifier)	Lenel	Detnov
		Schrack	Tyco	Edwards
108	Manual Call Box	Honeywell (Notifier)	Lenel	Detnov
		Schrack	Tyco	Edwards
109	Hooter/ Sounder	Honeywell (Notifier)	Lenel	Detnov
		Schrack	Tyco	Edwards
110	Response Indicator	Honeywell (Notifier)	Lenel	Detnov
		Schrack	Tyco	Edwards
111	Fire Panel	Honeywell (Notifier)	Lenel	Detnov
		Schrack	Tyco	Edwards
112	Pa Amplifier	Honeywell (Notifier)	Lenel	Bosch
		Schrack	Tyco	LDA
113	Pa Speakers	Honeywell (Notifier)	Lenel	Bosch
		Schrack	Tyco	LDA
114	Camera With All Accessories	Axis	LG	Panasonic
		Bosch	Pelco	

LIST OF ACCEPTABLE MAKE OF MATERIALS				
PLUMBING				
S.No	**Details of Materials / Equipment**	**Make/Brands**		
1	Sanitary ware such as EWS, Wash basin, Urinal, Urinal partitions, toilet paper roll holder	Cera	Kohler	Jaquar
		Roca	Kerovit	
2	W.C. Seat cover	Cera	Kohler	Jaquar
		Roca	Kerovit	
3	C.P. Brass flush valve for WC and Urinals	Cera	Kohler	Jaquar
		Roca	Kerovit	
4	C.P. brass fittings such as pillar cocks, stop cocks angular stop cocks, C.P. flexible pipes, C.P. brass waste, C.P. brass cast bottle trap, C.P. brass shower rose, long body bib taps, C.P. brass health faucets, single lever mixing fittings etc.	Cera	Kohler	Jaquar
		Roca	Kerovit	
5	Automatic hand drier	TOTO	Cera	Jaquar
		Euronics	U tech Systems	
6	Automatic flushing system for Urinals	Jaquar	Euronics	Cera/ Kerovit
		AOS-Robo		
7	Stainless Steel Kitchen Sink	Neelkanth	Jayna	Nirali
		Cera	Hindware	Jaquar
8	Cast Iron Pipes & Fittings, Manhole covers and	NECO	SKF	Electro steel
		B.I.C	Kapilansh	R.I.F
9	Floor Drain Fixture, Rain Water Outlets & Channel Gratings	ACO	GMGR	Koncept
		NECO	BIC	SKF
10	C.P. Grating for Floor Trap	Chilly	Nirali	Colston
		Jaquar	Kohler	Grohe
11	GI/MS Pipes(IS : 1239 and IS : 3589)	Tata Steel	Jindal (Hissar)	SAIL
		Prakash Surya	Swastik	Jindal Ghaziabad
12	GI pipes fittings	Unik	Zoloto M	Surya
		Swastik	K.S	Sun
13	CPVC Pipes and Valves	Astral	Finolex	Supreme
		Flowguard	Ashrivad	AKG
14	PVC Pipe	Supreme	Finolex	Astral
		Prince	AKG	
15	RCC Pipe	Sood & Sood	Pragati Concrete	Lakshmi
		Indian Hume Pipe	KK	JSP
16	Stone ware Pipes , Gully Traps	Perfect	Hind	RK
		S.K.F	Anand	
17	GM/ Forged Brass Valves	Zoloto	Audco	Advance
		Leader	Sant	
18	Sluice Valve	Zoloto	Advance	Leader
		Kirloskar	L&T	Casttle
19	Butter Fly Valve	Zoloto	Audco	Advance
		Sant	KSB	Casttle
20	Check valve	Zoloto	Audco	Advance
		Kirloskar	L&T	Casttle
21	Air Release Valve	Zoloto	Advance	Leader
		Azud	API	Venus
22	Y- Strainer	Zoloto	Advance	Leader
		Emerald	Audco	Kirloskar

23	Pumps	Grundfos	CRI	Kirloskar
		Crompton		
24	Variable Frequency Drives	Siemens	Danfos	KSB
25	Drinking Water Cooler	Blustar	Voltas	Godrej
		Usha	Aquaguard	
26	Couplings	Zoloto	Audco	Advance
27	Anti Vibration Mounting	Dunlop	Resistoflex	KSB
		Relay Corpn	Kanwal	
28	Pressure Gauge	Emerald	Fiebig	H-Guru
		Waree		
29	Water Meter (Mechanical Type)	Kaycee	Aquamet	Capstan
		Kranti	Anand	Kant
30	Level Controller (Water)	Active Controls	Minilec	Technika
		Advance Auto	Sridhan International	Switzer
31	Level Indicator (Water)	Leaders	Minilec	Zoloto /Technika
		Advance Auto	Sridhan International	Switzer
32	Plastic Encapsulated Foot rest	KGM	KK	Waltzer
33	Polythene Water Storage Tank / GRP SMC Panel Tank	Sintex	Sheetal	Polycon
		Fusion		
34	Water Treatment Plant, R.O., Filters etc.	Driplex	Thermax	Optima Water Solution
		(ionexchange authorised)	KANBE	P.Tech
35	Water Treatment Vessel	PENTAIR	Astral	Pearl Water
36	Ultra Violet Water Purifier	Eureka Forbes	Pentair	Eurostar/ Aquatech
37	Dosing Pumps	CRI	Kirloskar	Grundfos
		KSB	KANBE	Crompton
38	Insulation for Hot Water Pipes	Armacell	Aerocell	K-Flex
		Careflex	Llyod/	Armflex
39	Flanges	Class 150		
40	Pypcoat for Buried Piping	IWL	Coaltek	
41	Welding Rods	Advani	Sri Ram arc	Ador
42	CI (LA) Pipes and fittings	Electro steel	Kartar	Neel
		Kapilansh	NECO	RIF
43	GEYSER	HAVELLES	BAJAJ	AO Smith
		Racold	Usha	
44	Calorifiers / PHE	Alpha level	Nimotherm	Oso
45	UPVC Pipes and Valves	Astral	Finolex	Supreme
		Prince	AKG	
46	Solar Panel System	TATA	Livguard	V-guard/ Renesa
47	SFRC Manhole covers, Frames & CI Grating	KK	OCR	Pargati
		JSN	P.Tech	Aco
48	Non Returns Valve (Check Valves)	Zoloto	Advance	Leader
		Kirloskar	L&T	Casttle
49	Brass Ferrules	Kalsi	Annapurna	Dhawan Sanitary Udyog

LIST OF ACCEPTABLE MAKE OF MATERIALS				
SEWAGE TREATMENTPLANT				
S.No	**Details ofMaterials/Equipment**	**Approved Make/Brands**		
1	Microbial Additive based STP with Advanced-Eco Reactor or FRP Containerized Advance MBBR Technology	Sintax	OPTIMA PVT LTD / YIMBY	Driplex
	STP integrators (ionexchange authorised)	NexGen	P.Tech	KANBE
	Rotating Biological Contactors (RBC) based STP	ORION	ECOGENE	MUTHANGI
2	Pumps	Kirloskar	CRI	WILO
		Kanbe	Crompton	Mather & Platt
3	Probiotic Microorganisms	OSI	Envirosense	Ecolog
4	Power Cable / Fire Survivable cable	Polycab	Havells	L&T
5	STP Control Panel	Fabricated Automation as preapproved technology		
6	Switchgear & Accessories	ABB	Siemens	Schneider/L& T
7	PVC Pipes	Astral	Prince	Supreme ISI marked
		Finolex	AKG	Vector
8	Activated Carbon Filter	MS IS 2062 grade material fabricated		
		Orion	Ecogene	Pyneer
9	Organic AER Media	Organic Solutions	Environment Technologies & System	Ecologic Waste Solutions
10	Valves	Sant	Zoloto	Audco
		Kirloskar	L&T	Casttle
11	Water Cooled Ozonation System	Organic Solutions	Environment Technologies & System	Ecologic Waste Solutions
		Ionexchange	Alfa UV Mumbai/	Pentair
12	Ultra-Filtration	Deerfos	GE	Toray

LIST OF ACCEPTABLE MAKE OF MATERIALS - FIRE FIGHTING WORKS		
S. No.	**Details of Materials/Equipment**	**Make**
1	Air Release Valve/Air Cushion Tank	zoloto/Emrald/Advance/Leader/Audco/Castle/Emrald/Emrald
2	Alarm valve & Hydraulic (Alarm motor with coupling)	HD fire protect/TYCO/VIKING/Newage
3	Alternator	Stamford/ LoreySomer/ Kirloskar/ Toyo Denki/ AVK
4	Ammeter/ Voltmeter/ PF/ kW/ Hz/ meter/Energy Meter/ Multimeter	As per respective electrical make list
5	Anchor Fastener	Fischer / Hilti or equivalent
6	Ball Valves	L&T/ Audco /zoloto/Emrald/ Advance/Emerald/ KSB
7	Battery	Exide/ AMCO /Amararaja/ Panasonic
8	Butt welded fitting (UL Listed) & accessories	V.S. Forge/True Forge / DRP-M
9	Butterfly valves	L&T/ Audco/ zoloto/Emrald / Advance/ KSB
10	Cable lugs and glands	As per electrical make list
11	Cables	As per electrical make list
12	Check Valve/Foot Valve/Sluice Valve/NRV	L&T/Audco / zoloto/Emrald Advance/KSB
13	Control / Potential / Current Transformer	As per respective electrical make list
14	Deluge valve/ Solenoid valve/ Spray nozzle	HD / Tyco/Viking
15	Diesel engine driven pump	Ashok Leyland/ Cummins/ Perkins/ WILO-Mather & Platt/ Kirloskar/Armstrong Fluid Technology
16	ELCB	As per electrical make list
17	Epoxy Paint	As per Civil Works make list
18	Fire Buckets	Safex / Minimax/Cease Fire/Padmini/Peter Autokit
19	Fire Extinguisher	Minimax / Newage/ Eversafe/Padmini/ Tyco –Johnsons Control
20	Fire Hydrant Valves/ Fire RRL Hose Pipes/ Fire Hose Reels/ Fire Man‘s Axe/ Gun metal short branch pipe/ 2/ 3/4 FB inlet/ draw Out connection/Hose Box/ Hose reel drum /Nozzle/ blank Caps & Chains / Coupling	Ceasefire / Newage /Minimax/HD/Tyco
21	Fire Pumps	Grundfos/Kirloskar/Xylem–ITT/ Armstrong Fluid Technology
22	Electrical Motors	ABB/ Siemens/Kirloskar/C&G/BALDOR/BB
23	Flow Meter	As per HVAC make list
24	Flow switch	As per HVAC make list
25	Foot Valve (Cast iron/ Gunmetal)	Kirloskar / zoloto/Emrald/Advance/L&T
26	Forged steel fitting & accessories	V.S.Forge/True Forge / DRP-M
27	GI clamps	Chilly/Hilti or equivalent
28	GI / MS Pipes	Tata / Jindal- Hissar/ SAIL
29	Gunmetal Valves (Globe Valves)	Audco / zoloto/Emrald Advance/L&T
30	Over Load Relays	As per electrical make list
31	Pipe coat material (pipe protection)	Pypcoat / Makphalt / Safex
32	Pipe Hangers/ Clamps/Supports	Chilly/ GMGR /CAMRY/Hilti
33	Power/auxiliary Contactors	As per electrical make list
34	Pressure Gauge	As per HVAC make list
35	Pressure Switch	As per HVAC make list
36	Push Buttons/ Indicating lamps LED	As per respective electrical make list
37	Single Phase Preventer	As per electrical make list
38	Solenoid valve/ Spray nozzle	HD / Tyco/Danfoss/ Honeywell
39	Sprinkler Heads (Sidewall/ Upright/ Pendant)	Grinnel- Tyco / Viking / HD
40	Steel flexible extension	Eversafe /Newage/Tyco/Viking

41	Vibration Eliminator	Resistoflex / D'wren / Kanwal
42	Weld Electrodes	Advani/ ESAB/ L&T/Victor
43	Pot strainer	Emerald/ VTM/ Rapid Cool
44	Y- Strainer	zoloto/Emrald/Audco /Emerald/Advance
45	Rubber Bellows	Resistoflex/Easyflex/Kanwal
46	Fire Suppression System/Gas Flooding Sytem	Ceasefire/Padmini/Fire Shield/Sinorix 1230 (Siemens)
47	Clean Agent Fire Extinguisher	Kanex/Tyco/Newage/SVS Buildwell/Minimax/Lifeguard/Padmini/Ceasefire

LIST OF ACCEPTABLE MAKE OF MATERIALS		
HVAC		
S.No.	**Items**	**Makes**
1	VRF/VRV (OUTDOOR & INDOOR)	Mitshubhi electric / Daikin / Carrier/ LG / SAMSUNG / OGENERAL
2	NON VRV/VRF	Mitshubhi electric / LG / SAMSUNG
3	DX Type AHU	Crystal / SYSTEM AIR / NEXGEN / ZONEX / FALKT
4	Closed cell electrometric Pipe insulation	Armaflex / SUPREME / A-FLEX/ K-FLEX
5	Refrigerant Piping	Mandev / Total Line / Rajco / Maxflo / Zobu / Metube
6	Duct Acoustic Insulation	UP Twiga / Owens Corning
7	Duct Insulation	Thermobreak / Armacell / Eurobatex / Trocellen
8	Room Acoustic Insulation	UP Twiga / Owens Corning
9	Grilles, Diffusers, Dampers, Laminar	Tristar / Carryaire / Dynamic / Crystal air / Ruskin / Nexgen
10	Fire Dampers	Tristar / Carryaire / Dynamic / Crystal air / Nexgen
11	G.I.Sheets for Ducts	SAIL / Jindal / TATA
12	Ventilation Fan (Centrifugal /Axial)	Crystal air / Greenheck /Blowtech / Flaktwood /Kruger
13	Inline Fan	Crystal air / Greenheck /Blowtech / Flaktwood /Kruger
14	Cabinet Fan	Crystal air / Greenheck /Blowtech / Flaktwood /Kruger
15	Propeller Fan	Crystal air / Greenheck /Blowtech / Flaktwood /Kruger
16	Factory Fabricated Rectangular Duct	GP Spira / Ductofab / Dustech / Greenoz
17	Hard PVC pipes	Polycab / Supreme / Prince
18	Armoured Power Cables	Polycab/ AKG / Havells / finolex
19	Starters/Contactors/ Overload Relay	L&T /Siemans
20	Fire Damper	Greenoz / P.tech / Systemair / Ruskin Titus / Trox
21	Volume Control Damper	Greenoz / P.tech / Systemair / Ruskin Titus / Trox
22	Louvers	Greenoz / P.tech / Systemair / Ruskin Titus / Trox
23	Actuator for fire damper	Belimo / Honeywell / Danfoss
24	STP Odour control system	Ultrapure / Nutech Tech. / Eflow / p.tech / NexGen
25	Washroom Odour control system	Ultrapure / Nutech Tech. / Eflow / p.tech / NexGen
26	CBR FILTER	Ultrapure / Nutech Tech. / Eflow / p.tech / NexGen
27	AOP Cell	Ultrapure / Nutech Tech. / Eflow / p.tech / NexGen
28	UVGI for AHU	Magneto / Ultrapure / Honeywell / Zeco / P.tech / Philips
29	UVGI for Wall / Celing Mounted	Philips / P.tech / Ultrapure / GPS
30	Bipolar Ionization	GPS / P.tech / NexGen/Aerate / Ultrapure
31	VAV Box	Trox / Barci-Air / Waterloo / Halton
32	Thermometer / Pressure Gauge	Fiebig / Waree/ Omicron
33	Water flow switch	Siemens / Omicron / Honeywell
34	Flexible pipe connection	Resitoflex / Kanwal /Dunlop
35	Fresh Air Energy Conservation	Omicron / P.tech / Vaisala / Michell
36	Lag/Weather Coating for Insulation	Pidilite / Thermoshield / Armacell
37	Nitrile Rubber Insulation	Aerolam / Trocellen / Thermobreak / Armacell / Supereme / Eurobatex
38	Acoustic Insulation ofDuct / Under Deck	Aerolam / Trocellen / Thermobreak / Armacell / Supereme / Eurobatex
39	EPS	Beardcell / Styrene Packaging / P.R. Packaging/ Hira
40	Air Curtain	Mitzvah / Magneto / VTS
41	All type of Sensors	Omicron / seimens / scheinder/Azbil
42	IBMS	Scheinder / Seimens / JCI / Azbil / Honeywell
43	IBMS integrator	NexGen / SD infosis / P.tech / Azbil
44	Fastener	Hilti / Wurth / Fisher / Gripple
45	Cable Tray	Advance / Slotco / OBO / Profab / P.tech / Legrand
46	Control Cable	RR / KEI / Rallison / Finolex / Orbit / Polycab
47	Cables	RR / KEI / Rallison / Finolex / Orbit / Polycab
48	Relay / Timer / Contactor	Siemens / L&T / Schneider Electric / ABB / BIL/ C&S
49	TTA Authorised Channel partner for Electrical Panel	Advance / Zeniya / LS Power / Shivalic / Tricolite

50	Starter	Siemens / Schneider / L&T/ C&S / Legrand
51	Single Phase Preventor	Minilec / EAP, Banglore
52	Current Transformer (Cast Resin)	AE / L&T / Kappa
53	Switch / Fuse Unit / HRC Fuse	Siemens / Schneider / L&T/ C&S / Legrand
54	MCB / MCCB	Siemens / Schneider / L&T/ C&S / Legrand
55	Ammeter / Voltmeter (Digital Type)	AE / L&T / Crompton Greaves/ C&S
56	LED Indicating Lamp / Push Button	Siemens / L&T / Schneider Electric/ C&S
57	Selector Switch	C&S / Siemens / Lagrend / L&T
58	Equipment stand	QWIK FOOT / Equalent/ Resistoflex / Hira Walraven
59	Adhesive	SRS 505, SRS 998
60	Duct Support/ Hanging Arrangement	Gripple / Easyflex / Hira Walraven

7.0 PROJECT EXECUTION

7.1 Project Execution & Supervision Aspects

1. The Bidder, who shall act as Contractor for the project shall be composed of qualified and experienced experts, who can carry out all the routine construction works as a fully competent and independent unit.

   However, in preparing his proposal for the construction, the Bidder should allow for a suitable mechanism which will ensure thorough co-ordination of the design and execution teams, so that each team is at all times fully aware of the remedies to common problems used by the other team.

2. The Project Head/Project Manager Representative on behalf of the Contractor should be authorized with whom day to day interactions shall be made by the Engineer-in-Charge for execution and supervision of works. He should be a senior Civil Engineer with at least 20 years of professional experience out of which 10 years in planning and construction of building works. He should have executed at least one major building work of similar in nature as proposed by the Bidder. He should be familiar with modern construction equipment and Contract conditions. The candidate should have a thorough understanding and experience with IS code relating to building construction.
3. The Bidder shall provide competent personnel for the project execution and supervision who shall be managed by the Project Head/Project Manager at site in performing the assignment under this Contract.

   The Bidder's personnel should have the required experience and expertise in conducting similar type of works with highest professional standards.

   The Bidder is required to set-up the site office at the work site and make their own arrangements for the accommodation, furniture and equipment etc.

   The project execution and supervision personnel should be mobilized from the date of commencement of works by the Bidder. During the Defects Liability Period, the Bidder would be expected to provide technical advisory services on an "as required" basis.

   After award of the Contract, the Employer expects all of the proposed personnel to be available during implementation of the Contract.

4. Contractor shall carry out proper layout of the building to ensure appropriate alignment, line and level in column & beams by Total Station Equipment only. The Contractor must be doubly sure about the correctness of the same as per layout plan and structural drawings. The certificate of the correctness of layout of the building will be submitted by the contractor to the Engineer in Charge for release of first RA bill of particular building.
5. It is the duty of the Contractor to:

   - Ensure that high quality of construction is achieved
   - Ensure that all works are carried out in full compliance with the Engineering design, technical specifications and Contract documents;
   - Check / conduct all necessary measurements, tests, and control the quality of various items of work s and in accordance with the relevant code of Building specification with the latest edition.

Key Personnel:

The contractor shall employ at his cost the adequate number of minimum technical staff during the execution of this work and defect liability period as per **Enclosure-I** or more depending upon the requirement of work. For this purpose the numbers to be deployed, their qualification, experience as decided by Employer shall be final and binding on contractor. The contractor shall not be entitled for any extra payment in this regard. The technical staff should be available at site, whenever required by WAPCOS to take instructions.

Within 15 days of letter of intent, the contractor shall submit a site organizational chart and Resume including details of experience of the Project-in-Charge and Technical staff as per following table for the approval of Employer.

The removal of such additional staff from the site shall only be with the prior written approval of Engineer-in-Charge. The contractor shall not be paid anything extra whatsoever on account of deployment of additional staff and decision of the Engineer-in-Charge shall be final and binding on the contractor**.** In case the contractor fails to employ the staff as aforesaid, then the amount mentioned in Enclosure-I shall be recovered from the Contractor.

7.2 Minimum Site Equipment Required

Availability (either owned or leased having validity for the period till completion of project) of the key and critical equipment required at site as per the quantum of work will be as per **Enclosure-II.** The Bidder is to provide their own estimate of the number of equipment, commensurate with their work plan and methodology.

7.3 Equipment for Testing of Materials & Concrete at Site Laboratory

All necessary equipment for conducting necessary tests shall be provided at the site laboratory by the Bidder at his own cost as per **Enclosure-III**

7.4 Instructions of Engineer-in-Charge

The Engineer-in-Charge will, but not be limited to, the following:

- give the order to commence the works;
- inspect Contractor's plant and equipment's and recommend augmentation/ rectification of deficiencies, if required
- order special tests of materials and/or completed works, and/or order removal and substitution of improper materials and/or the works as required;
- review all the test result/ certificates of all construction materials and inspect sources of materials to establish their quality suitable to the required standard.
- check all bituminous mix designs and concrete mix design proposed by the Bidder where ever required and in due time and suggest modifications in the mix design, laying methods, sampling and testing procedure and quality control measures, to ensure required standard and consistency in quality at the commencement of times;
- check and certify the laboratory and field tests carried out by the Contractor and also carry out independent tests, if required. The report of such test shall be submitted to the Engineer-in-Charge within a period of 7 days of such tests.
- inspect the works during the construction period and the Defects Liability Period,

and to issue Defects Liability Certificates after rectification by the Contractor of defects notified to him by the Engineer-in-Charge;

- check the setting out the works;
- instruct the removal from the site of materials which are not as per specifications or reconstruction of parts of the works which do not comply with the specification;
- direct to submit monthly progress reports, Quarterly progress report, Final completion Report and Bar Chart / Programme chart to complete the work in stipulated time period.
- direct to prepare Running Account Bills for works carried out by the Contractor, and certify completion of parts or the totality of the works and record of measurements in the measurement book.
- direct to send certified bill to the WAPCOS office for approval of competent authority and payment.
- direct to prepare deviation / variation (if any) with duly certified supporting documents as per the provisions in contract and will send the same to WAPCOS office for the approval of Competent Authority.

7.5 Duties & Responsibilities of the Project Head/Project Manager of contractor

The duties of the Project Head/Project Manager of the Contractor are, to supervise construction of the works and, to test and examine any material to be used or workmanship employed in connection with the works. The principal responsibilities of the Project Head/Project Manager of the Contractor are likely to be but not limited to as follows:

- To follow the instructions given by the Engineer-in charge, Principal Employer and WAPCOS
- To prepare detailed bar chart depicting each & every activity of the work along with quantity and time bar, to complete the work in stipulated time period, which will be displayed in the Site office.
- To provide the all residential facility at site camp to the Engineer-in-Charge as per provisions
- to ensure that the construction work is accomplished in accordance with the technical specifications and Contract Conditions;
- to identify construction problems and delays and to recommend to the Engineer-in-Charge, actions to expedite progress
- to ensure proper keeping of records
- to monitor and check the day-to-day quality control and quantity measurements of the work carried out under the Contract
- to prepare in consultation with the Engineer-in-Charge, a Construction Supervision Manual outlining routine and procedures to be applied in Contract management, construction supervision and administration;
- to prepare a maintenance manual outlining the routines to be adopted in each specific reach and for the cross-drainage works and buildings;
- to comply with his contractual obligations in executing work in all matters concerning safety and care of the works (including the erection of temporary signs) and, if required, to request the Contractor to provide any necessary lights, guards, fencing and watchmen for smooth and effective working and traffic flow.

- to write a day-by-day project diary which shall record all events pertaining to the administration of the Contract, request forms and orders given to the Contractor, and any other information which may at a later date be of assistance in resolving queries which may arise concerning execution of the works;
- preparation & submission of monthly progress reports, Quarterly progress report, Final completion Report.
- Preparation, Submission & time to time revision of Bar Chart / Programme chart to complete the work in stipulated time period.
- Any other work as outlined in contract agreement, which is the responsibility of the Contractor.

7.6 Documents Prepared Shall be the Property of the Employer

All plans, drawings, specifications, designs, reports and other documents (both computer hard copies and soft copies) in performing the works shall become and remain the property of the Employer, and the Contractor shall, not later than upon termination or expiration of this Contract, deliver all such documents to the Employer, together with a detailed inventory thereof. The Contractor may retain a copy of such documents but shall not use these documents for purposes unrelated to this Contract without the priory written approval of the Employer.

7.7 Completion Schedule/deliverables

8 . 0 The works has to be completed in the following phasing:

SN.	**Description of Mile stone (Physical)**	**Time allowed (**from the date of start)
1	1/8th of the whole of the work	Within 4.5 months
2	3/8th of the whole of the work	Within 9 months
3	3/4th of the whole of the work	Within 13.5 months
4	Whole of the work	Within 18 months

Note:

- **The work of plantation, internal & external services, etc. shall be completed simultaneously during the progress of work as and when the site is available for the same, as per direction of Engineer-in-Charge.**
- **The tentative time schedule is enclosed at Enclosure-IV. The contractor shall submit component wise detailed schedule plan for each activity of components, to the Employer with the condition of completion of work within stipulated time period for proper monitoring of the project.**

8.1 Other Site Facilities

The cost of providing the work/facilities stated below are to be borne by the Contractor and shall be deemed to be included in the quoted cost by the Contractor.

- The Contractor shall regularly share the geotagged photographs of ongoing construction to designated what's App group. The photographs need to be shared in every stage of construction for important items and milestones like foundation reinforcement, RCC casting of foundations, columns, beams & slab, masonry work, etc. These photographs shall also be submitted as part of each Running Account Bill.

- The Contractor shall make all arrangements for ground breaking ceremony/ inaugural function etc for the project as required and the cost towards it deemed to be included in his rates/offer.
- The same shall be furnished as per requirement of Monthly Progress report / Quarterly Progress Report/ Final completion report.
- The Contractor shall provide arrangements for firefighting at his own cost. For this purpose, he shall provide requisite number of fire extinguishers and adequate number of buckets, some of which are to be always kept filled with sand and some with water. This equipment shall be provided at suitable prominent and easily accessible places and shall be properly maintained. The Contractor may be subject to periodic fire prevention inspections and any deficiency or unsafe condition shall be corrected by the Contractor at his own cost and to approval of the Engineer-in-Charge and the relevant authorities.

  These fire prevention inspections shall include but not limited to the following:

  - ✓ Proper handling, storage and disposal of combustible materials, liquids and wastes.
  - ✓ Work operations which can create fire hazards.
  - ✓ Access for firefighting equipment.
  - ✓ Type, size, number and location of fire extinguishers or other firefighting equipment.
  - ✓ Inspection and maintenance records for extinguishers
  - ✓ Type, number and location of containers for the removal of surplus materials and rubbish.
  - ✓ General housekeeping
- For the purpose of quick communication between the Engineer-in-Charge and the Contractor or his Representative, Site Order Books shall be maintained at site in the manner as described below:

  Any communication, relating to the works may be conveyed through records in the site order book. Such a communication from one party to the other shall be deemed to have been adequately served in terms of the Contract. Each site order book shall have machine- numbered pages in triplicate and shall be carefully maintained and preserved by the Contractor and shall be made available to the Engineer-in-Charge as and when demanded. Any instruction which the Engineer-in-Charge may like to issue to the Contractor may be recorded by him in the site order book and two copies thereof taken by the Engineer-in-Charge for his record. The Contractor or his Contractor or Representative may similarly record in the site order book any communication he may like to send to the Engineer-in-Charge. Two copies thereof when sent to the Engineer-in-Charge and receipt obtained thereof, will constitute adequate services of the communication to the Engineer-in-Charge.

- The Contractor shall display all permissions, licenses, registration certificates and other statements required to be displayed under various labour laws and other legislations applicable to the works at the site office and also maintain the requisite register / records factually and up to date and keep them ready for inspection by the concerned authorities and also make available the same to the Engineer-in-Charge / Owner for inspection.
- The relevant I.S. codes of practice and other relevant codes shall be of latest version with their amendments/ revisions. The Contractor shall keep and maintain copies of the latest editions of codes at the work site and make it available to Employer whenever required.
- In case of Guarantees specified for certain periods for due performance of materials and specialist items of work, the Contractor shall be a co-guarantor with the Specialist

Contractor or Supplier offering such Guarantee and shall offer such co- Guarantee in a format approved by the Employer.

- If desired by the Employer, the Contractor shall stack and spread to the require profile the excess earth available suitable for filling in layers not exceeding 200mm, watering, consolidation within the campus and dispose of all surplus material to the nearest dumping ground/ land fill area without any additional cost, etc.
- The Employer may if require, request the assistance of Contractor labour for purpose other than from part of Contract. The Contractor will not unreasonably deny such assistance and the Engineer-in-Charge decision in this regard shall be binding on the Contractor. The Contractor will be then paid on the basis of minimum wages rates and provision made in the General Conditions of Contract.
- Contractor shall provide safety gadgets to the Employer officers.

8.2 Drawings

8.2.1 Good for Construction Drawings

The work shall be carried out in accordance with the approved architectural drawings, structural drawings, MEP services drawings to be issued from time to time, by the Engineer-in-Charge, and approved shop drawings prepared by the Contractor. Before commencement of any item of work the Contractor shall correlate all the relevant architectural and structural drawings, nomenclature of items and specifications etc. issued for the work and satisfy himself that the information available from there is complete and unambiguous. The figure and written dimension of the drawings shall be superseding the measurement by scale.

The stage wise drawings shall be released as "GOOD FOR CONSTRUCTION" from time to time as per requirement of that particular stage, by the Engineer-in-Charge and revised drawings as per any additions/ modifications/ alterations/ deletions will be issued to the Contractor progressively. The discrepancy, if any, shall be brought to the notice of the Engineer-in-Charge before execution of the work. The Contractor alone shall be responsible for any loss or damage occurring by the commencement of work based on any erroneous and or incomplete information and no claim whatsoever shall be entertained by the department on this account.

The levels, measurements and other information concerning the existing site as shown on the conceptual / layout drawings are believed to be correct, but the Bidders should verify the same for themself and also examine the nature of the ground as no claim or allowance whatsoever shall be entertained on account of any errors or omissions and commissions in the levels or strata turning out different from what is shown on the drawings.

Two copy of contract documents including Drawings furnished to the Contractor shall be kept at the Sites and the same shall at all reasonable times be available for inspection.

8.2.2 Coordinated drawings

Before taking up the work, the Contractor shall prepare shop drawings for the works listed below for various civil and electrical services showing details of layout in plan including sections & elevations & large-scale details and Contractor shall plan and mobilize his resources as per these drawings and as per actual site conditions to facilitate convenient execution, installation as well as maintenance of these items. Nothing extra shall be payable on this account.

8.2.3 Shop drawings

The bill of quantities, technical specifications and drawings together shall be considered as a tender requirement and the work shall be carried out as per good for construction (GFC) drawings, issued by Engineer-in-Charge. The Contractor shall study the GFC drawings and taking into account actual site conditions and selected material and requirements shall prepare shop drawings for the following works, as fully coordinated drawings, as given above.

a. Aluminium work, Stainless steel work and railings etc.
b. Expansion joint work
c. Reflected Ceiling Plan (RCP), coordinated with all ceiling related services.
d. Marble, granite, vitreous, ceramic, tile work details.
e. All Electrical work
f. All Sanitary and sewerage work
g. All plumbing works.
h. Rainwater Pipe details/ position, roof slopes etc.
i. Drainage details.
j. Door Window details
k. All steel fabrication work.
l. Fixture, Furniture and Equipment (FFE) work.
m. Any other works detail if required.

Within the time frame agreed with the Engineer-in-Charge, the Contractor shall prepare shop drawings using latest version of AutoCAD. Shop drawings shall show all layouts, details in plans & sections showing all connections, junctions, bends, supports, clearances. fixing arrangements with dimensions room, etc shall be prepared by the Contractor on AutoCAD based on the architectural drawings and site measurements. All measurable items quantities shall be mentioned on each shop drawing being submitted for approval by the Contractor. 3 sets of shop drawings (soft copy also) shall be submitted for approval and Seven sets of final shop drawings after approval by Engineer-in-Charge shall be submitted by the Contractor along with the soft copy. The shop drawings, shall be prepared as per schedule given in PERT Chart.

Technical submittals of manufacturer's catalogues and technical data shall be submitted for approval. The Contractor shall designate an Engineer responsible for issue and preparation of shop drawings and control of GFC drawings.

8.2.4 As built drawings

i. The Contractor shall make available four (04) sets of completed Building Drawings, "As Built Drawings" along with literatures, manuals, warranty certificates etc. of various installed fittings, fixtures and equipment for the completed projects. This shall be the prerequisite for payment of final bill.

ii. The Contractor shall make available three (03) sets of all services drawings including Electrical & HVAC work internal and external services i.e. Water Supply, Sanitary line and Drainage lines. This shall be the prerequisite for payment of final bill. These drawings shall have the following information:
    a. Run off for all piping and their diameters including soil, waste pipes and vertical stacks.
    b. Ground and invert level of all drainage pipes together with locations of all manholes and connections, up to outfall.
    c. Run off for all water supply lines with diameters location of control valves, access panels etc.

8.3 Testing and Commissioning

- The Contractor shall arrange electricity at his own cost for testing of the various

electrical and mechanical installations as directed by Engineer-in-Charge and for the consumption by the Contractor for executing the work. Also all the water required for testing various electrical installations, fire pumps, firefighting/ firefighting equipment, fire sprinklers. and testing water supply, sanitary and drainage lines, water proofing of underground sump, overhead tanks, water proofing treatment etc. shall be arranged by the Contractor at his own cost. Nothing extra shall be payable on this account.

- Testing of equipment shall be carried out as per technical Specifications, manufacturer's recommendation and latest standards available up to date. The testing report shall be submitted along with Operation and Maintenance manual of the equipment at the time of handover.
- Contactor to provide training for operation and maintenance of equipment through respective manufacturer for the routine and preventative maintenance of equipment post Defect Liability Period.
- The Contractor shall demonstrate trouble free functioning of all the Civil and E&M installation sand services. The Engineer-in-Charge or his authorized representatives shall carry out final inspection of the various Civil and E & M services and installations. Any defect(s) noticed during demonstration shall be rectified by the Contractor at his own cost to the entire satisfaction of the Engineer-in-Charge. Nothing extra shall be payable on this account.

Enclosure-I
Desired Site Organization Structure

Minimum Level of Execution Team and Qualification/Experience of Key Staff to be deployed by the Contractor during execution of relevant works/fields is as follows:

SN.	Designation	Qualification	Minimum Experience	Minimum No. Required	Rate at which recovery shall be made from the contractor in the event of not fulfilling
A	**Principal Technical Manpower Deployment during Execution of Work**				
1	Project Head/ Project Manager	Graduate Engineer (Civil)	15 years	1	Rs. 60,000/- per month (Experience of Steel structure is mandatory)
2	Prefab Expert	Graduate Engineer (Civil)	10 years	1	Rs.50,000/- per month (05 years' Experience of Steel structure is mandatory)
3	Project Engineer (Civil)	Graduate Engineer (Civil)	10 years	1	Rs. 35,000/- per month
4	Project Engineer (Electrical)	Graduate Engineer (Electrical)	8 years	1	Rs. 30,000/- per month
5	Quality Engineer	Graduate Engineer/ Diploma	5 years/ 10 years	1	Rs. 25,000/- per month
6	Surveyor	Diploma (Civil/ Survey)	5 years	1	Rs. 25,000/- per month
B	**Manpower Deployment during Defect Liability Period**				
1	Technical Supervisor	Diploma Engineer	5 years	1	Rs. 25,000/- per month
2	Mason	Skilled		1	Rs. 15,000/- per month
3	Electrician	Skilled		1	Rs. 15,000/- per month
4	Plumber	Skilled		1	Rs. 15,000/- per month

The contractor must submit the CVs of above mandatory staff for approval of WAPCOS. Only upon the approval the staff shall be deployed at site by contractor.

Recoveries shall be made on account of non-deployment as per direction of Engineer in Charge.

Enclosure-II
Deployment of Minimum no. of Plant and Machinery by the Contractor

Whereas it is entirely the responsibility of the contractor to deploy sufficient plant and modern mechanical equipment to ensure compliance with the Contract, the following list is an indicative list of the minimum plant and machinery.

SN.	List of Plants and Machineries	Minimum nos. required
1	Batch Mix Concrete Plant with the provision of SCADA of adequate capacity (18 Cubic meters per hour and above) at each site	1 no.
2	Field testing equipment	1 set or more as per site requirement
3	Rock Drilling Equipment	10 no. or more as per site requirement
4	Latest model of Theodolite + Levelling	1 no.
5	Total Station	1 no.
6	Truck & tipper	1 no. or more as per site requirement
7	Transit Mixer (at least 6 cubic metre capacity)	1 no. or more as per site requirement
8	Vibrator equipment (electrical & fuel type)	4 no. or more as per site requirement
9	Concrete pump of capacity at least 15 cubic metre per hour	1 no.
10	Mechanical excavator (Crawler mounted)	1 no.
11	Loader with Backhoe (tyre mounted)	1 no.
12	Minimum Steel staging & shuttering material	As per site requirement and to complete the work within schedule time period
13	Water Pumps	1 no. or more as per site requirement.
14	Compaction Roller	1 no.

Note: The Bidder shall deploy additional plant & machinery as deemed fit and required to complete the project within stipulated completion period, without any additional cost to the Employer.

Enclosure-III
Equipment for Testing of Materials & Concrete at Site Laboratory

All necessary equipment for conducting necessary tests shall be provided at the site laboratory by the Bidder at his own cost as per following details.

SN	Equipment	Quantity
A	**Mandatory Equipment**	
1	Automatic Cube testing machine	1 No.
2	Slump Cone	2 Nos.
3	Weighing scale platform type 100 kg capacity	1 No.
4	Sets of sieves for coarse aggregate (40,20,10,4.75mm)	1 Nos.
5	Sets of sieves for fine aggregate [4.75; 2.36, 18; 600; 300 & 150 micron	1 Nos.
6	Cube moulds size 150mm x 150mm x 150mm	30 Nos.
7	Core cutter for soil compaction with accessories	1 No.
8	Rebound hammer test Digital rebound hammer	1 No.
9	Digital pH meter least count 0.1pH	1 No.
10	Graduated glass cylinder	2 No.
11	Water testing Kit	1 No.
12	TDS meter	2 No.
13	Hot Air Oven Temp. Range 50°C to 300°C	1 No.
14	Measuring Jars 100ml, 200ml, 500ml	1 set of each size
15	Moisture content rapid moisture meter standard	1 No.
16	Poker Thermometer (Concrete Road) 0°C to 100°C	1 No.
17	Vernier calipers 12" and 6" sizes	1 No. each
18	Electronic balance 600g x 0.01g. 10kg and 50kg	1 No.
19	Aggregate impact value testing machine with blow counter	1 No.
20	Separate Cube Tank for 7 days cube testing	1 No.
21	Separate Cube Tank for 28 days cube testing	1 No.
B	**Other Equipment as and when required**	
1	Tensile Briquette testing machine	
2	Vicats apparatus with Desk Pot	
3	Megger & earth resistance tester	
4	Pumps and pressure gauges for hydraulic testing of pipes	
5	Physical balance weight up to 5kg	
6	Digital thermometer up to 1500°C	
7	Gauging trowels 100mm & 200mm with wooden	
8	Spatula 100mm & 200mm with long blade wooden handle	
9	Crushing value apparatus	
10	Screw gauge 0.1mm – 10mm, least count 0.05 mm	
11	GI tray 600x450x50mm, 450x300x40mm, 300x250x40mm	
12	Digital Micrometer least count 0.01mm	
13	Digital paint thickness meter for steel 500-micron range	
14	Electric Mortar mixer 0.25 Cum capacity	
15	Thickness gauge for measuring flakiness index	
16	Elongation gauge	
17	Measuring Cylinder 3,5,10 & 15 litre Cylinder	
18	Pycnometer	
19	Pulse velocity Test	
20	Bar Relocator	
21	Other Equipment as required for the work and as required by	

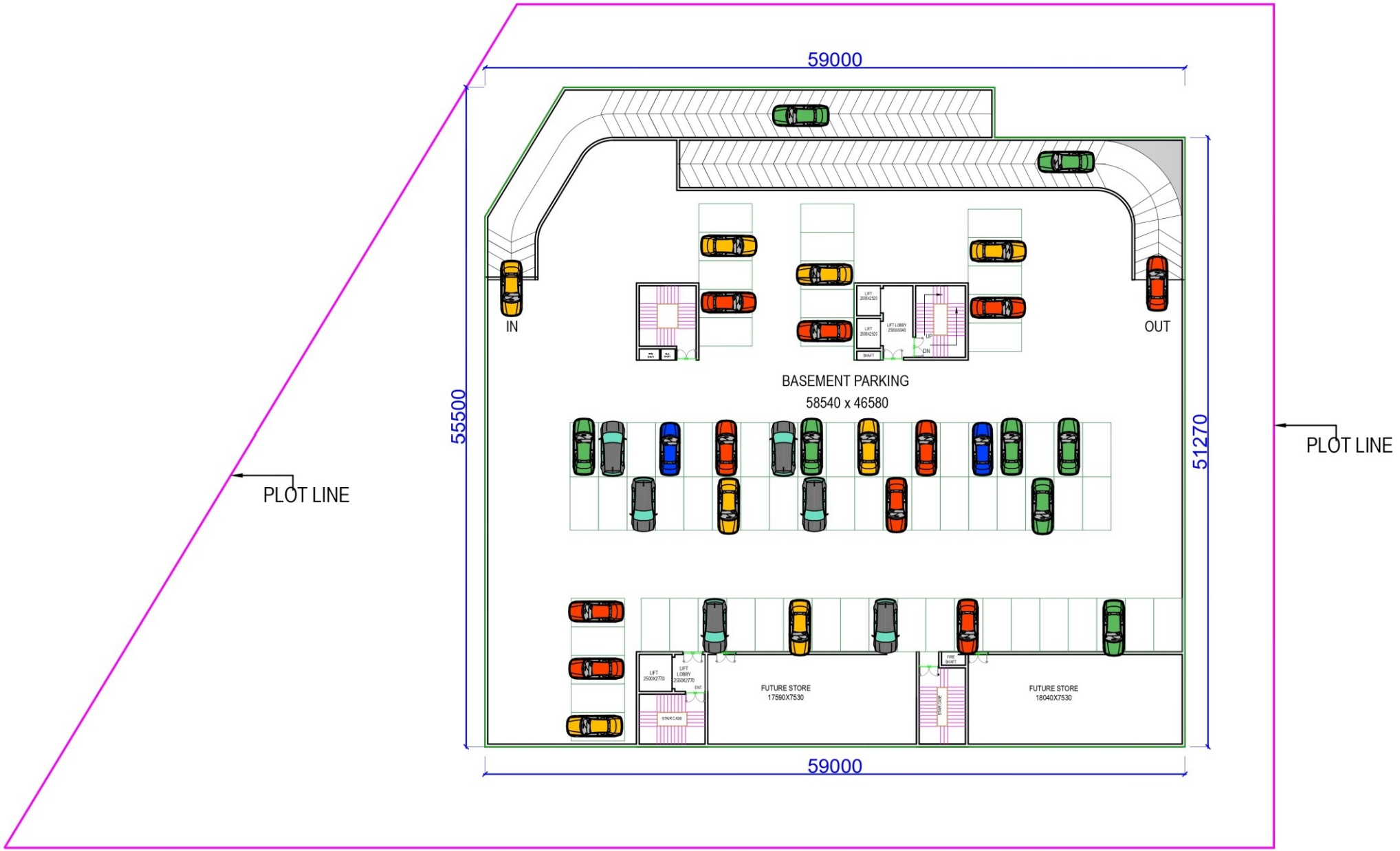
SN	Equipment	Quantity
	the Inspection Team	

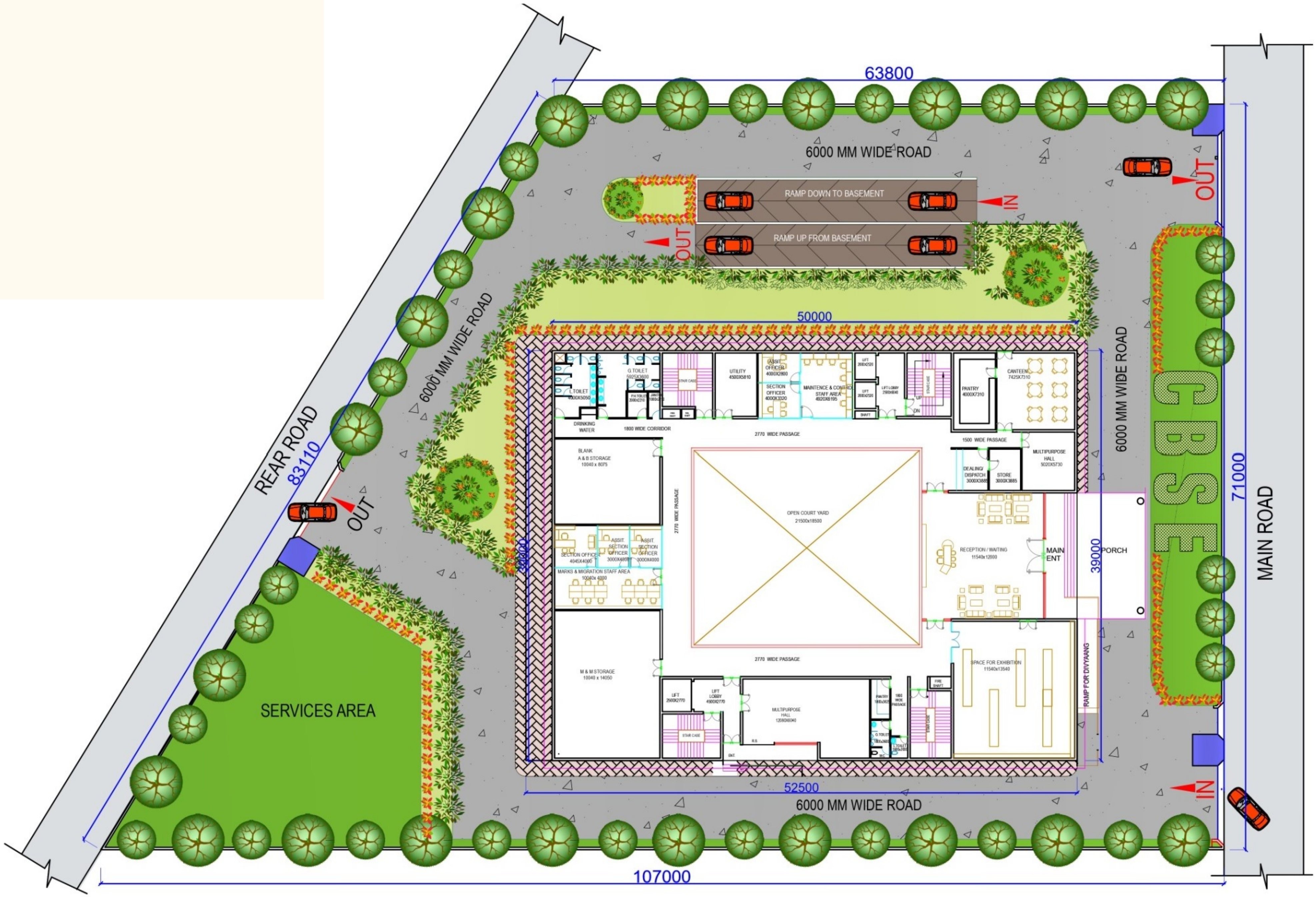
NOTE: Any other equipment for laboratory tests at site will be the way it is outlined in relevant IS Codes and / or as directed by the Employer's Representative. Quality Control Engineer shall monitor collection of Sample and conducting regular testing at site maintaining propriety and the very best standard followed in industry of construction. All relevant IS Codes, special publications as per latest amendment/edition shall be referred.

SECTION – VIII

TENDER DRAWINGS

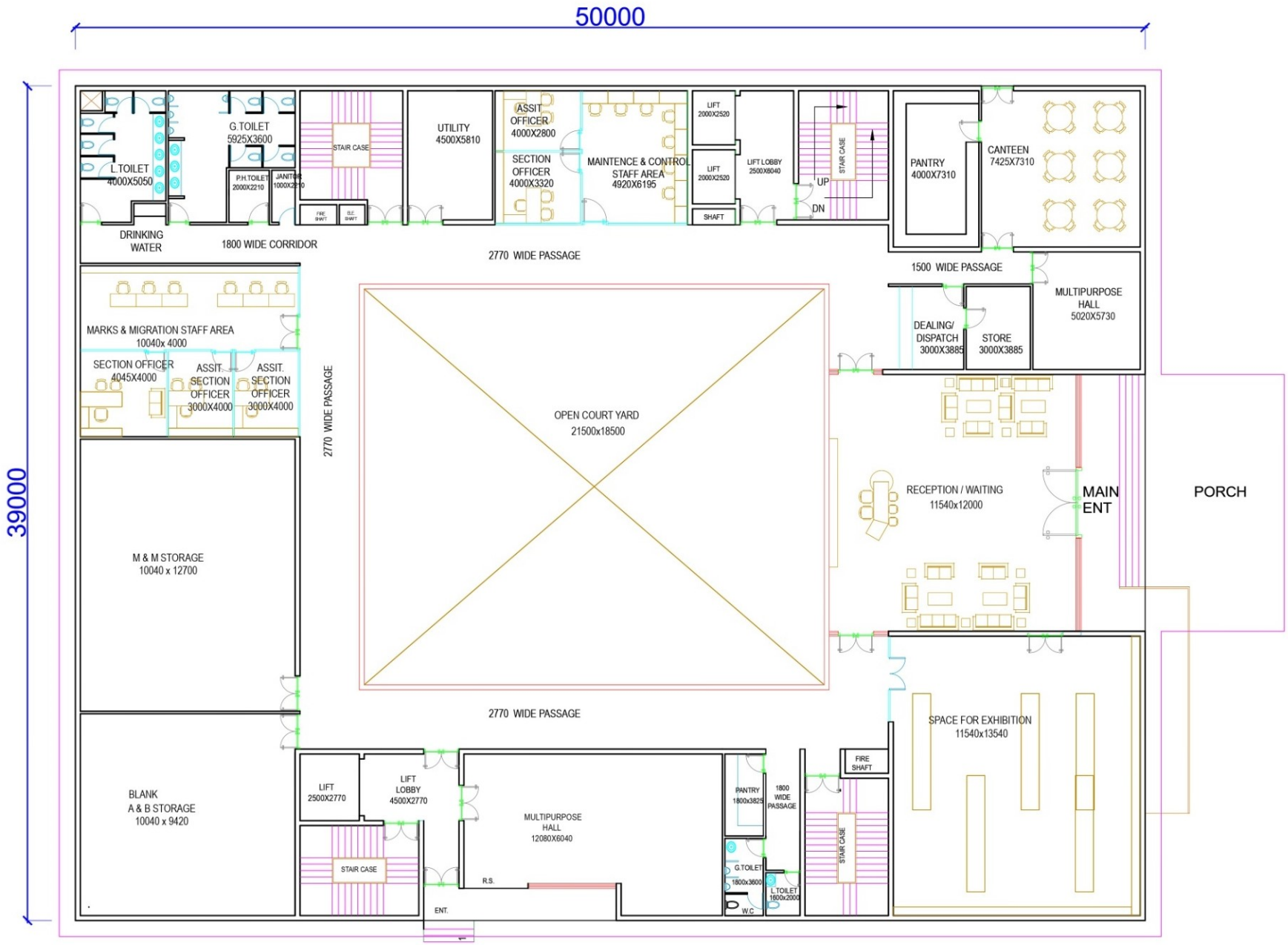
BASEMENT FLOOR PLAN



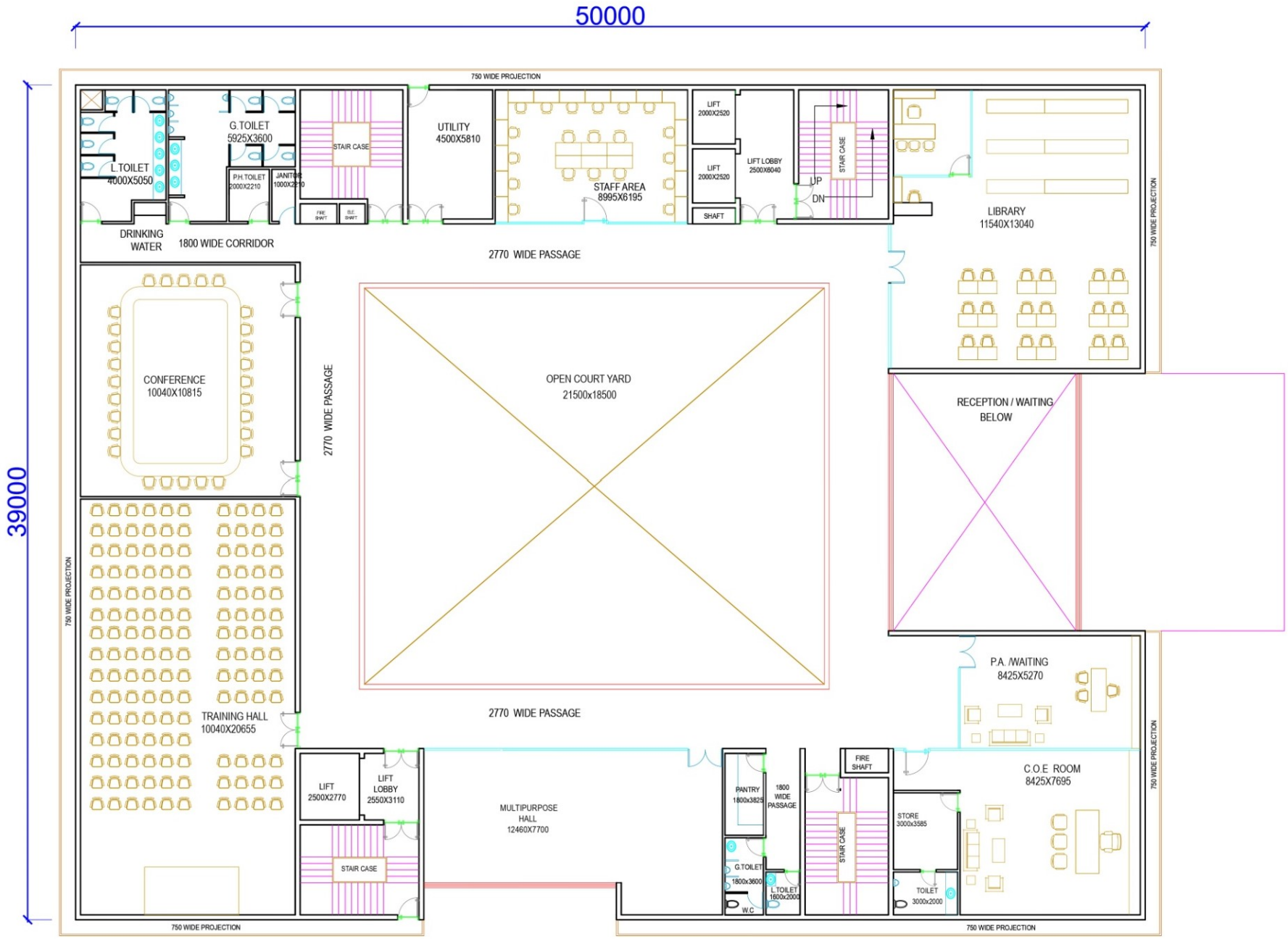


63800
6000 MM WIDE ROAD
RAMP DOWN TO BASEMENT
RAMP UP FROM BASEMENT
IN
OUT
OUT
OUT
50000
REAR ROAD
83110
6000 MM WIDE ROAD
6000 MM WIDE ROAD
CBSE
71000
MAIN ROAD
39000
PORCH
MAIN ENT
RECEPTION / WAITING
OPEN COURT YARD
SPACE FOR EXHIBITION
RAMP FOR DIVYAANG
2770 WIDE PASSAGE
2770 WIDE PASSAGE
CANTEEN
PANTRY
MULTIPURPOSE HALL
M & M STORAGE
SERVICES AREA
52500
IN
6000 MM WIDE ROAD
107000

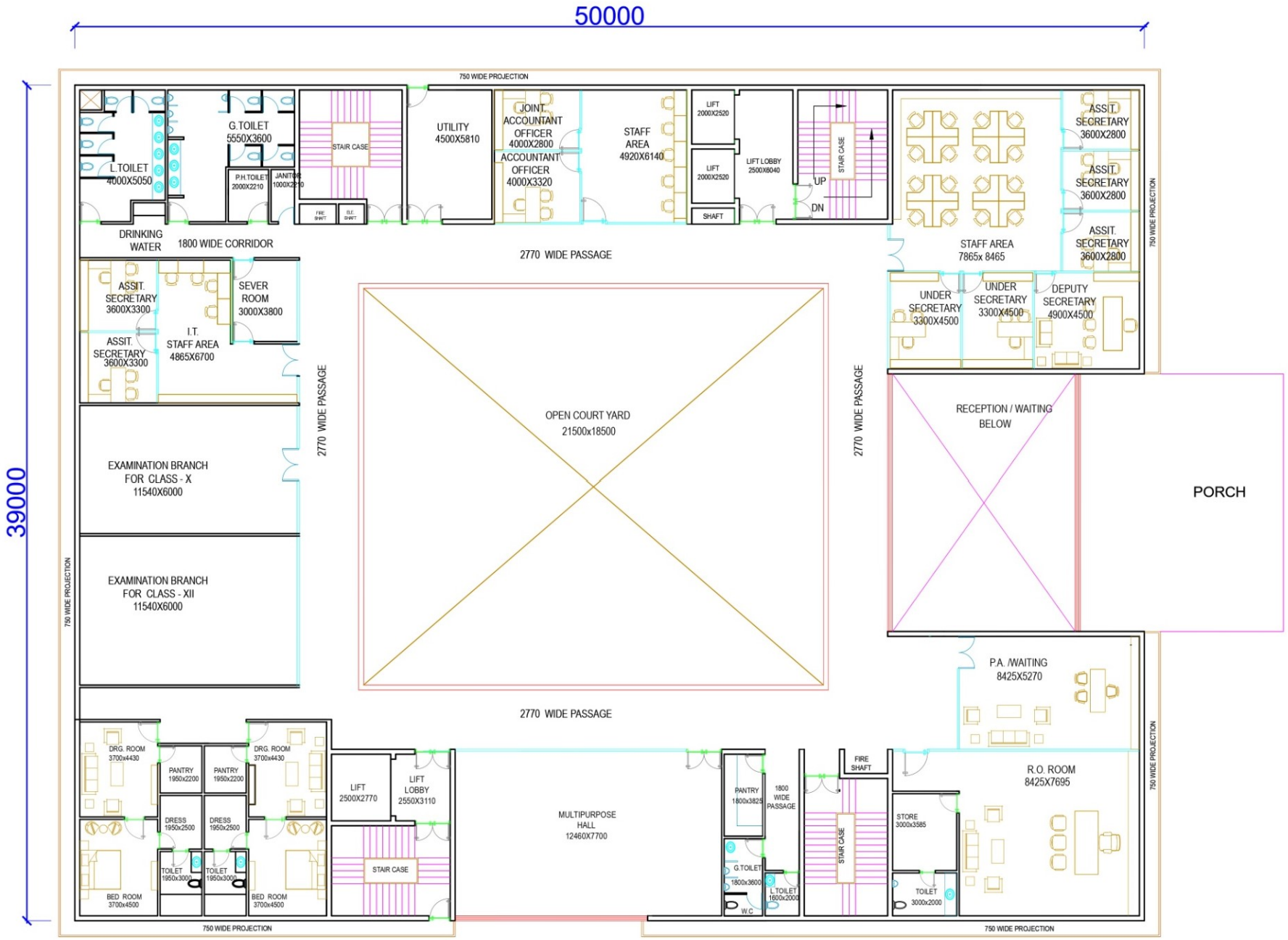
GROUND FLOOR PLAN



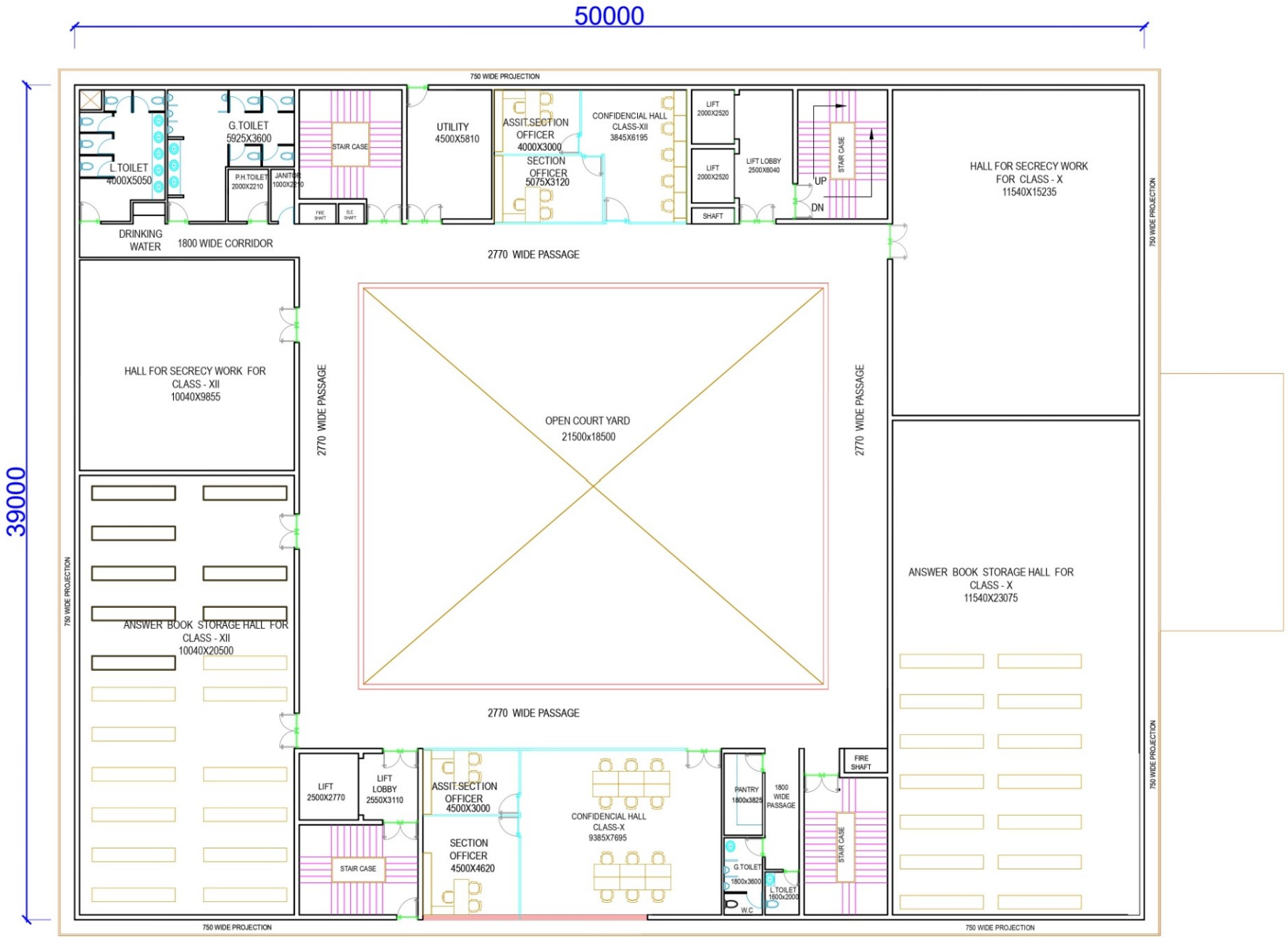
FIRST FLOOR PLAN



SECOND FLOOR PLAN



THIRD FLOOR PLAN



SECTION – IX

FINANCIAL PROPOSAL

SUMMARY OF COST

Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)

S.No	Particulars	Total Quoted Amount in Figure (Rs.)
1.	Construction of CBSE Regional office and Center of Excellence Steel Structure Framed Building at Sector 33, Noida (UP)	DO NOT FILLL HERE
	Grand Total	DO NOT FILLL HERE
	Total Quoted Amount in Words: DO NOT FILLL HERE	

***NOTE:**

- **The quoted cost filled in Schedule of Quantity, by bidders, should include all associated costs with the project, all activities mentioned in scope of works including any out of pocket / mobilization expenses/ Custom duty (if any), Building and Other Construction Workers Welfare Cess, TDS, etc. (except Goods and Services Tax (GST) if any applicable as per Govt. terms, shall be paid by the Contractor. The Goods and Services Tax (GST) shall be paid extra over quoted cost as per prevailing Govt. of India norms.**

- **It is mandatory to bidders to deposit GST within time limit framed by Govt. of India, if applicable. The Goods and Services Tax (GST) shall be reimbursed to the Agency on submission of proof of Deposition of GST.**

- **The company shall be performing all its duties of deduction TDS and other deduction on payment made to the contractor as per applicable legislation in force on the date of submission of bid or to be newly / amended introduced during the execution of the Contract.**

- **The tenderer shall quote rates up to Two decimal and as well as in words. In case of any discrepancy rate quoted in words shall prevail.**

Detailed Bill of Quantities

ABSTRACT OF COST FOR CONSTRUCTION OF CBSE STEEL STRUCTURE FRAMED BUILDING AT SECTOR 33 NOIDA		
S. No.	**DESCRIPTION**	**AMOUNT (in Rs.)**
1	CIVIL WORKS (MAIN BUILDING & GUARD ROOM 03 NOS)	-
2	PLUMBING WORKS	-
3	HVAC WORKS	-
4	FIRE FIGHTING WORKS	-
5	ELECTRICAL WORKS	-
6	EXTERNAL DEVELOPMENT WORKS	-
7	FURNITURE	-
	Total	**-**

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
		EARTH WORK				
1.0	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.				
	2.6.1	All kinds of soil	cum	24443.07		-
2.0	2.10	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth upto 1.5 m, including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth, including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m :				
	2.10.1	All Kinds of soil				
2.1	2.10.1.1	Pipes, cables etc, not exceeding 80 mm dia.	metre	120.00		-
2.2	2.10.1.2	Pipes, cables etc. exceeding 80 mm dia. but not exceeding 300 mm dia	metre	360.00		-
3.0	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	cum	4797.60		-
4.0	2.26	Extra for every additional lift of 1.5 m or part thereof in excavation / banking excavated or stacked materials.				
	2.26.1	All kinds of soil (From 1.50 to 3.00 mtr)	cum	5808.00		-
		From 3.00 to 4.50 mtr	cum	5808.00		-
		From 4.50 to 6.00 mtr	cum	5808.00		-
		For Lift 6.00 mtr to7.5 mtr (for lift pit & sump area)	cum	165.00		-
5.0	2.27	Supplying and filling in plinth with local sand under floors, including watering, ramming, consolidating and dressing complete.	cum	317.00		-
6.0	2.31	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth up to 30 cm measured at a height of 1 m above ground level and removal of rubbish up to a distance of 50 m outside the periphery of the area cleared.	sqm	6000.00		-
7.0	2.32	Clearing grass and removal of the rubbish up to a distance of 50 m outside the periphery of the area cleared.	sqm	6000.00		-
8.0	2.34	Supplying chemical emulsion in sealed containers including delivery as specified.				
		Chlorpyriphos/ Lindane emulsifiable concentrate of 20%	litre	621.00		-
9.0	2.35	Diluting and injecting chemical emulsion for POSTCONSTRUCTIONAL anti-termite treatment (excluding the cost of chemical emulsion) :				
	2.35.1	Along external wall where the apron is not provided using chemical emulsion @ 7.5 litres / sqm of the vertical surface of the substructure to a depth of 300 mm including excavation channel along the wall & rodding etc. complete:				
	2.35.1.1	With Chlorpyriphos/ Lindane E.C. 20% with 1% concentration	metre	220.00		-
10.0	2.35.3	Treatment of soil under existing floors using chemical emulsion @ one litre per hole, 300 mm apart including drilling 12 mm diameter holes and plugging with cement mortar 1 :2 (1 cement : 2 Coarse sand) to match the existing floor :				
	2.35.3.1	With Chlorpyriphos/Lindane E.C. 20% with 1% concentration	sqm	3197.00		-
		CONCRETE WORK				
11.0	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shttering - All work up to plinth level				
11.1	4.1.5	1:3:6 (1 Cement : 3 coarse sand (zone-III) : 6 graded stone aggregate 20 mm nominal size).	cum	550.85		-
11.2	4.1.8	1:4:8 (1 Cement : 4 coarse sand (zone-III) : 8 graded stone aggregate 40 mm nominal size)	cum	378.15		-
12.0	4.5	Providing and fixing up to floor five level precast cement concrete string or lacing courses, copings, bed plates, anchor blocks, plain window sills, shelves, louvers, steps, stair cases, etc., including hoisting and setting in position with cement mortar 1:3 (1 Cement : 3 coarse sand),cost of required centering complete.				
	4.5.1	1:1.5:3 (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size)	cum	3.00		-
13.0	4.11	Providing and laying damp-proof course 50 mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size).	sqm	12.80		-
14.0	4.12	Extra for providing and mixing water proofing material in cement concrete work @ 1 kg per 50kg of cement.	per 50kg cement	4.13		-

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
15.0	4.13	Providing & applying a coat of residual petroleum bitumen of grade of VG-10 of approved quality using 1.7kg per square metre on damp proof course after cleaning the surface with brushes and finally with a piece of cloth lightly soaked in kerosene oil.	sqm.	14.00		-
16.0	4.17	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) over 75mm thick bed of dry brick ballast 40 mm nominal size, well rammed and consolidated and grouted with fine sand, including necessary excavation, levelling & dressing & finishing the top smooth.	sqm	211.00		-
		REINFORCED CEMENT CONCRETE				
17.0	5.9	Centering & shuttering including strutting, propping etc. and removal of form work for:				
17.1	5.9.1	Foundations, footings, bases of columns, etc. for mass concrete	sqm	189.90		-
17.2	5.9.2	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	sqm	3240.80		-
17.3	5.9.3	Suspended floors, roofs, landings, balconies and access platform.	sqm	230.00		-
17.4	5.9.5	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	sqm	681.00		-
17.5	5.9.6	Columns, Pillars, Piers, Abutments, Posts and Struts	sqm	450.00		-
17.6	5.9.7	Stairs, (excluding landings) except spiral-staircases	sqm	304.00		-
17.7	5.9.16	Edges of slabs and breaks in floors and walls				
	5.9.16.1	Under 20 cm wide	metre	1138.00		-
18.0	5.11	Extra for additional height in centering, shuttering where ever required with adequate bracing, propping etc., including cost of de-shuttering and decentering at all levels, over a height of 3.5 m, for every additional height of 1 metre or part thereof (Plan area to be measured).				
	5.11.1	Suspended floors, roofs, landing, beams and balconies (Plan area to be measured)	sqm	200.00		-

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
19.0	5.18	Providing precast cement concrete Jali 1:2:4 (1 cement : 2 coarse sand(zone-III) : 4 graded stone aggregate 6mm nominal size), reinforced with 1.6 mm dia mild steel wire, including centering and shuttering, roughening cleaning, fixing and finishing in cement mortar 1:3 (1 cement: 3 fine sand) etc. complete, excluding plastering of the jambs, sills and soffits				
	5.18.2	40 mm thick	sqm	20.00		-
20.0	5.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level.				
	5.22.6	Thermo-Mechanically Treated bars of grade Fe-500D or more.	kg	305174.25		-
21.0	5.22A	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.				
	5.22A.6	Thermo-Mechanically Treated bars of grade Fe-500D or more.	kg	60168.40		-
22.0	5.30	Add for plaster drip course/ groove in plastered surface or moulding to R.C.C. projections.	metre	527.15		-
		Design Mix				
23.0	5.33	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.				
	5.33.1	**All works upto plinth level**				
23.1	5.33.1.1	Concrete of M25 grade with minimum cement content of 330 kg /cum	cum	3004.02		-
23.2	5.33.1.2	Concrete of M30 grade with minimum cement content of 350 kg /cum	cum	10.00		-
	5.33.2	**All works above plinth level upto floor V level**				
23.3	5.33.2.1	Concrete of M25 grade with minimum cement content of 330 kg /cum	cum	1151.96		-
23.4	5.33.2.2	Concrete of M30 grade with minimum cement content of 350 kg /cum	cum	18.00		-
24.0	5.35	Add for using extra cement in the items of design mix over and above the specified cement content therein.	quintal	27.00		-
		BRICK WORK				
25.0	6.1	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:				
25.1	6.1.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	cum	20.00		-
25.2	6.1.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	3.00		-
26.0	6.4	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :				
	6.4.1	Cement mortar 1:4 (1 cement : 4 coarse sand)	cum	759.90		-
27.0	6.13	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level.				
	6.13.2	Cement mortar 1:4 (1 cement :4 coarse sand)	sqm	792.52		-
28.0	6.15	Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	sqm	792.52		-
29.0	6.26	Brick work with common burnt clay selected F.P.S. (non modular) bricks of class designation 7.5 in exposed brick work including making horizontal and vertical grooves 10 mm wide 12 mm deep complete in cement mortar 1:6 (1 cement : 6 coarse sand)				
	6.26.2	Above plinth level upto floor V level	cum	153.53		-
30.0	6.32	Brick work with clay flyash F.P.S. (non modular) brick of class designation 7.5 in superstructure above plinth level up to floor five level in :				
	6.32.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	Cum	21.00		-
31.0	6.38	Providing and laying autoclaved aerated cement blocks masonry with 100 mm thick AAC blocks in super structure above plinth level up to floor V level in cement mortar 1:4 (1 cement : 4 coarse sand). The rate includes providing and placing in position 2 Nos 6 mm dia M.S. bars at every third course of masonry work.	cum	154.44		-

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
32.0	6.47	Providing and laying autoclaved aerated cement blocks masonry with 150mm/230mm/300 mm thick AAC blocks in super structure above plinth level up to floor V level with RCC band at sill level and lintel level with approved block laying polymer modified adhesive mortar all complete as per direction of Engineer-in-Charge. (The payment of RCC band and reinforcement shall be made for seperately).	cum	281.75		-
		EXPOSED BRICK WALL (elevation box)				
33.0	N.S	Toilet Partition				
		BESCO CUBICLE TITAN SS 2100MM				
		Thickness of Compact Laminate : 12mm Color of HPL Boards : Single Standards Compact color Special Remarks for Customization : Size of Cubicle : As per Drawing (W) X 2100mm (H) Door Size : 1925mm (H) X 600mm (W) Divider Size : 1945mm (H) Over all Height of Cubicle : 2100mm (Including bottom Gap of 100mm) Accessories : Standards - Merino Make Stainless Steel - 304 Grade accessories a) SS "U" Channel b) SS "F" Channel (Only Corner Unit) c) SS Door Stopper Channel d) SS Top Rail e) SS Coat Hook f) SS Privacy Thumb turn c/w Occupancy Indicator g) SS Door Knob h) SS Spring Loaded Butt Hinges with Cover i) SS Adjustable Foot - 316 Grade j) Rubber Lining for Door Stopper k) SS Screws 304 G & PVC Wall Plugs Special Note – War page Criteria is 3.0 mm/1000mm for MRS panels as per EN standard - 438	sqm	215.76		-
		CLADDING WORK				
34.0	8.15	Providing and fixing stainless steel cramps of required size and shape for anchoring stone wall lining to the backing or securing adjacent stones in stone wall lining in cement mortar 1:2 (1 cement : 2 coarse sand), including making the necessary chases in stone and holes in walls wherever required.	Kg	240.00		-
35.0	8.19	Extra for stone work for wall lining on exterior walls of height more than 10 m from ground level for every additional height of 3 m or part there of.				
		Height 10 to 13 mtr	sqm	86.40		-
		Height 13 to 16 mtr	sqm	86.40		-
36.0	8.20	Providing and fixing dry cladding upto 10 metre heights with 30mm thick gang saw cut stone with (machine cut edges) of uniform colour and size upto 1mx1m, fixed to structural steel frame work and/ or with the help of cramps, pins etc. and sealing the joints with approved weather sealant as per Architectural drawing and direction of Engineer-in-charge. (The steel frame work, stainless steel cramps and pins etc. shall be paid for separately).				
36.1	8.20.1	Red sand stone - 30mm thick gang saw cut stone	sqm	230.40		-
36.2	8.20.2	White sand stone - 30mm thick gang saw cut stone	sqm	5.00		-
37.0	8.21	Providing and fixing structural steel frame (for dry cladding with 30 mm thick gang saw cut with machine cut edges sand stone) on walls at all heights using M.S. square/ rectangular tube in the required pattern as per architectural drawing, including cost of cutting, bending, welding etc. The frame work shall be fixed to the wall with the help of M.S. brackets/ lugs of angle iron/ flats etc. which shall be welded to the frame and embedded in brick wall with cement concrete block 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20 mm nominal size) of size 300x230x300 mm, including cost of necessary centring and shuttering and with approved expansion hold fasteners on CC/RCC surface, including drilling necessary holes. Approved cramps/ pins etc. shall be welded to the frame work to support stone cladding, the steel work will be given a priming coat of Zinc primer as approved by Engineerin- charge and painted with two or more coats of epoxy paint (Shop drawings shall be submitted by the contractor to the Engineer-in-charge for approval before execution). The frame work shall be fixed in true horizontal & vertical lines/planes. (Only structural steel frame work shall be measured for the purpose of payment, stainless steel cramps shall be paid for separately and nothing extra shall be paid).	Kg	6467.00		-

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	DSR-2023	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
38.0	8.22	Providing and fixing adjustable stainless steel cramps of approved quality, required shape and size, adjustable with stainless steel nuts, bolts and washer (total weight not less than 260 gms), for dry stone cladding fixed on frame work at suitable location, including making necessary recesses in stone slab, drilling required holes etc complete as per direction of the Engineer-in-charge.	each	800.00		-
39.0	7.32	Stone work, plain in copings, cornices, string courses and plinth courses, upto 75 mm thick in Cement mortar 1:6 (1 cement : 6 coarse sand), including pointing with white cement mortar 1:2 (1 white cement : 2 stone dust) with an admixture of pigment matching the stone shade.				
	7.32.1	Red Sand Stone	cum	2.00		-
40.0	7.33	Providing and fixing **stone jali 40 mm thic**k throughout in cement mortar 1:3 (1 cement : 3 coarse sand), including pointing in white cement mortar 1:2 (1 white cement : 2 stone dust) with an admixture of pigment, matching the stone shade, jali slab without any chamfers etc.				
	7.33.1	Red sand stone	sqm	10.00		-
41.0	NSI	Providing wet cleaning of stone cladding with High Pressure Jet with minimum 120 bar pressure to wipe out foreign particles on the surface and then allow the surface to dry for at-least 24 Hours .As a second step, providing and applying " Anti- Fungal Water Repellent Coating " consisting of silane siloxane of BRAND KONEX WRA 2318 on the stone cladding by spraying complete in all respect and heights over dry stone cladding.	sqm	91.40		-
		MARBLE & GRANITE WORK				
42.0	8.2	Providing and fixing 18 mm thick gang saw cut, mirror polished, premoulded and prepolished, machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size, approved shade, colour and texture laid over 20 mm thick base cement mortar 1:4 (1 cement : 4 coarse sand), joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edges to give high gloss finish etc. complete at all levels.				
	8.2.2	Granite of any colour and shade				
	8.2.2.2	Area of slab over 0.50 sqm	sqm	848.80		-
43.0	8.4	Extra for fixing marble /granite stone, over and above corresponding basic item, in facia and drops of width upto 150 mm with epoxy resin based adhesive, including cleaning etc. complete.	metre	329.74		-
44.0	8.5	Extra for providing opening of required size & shape for wash basin/ kitchen sink in kitchen platform, vanity counter and similar location in marble/ Granite/stone work, including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc.complete.	each	66.00		-
		WOOD WORK				
45.0	9.1	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately).				
45.1	9.1.2	Saal wood	cum	9.82		-
45.2	9.1.3	Kiln seasoned and chemically treated hollock wood	cum	0.13		-
46.0	9.12	Extra for providing frosted glass panes 4 mm thick instead of ordinary float glass panes 4 mm thick in doors, windows and clerestory window shutters. (Area of opening for glass panes excluding portion inside rebate shall be measured).	sqm	8.98		-
47.0	9.20	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.				
	9.20.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	sqm	432.24		-
48.0	9.21	Providing and fixing ISI marked flush door shutters conforming to IS : 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters:				
	9.21.1	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	sqm	57.60		-
49.0	9.22	Extra for Providing and fixing flush doors with decorative veneering instead of non decorative ISI marked flush door shutters conforming to IS: 2202 (Part I)				
	9.22.1	One Side only	sqm	57.60		-

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
50.0	9.23	Extra for providing lipping with 2nd class teak wood battens 25 mm minimum depth on all edges of flush door shutters (over all area of doorshutter to be measured).	sqm	483.84		-
51.0	9.25	Extra if louvers (not exceeding 0.2 sqm) are provided in flush door shutters (overall area of door shutters to be measured).				
	9.25.1	Decorative type door	sqm	19.20		-
52.0	9.26	Extra for cutting rebate in flush door shutters (Total area of the shutter to be measured).	sqm	483.84		-
53.0	9.40	Providing and fixing wooden moulded beading to door and window frames with iron screws, plugs and priming coat on unexposed surface etc. complete :				
	9.40.1	2nd class teak wood				
	9.40.1.2	50 x 20 mm	metre	872.80		-
54.0	9.45	Providing and fixing teak wood lipping of size 25x3 mm in pelmet.	metre	872.80		-
55.0	9.46	Providing and fixing curtain rods of 1.25 mm thick chromium plated brass plate, with two chromium plated brass brackets fixed with C.P. brass screws and wooden plugs, etc., wherever necessary complete :				
	9.46.3	25 mm dia	metre	15.00		-
56.0	9.48	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.				
	9.48.1	Fixed to steel windows by welding	K.g	60.00		-
57.0	9.62	Providing and fixing ISI marked oxidised M.S. sliding door bolts with nuts and screws etc. complete :				
	9.62.1	300x16 mm	each	3.00		-
58.0	9.63	Providing and fixing ISI marked oxidised M.S. tower bolt black finish, (Barrel type) with necessary screws etc. complete :				
58.1	9.63.4	100x10 mm	each	18.00		-
58.2	9.63.1	250x10 mm	each	6.00		-
59.0	9.66	Providing and fixing ISI marked oxidised M.S. handles conforming to IS:4992 with necessary screws etc. complete :				
59.1	9.66.1	125 mm	Each	12.00		-
60.0	9.69	Providing and fixing oxidised M.S. Safety chain with necessary fixtures for doors, (weighting not less than 450 gms)	each	6.00		-
61.0	9.83	Providing and fixing aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed onthe body, door weight upto 35 kg and door width upto 700 mm), with necessary accessories and screws etc. complete.	each	120.00		-
62.0	9.101	Providing and fixing aluminium hanging floor door stopper ISI marked anodised (anodic coating not less then grade AC 10 as per IS :1868) transparent or dyed to required colour and shade with necessary screws etc. complete				
	9.101.2	Twin rubber stopper	Each	3.00		-
63.0	9.147	Providing and fixing factory made uPVC white colour casement/ casement cum fixed glazed windows comprising of uPVC multichambered frame, sash and mullion (where ever required) extruded profiles duly reinforced with 1.60 ± 0.2 mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), uPVC extruded glazing beads of appropriate dimension, EPDM gasket, stainless steel (SS 304 grade) friction hinges, zinc alloy (white powder coated) casement handles, G.I fasteners 100 x 8 mm size for fixing frame to finished wall, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame & sash shall				
		be mitred cut and fusion welded at all corners, mullion (if required) shall be also fusion welded including drilling of holes for fixing hardware's and drainage of water etc. After fixing frame the gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes and silicon sealant shall be paid separately) **Note**: For uPVC frame, sash and mullion extruded profiles minus 5% tolerance in dimension i.e. in depth & width of profile shall be acceptable				
63.1	9.147A.1	Casement window single panel with S.S. friction hinges (300 x 19 x 1.9 mm), made of (small series) frame 47 x 50 mm & sash 47 x 68 mm both having wall thickness of 1.9 ± 0.2 mm and single glass pane glazing bead of appropriate dimension. (Area of window upto 0.75 sqm.)	sqm	14.40		-
63.2	9.147A.2	Casement window double panels with S.S. friction hinges (300 x 19 x 1.9 mm) made of (small series) frame 47 x 50 mm, sash 47 x 68 mm & mullion 47 x 68 mm all having wall thickness of 1.9 ± 0.2 mm and single glazing bead of appropriate dimension. (Area of window above 0.75 sqm upto 1.50 sqm).	sqm	6.00		-
63.3	9.147A.3	Casement window double panels with top fixed with S.S. friction hinges (350 x 19 x 1.9 mm) made of (small series) frame 47 x 50 mm, sash 47 x 68 mm & mullion 47 x 68 mm all having wall thickness of 1.9 ± 0.2 mm and single glazing bead of appropriate dimension. (Area of window upto 2.50 sqm).	sqm	10.00		-

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	DSR-2023	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
64.0	9.161	Providing and fixing fire resistant door frame of section 50 x 60 mm on horizontal side & 35 x 60 mm on vertical sides having built in rebate made out of 1.6 mm thick GI sheet (Zinc coating not less than 120gm/m²) suitable for mounting 120 min Fire Rated Glazed Door Shutters. The frame shall be filled with Mineral wool Insulation having density min 96Kg/m³ . The frame will have a provision of G.I. Anchor fastners 14 nos (5 each on vertical style & 4 on horizontal style of size M10 x 80) suitable for fixing in the opening along with Factory made Template for SS Ball Bearing Hinges of Size 100x89x3mm for fixing of fire rated glazed shutter. The frame shall be finished with a approved fire resistant primer or Powder coating of not less than 30 micron in desired shade as per the directions of Engineer - in- charge . (Cost of SS ball bearing hinges is excluded).	metre	128.00		-
65.0	9.162	Providing and fixing 60 mm thick glazed fire resistant door shutters of 120 min Fire Rating confirming to IS:3614 (Part II) or EN1634- 1:1999, tested and certified as per laboratory approved by Engineer-in-charge, with suitable mounting on door frame, consisting of vertical styles, top rail & side rail 60 mm x 60 mm wide and bottom rail of 110 mm x 60 mm made out of 1.6mm thick G.I. sheet (zinc coating not less than 120gm/m²) duly filled mineral wool insulation having density min 96 kg/m³ and fixing with necessary stainless steel ball bearing hinges of size 100x89x3mm of approved make, including applying a coat of approved fire resistant primer or powder coating not less than 30 micron etc all complete as per direction of Engineer-in-charge (panelling to be paid for seperately).	sqm	79.20		-
66.0	9.164	Providing and fixing glazing in fire resistant door shutters, fixed panels & partitions etc., with G.I. beading made out of 1.6 mm thick G.I. sheet (zinc coating not less than 120 gm/m²) of size 20 x 33 mm screwed with M4 x 38 mm SS screws at distance 75 mm from the edges and 150 mm c/c , including applying a coat of approved fire resistant primer/powder coating of not less than 30 micron on G.I. beading, & special ceramic tape of 5 x 20 mm size etc complete in all respect as per direction of Engineer-in-charge. The glass shall be clear, toughened, interlayered, non-wired fire resistant having 11 mm thickness of approved brand with 120 minutes of fire resistance both integrity & radiation control (EW120) and minimum 15 min of insulation (EI15) and having a sound reduction of 37dB and LT of 86%. Glass shall be compliant to class 2(B)2 category of Impact Resistance as per EN 12600. The glass should be manufactured in UL & TUV audited Facility and including UL-EU Certification.The maximum glazing size cannot be more than 1100 mm x 2200 mm (w x h) or 2.42 sq mts in total area. The test report for the complete system (Glazed Door or Partition) will be considered valid only if it contains the stamp and signature of the authorized signatory from the glass manufacturer. (Actual glass size is to be measured at site for payments)	sqm	79.20		-
67.0	NSI	Providing & Fixing of Fabric Blinds for all windows at all heights with translucent fabric & 100% Polyster woven with .40 mm thickness & conditionally cleanable as approved by architect and complete in all respect.				
67.1	NSI	Providing & fixing of Roller Blinds (Blackout) on the windows at all heights, as approved by architect and complete in all respect. Note:- The blind is 100% Polyster with thickness of 0.45 mm	sqm	250.00		-
67.2	NSI	Providing & fixing of wooden Blinds for all windows with 35 mm to 50 mm wide with mechanism in which lifting & tilting is done by same cordian as approved by architect and complete in all respect.	sqm	60.00		-
67.3	NSI	providing & Fixing of Roman Blind for all windows with 0.40 mm thickness and one touch down system with one cord and suitable for Moist environment as approved by architect and complete in all respect.	sqm	10.00		-
67.4	NSI	Providing & Fixing ofRooler Blind Perforated Screen Fabric on the windows at all heights as approved by architect and complete in all respect.	sqm	20.00		-
		GLASS WORK				
68.0	NSI	Supply and installation of SGIPL Clipper Sleek Series for minimal frame, room dividing solutions. Single glazed demountable **glass partition** using clear toughened glass in proprietary natural anodized/black aluminum sections Clip- on / U-Section of size 30mm x 21mm with suitable gaskets for insertion with glass. It also consists of clipper two way profiles, 90 Degree L Junction and T Junction profiles suitably to be used as per room configuration designs. Glass thickness - 10mm(LSG). All Profiles are min 2.5mm thickness excluding 20 microns of Anodizing, Standards applicable • Aluminium profile made by Al Alloy 6063-T6 grade (Make : Saint Gobain, Jeb, Alloy and Dorma)	sqm	659.96		-

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
69.0	NSI	Door - 1200mm -Single Door- W1200mmx H2400mm Clipper Sleek Series System for 70x45mm Stile door. (Make : Saint Gobain, Jeb, Alloy and Dorma)	Nos	9.00		-
70.0	NSI	Door - 1000mm - Single Door- W1000mmx H2400mm Clipper Sleek Series System for 70x45mm Stile door. (Make : Saint Gobain, Jeb, Alloy and Dorma)	Nos	26.00		-
71.0	NSI	Providing & Fixing Stainless Steel Indicating Bolt & Dead Bolt, SS Plate Black Body with SS Finish Lock as approved by architect and complete in all respect.	each	10.00		-
72.0	NSI	Providing & Fixing Mortise handle in SS304 Pipe with 22mm dia & latch with SS Front & Strike Plate as approved by architect and complete in all respect.	each	16.00		-
73.0	NSI	Providing & Fixing Mortise handle in SS304 Pipe with 22mm dia & latch with SS Front & Strike Plate as approved by architect and complete in all respect.	each	4.00		-
74.0	NSI	Providing & Fixing Mortise handle in SS304 Pipe with 22mm dia & latch with SS Front & Strike Plate as approved by architect and complete in all respect.	each	8.00		-
75.0	NSI	Providing & Fixin Pull & Mortise handle in SS304 Pipe with25mm & 22mm dia respectively + lockbody with SS Front & Strike Plate, Heavy Duty Springs, Anti Corrosive Plating, Double Throw Deadbolt, Brass follower for mortise rod + 5 Pin Euro Profile Cylinders, 3 Brass Keys, EN Standard, 2 Lakh Cycle Tested as approved by architect and complete in all respect.. 10"x25mm Pull / 100 ss 50x85mm / 09 ss 60mm)	each	12.00		-
76.0	NSI	Providing & Fixin Pull & Mortise handle in SS304 Pipe with25mm & 22mm dia respectively + lockbody with SS Front & Strike Plate, Heavy Duty Springs, Anti Corrosive Plating, Double Throw Deadbolt, Brass follower for mortise rod + 5 Pin Euro Profile Cylinders, 3 Brass Keys, EN Standard, 2 Lakh Cycle Tested as approved by architect and complete in all respect. (100 ss 50x85mm / 09 ss 60mm)	each	2.00		-
77.0	NSI	Providing & Fixing Plasma pull handle in SS304, **10**" length & 22mm dia as approved by architect and complete in all respect.	each	5.00		-
78.0	NSI	Providing & Fixing Redfire pull handle in SS304, **12"** length & 22mm dia as approved by architect and complete in all respect.	each	3.00		-
79.0	NSI	Providing n& Fixing Heavy Deluxe Tower Bolt **(10")** in SS304 with Front Fixing Screws as approved by architect and complete in all respect.	each	20.00		-
80.0	NSI	Providing n& Fixing Heavy Deluxe Tower Bolt **(6")** in SS304 with Front Fixing Screws as approved by architect and complete in all respect.	each	20.00		-
		WALL PANELLING				
81.0	NSI	Providing and fixing of 12 mm thick wooden ply paneling with or without frame so as to receive a plain and even surface in exact plumb line , covered with 1mm thick laminate finished of approved shade and make as per the design and as directed by the Architect in approved style and patter	sqm	1043.10		-
		ELECTRICAL & FIRE SHAFT DOOR				

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
82.0	NSI	Providing and fixing of approved or equivalent make HMPS doors. Doors should be finished in Powder Coating with film thickness of 60 microns approx. in desired RAL Shades. The manufacturer company must be ISO 9001-2015 certified. Door frame is Single rebate profile of minimum size 100mm X 57 mm made out of 1.5 mm minimum thick galvanized steel sheet. Aco100 profile of 100x57 Frames wshall be Mitred jointed and field assembled with mitred joint. The frames is finished with Powder Coating in desired RAL Shade. Frame having provisions and necessary reinforcement for receiving appropriate hardware like lock and hinges. Frames will be provided with back plate bracket to receive anchor fasteners for installation on a finished plastered wall opening. Door leaf shall be manufactured from 0.8 mm thick galvanised steel sheet. The internal construction of the door should be rigid reinforcement pads for receiving appropriate hardware. The infill material shall be honey Comb craft paper. All Acodor steel doors shall be factory prepped for receiving appropriate hardware and provided with necessary reinforcement . Vision lite wherever applicable should be provided as per manufacturers recommendation and desired to be fixed with 'Z' clipping on system or double glazed glass .	sqm	94.50		-
		STEEL WORK				
83.0	10.2	Structural steel work riveted, bolted or welded in built up sections, trusses and framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer all compl	Kg	920900.00		-
84.0	10.25	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
84.1	10.25.1	In stringers, treads, landings etc. of stair cases, including use of chequered plate wherever required, all complete	KG	200.00		-
84.2	10.25.2	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works	Kg	36954.00		-
85.0	10.28	Providing and fixing stainless steel (Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-incharge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.).	Kg	3750.00		-
86.0	10.11	Providing and fixing factory made ISI marked steel glazed doors, windows				
	10.11.1	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block	Kg	66.00		-
87.0	10.12	Extra for providing and fixing steel beading of size 10 x 10 x 1.6 mm (box	metre	24.00		-
88.0	10.13	Providing and fixing T-iron frames for doors, windows and ventilators of				
	10.13.1	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block	k.g	33.00		-
89.0	10.27	Providing and fixing carbon steel galvanised (minimum coating 5 micron)				
	10.27.4	10 x 140 mm	each	30.00		-
90.0	10.30.1	Providing & fixing glass panes with putty and glazing clips in steel doors,	sqm	3.60		-
91.0	N.S.	Supply and installation of 0.8mm thick Galvanized metal decking sheet as per IS 277	sqm	10252.00		-
		FLOORING				
92.0	11.56	Providing and laying Polished Granite stone flooring in required design and patterns, in linear as well as curvilinear portions of the building, all complete as per the architectural drawings, with 18 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand), laid and jointed with cement slurry and pointing with white cement slurry admixed with pigment of matching shade, including rubbing, curing and polishing etc. all complete as specified and as directed by the Engineer-in-Charge.				
	11.56.2	Polished Granite stone slab of all colour and texture except Black, Cherry/Ruby Red	sqm	2010.68		-
93.0	11.31	Extra for pre finished nosing in treads of steps of Kota stone/ local stone slab.	metre	922.00		-
94.0	11.32	Extra for Kota stone/ sand stone in treads of steps and risers using single length up to 1.05 metre	sqm`	50.00		-

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
95.0	8.31	Providing and fixing Ist quality ceramic glazed **wall tiles** conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	sqm	1117.58		-
96.0	11.41A	Providing and laying Vitrifie**d tiles in floor** in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.				
	11.41A.2	**Glazed vitrified floor tiles polished finish of size**				
96.1	11.41A.2.4	Size of Tile 800 x 1200 mm	sqm	50.00		-
96.2	11.41A.2.5	Size of Tile 1200 x 1200 mm	sqm	50.00		-
97.0	11.41A	Providing and laying Vitrified tiles in floor in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS:15622, of approved brand & manufacturer, in all colours and shade, laid on 20 mm thick cement mortar 1:4 (1 cement: 4 coarse sand) jointing with grey cement slurry @3.3 kg/sqm including grouting the joints with white cement and matching pigments etc. The tiles must be cut with the zero chipping diamond cutter only . Laying of tiles will be done with the notch trowel, plier, wedge, clips of required thickness, leveling system and rubber mallet for placing the tiles gently and easily.				
	11.41A.3	Glazed Vitrified tiles Matt/Antiskid finish of size				
97.1	11.41A.3.1	Size of Tile 600 x 600 mm	sqm	309.95		-
98.0	11.41	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS: 15622, of approved make, in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand), jointing with grey cement slurry @ 3.3 kg/ sqm including grouting the joints with white cement and matching pigments etc., complete.				
98.1	11.41.3	Size of Tile 800x800 mm	sqm	4883.38		-
98.2	11.41.4	Size of Tile 1000 x 1000 mm	sqm	100.00		-
99.0	11.46	Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in **skirting, riser of steps**, over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including grouting the joint with white cement & matching pigments etc. complete.				
99.1	11.46.2	Size of Tile 600x600 mm	sqm	50.00		-
99.2	11.46.3	Size of Tile 800x800 mm	sqm	450.00		-
99.3	11.46.4	Size of Tile 1000x1000 mm	sqm	50.00		-
100.0	11.26	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab, including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :				
	11.26.1	25 mm thick	sqm	108.00		-
101.0	11.27	Kota stone slabs 20 mm thick in risers of steps, skirting, dado and pillars laid on 12 mm (average) thick cement mortar 1:3 (1 cement: 3 coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the slabs, including rubbing and polishing complete.	sqm	8.40		-
102.0	11.4	52 mm thick cement concrete flooring with concrete hardener topping, under layer 40 mm thick cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) and top layer 12 mm thick cement hardener consisting of mix 1:2 (1 cement hardener mix : 2 graded stone aggregate 6 mm nominal size) by volume, hardening compound mixed @ 2 litre per 50 kg of cement or as per manufacturer's specifications. This includes cost of cement slurry, but excluding the cost of nosing of steps etc. complete.	sqm	176.70		-
103.0	11.6	Cement plaster skirting up to 30 cm height, with cement mortar 1:3 (1 cement : 3 coarse sand), finished with a floating coat of neat cement.				

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
	11.6.1	18 mm thick	sqm	9.60		-
104.0	11.28	40 mm thick fine dressed stone flooring over 20 mm (average) thick base of cement mortar 1:5 (1 cement : 5 coarse sand) with joints finished flush.				
	11.28.1	Red sand stone	sqm	397.75		-
105.0	11.3	Cement concrete flooring 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate) finished with a floating coat of neat cement, including cement slurry, but excluding the cost of nosing of steps etc. complete.				
	11.3.1	40 mm thick with 20 mm nominal size stone aggregate	sqm	33.00		-
106.0	NSI	**Floor Carpet** Providing and laying machine made woolen carpet (1200gm/sqmt.) of approved sample, shade and of approved manufacturer. The woolen carpet shall be fixed on 12mm thick rubberized coir under layer fixed on floor with rubberized adhesive, ends of the carpet shall be secured in position with floor by providing necessary wooden nailed beading fixed to floor with necessary adhesives, PVC fasteners and steel screws etc. as per locations shown in architectural drawing for carpet flooring and direction by architect and complete in all respect.	sqm	50.00		-
		ROOFING				
107.0	12.21	Providing gola 75x75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge), including finishing with cement mortar 1:3 (1 cement : 3 fine sand) as per standard design :				
	12.21.1	In 75x75 mm deep chase	metre	312.00		-
108.0	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	each	15.00		-
109.0	12.31	Providing 10 mm thick plaster of Paris (gypsum anhydrous) ceiling up to a height of 5 m above floor level, over first class kail wood strips 25x6 mm with 10 mm gap in between and reinforced with rabbit wire mesh fixed to wooden frame (frame work to be paid separately):				
	12.31.1	Flat Surfaces	sqm	50.00		-
110.0	12.34	Providing and fixing thermal insulation of ceiling (under deck insulation) with Resin Bonded Fibre glass wool conforming to IS : 8183, density 24kg / m3, 50mm thick, wrapped in 200 G Virgin Polythene bags, fixed to ceiling with metallic cleats (50x50x3 mm) @ 60 cm and wire mesh of 12.5 mm x 24 gauge wire mesh, for top most ceiling of building.	sqm	1688.00		-
111.0	12.41	Providing and fixing on wall face unplasticised Rigid PVC rainwater pipes confirming to IS:13592 Type A including jointing with seal ring confirming to IS:5382 leaving 10 mm gap for thermal expansion.(I)single socketed pipes.				
	12.41.2	110 mm diameter	metre	160.00		-
112.0	12.42	Providing and fixing on wall face unplasticised PVC moulded fitting acessories for unplasticised Rigid PVC rain water pipes confirming to IS-13592 type A including jointing with seal ring confirming to IS 5382 leaving 10mm gap for thermal expansion.				
	12.42.1	Coupler				
	12.42.1.2	110 mm	each	123.00		-
112.1	12.42.3	Single tee with door				
	12.42.3.2	110x110x110	each	3.00		-
112.2	12.42.5	Bend 87.5*				
	12.42.5.2	110 mm bend	each	39.00		-
112.3	12.42.6	Shoes (plain)				
	12.42.6.2	110 mm shoe	each	43.00		-
113.0	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.				
	12.43.2	110 mm	each	58.33		-
114.0	12.44	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	each	28.00		-

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
115.0	12.45	Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5 mm dia x 50mm long with 6mm dia bolts, other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the spacing of 1200 mm centre to centre, to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20 mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and erimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound, jointing tapes , finishing with jointing compound in 3 layers covering upto 150 mm on both sides of joint and two coats of primer suitable for board, all as per manufacturer's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with :				
	12.45.4	Fully Perforated Gypsum Plaster Board of size 1200 x 2400x12.5 mm having approx. 15 % perforated area with perforation size and pattern as approved by the Engineerin- charge and as per manufacturer's specification, with all 4 side tapered and backed by acoustical tissue with NRC value not less than 0.60	sqm	3414.58		-
116.0	12.54	Providing and fixing Gl Clip in Metal Ceiling System of 600x600 mm module which includes providing and fixing 'C' wall angle of size 20x30x20 mm made of 0.5 mm thick pre painted steel along the perimeter of the room with help of nylon sleeves and wooden screws at 300 mm center to centre, suspending the main C carrier of size 10x38x10 mm made of G.I steel 0.7 mm thick from the soffit with help of soffit cleat 37x27x25x1.6 mm, rawl plugs of size 38x12 mm and C carrier suspension clip and main carrier bracket at 1000 mm c/c. Inverted triangle shaped Spring Tee having height of 24 mm and width of 34 mm made of Gl steel 0.45 mm thick is then fixed to the main C carrier and in direction perpendicular to it at 600 mm centers with help of suspension brackets. Wherever the main C carrier and spring T have to join, C carrier and spring T connectors have to be used. All sections to be galvanized @ 120 gms/sqm (both side inclusive), fixing with clip in tiles into spring T with :				
	12.54.2	GI Metal Ceiling Clip in plain Beveled edge global white color tiles of size 600x600 and 0.5 mm thick with 25 mm height, made of G I sheet having galvanizing of 100 gms/ sqm (both sides inclusive) and 20% perforation area with 1.8 mm dia holes and having NRC of 0.5, electro statically polyester powder coated of thickness 60 microns (minimum), including factory painted after bending and perforation.	sqm	366.01		-
117.0	NSI	Providing and fixing Bamboo Cladding fencing design consisting of superior quality 75-100 mm dia half cut bamboo placed vertically and horizontly and fixed together Ms Frame section ,with nails for support complete as per direction of Engineer-in-charge or Architect .	sqm	165.00		-
118.0	NSI	Providing & Fixing of Wooden finished Suspended Ceiling System with Woodworks Vector edge tiles with Armstrong 15mm Prelude 43 exposed grid as approved by architect and complete in all respect.	sqm	50.00		-
119.0	NSI	Providing & Fixing of Custom Printed Mineral Fibre Acoustical Suspended Ceiling System with Ultima (Bevelled Tegular) Edge Tiles With Armstrong 15mm Exposed Grid as approved by architect and complete in all respect.	sqm	2.00		-

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
120.0	NSI	Providing and Fixing Channeled Woodworks perforated panels of width 192mm, thickness of 15mm and length 2400 mm or as required by the Architect/ approving engineer, made of a high density fibre board with minimum 725 Kg/M3 density substrate with a laminated facing as per the approved shade & finish and a melamine balancing layer on the reverse side. The boards shall have a special perforation pattern where the visible surface has a “Helmholtz” fluted perforation of 3mm width and 5mm/13mm/21mm of visible panel each. The edges of the panels shall be “tongue-and-grooved” to receive special clips for installation. The back of the perforated panel shall have sound absorbing non-woven acoustical fleece having NRC of 0.52-0.63. The panels shall be mounted on special aluminium splines using clips provided by Armstrong and as approved by architect and complete in all respect..	sqm	50.00		-
121.0	NS	Providing and fixing china mosaic tile of 6 - 8 mm for terrace to reduce the heat effect in a pattern as approved by architect and complete in all respect.	sqm	1688.00		-
		COURTYARD FIBER SHED				
122.0	N.S.	Providing & Fixing Fibre Shed placed vertically and horizontly and fixed together Ms Frame section ,with nails for support complete as per direction of Engineer-in-charge or Architect .	sqm	440.00		-
		FINISHING				
123.0	13.1	12 mm cement plaster on the rough side of single or half brick wall of mix :				
123.1	13.1.1	1:4 (1 cement : 4 fine sand)	sqm	9720.16		-
123.2	13.1.2	1:6 (1 cement: 6 fine sand)	sqm	108.00		-
124.0	13.2	15 mm cement plaster on the rough side of single or half brick wall of mix :	sqm	786.15		-
124.1	13.2.1	1:4 (1 cement : 4 fine sand)				
124.2	13.2.2	1:6 (1 cement: 6 fine sand)	sqm	177.00		-
125.0	13.16.1	6 mm cement plaster of mix: 1:3 (1 cement : 3 fine sand)	sqm	30.00		-
126.0	13.18	Neat cement punning	sqm	20.00		-
127.0	13.21	Extra for providing and mixing water proofing material in cement plaster work in proportion recommended by the manufacturers.	Per bag of 50kg cement used in the mix	848.28		-
128.0	13.22	Extra for plastering exterior walls of height more than 10 m from ground level for every additional height of 3 m or part thereof.	sqm	100.00		-
129.0	13.23	Extra for plastering on circular work not exceeding 6 m in radius:				
	13.23.2	In two coat	sqm	57.00		-
130.0	13.24	Extra for plastering done on moulding, cornices or architraves including neat finish to line and level:				
	13.24.2	In two coats	sqm	57.00		-
131.0	13.41	Distempering with 1st quality acrylic distemper, having VOC (Volatile Organic Compound) content less than 50 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required, to achieve even shade and colour.				
	13.41.1	Two coats	sqm	12498.92		-
132.0	13.44	Finishing walls with water proofing cement paint of required shade :				
	13.44.1	New work (Two or more coats applied @ 3.84 kg/10 sqm)	sqm	30.00		-
133.0	13.48A	Finishing walls with 100% Premium Acrylic emulsion paint having VOC less than 50gm/litre and UV resistance as per IS 15489:2004, Alkali & fungal resistance, dirt resistance exterior paint of required shade (company Depot Tinted) with silicon additives.				
	13.48A.1	New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	sqm	12360.92		-
134.0	13.68	French spirit polishing :				
	13.68.1	Two or more coats on new works including a coat of wood filler	sqm	972.48		-
135.0	13.78	Providing and applying 12 mm thick (average) premixed formulated one coat gypsum lightweight plaster having additives and light weight aggregates as vermiculite/ perlite respectively conforming to IS: 2547 (Part - 1 & II) 1976, applied on hacked / uneven background such as bare brick/ block/ RCC work on walls & ceiling at all floors and locations, finished in smooth line and level etc. complete.	sqm	6977.19		-
136.0	13.80	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	sqm	3683.12		-

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
137.0	13.86	6 mm plaster on cement concrete or reinforced cement concrete work with white cement based polymer modified self curing mortar of approved make as per the direction of Engineer-In-Charge.	sqm	4247.56		-
138.0	NSI	Providing & fixing hexagonal chicken mesh having opening 20mmx20mm of 26 gauge at juncitons of concrete & brick work or between different material etc. as approved by architect and complete in all respect.	sqm	268.95		-
139.0	NSI	Forming groove of uniform size from 12x12mm and upto 25x15mm in plastered surface as per approved pattern using wooden battens, nailed to the under layer including removal of wooden battens, repairs to the edges of plaster panel and finishing the groove complete as per specifications and as approved by architect and complete in all respect.	sqm	178.00		-
140.0	NSI	Providing and applying two coats of fire retardant paint on Steel surface @ 3.5 sqm per litre per coat including preparation of base surface as per recommendations of manufacturer to make the surface fire retardant.	sqm	2776.50		-
		WATER PROOFING				
141.0	22.1	Providing and laying integral cement based treatment for water proofing on **horizontal surface at all depth below ground level for under ground structures** as directed by Engineer-in-Charge and consisting of :				
	(i)	Ist layer of 22 mm to 25 mm thick approved and specified rough stone slab over a 25 mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound.				
	(ii)	2nd layer of 25 mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions.				
	(iii)	Finishing top with stone aggregate of 10 mm to 12 mm nominal size spreading @ 8 cudm/sqm thoroughly embedded in the 2nd layer.				
	22.1.1	Using rough kota stone.	sqm	3666.50		-
142.0	22.2	Providing and laying integral cement based treatment for water proofing on the **vertical surface by fixing specified stone slab 22 mm to 25 mm thic**k with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20 mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20 mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge :				
	22.2.1	Using rough kota stone.	sqm	1426.90		-
143.0	22.4	Providing and Placing in position suitable PVC water stops conforming to IS:12200 for construction/ expansion joints between two RCC members and fixed to the reinforcement with binding wire before pouring concrete etc. complete :				
	22.4.1	Serrated with central bulb (225 mm wide, 8-11 mm thick)	metre	558.00		-
144.0	22.5	Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying :				
	(a)	First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/ sqm. This layer will be allowed to air cure for 4 hours.				
	(b)	Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	sqm	1362.50		-
145.0	22.7	Providing and laying integral cement based water proofing treatment including preparation of surface as required for treatment of roofs, balconies, erraces etc consisting of following operations:				
	(a)	Applying a slurry coat of neat cement using 2.75 kg/sqm of cement admixed with water proofing compound conforming to IS. 2645 and approved by Engineer-in-charge over the RCC slab including adjoining walls upto 300 mm height including cleaning the surface before treatment.				
	(b)	Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115 mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Eng ineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs.				

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
	(c)	After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineerin- charge.				
	(d)	Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineerin- charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep.				
	(e)	The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-Charge :				
	22.7.1	With average thickness of 120 mm and minimum thickness at khurra as 65 mm.	sqm	1715.00		-
146.0	NSI	Providing and laying terrace garden with water proofing treatment including preparation of surface as required for treatment of roofs, plants and growing medium etc consisting of following operations: (a) Laying Drain cell (500x500x30 mm) over the water proofing compound. (b) Laying a layer of geotextile sheet (150 gsm) having non woven property over drain cell. (c) Spreading Cocopeat upto height of 450 mm over the roof & parapet. (d) Spreading & dressing of wormicompost over the roof. (e) Laying a layer of Carpet S-1 (grass including levelling, dressing & handling) over the roof. (f) Supply & Installation of Plants approved by Architect.	sqm	65.00		-
		ELEVATION WORK				
147.0	N.S.	providing, supplying and fixing of 6 mm tinted float glass, with visible light transmittal of minimum 28 %, with solar factor not less than 30 and with u value not less than 3.7 with allnecessary hardware and fittings as directed by Engineer in charge	sqm	4068.00		-
148.0	N.S.	Extra for openable side / 6 mm tinted float glass top hung vision glass panels including providing and supplying at site all accessories and hardwares for the openable panels as specified and of the approved make such as heavy duty stainless steel friction hinges, min 4 -point cremone locking sets with stainless steel plates, handles, buffers etc. including necessary stainless steel screws/ fasteners, nuts, bolts, washers etc. all complete as per the Architectural drawings, as per the approved shop drawings, as specified and as directed by the Engineer- in-Charge.	sqm	610.20		-
149.0	25.1	Providing and supplying aluminium extruded tubular and other aluminium sections as per the architectural drawings and approvedmshop drawings , the aluminium quality as per grade 6063 T5 or T6mas per BS 1474,including super durable powder coating of 60-80 microns conforming to AAMA 2604 of required colour and shade as approved by the Engineer-in-Charge. (The item includes cost of material such as cleats, sleeves, screws etc. necessary for fabrication of extruded aluminium frame work. Nothing extra shall be paid on this account).	kg	28476.00		-
		MISCELLANEOUS WORK				
150.0	16.70	Providing and fixing G.I. chain link fabric fencing of required width in mesh size 50x50 mm including strengthening with 2 mm dia wire or nuts, bolts and washers as required complete as per the direction of Engineer-in-charge.				
	16.70.1	Made of G.I. wire of dia 4 mm	sqm	118.80		-
151.0	16.75	Providing and laying C.C. pavement of mix M-25 with ready mixed concrete from batching plant. The ready mixed concrete shall be laid and finished with screed board vibrator , vacuum dewatering process and finally finished by floating, brooming with wire brush etc. complete as per specifications and directions of Engineer-incharge. (The panel shuttering work shall be paid for separately). (**Note:-** Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/ recoverable separately).	cum	339.80		-
152.0	21.10	Providing and fixing double glazed hermetically sealed glazing in aluminium windows, ventilators and partition etc. with 6 mm thick clear float glass both side, having 12 mm air gap, including providing EPDM gasket, perforated aluminium spacers, desiccants, sealant(Both primary and secondary sealant) etc. as per specifications, drawings and direction of Engineer-in-charge complete.	sqm	16.00		-

SCHEDULE OF QUNATITIES						
CIVIL WORK OF MAIN BUILDING & GUARD ROOM (03 NOS.)						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
153.0	26.27	Providing and fixing mineral fibre false ceiling tiles at all heights of size 595X595mm of approved texture, design and pattern. The tiles should have Humidity Resistance (RH) of 99%, Light Reflectance > 85%, Thermal Conductivity k = 0.052 - 0.057 w/m K, Fire Performance as per (BS 476 pt - 6 &7)in true horizontal level suspended on interlocking T-Grid of hot dipped all round galvanized iron section of 0.33 mm thick (galvanized @120 gsm) comprising of main T runners of 15x32 mm of length 3000 mm, cross T of size 15x32mm of length 1200 mm and secondary intermediate cross T of size 15x32 mm of length 600 mm to form grid module of size 600x600 mm suspended from ceiling using galvanized mild steel item (galvanised @80gsm) 50 mm long 8mm outer diameter M-6 dash fasteners, 6 mm diameter fully threaded hanger rod upto 1000 mm length and L-shape level adjuster of size 85x25x2 mm, spaced				
		at 1200 mm centre to centre along main 'T'. The system should rest on periphery walls /partitions with the help of GI perimeter wall angle of size24x24X3000 mm made of 0.40 mm thick sheet, to be fixed to the wall with help of plastic rawl plug at 450 mm centre to centre & 40 mm long dry wall S.S. screws. The exposed bottom portion of all T-sections used in false ceiling support system shall be prepainted with polyester baked paint, for all heights. The work shall be carried out as per specifications, drawings and as per directions of the engineer-in-charge.				
	26.27.1	With 16 mm thick beveled tegular mineral fibre false ceiling tile (NRC 0.55 to 0.6)	sqm	1500.15		-
154.0	26.6C	Providing and fixing at all height false ceiling of 4 mm thick phenol bonded Bamboo Mat board (595x595 mm) conforming to IS:13958-1994 including providing and fixing of frame work made of GI angle 25x25x0.4 mm thick all around suitably fixed to wall with the help of dash fastener and hanger frame (600x600 mm c/c) made GI slotted Tee having powder coating on bottom side (30x25x0.3 mm thick for main member & 25x25x0.3 mm for cross member) connected to ceiling with 2.64 mm GI wire and anchor fastener at every junction and also including cost of making openings for light fittings, grills, diffusers, cut outs made with frame of perimeter channels suitably fixed all complete as per direction of Engineer-incharge.	sqm	50.00		-
155.0	N.S.	RCC CORE CUTTING (150- 450)mm depth .				
155.1		100 MM Dia	each	40.00		-
155.2		125 MM Dia	each	30.00		-
155.3		150 MM Dia	each	50.00		-
155.4		200 MM Dia	each	5.00		-
156.0	NSI	Controlled Dismantling of 150 MM thik. RCC Slab with Diamond floor Sawing and core	mtr	30.00		-
		TOTAL				**-**

SCHEDULE OF QUNATITIES						
PLUMBING WORKS						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
A		**SANITARY INSTALLATIONS**				
1.0	17.3	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern, including flush pipe, with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete, including cutting and making good the walls and floors wherever required :				
1.1	17.3.1	W.C. pan with ISI marked white solid plastic seat and lid	Each	51.00		-
2.0	17.80	Providing and fixing white vitreous china battery based infrared sensor operated urinal of approx. size 610 x 390 x 370 mm having pre & post flushing with water (250 ml & 500 ml consumption), having water inlet from back side, including fixing to wall with suitable brackets all as per manufacturers specification and direction of Engineer-in-charge.	Each	26.00		-
3.0	17.7	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require:				
3.1	17.7.1	White Vitreous China Wash basin size 630x450 mm with a pair of 15 mm C.P. brass pillar taps.	Each	44.00		-
4.0	17.10	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS:13983 with C.I. brackets and stainless steel plug 40 mm, including painting of fittings and brackets, cutting and making good the walls wherever required :				
	17.10.2	Kitchen sink without drain board				
4.1	17.10.2.1	610x510 mm bowl depth 200 mm	Each	7.00		-
5.0	17.6.A	Providing and fixing 8 mm dia C.P. / S.S. Jet with flexible tube upto 1 metre long with S.S. triangular plate to Eureopean type W.C. of quality and make as approved by Engineer - in - charge.	Each	51.00		-
6.0	17.20	Providing and fixing solid plastic seat with lid for pedestal type W.C. pan complete				
6.1	17.20.1	White solid plastic seat with lid	Each	51.00		-
7.0	17.22A	Providing and fixing CP Brass 32 mm size Bottle Trap of approved quality & make and as per the direction of Engineer-in-charge.	Each	77.00		-
8.0	17.29	Providing and fixing 100 mm sand cast Iron grating for gully trap.	Each	6.00		-
9.0	17.31	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	Each	42.00		-
10.0	17.34	Providing and fixing toilet paper holder :				
10.1	17.34.1	C.P. brass	Each	44.00		-
		.				
11.0	17.35	Providing and fixing soil, waste and vent pipes :				
	17.35.1	100 mm dia				
11.1	17.35.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	metre	468.00		-
12.0	17.36	Providing and filling the joints with spun yarn, cement slurry and cement mortar 1:2 (1 cement : 2 fine sand) in S.C.I./ C.I. Pipes.				
12.1	17.36.2	100 mm dia pipe	Each	50.00		-

SCHEDULE OF QUNATITIES						
PLUMBING WORKS						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
13.0	17.37	Providing and fixing M.S. holder-bat clamps of approved design to Sand Cast iron/cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), including cost of cutting holes and making good the walls etc. :				
13.1	17.37.1	For 100 mm dia pipe	Each	40.00		-
14.0	17.38	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.38.1	100 mm dia				
14.1	17.38.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	Each	36.00		-
15.0	17.39	Providing and fixing plain bend of required degree.				
	17.39.1	100 mm dia				
15.1	17.39.1.3	Hubless centrifugally cast (spun) iron pipes epoxy coated inside & outside IS:15905	Each	60.00		-
16.0	17.40	Providing and fixing heel rest sanitary bend				
	17.40.1	100 mm dia				
16.1	17.40.1.2	Sand cast iron S&S as per IS - 3989	Each	10.00		-
17.0	17.43	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.				
	17.43.1	100x100x100 mm				
17.1	17.43.1.2	Sand cast iron S&S as per IS - 3989	Each	40.00		-
18.0	17.44	Providing and fixing single equal plain junction of required degree :				
	17.44.1	100x100x100 mm				
18.1	17.44.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	Each	120.00		-
19.0	17.50	Providing and fixing single equal plain invert branch of required degree :				
	17.50.1	100x100x100 mm				
19.1	17.50.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	Each	120.00		-
20.0	17.56	Providing and fixing terminal guard :				
	17.56.1	100 mm				
20.1	17.56.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	Each	22.00		-
21.0	17.57	Providing and fixing collar :				
	17.57.1	100 mm				
21.1	17.57.1.2	Sand cast iron S&S as per IS - 3989	Each	50.00		-
22.0	17.57A	Providing and fixing shielded coupling for Hubless centrifugally cast iron pipe				
	17.57A.1	100 mm dia				
22.1	17.57A.1.1	SS 304 grade coupling with EPDM rubber gasket	Each	120.00		-
23.0	17.58	Providing lead caulked joints to sand cast iron/centrifugally cast (spun) iron pipes and fittings of diameter :				
23.1	17.58.1	100 mm	Each	325.00		-
24.0	17.59	Providing and fixing M.S. stays and clamps for sand cast iron/centrifugally cast (spun) iron pipes of diameter :				
24.1		100 mm	Each	40.00		-

SCHEDULE OF QUNATITIES						
PLUMBING WORKS						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
25.0	17.60	Providing and fixing trap of self cleansing design with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors				
	17.60.1	100 mm inlet and 100 mm outlet				
25.1	17.60.1.3	Hubless centrifugally cast (spun) iron epoxy coated inside & outside as per IS:15905	Each	72.00		-
26.0	17.65	Painting sand cast iron/ centrifugally cast (spun) iron soil, waste vent pipes and fittings with two coats of synthetic enamel paint of any colour such as chocolate grey, or buff etc. over a coat of primer (of approved quality) for new work				
26.1	17.65.1	100 mm diameter pipe	Metre	150.00		-
27.0	17.69	Providing and fixing PTMT Waste Coupling for wash basin and sink, of approved quality and colour.				
27.1	17.69.1	Waste coupling 31 mm dia of 79 mm length and 62 mm breadth weighing not less than 45 gms	Each	77.00		-
28.0	17.70	Providing and fixing PTMT Bottle Trap for Wash basin and sink.				
28.1	17.70.1	Bottle trap 31 mm single piece moulded with height of 270 mm, effective length of tail pipe 260 mm from the centre of the waste coupling, 77 mm breadth with 25 mm minimum water seal, weighing not less than 260 gms	Each	77.00		-
29.0	17.71	Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour, weighing not less than 105 gms.	Each	42.00		-
30.0	17.73	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour.				
30.1	17.73.1	450 mm long towel rail with total length of 495 mm, 78 mm wide and effective height of 88 mm, weighing not less than 170 gms	Each	22.00		-
B		**WATER SUPPLY**				
31.0	18.7	Providing and fixing chlorinated polyvinyl chloride (CPVC) pipes having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer-Incharge. **Internal work - exposed on wall**				
31.1	18.7.2	20mm nominal dia Pipes	Meter	44.00		-
31.2	18.7.3	25mm nominal dia Pipes	Meter	27.50		-
31.3	18.7.4	32mm nominal dia Pipes	Meter	27.50		-
31.4	18.7.5	40mm nominal dia Pipes	Meter	11.00		-
31.5	18.7.6	50mm nominal dia Pipes	Meter	22.00		-
31.6	18.9.7	65mm nominal dia Pipes	Meter	88.00		-
31.7	18.9.8	80mm nominal dia Pipes	Meter	22.00		-
32.0	18.8	Providing and fixing chlorinated polyvinyl chloride (CPVC) pipes having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer-Incharge. **Concealed work including cutting chases and making good the walls etc.**				

SCHEDULE OF QUNATITIES						
PLUMBING WORKS						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
32.1	18.8.1	15mm nominal dia Pipes	Meter	291.50		-
32.2	18.8.2	20mm nominal dia Pipes	Meter	104.50		-
32.3	18.8.3	25mm nominal dia Pipes	Meter	44.00		-
32.4	18.8.4	32mm nominal dia Pipes	Meter	33.00		-
32.5	NS	40mm nominal dia Pipes	Meter	22.00		-
33.0	18.12	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc.				
		External work				
33.1	18.12.6	50 mm dia nominal bore	metre	75.00		-
33.2	18.12.7	65 mm dia nominal bore	metre	75.00		-
34.0	18.13	Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete :				
34.1	18.13.2	50 to 80 mm nominal bore	Each	1.00		-
35.0	18.14	Fixing water meter and stop cock in G.I. pipe line including cutting and threading the pipe and making long screws etc. complete (cost of water meter and stop cock to be paid separately).	Each	1.00		-
36.0	18.15	Providing and fixing C.P. brass bib cock of approved quality conforming to IS:8931				
36.1	18.15.1	15 mm nominal bore	Each	8.00		-
37.0	18.17	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end)				
37.1	18.17.1	25 mm nominal bore	Each	27.00		-
37.2	18.17.2	32 mm nominal bore	Each	20.00		-
37.3	18.17.3	40 mm nominal bore	Each	16.00		-
37.4	18.17.4	50 mm nominal bore	Each	6.00		-
37.5	18.17.5	65 mm nominal bore	Each	8.00		-
38.0	18.19	Providing and fixing gun metal non- return valve of approved quality (screwed end) :				
38.1	18.19.4.2	50 mm nominal bore	Each	2.00		-
38.2	18.19.5.2	65 mm nominal bore	Each	2.00		-
39.0	18.21	Providing and fixing uplasticised PVC connection pipe with brass unions :				
	18.21.2	45 cm length				
39.1	18.21.2.1	15 mm nominal bore	Each	102.00		-
40.0	18.32	Constructing masonry Chamber 30x30x50 cm inside, in brick work in cement mortar 1:4 (1 cement :4 coarse sand) for stop cock, with C. I. surface box 100x100 x75 mm (inside) with hinged cover fixed in reinforced cement concrete slab 1:1.5:3 mix (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size), including necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :				
	18.32.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	Each	6.00		-

SCHEDULE OF QUNATITIES						
PLUMBING WORKS						
S.NO.	**DSR-2023**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
41.0	18.33	Constructing masonry Chamber 60x60x75 cm inside, in brick work in cement mortar 1:4 (1 cement : 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:1.5:3 mix (1 cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size), including necessary excavation, foundation concrete 1:5:10 (1 cement : 5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick, finished with a floating coat of neat cement complete as per standard design :				
41.1	18.33.1	With common burnt clay F.P.S.(non modular) bricks of class designation 7.5	Each	1.00		-
42.0	18.41	Providing and filling sand of grading zone V or coarser grade, allround the G.I. pipes in external work :				
42.1	18.41.1	50 mm diameter pipe	metre	75.00		-
42.2	18.41.2	65 mm diameter pipe	metre	75.00		-
43.0	18.47	Providing and fixing G.I. Union in existing G.I. pipe line, cutting and threading the pipe and making long screws, including excavation, refilling the earth or cutting of wall and making good the same complete wherever required :				
43.1	18.47.6	50 mm nominal bore	Each	1.00		-
44.0	18.48A	Providing and placing on terrace (at all floor levels) polyethylene water storage tank, IS : 12701 marked, with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank.	per litre	27,000.00		-
45.0	18.53	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931				
45.1	18.53.1	15 mm nominal bore	Each	102.00		-
		TOTAL				**-**

SCHEDULE OF QUNATITIES						
HVAC WORKS						
S.NO.	DSR-E&M 2022	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
		SUB-HEAD:- 1- EQUIPMENT				
	1.1	**OUTDOOR UNITS FOR VRF/VRV UNIT**				
		Supply, Installation, Testing & Commissioning of modular type Variable Refrigerant Flow/Variable Refrigerant Volume air cooled Outdoor units suitable for cooling and heating, having 100% hermetically sealed inverter type Scroll Compressor(s) with and minimum two compressors along with two Condensing fan, above 14/18 HP modules, microprocessor based Controller, Side / top discharge type condensing unit(s), with R-410 A Refrigerant, vibration isolators, with suitable foundation etc. complete as required. The unit shall deliver the rated capacity at AHRI Conditions and work even at 50°C ambient temperature without tripping. The unit shall be suitable to work on 400V +/- 10%, 3 Phase, 50Hz AC power supply. The unit shall be filled with first charge of the refrigerant and ready for use as required. The EER at 100% load with AHRI conditions shall not be less than 3.5 and Including OEM supplied Piping connection Kit etc. as required. All as per pre approved by Engineer in charge. For additional technical parameters of products/ work.				
		Supply of QWIK FOOT supports system consisting of a G I Steel frame modular/multiples along with adjustable legs and UV Stabilised Nylon Rubber Crump- SBR recycled with feet assemblies 205/305 standrd Base. . The frame dimensions should be designed to take the weight with minimal deflection, manufactured from hot dip GI Carbon Steel. Rubber Crump in the base shall be resin bonded Polyurethane Polymer. Welding standard to be as per BS EN ISO 1461-2009 for Hot Dipped GI Assembly. The feet shall be 200/305/mm square made from Nylon 6 B601L 30% glass fibre filled Underneath Rubber for vibrations absorption.The leg assembly should be adjustable between 210 to max.350 mm for max loading per foot assemble to 500kg per foot frame & accommodate unevenness of the terrace floor levels.				
		Make: LG / Samsung / Daikin / Mitsubishi Ele. / O General				
		Outdoor Stand Make: Qwik Foot / Hira Walraven				
		GROUND FLOOR				
MR	1.1.1	24 HP OUTDOOR UNIT	No.	2.00		-
MR	1.1.2	26 HP OUTDOOR UNIT	No.	1.00		-
		FIRST FLOOR				
MR	1.1.4	26 HP OUTDOOR UNIT	No.	2.00		-
MR	1.1.5	34 HP OUTDOOR UNIT	No.	1.00		-
		SECOND FLOOR				
MR	1.1.7	26 HP OUTDOOR UNIT	No.	1.00		-
MR	1.1.8	28 HP OUTDOOR UNIT	No.	1.00		-
MR	1.1.9	34 HP OUTDOOR UNIT	No.	1.00		-
		THIRD FLOOR				
MR	1.1.10	28 HP OUTDOOR UNIT	No.	1.00		-
MR	1.1.11	34 HP OUTDOOR UNIT	No.	1.00		-
	1.2	**INDOOR UNIT-DUCTABLE TYPE**				
		Supply, installation, testing and commissioning of following minimum capacity and external static pressure VRF/VRV ceiling mounted ductable type Indoor unit equipped with washable synthetic media pre-filter, fan section with low noise fan/dynamically balanced blower, multispeed motor, coil section with DX copper coil, electronic expansion valve, corded remote control, outer cabinet, vibration isolators, drain pan, drain pump, other necessary supports etc..				
		GROUND FLOOR				
MR	1.2.1	Ductable unit : 8.0 TR HIGH STATIC	No.	2.00		-
	1.3	**INDOOR UNIT-CASSETTE TYPE (ROUND TYPE)**				

SCHEDULE OF QUNATITIES						
HVAC WORKS						
S.NO.	DSR-E&M 2022	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
		Supply, installation, testing and commissioning of following minimum capacity 4-way flow VRV/VRF Cassette Type Indoor ceiling mounted unit equipped with synthetic washable media pre-filter, fan section with low noise fan/dynamically balanced blower, multispeed motor, coil section with DX Copper coil, electronic expansion valve, outer cabinet, drain pump, grill, necessary supports, vibration isolation, Corded remote control etc., suitable for operation on single phase 230 V ± 10%, 50Hz AC supply, complete, as required. Air Decontamination Chamber in the supply air/ plenum comprising of nanoX coating plasmOX having EPA approved metallic compound of five metals targeted on Alumninum matrix cell duly enclosed by a poly quartz casing tube with the capability to produce ionized Hydroxyl oxidizers having Required wattage for different CFM's. The Equipment shall a microbiological testing report against Bacteriophage (MS-2 FDA) surrogate SARS Cov-2 with a minimum efficiency of 99 percent along with a Virology report from ICMR approved lab with an minimum efficiency of 99 percent against SARS COV2 within 45 minutes. refer details specification for Air Decontamination System for compliance with the following certification CE, ROHS, ISO, FDA, Green Pro, CCMB, FICCI, TUV & Human Epithelial test By IIT Guwahati). The unit shall have automatic force shut down valve in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature. (Make will be same as of Outdoor). All as per pre approved by Engineer in charge. For additional technical parameters of products/ work				
		GROUND FLOOR				
2.9	1.3.1	Cassette unit : 3.6 TR (947x947)	No.	1.00		-
2.6	1.3.2	Cassette unit : 2.4 TR (947x947)	No.	6.00		-
2.5	1.3.3	Cassette unit : 2.0 TR (947x947)	No.	4.00		-
2.4	1.3.4	Cassette unit : 1.6 TR (947x947)	No.	9.00		-
		FIRST FLOOR				
2.1	1.3.5	Cassette unit : 4.0 TR (947x947)	No.	2.00		-
2.8	1.3.6	Cassette unit : 3.2 TR (947x947)	No.	8.00		-
2.7	1.3.7	Cassette unit : 2.8 TR (947x947)	No.	4.00		-
2.5	1.3.8	Cassette unit : 2.0 TR (947x947)	No.	13.00		-
		SECOND FLOOR				
2.9	1.3.10	Cassette unit : 3.6 TR (947x947)	No.	2.00		-
2.8	1.3.11	Cassette unit : 3.2 TR (947x947)	No.	11.00		-
2.5	1.3.13	Cassette unit : 2.0 TR (947x947)	No.	20.00		-
		THIRD FLOOR				
2.8	1.3.15	Cassette unit : 3.2 TR (947x947)	No.	17.00		-
2.5	1.3.17	Cassette unit : 2.0 TR (947x947)	No.	3.00		-
	1.4	**CENTRALISED CONTROLLER**				
MR		Supply, Installation, Testing and Commissioning of main Intelligent Touch Manager with plus adapter as per specifications to hook up indoor units as mentioned above. Controller shall however, be suitable for minimum 64 groups of indoor units.Centralised controller shall act as master controller for controlling of cooling mode of outdoor units and their associated indoor units. Controller shall be suitable of Remote Access with computer and shall have web access. Controller shall be suitable to autosequence the outdoor as well as indoor units catering to 24x7 operated areas as required/mentioned under sub head "System Design" of tender document. Controller shall be suitable to configured the inside temperature as per temperature set point on controller. Controller shall have time schedulling arrangement for Indoor Units as well as Outdoor Units. Controller shall be BMS Compatible & suitable for BMS integration. Quoted price shall be inclusive of all necessary cabling as required from ODU & IDUs to controller.	No	1.00		-
	1.5	**TREATED FRESH AIR UNIT**				

SCHEDULE OF QUNATITIES						
HVAC WORKS						
S.NO.	**DSR-E&M 2022**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
		Supply, Installation, Testing & Commissioning of factory built Floor Mounted / Ceiling Suspended with Mixing Box double skin Air Cooled VRF BAsed Treated fresh air unit capacity suitable to operate at 415+10% volt, 50 Hz, 3 phase AC power supply as specified and shown in drawings				
MR	1.5.1	1236CFM and 8 TR capacity,Total static pressure 55 mm WG	Nos.	7.00		-
	1.6	**WASHROOM ODOR CONTROL UNIT**				
		Supply, installation, testing and commissioning of wall mounted HygieneOX unit which is advance oxidation with nanoX & plasmOX based system. Advance oxidation plasma using unique wave-length photon special metal catalyst layer with the capability to generate Hydroxyl to eliminate contamination in the conditioned space. The system shall have an independent centrifugal fan and on/ off switch. The equipment shall be enclosed in PU coated material for durability and better aesthetics. The units should be designed after undertaking a load factor calculation for each specific area where the equipment is to be installed. The load shall clearly state the number of units required. The system shall be capable of eleminating bad odors, VoC's as well as bacteria, virus, spores and particulates matter. Contaminated Air will be Sucked from one Side and Decontaminated Air will come out from other side. The equipment shall have to GreenPro,CE,ISO 13485,TUV,ROHS with 2014/35/EU Low voltage directive along with FDA complia etc. as required. All as per pre approved by Engineer in charge. For additional technical parameters of products/ work.ling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and erimeter channel with the help of dry wall screws of siz				
		251 to 300 Sqft	Nos.	4.00		-
		UPTO 250	Nos.	4.00		-
		TOTAL				
		SUB-HEAD:- 2 PIPING WITH INSULATION				
	2.0	**COPPER REFRIGERANT PIPING**				
		Supply, installation, testing and comissioning of interconnecting copper refrigerant piping of DHE Grade C12200- ASTM B68, B75, chemical composition of copper %- 99.0 Min and Phosphorus %- 0.015 to 0.040 . For Annealed copper tube :- Tensile strength = 210 Mpa wih elongation % = 40 Min . Ink Mark Brand Printing on Hard Tubes should be present. duly insulated with tubular elastomeric nitrile rubber FM/UL approved with high water vapor diffusion resistance and low thermal conductivity should be certified 'Class O' in Fire Propagation as per BS 476 Part 6 including chase cutting andfilling with mortar, Slotted channel supports mounted on 10 mm threaded rod at suitable spacing the exposed piping shall be wrapped with glass woven cloth and lag coating for vapour barrier and weather protection. Joints shall be covered with nitrile rubber tape of 3 mm thick complete as required of following sizes. All as per pre approved by Engineer in charge. For additional technical parameters of products/ work.				
		Pipe Size Thickness of CSE				
		(O.D.) Insulation				
MR	2.1	41.3 mm O.D., wall thinkness ≥ 1.4mm (insulation – 19 mm thick)	RM	125.20		-
MR	2.2	38 mm O.D., wall thinkness ≥ 1.4mm (insulation – 19 mm thick)	RM	15.00		-
MR	2.3	34.9 mm O.D., wall thinkness ≥ 1.4mm (insulation – 19 mm thick)	RM	12.00		-
MR	2.4	28.6 mm O.D., wall thinkness ≥ 1.2mm (insulation – 19 mm thick)	RM	174.00		-
MR	2.5	25 mm O.D., wall thinkness ≥ 1.2mm (insulation – 19 mm thick)	RM	20.00		-

SCHEDULE OF QUNATITIES						
HVAC WORKS						
S.NO.	**DSR-E&M 2022**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
MR	2.6	22.2 mm O.D., wall thinkness ≥ 1.0mm (insulation – 19 mm thick)	RM	53.00		-
MR	2.7	19.1 mm O.D., wall thinkness ≥ 1.0mm (insulation – 13 mm thick)	RM	185.00		-
MR	2.8	15.9 mm O.D., wall thinkness ≥ 0.8mm (insulation – 13 mm thick)	RM	295.00		-
MR	2.9	12.7 mm O.D., wall thinkness ≥ 0.8mm (insulation – 13 mm thick)	RM	118.00		-
MR	2.10	9.5 mm O.D., wall thinkness ≥ 0.8mm (insulation – 13 mm thick)	RM	338.00		-
MR	2.11	6.4 mm O.D., wall thinkness ≥ 0.8mm (insulation – 13 mm thick)	RM	35.00		-
	2.2	**FITTINGS**				
		Supply, Installation,Testing & Commissioning of following imported copper fittings to be provided in refrigerant pipe line.				
MR	2.2.1	Refnet Joints (Y- Joints)	No	100.00		-
MR	2.2.2	Refnet Headers	No	10.00		-
	2.3	**CONDENSATE DRAIN PIPING -cPVC**				
		Providing & Fixing of IS : 4985 - 2000 Class -4 (10 Kgf / Sqcm) UPVC drain water piping with fittings (IS:7834 & 10Kgf/sqcm) like elbow, socket, Tee, solvent cement jointing, support with MS hanger on ceiling or recessed in wall with chasing & plastering with 6 mm thick closed cell elastomeric nitrile rubber insulation including leakage testing etc. as required of following Nominal sizes. All as per pre approved by Engineer in charge. For additional technical parameters of products/ work.				
MR	2.3.1	50mm dia	RM	30.00		-
MR	2.3.2	40mm dia	RM	40.00		-
MR	2.3.3	32mm dia	RM	40.00		-
MR	2.3.4	25mm dia	RM	50.00		-
		TOTAL				
		SUB HEAD:- 3- MECHANICAL VENTILATION WORK				
	3.1	**FAN FOR SMOKE EXHAUST IN CASE OF FIRE FOR BASEMEN**				
		Supply , installation , testing and commissioning of Fire Rated Tube Axial flow fans for smoke exhaut, complete with tube casing , impeller , bird screen , gravity louvers , necessary nut bolts, canvas connection for proper installation, directly coupled TEFC Sq.cage IP-55, C**lass-H** and IE-3 efficiency induction motor mounted on vibration isolators suitable for 415V±10% , 50 Hz. 3 phase electric supply complete as per the technical specifications enclosed. The fans shall be AMCA certified. The fan shall be selected for better efficiency and lower power consumption.The fan shall be rated for a minimum of 250 Deg C for a minimum of 2 hours application as per BS EN 12101:3-2015.The fan shall be complete in all respect and should match the specification ,Drawings and Schedule.The unit shall be capable to communicate with BMS system.				
		For dia upto 1120 fan RPM should be 1450 and above 1120 dia 950 RPM				
		Note:Noise level should be selected for 3 meter distance from fan at room condition. For Emergency case - 80db(A)@3m				
		All fan should be factory tested in presence of PMC /consultant/Client representative				
MR	3.1.1	16000 CFM at 25 mm static pressure Lower Basement	Nos.	4.00		-
	3.2	**FAN FOR FRESH AIR IN CASE OF FIRE FOR BASEMENT**				

SCHEDULE OF QUNATITIES						
HVAC WORKS						
S.NO.	**DSR-E&M 2022**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
		Supply , installation , testing and commissioning of Fire Rated Tube Axial flow fans for fresh air, complete with tube casing , impeller , bird screen , gravity louvers , necessary nut bolts, canvas connection for proper installation, directly coupled TEFC Sq.cage IP-55, **Class-F** and IE-3 efficiency induction motor mounted on vibration isolators suitable for 415V±10% , 50 Hz. 3 phase electric supply complete as per the technical specifications enclosed. The fans shall be AMCA certified. The fan shall be selected for better efficiency and lower power consumption.The fan shall be rated for a minimum of 250 Deg C for a minimum of 2 hours application as per BS EN 12101:3-2015.The fan shall be complete in all respect and should match the specification ,Drawings and Schedule.The unit shall be capable to communicate with BMS system.				
		For dia upto 1120 fan RPM should be 1450 and above 1120 dia 950 RPM				
		Note:Noise level should be selected for 3 meter distance from fan at room condition. For Emergency case - 80db(A)@3m				
		All fan should be factory tested in presence of PMC /consultant/Client representative				
MR	3.2.1	16000 CFM at 25 mm static pressure Lower Basement	Nos.	4.00		-
	3.3	**CABINET FANS**				
		Supply, installation, testing and commissioning of factory fabricated double Skinned cabinet type fans with 5 micron fresh air filter section made out of extruded aluminium section with 1.0mm pre-plasticized / pre-coated Galvanised steel sheet with DIDW blower, blower section and blower motor TEFC type suitable for operation on 415 volts ± 10%, 50 Hz ± 5% AC supply with motor and belt drive package. **The fan Motor shall be of efficiency class IE3 or EFF1 whichever is more efficient.** The blower should be AMCA Certified for air performance and sound rating and should be selected for maximum efficiency.				
MR	3.3.1	3000 CFM,Total static pressure of 20 mm WG	Nos.	2.00		-
	3.4	**INLINE FAN**				
		Supply , installation , testing and commissoning , of duct mounted circular / rectangular inline fans complete with direct driven centrifugal fan , TEFC squirrel cage induction motor , with efficiency class IE-3 , direct drive arrangement , heavy gauge sheet metal casing , rubber isolator mounts and other accessories.The fan shall be complete in all respect and should match the specification ,Drawings and Schedule. Inline fans shall be of following capacities.				
MR	3.4.1	700 CFM Total static pressure of 10 mm WG	No.	8.00		-
MR	3.4.2	350 CFM Total static pressure of 10 mm WG	No.	4.00		-
MR	3.4.3	200 CFM Total static pressure of 10 mm WG	No.	1.00		-
MR	3.4.4	150 CFM Total static pressure of 10 mm WG	No.	4.00		-
	3.5	**PROPELLER FAN**				
		Supply, installation, testing and commissioning of propeller fan with Al./SS blades and complete with induction Motor suitable for operation with 230 V single phase 50 Hz with suitable frame etc. as per IS:2312-1967 with gravity dampers for exhaust complete as per specifications and drawings.The quoted price shall consist of mounting arrangemnt for the fan. The maximum sound level of unit shall be 40dB(A) @ 3 m from source.				
MR	3.5.1	200 DIA	No.	2.00		-
		TOTAL				
		SUB HEAD:- 4 DUCTING & GRILLES				
	4.1	**GSS DUCT (SITE FABRICATED)**				

SCHEDULE OF QUNATITIES						
HVAC WORKS						
S.NO.	DSR-E&M 2022	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
		Supply , Installation, Testing and Comissioning of site fabricated ducting made from GI sheet metal conforming to IS:277 with a zinc coating grade not less than 120 GSM (both side inclusive) & fabricated as per IS:655 and as per approved drawings & designs including the cost of hangers, supports, angle, expansion fasteners , closed cell neoprene gasket T&P etc. as required of following thickness. Test Certificate for Galavanizing with lot no. to be submitted. All as per pre approved by Engineer in charge. For additional technical parameters of products/ work , refer Annexure "A" attached with this BSR .				
16.12.2.1	4.1.1	24 G (0.60 mm)	Sqm	430.00		-
16.12.2.2	4.1.2	22 G (0.80 mm)	Sqm	310.00		-
16.12.2.3	4.1.3	20 G (1.0 mm)	Sqm	240.00		-
16.12.2.4	4.1.4	18 G (1.25 mm)	Sqm	22.00		-
	4.2	**GSS DUCT (FACTORY FABRICATED)**				
		Supply , Installation, Testing and Comissioning of factory fabricated SMACNA standard ducting made from GI sheet metal conforming to IS:277 with a zinc coating grade of 120GSM (both side inclusive) & fabricated as per IS:655 and as per approved drawings & designs including the cost of hangers, supports, angle, expansion fasteners , closed cell neoprene gasket T&P etc. as required of following thickness. All as per pre approved by Engineer in charge. For additional technical parameters of products/ work , refer Annexure "A" attached with this BSR .				
16.12.1.1	4.2.1	24 G (0.60 mm)	Sqm	164.00		-
16.12.1.2	4.2.2	22 G (0.80 mm)	Sqm	110.00		-
16.12.1.3	4.2.3	20 G (1.00 mm)	Sqm	85.00		-
16.12.1.4	4.2.4	18 G (1.25 mm)	Sqm	10.00		-
	4.3	**VOLUME CONTROL DAMPER**				
16.13		Supplying, installing, testing & commissioning of GI volume control damper with minimum 1.6 mm flange and 1.8 mm blade thickness within ducts to be provided with suitable links, levers and quadrants for manual control of volume of air flow and for proper balancing of the air distribution system as per schedules & drawings.	Sqm	5.00		-
	4.4	**SUPPLY AIR GRILL**				
16.15		Supply, installation, testing,balancing and fixing of Powder coated aluminium extruded grill with aluminium construction collar damper for supply air as per specification & the sizes will be as per schedules and drawing.Refer technical specification for detail description	Sqm	30.00		-
MR	4.6	**EXHAUST AIR GRILL**				
		Supplying, Installing, testing and commissioning of powder coated extruded aluminium exhaust air grille with min.60 % free area, with metallic frame work & fixing accessories, to be fixed on external wall to exhaust air from basement area to ambient , it shall be suitable for exhausting required air in CFM . Louvers need to be suitable in order avoid rain water entry in to basement @ 15 degree deflection with bird screen complete as per specification approved drawings and schedules.	Sqm	30.00		-
MR	4.7	**FRESH AIR GRILL**				
		Supplying, installing, testing and commissioning of GI construction fresh air louvers with min. 60 % free area, bird screen and painted in baked enamel shade as per clients or architect approval with metallic frame work complete as per specification approved drawings and schedules.	Sqm	12.00		-

SCHEDULE OF QUNATITIES						
HVAC WORKS						
S.NO.	DSR-E&M 2022	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
MR	4.8	**FRESH/EXHAUST AIR LOUVER**				
		Supplying, installing, testing and commissioning of GI construction fresh/exhaust air louvers with min. 60 % free area, bird screen and painted in baked enamel shade as per clients or architect approval with metallic frame work complete as per specification approved drawings and schedules.	Sqm	12.00		-
DSR-16.14	4.10	**MOTORISED DAMPER**				
		Supplying, Fixing,testing and commissioning of Motorised damper in Smoke Exhaust air duct& Fresh Air Duct and where required of required sizes i/c control wiring, the damper shall be motorized and spring return so as to close the damper in the event of power failure automatically and open the same in case of power being restored. The spring return action shall be inbuilt mechanism and not externally mounted. the damper shall also be closed in the event of fire signal complete as required adn as per specifications.				
16.14.1	4.10.1	Motorised damper	Sqm	2.00		-
16.14.2	4.10.2	Actuator	No.	2.00		-
		TOTAL				
		SUB HEAD:- 5 INSULATION				
	5.1	**DUCT ACOUSTIC LINING**				
16.21		Supply and fixing of acoustic lining of ducts with chemically cross link Oxide accetate foam open cell structure Acoustic Insulation with density 30 Kg / Sqm, UV protected and Class O Fire propperty Water Vapour absorption 0.002 gm / Sqcm, including cost of adhesive etc. complete in all respect. All as per pre approved by Engineer in charge. All as per pre approved by Engineer in charge. For additional technical parameters of products/ work.				
	5.1.1	15 mm thick	Sqmt	15.00		-
	5.2	**DUCT INSULATION**				
16.23		Supply & fixing of external thermal closed-cell Nitrile rubber Insulation material FM/UL approved with high water vapor diffusion resistance and low thermal conductivity should be certified 'Class O' in Fire Propagation as per BS 476 Part 6 in form of sheet on duct including cost of adhesive (CPRX Compound) complete as required. All as per pre approved by Engineer in charge.				
	5.2.1	19 mm on Supply/Return duct	Sqmt	100.00		-
MR	5.3	**DOUBLE LAYER CANVAS CONNECTION**				
		P & F of Fire retardent flexible canvass connection made of fibreglass weave having silver grey silicon rubber coating, of height 200 mm with sufficient fold to avoid transmission of vibration with GI frame ,Gasket Nut Bolts for air cooling Plants/AHU/FCU etc as required. All as per pre approved by Engineer in charge. For additional technical parameters of products/ work.	Sqmt	5.00		-
MR	5.4	**LAG COATING FOR DUCT & COPPER PIPE INSULATION**				
		The duct in internal areas shall be insulated as specified and the insulated duct shall be coated by Fevicol AC Duct King Lag coating for protection against Mechanical damage, Fungal growth, Flame spread, Water Permeance. The coating shall confirm UL723 for surface burning characteristics. The coating should comply the complete specification.				
	5.4.1	19 mm on Supply/Return duct	Sqmt	150.00		-
	6	**SUB-HEAD : 6- INTEGRATED BUILDING MANAGEMENT SYSTEM**				
MR-6.1	6.1	**INTEGRATED BUILDING MANAGEMENT SYSTEM**				
		BMS Client station: BMS Client workstation shall comprise				
		As we all know that the scope of IBMS majorly covers the HVAC systems commands and operations in any project consequently, the design of the system should fall in the scope of only HVAC specialized Consultants. As per the serious technical considerations, it is highly recommended to do the work by only				

SCHEDULE OF QUNATITIES						
HVAC WORKS						
S.NO.	DSR-E&M 2022	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
		As we all know that the scope of IBMS majorly covers the HVAC systems commands and operations in any project consequently, the design of the system should fall in the scope of only HVAC specialized Consultants. As per the serious technical considerations, it is highly recommended to do the work by only HVAC Consultants. On the other hand when the deployment of HVAC Consultants fails for any drastic reason(s), it is also advised to have followigs approval from HVAC Consultant from third party or Executing Agency(s)				
		of the following minimum hardware: Six Core Processor at min. 3.6 GHz ,12M, Intel HD Graphic 630, 6.4GT/s, 4 x 8 GB or more of RAM, 1 TB SSD, 3.0Gb/s Hard Drive for OS and BMS Applications				
		Network Copper Interface Card - 10/100/1000 MB(i.e. 2 sets of 2 Port X 1 Gbps cards required) Quad Monitor Graphics card to support 4 multiplexed Monitors Microsoft® Windows 10 or Higher 64 bit which offers teaming feature and complatible with BMS Software				
		Complete with Anti-Virus,MS Office, MS Windows Client				
		Software and operating license				
		BMS Client Station Software				
		Server for IBMS SW				
		19" Rack Mount BMS Server shall comprise of the following minimum hardware:				
		Dual Octa Core Processor at min. 3 GHz, 6 x 8GB or more of RAM,				
		HardDisk - RAID 5 configured 15K RPM, 3Gb/s drives for DB storage Hard Disk - Usable 4 TB Minimum 6 hot swappable drive slots.				
		2 x 500GB SAS 10K Drive (Dual mirrored) RAID 1 configured drives for OS and Application Software Raid Controller: 1 GB battery backed RAID controller Network Interface Card				
		Redundant power supply unit ,Standard video display adapter and redundant hardware / server.				
		Microsoft® Windows 2016 - 64 bit pre-installed Embedded OS				
		with Antivirus, MS office, MS Windows Server Software and operating license; and MS SQL Server License full edition.				
		Base Station License WITH USB dongle, Program DVD-R, EULA, License sheet., Full Mode. Protocol Complaint (BACnet/IP, Modbus I/P,OPC etc), Reporting, 10000				
		Properties				
		Onboard IP Open Protocol Output Integrators compatible for BACNET/LonWorks/MODBUS output meeting Vendor's communication platform to Acquire data and Control Operation of following Equipment/Hardwares complete with enclosure duly internally wired and tested OEM supplied UL Listed (Refer IO summary)				
		Web Based Router / Network Area Controller interfacing the DDC controllers and Integrators for the system with PC. It has capacity to store trends & program backup. It should be BTL & UL Listed and shall be of the same make as DDCs				
		Web Based Integrator for interfacing Modbus RTU Unit, Bacnet IP /MSTP , Open Protocol Software Integration These shall be UL and BTL listed and shall be of same make as DDCs				
		These shall be UL and BTL listed and shall be of same make as DDCs				
		Multifunction Energy Meters on Modbus RTU - (10 points / per Meter)				
		VFD on Modbus RTU - (15 points / VFD) final qty. share by MEP consultant				
		VRF System Manager on Bacnet IP - 1 No.(200 points) final qty. share by MEP consultant				
		Electrical systems/panels/breakers on Modbus RS485				

SCHEDULE OF QUNATITIES						
HVAC WORKS						
S.NO.	**DSR-E&M 2022**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
		UL and BTL Automation stations / DDC Controller. The controllers shall be32 bit microprocessor based standalone with real time clock. The DDC'sshall be capable of peer to peer communication with other DDCs and then to router Also with locable MS mounting cabinets duly powder coatedconnector strip, internal wiring and space to house controller & relays,connector strip current transformer, MCB, internal wiring. (Contractorshall confirm his I/O provision w.r.t requirement on basis of datapoint). DDCs requiring				
		Make: Scheinder / Seimens / JCI / Azbil / Honeywell				
		IBMS integrator: Semak / SD infosis / P.tech / Azbil				
		DDC for VRF System as per IO summary with 5% spare				
		DDC for outdoor units as per IO summary with 5% spare				
		DDC for Indoor Units as per IO summary with 5% spare				
		DDC for pressurization fans as per IO summary with 5% spare				
		DDC for fire fighting systems as per IO summary with 5% spare				
		DDC for DGs as per IO summary with 5% spare				
		B) Sensors and field devices				
		Supply, installation, testing, commissioning of necessary Input sensor transmitters/transducers comprising the following:				
		Immersion Temp Sensor for Outdoor Sytem Pipes				
		Water Differential pressure switch. Trigger Range:150-1000mbar with 1A (resistive) @ 240V AC contact rating				
		Duct type temperature sensor Measuring range: -30 to 110 Deg C, Accuracy: +/- 1.3 Deg C				
		Duct type temperature & RH sensor				
		Air Differential pressure Sensor				
		CO2 sensor Duct mount type Measuring range: 0 to 2000 ppm				
		Differential pressure switch for filters & Blowers				
		Level Switches (Hi/Low)				
		Explosion proof level transmitter				
		C) Conduiting , Wiring and cabling				
		Supply, installation, testing and commissioning of following cables:				
		Supplying, installing, testing of signal cables, 2C x 1.5 sqmm, copper unarmoured, ATC conductor mul stranded twisted shielded cable for signals and third party communication				
		Supplying, installing, testing of signal cables, 2C x 1.5 sqmm, copper unarmoured ATC conductor mul stranded shielded cable fopr DDC to DDC communication				
		Cat-6 networking cable				
		c. Supplying and fixing of following sizes of medium class MS conduit along with accessories in surface/ recess i/c cutting the wall and making good the same as required.				
		i) 25 mm				
		ii) 32 mm dia				
			Job.	1.00		-
		TOTAL				**-**

SCHEDULE OF QUNATITIES						
FIRE FIGHTING WORKS						
S.NO.	**DSR-E&M 2022**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
1	**18.1**	(A) Supplying, installation, testing and commissioning of Electric driven **Main Fire Pump** suitable for automatic operation and consisting of following, complete in all respects, as required :				
(a)		(B) Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical seal conforming to IS 1520.				
(b)		(C) Suitable HP Squirrel cage induction motor, TEFC, synchronous speed 1500 RPM, suitable for operation on 415 volts, 3 phase 50 Hz, AC supply with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-325.				
(c)		(D) M.S. fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.				
(d)		(E) Suitable cement concrete foundation duly plastered with anti vibration pads.				
	18.1.9	**1620 lpm at 56 m Head (For Main Electric Pump)**	Set	1.00		-
		Note: *The head of the pump is selected in a manner so as to give a minimum 3.5kgf/cm2 pressure at the highest/farthest point.				
2	**18.2**	(A) Supplying, installation, testing and commissioning of diesel engine driven main fire pump suitable for automatic operation and consisting of following, complete in all respects, as required : **(Diesel Driven Pump)**				
		(B) Horizontal type, multistage, centrifugal pump of cast of iron body and bronze impeller with stainless steel shaft, mechanical seal conforming to IS 1520.				
		(C) Suitable HP, 1500 RPM water cooled with radiator, diesel engine conforming to relevant IS standard complete with auto starting mechanism, 12 /24 volts electric starting equipment, diesel tank, exhaust pipe extended upto 10 m outside pump house duly insulated with 50 mm thick glass wool with 1.0 mm thick aluminium sheet cladding, residential silencer, instruments and protection as per standard specification, stop solenoid for auto stop in the event of fault with audio indications, painted with post office red colour etc. as required.				
		(D) M.S fabricated, common base plate, coupling, coupling guard, foundation bolts etc. as required.				
		(E) Suitable cement concrete foundation duly plastered and with anti vibration pads.				
	18.2.9	**1620 lpm at 56 m Head**	Set	1.00		-
		Note: *The head of the pump is selected in a manner so as to give a minimum 3.5kgf/cm2 pressure at the highest/farthest point.				
3	**18.3**	(A) Supplying, installation, testing and commissioning of electric driven pressurisation pump suitable for automatic operation and consisting of following, complete in all respects, as required : **(Jockey Pump)**				
		(B) Horizontal type, multistage, centrifugal pump of cast iron body and bronze impeller with stainless steel shaft, mechanical seal conforming to IS : 1520.				
		(C) Suitable HP squirell cage induction motor TEFC type suitable for operation on 415 volts, 3 phase 50 Hz AC supply with IP 55 class of protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS : 325.				
		(D) M.S.fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.				
		(E)Suitable cement concrete foundation duly plastered and with anti vibration pads.				
	18.3.3	**180 lpm at 56 m Head**	Set	1.00		-

SCHEDULE OF QUNATITIES						
FIRE FIGHTING WORKS						
S.NO.	**DSR-E&M 2022**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
4	**18.4**	(A) Supplying, installation, testing and commissioning of Electric driven Terrace Pump suitable for automatic operation and consisting of following, complete in all respects, as required **: (Terrace Pump)**				
		(B) Horizontal type, multistage, centrifugal, split casing pump of cast iron body & bronze impeller with stainless steel shaft, mechanical seal conforming to IS 1520.				
		(C) Suitable HP Squirrel cage induction motor, TEFC, type suitable for operation on 415 volts, 3 phase 50 Hz, AC supply with IP 55 protection for enclosure, horizontal foot mounted type with Class-'F' insulation, conforming to IS-325.				
		(D) M.S. fabricated Common base plate, coupling, coupling guard, foundation bolts etc. as required.				
		(E) Suitable cement concrete foundation duly plastered with anti vibration pads.				
	18.4.1	**900 lpm at 35 m Head**	Set	1.00		-
5		**CONTROL PANELS**				
	18.5	Fabrication, supply, Insallation testing & commissioning of Electrical control panel of cubical construction, floor mounted type, fabricated out of 2mm thick CRCA sheet, compartmentalised with hinged lockable doors, dust and vermin proof, powder coated of approved shade after 7 tank treatment process, cable alley, inter-connection with suitable size copper conductor cable/solid copper strip, having switchgears and accessories, mountings and internal wiring, earth terminals, numbering etc. complete in all respect, suitable for main fire pump, pressurisation pump & diesel pump set complete as per CPWD specification with following in coming and Outgoings, suitable for operation on 415V, 3 phase, 50Hz Ac Supply with enclosure protection class IP 42 as required :				
	18.5.4	**Incomings**				
		400A, 50kA 4 Pole MCCB, Ics=100% Icu Rating				
		Digital Voltmeter 0-500V with selector switch				
		Ammeter (0-400 A) with selector swtich & CTs etc.				
		LED type RYB phase indicating lamps, ON, OFF, trip indicating lamps				
		Set of Copper Bus Bar 500Amps				
		Outgoings				
		(Note : All outgoing feeders for pumps should have digital Ammeter with selector switches, and LED type ON, OFF, trip indicating lamps)				
		Main Fire Pump				
		125 Amp, 50kA TPN MCCB, Ics=100% Icu, with fully automatic Star/Delta starter suitable for 100 hp pump with overload protection, current sensing type single phase preventor complete with all acceessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation. - 2 sets				
		Jockey Pump				
		63 Amp, 50kA TPN MCCB, Ics=100% Icu, with Suitable HP fully automatic Star/Delta starter with overload protection, current sensing type single phase preventor complete with all acceessories and internal wiring required for automatic operation, selector switch for local/remote, auto/manual/OFF operation. 2 sets				
		DIESEL ENGINE CONTROL				
		Control for diesel engine comprising -				
		Automatic/Manual selctor switch & 3 attempts starting device, timers and relays as required, push buttons, start/stop in manual mode				
		Indicating lamp for high/ Low Lub. Oil pressure, High Water Temp and Engine on indication				

SCHEDULE OF QUNATITIES						
FIRE FIGHTING WORKS						
S.NO.	**DSR-E&M 2022**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
		Battery charger suitbale for 12V/24 V DC with boost and trickle selector switch, 0-30 V DC volt meter, and 0-20 A DC Ammeter				
		All standard relays and accessories for automatic operation of diesel engine.				
		System Controller				
		Designing, Supply, Installation, Testing and commissioning of system controller to control operation of main electric fire pump, diesel pump, Pressurization pump, Terrace pump in sequence as per specification consisting of relays, timers. Sensors, annunciation window for fault indication, complete as per specification.	Set	1.00		-
		PIPES & ACCESSORIES				
6	**18.7**	Providing, laying, testing & commissioning of 'C' class heavy duty **MS pipe** conforming to IS 3589/IS 1239 including Welding, fittings like elbows, tees, flanges, tapers, nuts bolts, gaskets etc. and fixing the pipe on the wall/ceiling with suitable clamp/support frame and painting with two or more coats of synthetic enamel paint of required shade complete as required :				
	18.7.1	25 mm dia.	M	632.50		-
	18.7.2	32 mm dia.	M	55.00		-
	18.7.3	40 mm dia.	M	55.00		-
	18.7.4	50mm dia.	M	187.00		-
	18.7.5	65 mm dia.	M	192.50		-
	18.7.6	80 mm dia.	M	60.50		-
	18.7.7	100 mm dia.	M	11.00		-
	18.7.8	150 mm dia.	M	297.00		-
	18.7.9	200 mm dia (wall thickness 6.3 mm)	M	11.00		-
7	**18.9**	Supplying and fixing single headed **internal hydrant valve** with instantaneous Gunmetal/Stainless Steel coupling of 63 mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type -A) with blank Gunmetal/Stainless Steel cap and chain as required :				
	18.9.2	Single headed Stainless steel	Each	11.00		-
8	**18.11**	Supplying, fixing, testing and commissioning of **butterfly valve** of PN 1.6 rating with bronze/gunmetal seat duly ISI marked complete with nuts, bolts, washers, gaskets conforming to IS 13095 of following sizes as required :				
	18.11.4	80mm dia.	Each	13.00		-
	18.11.5	100mm dia.	Each	1.00		-
	18.11.6	150mm dia.	Each	14.00		-
	18.11.7	200mm dia.	Each	1.00		-
9	**18.13**	Supplying and fixing orifice plate made out of 6 mm thick stainless steel (Grade 304) with orifice of required size to be fitted between flange & landing valve of external and internal hydrants to reduce pressure at the outlet to the level of 3.5 kg/cm2 complete as required.	Each	9.00		-
10	**18.14**	Providing, installation,testing and commissioning of **non-return valve** of following sizes confirming to IS:5312 complete with rubber gasket, GI bolts, nuts, washers etc.as required :				
	18.14.4	80 mm dia.	Each	1.00		-
	18.14.5	100 mm dia.	Each	1.00		-
	18.14.6	150 mm dia.	Each	3.00		-
11	**18.15**	Providing, installation, testing and commissioning of stainless steel **Y-strainer** fabricated out of 1.6 mm thick stainless steel, Grade 304, sheet with 3 mm dia holes with stainless steel flange.				
	18.15.4	200 mm dia.	Each	1.00		-
12	**18.16**	Supplying and fixing 63 mm dia, 15 m long **RRL hose** pipe with 63 mm dia male and female couplings duly bound with GI wire, rivets etc. conforming to IS 636 (type-A) as required :				

SCHEDULE OF QUNATITIES FIRE FIGHTING WORKS						
S.NO.	**DSR-E&M 2022**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
	18.16.2	Stainless Steel (Grade 304)	Each	22.00		-
13	**18.17**	Supplying and fixing **first-aid Hose Reel** with MS construction spray painted in post office red, conforming to IS 884 complete with the following as required.				
		20 mm nominal internal dia water hose thermoplastic (Textile reinforced) type -2 as per IS: 12585				
		20 mm nominal internal dia gun metal globe valve & nozzle.				
		Drum and brackets for fixing the equipmets on wall.				
		Connections from riser with 25 mm dia stop gun metal valve & M.S. Pipe and socket.				
	18.17.1	30 m	Each	11.00		-
14	**18.18**	Supplying & fixing 63 mm dia gun metal **short branch pipe** with 20 mm nominal internal diameter size nozzle conforming to IS 903 suitable for instantaneous connection to interconnect hose pipe coupling as required :				
	18.18.2	Stainless Steel (Grade 304)	Each	11.00		-
15	**18.19**	Supplying and fixing of **fire brigade connection** of cast iron body with gun metal male instantaneous inlet couplings complete with cap and chain as reqd. for suitable dia MS pipe connection conforming to IS 904 as required :				
	18.19.1	2 way-100 mm dia M.S. Pipe	Each	1.00		-
16	**18.20**	Supplying and fixing **air vessel** made of 250 mm dia, 8 mm thick MS sheet, 1200 mm in height with air release valve on top and flanged connection to riser, drain arrangement with 25 mm dia gun metal wheel valve with required accessories, pressure gauge and paintingwith synthetic enamel paint of approved shade as required.	Set	2.00		-
17	**18.21**	Providing, fixing, testing & commissioning of 15mm dia quartzoid bulb type **sprinklers** of rating 68 degree centigrade with required accessories :				
	18.21.2	Upright Sprinkler	Each	294.00		-
	18.21.3	Horizontal side wall sprinkler	Each	31.00		-
18	**18.22**	Providing & fixing of **pressure switch** in M.S. pipe line including connection etc. as required.	Each	3.00		-
19	**18.23**	Providing & fixing **flow switch** in following sizes M.S. pipe including connection etc as required.				
	18.23.2	150 mm dia	Each	1.00		-
20	**18.24**	Providing, fixing, testing & commissioning of **installation control valve** of cast iron body, brass/bronze working parts comprising of water motor alarm, bronze seat clapper, clapper arm and hydraulically driven mechanical gong bell to sound continuous alarm when the wet riser/sprinkler system activates, pressure gauges, emergency releases, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box, ball valves, MS pipe of required size, flanges, orifice plate, gasket etc of follwing sizes as required :				
	18.24.3	150 mm dia.	Set	1.00		-
21	**NSR-1**	Providing and fixing angle iron (40mmx40mmx5mm) door frame and MS sheet (6mm thick) cum glass shutter of size **2.1mtrx0.9mtr(N.S.)** with 25mmx25mmx3mm angle frame all around and stiffened in between i/c hinges, handle, locking arrangement, painting with approved synthetic enamel paint i/c sign writing on glass at internal hydrant including providing & fixing S.S. sheet 2mm thick on remaining portion above door to close opening i/c painting etc. as required. Glass shall be 6 mm thick.	Each	11.00		-

SCHEDULE OF QUNATITIES						
FIRE FIGHTING WORKS						
S.NO.	**DSR-E&M 2022**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
22	**NSR-2**	Providing and fixing following size **Pressure gauge** (0-15 Kg/Cm2) complete with shut off valve duly calibrated before installation complete as required & as per enclosed specification. 150mm dia.	Each	15.00		-
23	**NSR-3**	Providing, fixing, testing & commissioning of MS air vessel tank of pump room fabricated from 6mm thick MS plate, 400 mm in diameter and 2.0 m in height with dished ends fabricated from 8mm thick MS plate with Air release valve with stop cock, flanged inlet connection and drain arrangement with 25mm dia valve, pressure gauge with gun metal stop cock complete with all accessories as required and conforming to IS 4736-1968. Recommended dia. : 450 mm Height of shell : 2000mm Working pressure : 7 Kg/Sq.cm Test Pressure : 10 Kg/Sq.cm	Each	1.00		-
24	**NSR-4**	Providing and fixing inspectors **test assembly** complete with test valve, sight glass sectional drain valve, union with corrosion resistant orifice all complete strictly as per drawing. 50NB	Each	1.00		-
25	**NSR-5**	Supply, installation, testing and commissioning ISI marked (IS:15683) Fire Extinguisher, Carbon-di-oxide type capacity 4.5 Kg. Flat base including valve, discharge hose of not less than 10 mm dia, 1M long and complete in all respects including initial fill with CO2 gas conforming to IS:307-1966 and walll suspension braket as required as per specifications.	Each	11.00		-
26	**NSR-6**	Supply, installation, testing and commissioning of 6kg ABC (Powder Type) Fire Extinguisher. Mild Steel Cylinders ISI marked fitted with pressure indicating gauge, internal tube, squeeze lever type valve fully charged with ABC 90 powder (Mono Ammonium Phosphate) pressured by Nitrogen complete in all respects including wall suspension bracket and conforming to IS:15683 as required as per specifications.	Each	11.00		-
27	**NSR-7**	Providing and fixing stainless steel standard fireman's axe with heavy insulated rubber handle tested to 20000 volts as per IS : 926 complete.	Each	11.00		-
28	**NSR-8**	Providing and fixing fire brigade suction hose coupling (draw out connection) with nut for female coupling as per IS-902 complete with 150mm dia. Suction pipe and foot valve (to be connected to static tank) complete as required and as per enclosed specification.	Each	1.00		-
		TOTAL				**-**

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
S.NO.	DSR-E&M 2022	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
		INTERNAL ELECTRIFICATION				
		POINT WIRING				
1.0	1.3	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit with modular switch modular plate suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc.as required.				
1.1	1.3.2	**Group C**	Point	536.00		-
2.0	1.54	Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable in surface/ recessed steel conduit, and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required.				
2.1	1.54.2	**Group C**	Point	818.00		-
3.0	1.4	Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit, 2 way modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FR PVC insulated copper conductor single core cable etc as required.	Point	80.00		-
4.0	1.5	Wiring for power plug points with 2 x 4 sq.mm. FRLS PVC insulated, Cu. Conductor, single core cable in surface/ recessed steel conduit along with 1 No. 4 sq.mm. FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	3,300.00		-
5.0	1.6	Wiring for light plug points / power plug points with 4 x 4 sq.mm. FRLS PVC insulated, Cu. Conductor, single core cable in surface/ recessed steel conduit along with 2 Nos. 4 sq.mm. FRLS PVC insulated copper conductor single core cable for loop earthing as required.	Metre	2,500.00		-
6.0	1.7	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed Steel conduit as required				
6.1	1.7.1	2 x 1.5 sq.mm. + 1 x 1.5 sq.mm. earth wire.	Metre	3,573.00		-
6.2	1.7.2	2 x 2.5 sq.mm. + 1 x 2.5 sq.mm. earth wire.	Metre	3,615.00		-
6.3	1.7.4	2 x 6 sq.mm. + 1 x 6 sq.mm. earth wire	Metre	450.00		-
6.4	1.7.5	2x10 sq. mm + 1x6 sq. mm earth wire	Metre	300.00		-
6.5	1.7.9	4 X 6 sq. mm + 2 X 6 sq. mm earth wire	Metre	220.00		-
6.6	1.7.10	4 X 10 sq. mm + 2 X 6 sq. mm earth wire	Metre	1,050.00		-
6.7	1.7.11	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	Metre	500.00		-
7.0	1.25	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	Nos.	130.00		-
8.0	1.31	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch, connections etc. as required.	Nos.	125.00		-
9.0	1.56	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providng and fixing 2 nos. 3 pin 5/6 A modular socket outlet and 2 nos. 5/6 A modular switch, connections etc. as required.	Nos.	96.00		-
10.0	1.32	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 A & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	Nos.	276.00		-
11.0	1.57	Supplying & fixing suitable size GI box wih modular plate and cover in front on surface or in recess including providing and fixing 25 A modular socket outlet (near equipment point) and 25 A modular SP MCB, “C” curve (at accessible point) including connections, painting etc. as required.	Nos.	5.00		-
12.0	2.18	Supplying and fixing 20 A, 240 V, SPN Industrial type socket outlet, with 2 pole and earth, metal enclosed plug top alongwith 20 A "C" curve, SP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Nos.	10.00		-
13.0	2.19	Supplying and fixing 20 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top along with 20 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Nos.	4.00		-
14.0	2.20	Supplying and fixing 30 A, 415 V, TPN Industrial type socket outlet, with 4 pole and earth, metal enclosed plug top alongwith 30 A "C" curve, TPMCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	Nos.	4.00		-
15.0	1.24	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.				

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
15.1	1.24.7	TV antenna socket outlet	Each	6.00		-
15.2	1.24.6	Telephone socket outlet (RJ-11)	Nos.	79.00		-
15.3	NSR	LAN socket outlet (RJ-45)	Nos.	132.00		-
16.0	1.27	Supplying and fixing of following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc as required.				
16.1	1.27.1	1or 2 module (75mmx 75mm)	Each	217.00		-
17.0	1.20	Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required.				
17.1	1.20.1	20 mm	Metre	700.00		-
17.2	1.20.2	25 mm	Metre	850.00		-
17.3	1.20.3	32 mm	Metre	650.00		-
18.0	Civil 10.18	Providing and fixing circular/ Hexagonal cast iron or M.S. sheet box for ceiling fan clamp, of internal dia 140 mm, 73 mm height, top lid of 1.5 mm thick M.S. sheet with its top surface hacked for proper bonding, top lid shall be screwed into the cast iron/ M.S. sheet box by means of 3.3 mm dia round headed screws, one lock at the corners. Clamp shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing.	Each	130.00		-
19.0	1.34	Supplying and fixing brass batten/ angle holder including connection etc. as required.	Each	7.00		-
20.0	1.26	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	Each	72.00		-
21.0	NSR	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required.	Metre	240.00		-
22.0	NSR	Supply, erection, testing and commissioning of following sizes of splitter of aluminium die cast body in suitable size of G.I. Box.				
22.1	NSR	4 way	Nos.	2.00		-
22.2	NSR	6 way	No.	1.00		-
23.0	1.53	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in the existing surface/ recessed Steel/ PVC conduit as required.				
23.1	1.53.1	1 run of cable	Metre	2,370.00		-
23.2	1.53.2	2 run of cable	Metre	3,960.00		-
II.		**LIGHT FITTING & FANS**				
1.0	NSR	Supply, Installation, Testing and Commissioning of 9W recessed type LED downlight with maximum system and minimum system lumen 980lm available with coloured trim of various shade i.e rose gold/black/gold. CCT=4000/5700K (SDCM<3), CRI>80. Housing made of pressure die cast Aluminium. Specialy design optics made of aluminum reflector with beam angle 40 deg. The luminaire shall have a rated system lifetime of 50,000 burning hours at L70. The luminaire shall meet IP20 rating with THD<10% and PF > 0.95. Operating voltage 220-240V , 50/60 Hz .Fixture & Driver should be BIS compliant.Including 3 core 1.5 sq.mm FRLS PVC insulated and PVC sheathed copper conductor cable and earthing etc. Up to suitable point complete as required. Approved Make: Wipro LD07-111	Nos.	196.00		-
2.0	NSR	Supply, installation, testing & commissioning of 18W surface downlighter made of Pressure die cast aluminium suitable for general lighting. Luminaire should have die cast heat sink with polycarbonate cover. The luminaire should have CRI > 80 and CCT of 5700K, SDCM<3 as per ANSI Bin C78.377A. The luminaire shall be compliant with IP40 classification.The fixture should have a minimum system efficacy of 110 lumen/Watt and a minimum system lumen output of 1980 lumens. The luminaire shall be designed so as to ensure lumen depreciation of up to 30% over 50k burning hours @ design ambient temp 45 deg C. The isolated constant current electronic driver used shall have a power factor >0.95@full load , THD <5%, Surge protection 2.5KV, Operating voltage range: 100-265V AC, Fixture should have class I indulation. The fixture should comply with the parameters as per IS10322. Manufacturer shall have	Nos.	80.00		-

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
3.0	NSR	Supply, installation, testing & commissioning of 24W recessed type LED downlight with maximum system and minimum system lumen 2040lm. Lumianire should be available with dual optics with central COB and outer diffuser ring. Both will have seperate driver and can be operated seperately. LED should have CCT=4000/5700K (SDCM<3), CRI>80. Housing made of pressure die cast Aluminium. Specialy design optics made of aluminum reflector with beam angle 26/38/40/50/60 deg. The luminaire shall have a rated system lifetime of 50,000 burning hours at L70B0. The luminaire shall meet IP20 rating with THD<10%, PF > 0.95 and surge protection upto 2.5KV. Operating voltage 220-240V , 50/60 Hz .Fixture & Driver should be BIS compliant.Including 3 core 1.5 sq.mm FRLS PVC insulated and PVC sheathed copper conductor cable and earthing etc. Up to suitable point complete as required. Approved Make: Wipro LD07-321	Nos.	311.00		-
#####	NSR	Supply, Installation, Testing and Commissioning of backlit, 33W SMD LED 2x2 luminaire suitable for Armstrong / CRG /TRAC /USG/Celotex modular ceiling system having luminous efficacy of 100 lpw (3300lm) with dimension of 595mm x 595mm and height of 48mm. The luminaire should be able to be mounted on POP/Gypsum ceiling with the help of additional frame. Luminaire shall be made up of white powder coated extruded Aluminium housing with C shaped opal drop down diffuser for better volumetric illumination. The lumianire should supplied with inbuilt heat sink to provide better thermal management to enhance LED life. Luminaire should comply to LG7 guidelines. LM 80-08 compliant LEDs from reputed makes such as Nichia/Cree/ Bridgelux/ Lumiled/ Osram/Seoul should be provided. LEDs used in the product shall comply with EN 62471 for Photo-biological safety and certificate for the same from manufacturer shall be provided. The luminaire should be IP20 rated.	Nos.	331.00		-
1.0	NSR	Supply, Installation, Testing and Commissioning of Supply of 32 Watt 4 feet Surface / Suspended / Wall Mounted IP40 LED Batten with minimum luminaire system efficacy of 125 lm/w having a color temperature of 5700K and housing should made up of Aluminium Anodized Extruded with high efficiency Polycarbonate diffuser with intergrated isolated constant current driver, LEDs used are SMD, Life of LED 50000 burning Hrs. @L70 Lumen maintenance, CCT 5700K, CRI≥80, PF≥0.95 & THD<10%, an operating Voltage Range of 150 - 270 VAC. Minimum Internal Surge Protection 3KV. The fixture design should comply driver leakage current as per as per IEC 60598 along with BIS certification for LED Driver & Luminaire. Luminaire manufacture shall provide LM79 report from NABL accredited lab. Dimension: 1185 X 40 X 45mm, Weight: 0.55Kg. Approved Make: Wipro LL24-501-XXX-57-HE or equivalent in LT/Osram	Nos.	194.00		-
2.0	NSR	Supply, Installation, Testing and Commissioning of 100mm width IP20 linear suspended standalone fitting made of extruded aluminium housing and is should have high transmissive diffuser with UGR<19. Fixture should have minimum efficacy at System level (Not Chip Level) >120lumens/watt(SDCM<3) and a minimum system lumen output of 3000(downlight) lumens and maximum system wattage of 30W. Luminaire should have Life of 50000hrs@L70B0 Lumen maintenance at 45deg C ambient temperature, CCT up to 4000/5700K, IP20, IK02, CRI >80, PF >0.95, THD<10% at full load and an operating Voltage Range of 150 - 270 Internal Surge Protection 2KV. The fixture should comply with the parameters as per IS10322. Manufacturer shall have inhouse lab approved by NABL or ministry of science of govt of India. LM 79 and LM80 reports need to	Nos.	22.00		-

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
3.0	NSR	Supply, Installation, Testing and Commissioning of 2ft length, 10W LED Mirror luminaire wall mounted delivering minimum system lumen of 1100 lumens & the luminaire shall be with system efficacy 110 lm/W. The luminaire Housing shall be made of extruded aluminium & the diffuser shall be of PMMA/PC. The operating CCT shall be 6500K with CRI of ≥80, SDCM<5. The luminaire shall be with BIS Registered electronic driver with input voltage range of 150 to 270V , THD ≤ 10% & PF ≥ 0.95. LED Life with L70 Criteria should be 50,000 hours. IP20 protection. The LED Driver shall be easily available in India for repair and service. The LED shall be SMD type. Luminaire shall have minimum surge protection of 2.5KV. The luminaire shall be with following certifications: LM79 & LM80 issued by LED manufacture along with Photo Biological Safety Standard. Approved make: Wipro LL20-111 or equivalent	Nos.	40.00		-
4.0	NSR	Supply, Installation, Testing and Commissioning of DALI dimmable IP20 linear suspended standalone/continuous fitting made of extruded aluminium housing with white powder coating and is should have Microstructured antiglare optical lens. Fixture should have minimum efficacy at System level (Not Chip Level) >120lumens/watt(SDCM<3) and a minimum system lumen output of 2400 (downlight) lumens and maximum system wattage of 20W and Beam angle 60-65deg, sheilding angle should be greater than 65deg. Fixture should have office complaince i.e UGR<16. Luminaire should have Life of 50000hrs@L70B0 Lumen maintenance at 45deg C ambient temperature, CCT up to 4000K, IK02, CRI >80, PF >0.95, THD<10% at full load, EMC/EMI compliance and an operating Voltage Range of 150 - 270V AC & Internal Surge Protection 3KV. The fixture should comply with the parameters as per IS10322	Nos.	5.00		-
5.0	NSR	Supply, Installation, Testing and Commissioning of Supply of 40±2W High efficient deep recess mounted COB LED downlighter delivering an initial system lumen of 4000 lumens with system efficacy ≥ 100lm/W. Die cast aluminium housing with UGR<15. High efficiency reflector optics, 60 deg beam optics, effiective thermal management using aluminium casting. CRI>80, CCT - 5700K, 50,000 hrs @ L70 life and SDCM<3. IP20, Driver efficiency≥85%, PF≥0.95, Surge protection - 3 kV with High and Low Input Voltage Cutoff protection, driver shall be suitable for voltage range 120-270V AC. Cutout Dia-ø154mm. The LED Driver shall be easily avaiable in India for repair and service. The luminaire shall be with following certifications: LM79 & LM80 issued by LED manufacture along with Photo Biological Safety Standard. Dimensions: ø170 X 82mm (±2mm), Approved Make: Wipro LD56-501-060-40-XX or equivalent	Nos.	12.00		-
6.0	NSR	Supply, Installation, Testing and Commissioning of wireless IoT System having BLE 5.2 AES 128 Bit encyption based 4 child DALI controller, operates on 90-277 VAC, 65mA, 50Hz, following DALI 2.0 protocol. It must have auxillary power output of 12V DC & 100mA to power sensor devices & 8mA current connected to 4 DALI drivers, 0 - 100% dimming, device to device range 45m. Controller must individually control standard DALI or Tunable DALI Drivers independantly or combination of both. Operating temperature -20 to 50 deg celsius, surge protection 4kV. System shall support easy commissioning and configuration via Mobile Application along with user and site management features. Optional Cloud Application must be available for control and monitoring of the devices along with analytics reports. Mobile Application shall have features of individual & group control for On/off/dimming/ colour tuneing / Scene Control / Animation etc. Device must have security key for commissioning and replacement for future. Approved Make: Wipro WCAD1N or equivalent	Nos.	5.00		-
7.0	NSR	Supply, Installation, Testing and Commissioning of wireless IoT System having BLE 5.2 AES 128 Bit encyption based 32 child DALI controller and analog 2 channel (0-10V) output, operates on 100-277 VAC, 10-30mA, 50Hz, DALI 2.0 protocol. Sensor input of 0-3V DC & 1mA. For analog dimming, It provides output voltage of 0-10V DC +/- 0.2V and 15mA per channel. For DALI output, it provides 12-20V DC and 160mA max for 32 DALI devices. An auxillary power output of 3.3VDC and 30mA. 0 - 100% dimming, device to device range 45m. Controller must control individually control standard DALI or Tunable DALI Drivers independantly or combination of both. Operating temperature -20 to 50 deg celsius, surge protection 3kV. System shall support easy commissioning and configuration via Mobile Application along with user and site management features. Optional Cloud Application must be available for control and monitoring of the	Nos.	-		-

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
8.0	NSR	Supply, Installation, Testing and Commissioning of 10W Wall mounted LED Bulkhead Light delivering minimum system lumen of 1000 lm & the luminaire shall be with system efficacy ≥ 100 lm / W. Housing & Rim is Pressure Die Cast Aluminium, IP65, IK10, Optics: Polycarbonate Opal high transmissive Diffuser, Ambient temp 45deg C . The operating CCT shall be 4000/5700K with CRI of ≥80. The luminaire shall be BIS Registered with isolated electronic driver with input voltage range of 140 to 280V , Current THD ≤ 10% & PF ≥ 0.95, 50,000 Hrs luminaire Life with L70 Criteria. Shall have minimum surge protection of 2.5KV. The LED Driver shall be easily avaiable in India for repair and service. The LED shall be SMD type.The luminaire shall be with following certifications: LM79 & LM80 issued by LED manufacturer along with Photo Biological Safety Standard. It should have Electrical class I insulation. Dimension: 181 X 113 X 65mm, Weight: 0.45Kg. Approved Make: Wipro LW07-141 or equivalent	Nos.	25.00		-
9.0	NSR	Supply, Installation, Testing and Commissioning of Black painted Extruded aluminium housing. Green / Red LED's mounted inside the housing. Laser engraved Signage matter on Single / Double Acrylic sheet fixed on one side. In double sided version black paper is inserted. Ni-Cd Battery back up to 2 hrs. (Charged up to 8 - 10 Hrs).Mounting strings provided for pendent mounting Operating Voltage 150-280V AC Ambient operating temperature. – 0 to 450C Ingress protection – IP42.	Nos.	24.00		-
10.0	19.1	Supply, Installation, Testing and Commissioning of 1200 mm sweep, BEE 5 star rated, ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, Power Factor not less than 0.9, Service Value (CM/M/W) minimum 6.00, Air delivery minimum 210 Cum/Min , 350 RPM (tolerance as per IS : 374-2019), THD less than 10%, remote or electronic regulator unit for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 degree C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC Supply, earthing etc. complete as required.	Nos.	130.00		-
11.0	NSR	Supply and fixing of 300 mm sweep metallic body Fresh air fan with all accessories suitable for operation single phase 230 volt 50 cycle per second per sec. AC supply etc. as required. in the existing opening, including making the hole to suit the size of the above fan, making good the damage, connection, testing, commissioning earthing etc. as required.	Nos.	22.00		-
12.0	NSR	Supply, Installation, Testing and Commissioning of BLE 5.2 AES 128 Bit encyption based, AC Powered Wireless PIR Motion & Light Sensor (0-2000 lux). Operates on input voltage of 90-277 V AC with input current of 9mA at 230VAC and 15mA at 90VAC, 50Hz. Ceiling mounted with maximum height of 4m and maximum detection range of 14m dia at 4m mounting height. Device to device range 45m, operating temperature 0 to 80 deg celsius, surge rating 4kV. System shall support easy commissioning and configuration via Mobile Application along with user and site management features. Optional	Nos.	20.00		-
13.0	NSR	Supply, Installation, Testing and Commissioning of BLE 5.2 AES 128 Bit encyption based wireless battery powered 5-button wall switch that controls ON/OFF, intensity and CCT of an individual or group of luminaires.Operates on 3V DC input voltage in an ambient temperature of 0 to 50 deg celsius and device to device range 45m. System shall support easy commissioning and configuration via Mobile Application along with user and site management features. Optional Cloud Application must be available for control and monitoring of the devices along with analytics reports. Approved Make: Wipro WSC5B or equivalent in Lutron/Schneider	Nos.	5.00		-
		LANDSCAPE LIGHTING				
1.0	NSR	Supply, Installation, Testing and Commissioning of pole mounted round stylish post top 50w led 3000k with 360° beam indirect light emission , pressure die cast aluminium alloy body uv stablised injestion molded clear diffuser ip65 aditional external surge protection upto 10kva	Nos.	10.00		-
1.1	NSR	Supply, Installation, Testing and Commissioning of 3.5mtr ms tubular pole with pu painted as per mounting arrangements with fixing acessories	Nos.	10.00		-

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
2.0	NSR	Supply, Installation, Testing and Commissioning of smart energy pole mounted street light 80w led 3000k cri 85+ with clear toughend glass 4mm thik inside high efficency asymmetric forward through starda optics with integral driver 4kv surge pf 0.95, protection /ip66/ik08 input power 240-ac pole spigot60-76mm polester resign powder coating	Nos.	14.00		-
2.1	NSR	Supply, Installation, Testing and Commissioning of 6mtr ms pole with pu painted as per mounting arrangements with fixing acessories	Nos.	14.00		-
3.0	NSR	Supply, Installation, Testing and Commissioning of ground mounted bollard benten tardis fpe051 6w led 3000 360° beam diemension height 650mm width-108mm ip65 rated with grey finish	Nos.	18.00		-
4.0	NSR	Supply, Installation, Testing and Commissioning of wall recessed mounted step light st2036 10w 3000k 460lm ip65 die cast aluminum built in driver diemension l- 320* w-105* d-115mm with standard finish , black , dark grey / light grey	Nos.	18.00		-
5.0	NSR	Supplying, Installation, Testing and Commissioning of Extruded Aluminum Profile with high efficiency MCPCB LED filled by half RESIN 7.5W/Mtr 3000K WXH: 17mm x 8mm LED INPUT VOLT -12V-24V DC with all mounting acessories IP67 driver High effeciency MCPCB Mac adam LED	Nos.	30.00		-
5.1	NSR	Supplying, Installation, Testing and Commissioning of 12-24V DC 100W IP67 POWR SUPPLY	Nos.	10.00		-
6.0	NSR	Supplying, Installation, Testing and Commissioning of METPO, Floor Recessed led with Aluminium die cast material, FPPE1434 , 3W Floor Recessed 3000K Beam - 99° (2-way), Light Dimension 55 x 86mm Cut-out 80 mm , IP67	Nos.	20.00		-
7.0	NSR	Supplying, Installation, Testing and Commissioning of AQUA ,FPE1197 , 2.4W Floor Recessed Light 3000K Beam -23° , Light Dimension42 x 92mm, Cut-out 40mm ,IP68	Nos.	18.00		-
8.0	NSR	Supply, Installation, Testing and Commissioning of ground mounted 1 cob led 5w 266.4 lm 3000k 25° beam ip66 ik06 with spike & anti glare visor builtin driver.220v-240v	Nos.	20.00		-

SCHEDULE OF QUNATITIES						
		ELECTRIAL WORK				
9.0	NSR	Supply, Installation, Testing and Commissioning of ground mounted 1 cob led 10w 768 lm 3000k 40° beam ip66 ik06 with spike & anti glare visor builtin driver.220v-240v	Nos.	15.00		-
		COURTYARD LANDSCAPE				
10.0	NSR	Supply, Installation, Testing and Commissioning of ground mounted 1 cob led 5w 266.4 lm 3000k 25° beam ip66 ik06 with spike & anti glare visor builtin driver.220v-240v	Nos.	18.00		-
11.0	NSR	Supplying, Installation, Testing and Commissioning of Extruded Aluminum Profile with high efficiency MCPCB LED filled by half RESIN 7.5W/Mtr 3000K WXH: 17mm x 8mm LED INPUT VOLT -12V-24V DC with all mounting acessories IP67 driver High effeciency MCPCB Mac adam LED	Nos.	60.00		-
11.1	NSR	Supply, Installation, Testing and Commissioning of 12-24v dc 100w ip67 powr supply	Nos.	12.00		-
12.0	NSR	Supply, Installation, Testing and Commissioning of ground mounted 1 cob led 15w 768 lm 3000k 21° beam ip66 ik06 with spike & anti glare visor builtin driver.220v-240v	Nos.	12.00		-
13.0	NSR	Supplying, Installation, Testing and Commissioning of PRODUCT CODE :- LA-IB7022 Power :- 1.3W CCT:- 3000K CRI :- 80+ IP Rating :- IP67 IK RATING:- IK10 OPTICS :- 120 deg Control :- N/A Material :- Stainless steel Finish :- Tempered glass Dimensions (L) :- 100mm Dimensions (W) :- 100mm Dimensions (H) :- 69mm Power Factor :- 0.9	Nos.	10.00		-
14.0	NSR	Supplying, Installation, Testing and Commissioning of 24V DC DRIVER 150W IP67	Nos.	2.00		-
15.0	NSR	Supplying, Installation, Testing and Commissioning of Elegant and powerful fixed-base gobo projector to match the entire ODESSA luminaire made of high purity pressure die cast aluminum of 37W with system lumen 249lm, outdoor rated IP66, IK08 CCT 3000K Non Dim in modern shape having Diameter of 130mm & Height 259mm with weight of 1.7 Kg made of low copper LM6 alloy aluminum with UV stablized powder coated ensure corrosion resistant and color stablity with stainless steel fastner marine grade 316, durable silicone gasket suitable for corrosion, Luminaire should have compliance to L80/B10 at 50000 hrs , 3 SDCM (3-Step MacAdam ellipse) reports. Offered brand should have In house testing facility for TM30-15 as per CIE Ra and CIE R9 can be verified by the client . Luminaire should have CE mark and confirming to EN standards. Painting prep should have 15 minutes chemical chromatisation for high corrision resistance with 5 years warranty.	Nos.	1.00		-
16.0	NSR	Supplying, Installation, Testing and Commissioning of IP67 outdoor recessed ground 10W LED Narrow beam optics with recessing box, monochrome white CCT 3000K. Load type 100-277V AC, Minimum luminous flux 720 lm, Minimum LED lumen 66 lm Lamp life ≥50,000 hrs L80/B10, MacAdam≤ 3, CRI ≥ 80, R9 range is 50-70 with minimum IK07+,class I impact and safety protection, Ground-recessed LED projector luminaire should be designed for high-performance with optics, trim, lenses and control options. The fixture should be plug and play design for simplifies installation, protecting the system from water infiltration and ensuring long-lasting performance. Built with robust, high quality materials, with an option of resistance to harsh environments, has a Drive-Over load bearing capacity of 5000kg. Silicone rubber gasket. Factory-sealed termination chamber complete with cable gland and 0.5 m of flexible PVC free cable. Integral EC electronic converter. Advanced thermal management to protect LEDs and to optimise lumens output. Removable LED boards for upgrading. Finish to match with adjoining mounting surface finish color. Final Optics to be determined after mockup and to be confirmed with Lighting designer, Architect and Engineer in-charge prior to order. Vendor to Supply fixture with LED, Dimmable Power supply and control unit, all mounting and installation accessories.Non Dim.	Nos.	8.00		-
III.		**DISTRIBUTION BOARDS**				
1.0	2.3	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)				
1.1	2.3.2	8 way, Double door	Nos.	2.00		-
1.2	2.3.3	12 way, Double door	Nos.	4.00		-

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
2.0	2.4	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)				
2.1	2.4.2	6 Way (4+18), Double Door	Nos.	2.00		-
2.2	2.4.3	8 Way (4+24), Double Door	Nos.	18.00		-
2.3	NSR	12 way (4 + 36), Double door	Nos.	10.00		-
3.0	2.5	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required . (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.)				
3.1	2.5.1	4 way Double door (4 + 12)	Nos.	4.00		-
4.0	2.25	Supplying and fixing Cable End Box (Loose Wire Box) suitable for triple pole and neutral, sheet steel, Vertical MCB distribution board, 415 Volts, on surface/ recess, complete with testing and commissioning etc. as required.	Nos.	4.00		-
5.0	2.23	Supplying and fixing Cable End Box (Loose Wire Box) suitable for following single pole and neutral, sheet steel, MCB distribution board, 240 Volts, on surface/ recess, complete with testing and commissioning etc. as required.				
5.1	2.23.2	For 8 way, Double door SPN MCBDB	Nos.	2.00		-
5.2	2.23.4	For 14 way, Double door SPN MCBDB	Nos.	4.00		-
6.0	2.24	Supplying and fixing Cable End Box (Loose Wire Box) suitable for following triple pole and neutral, sheet steel, MCB distribution board, 415 Volts, on surface / recess, complete with testing and commissioning etc.as required.				
6.1	2.24.2	For 6 way, Double door TPN MCBDB	Nos.	2.00		-
6.2	2.24.3	For 8 way, Double door TPN MCBDB	Nos.	28.00		-
7.0	2.10	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
7.1	2.10.1	Single pole	Nos.	688.00		-
8.0	NSR	Supplying and fixing following rating, **double pole**, 240 volts, MCB complete with connections, testing and commissioning etc. as required.				
8.1	NSR	40 Amp DP MCB	Nos.	6.00		-
9.0	NSR	Supplying and fixing of following rating, 240/415 volts, "C" curve, **four pole miniature circuit breaker** suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
9.1	NSR	25 Amp FP MCB	Nos.	2.00		-
9.2	NSR	40 Amp FP MCB	Nos.	18.00		-
9.3	NSR	63 Amp FP MCB	Nos.	14.00		-
10.0	2.14	Supplying and fixing of following rating double pole (Single phase and neutral) 240 volts, **residual current circuit breaker (RCCB)**, having a current sensivity current 30 miliampere in the existing MCB DB complete with connections, testing & commissioning etc. as required.				
10.1	2.14.1	25 Amps	Each	6.00		-
10.2	2.14.2	40 Amp	Each	60.00		-
10.3	2.14.3	63 Amp	Each	30.00		-
11.0	NSR	Supplying and fixing of following rating, 240/415 volts, "C" curve, three pole miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.				
11.1	NSR	25 Amp TP MCB	Nos.	30.00		-
11.2	NSR	40 Amp TP MCB	Nos.	18.00		-
12.0	2.11	Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required.	Nos.	34.00		-
IV.		**DISTRIBUTION PANELS**				
		Design, Manufacturing, Supply, Installation, Testing & Commissioning of cubicle type totally enclosed free standing / Wall mounted type moisture, dust and vermin proof compartmentlized Floor Distribution Panel made out of 2.0 mm thick of Main members & front cover 1.6 mm thick CRCA sheet complete with internal wiring with suitable size wires / cable, interconnection, painting complete as per specification & drawing. All the Multi Function Meter / KWH Meter shall be with RS 485 port / SCADA or BMS Connectivity.				
		The MCCB rating up to 250A shall have thermal megnatic based adjustable over current, short circuit protection and above 250A MCCB shall have microprocessor based adjustable over current, short circuit, earth fault protection.				
		All Main Distribution board / Sub Distribution board / Meter boards which are located inside various blocks shall be partially Type Tested assemblies (PTTA) as per conforming to IEC-61439-1				

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
		The Moulded Case Circuit Breaker shall have a minimum fault breaking capacity (Ics) of not less than 35 KA & 25KA RMS for one second at 415 volts for MDB / SDB respectively. MCCB's above 63A should be provided with Copper & procader terminals. Incomer of Meter Board shall have a minimum short circuit breaking capacity (Ics) of 25KA for one second at 415volt.				
1.0	NSR	**MAIN LIGHT PANEL GROUND FLOOR**				
		INCOMING				
		1 No. 160 Amp FP Moulded Case Circuit Breaker with thermal magnetic based adjustable O/C, S/C & E/F protections.				
		1 Set of phase indicating lamps with MCB.				
		1 Set of ON/OFF/TRIP indicating lamps with MCB.				
		1 No. Digital Voltmeter with Voltage Setector Switch.				
		1 No. Digital Ammeter with Ampere Setector Switch.				
		BUSBAR				
		200 Amp TPN aluminium busbar with coloured heat shrinkable sleeve.				
		OUTGOING				
		13 Nos. 40 Amp FP Miniature Circuit Breaker.				
		Panel described as above	No.	1.00		-
2.0	NSR	**MAIN POWER PANEL GROUND FLOOR**				
		INCOMING				
		1 Nos. 320 Amp FP Moulded Case Circuit Breaker with microprocessor based adjustable O/C, S/C & E/F protections.				
		1 Set of phase indicating lamps with MCB.				
		1 Set of ON/OFF/TRIP indicating lamps with MCB.				
		1 No. Digital Voltmeter with Voltage Setector Switch.				
		1 No. Digital Ammeter with Ampere Setector Switch.				
		BUSBAR				
		400 Amp TPN aluminium busbar with coloured heat shrinkable sleeve.				
		OUTGOING				
		13 Nos. 63 Amp FP Miniature Circuit Breaker.				
		Panel described as above	No.	1.00		-
3.0	NSR	**UPS OUTGOING PANEL (2 X 50 KVA UPS)**				
		INCOMING				
		2 Nos. 100 Amp FP Moulded Case Circuit Breaker with thermal magnetic based adjustable O/C, S/C & E/F protections.				
		2 Sets of phase indicating lamps with MCB.				
		2 Sets of ON/OFF indicating lamps with MCB.				
		2 Nos. Digital Voltmeter with Voltage Setector Switch.				
		2 Nos. Digital Ammeter with Ampere Setector Switch.				
		BUSBAR				
		150 Amp TPN aluminium busbar with coloured heat shrinkable sleeve.				
		OUTGOING				
		11 Nos. 40 Amp FP Miniature Circuit Breaker.				
		5 Nos. 40 Amp DP Miniature Circuit Breaker.				
		Panel described as above	No.	1.00		-
4.0	NSR	**MAIN VENTILATION PANEL (BASEMENT FLOOR)**				
		INCOMING				
		1 No. 125 Amp FP Moulded Case Circuit Breaker with thermal magnetic based adjustable O/C, S/C & E/F protections.				
		1 Set of phase indicating lamps with MCB.				
		1 Set of ON/OFF/TRIP indicating lamps with MCB.				
		1 No. Digital Voltmeter with Voltage Setector Switch.				
		1 No. Digital Ammeter with Ampere Setector Switch.				
		BUSBAR				
		150 Amp TPN aluminium busbar with coloured heat shrinkable sleeve.				
		OUTGOING				
		10 Nos. 32 Amp TPN Miniature Circuit Breaker.				
		Panel described as above	No.	1.00		-
5.0	NSR	**VRV OUTDOOR PANEL (TERRACE)**				
		INCOMING				
		2 Nos. 320 Amp FP Moulded Case Circuit Breaker with microprocessor based adjustable O/C, S/C & E/F protections.				
		2 Sets of phase indicating lamps with MCB.				
		2 Sets of ON/OFF/TRIP indicating lamps with MCB.				
		1 No. Digital Voltmeter with Voltage Setector Switch.				
		1 No. Digital Ammeter with Ampere Setector Switch.				
		BUSBAR				
		400 Amp TPN aluminium busbar with coloured heat shrinkable sleeve.				
		BUSCOUPLER				
		1 No. 320 Amp FP Moulded Case Circuit Breaker.				
		OUTGOING				
		7 Nos. 80 Amp FP Moulded Case Circuit Breaker with thermal magnetic based adjustable O/C, S/C protections.				
		9 Nos. 63 Amp FP Moulded Case Circuit Breaker with thermal magnetic based adjustable O/C, S/C protections.				
		Panel described as above	No.	1.00		-
V.		**EARTHING AND LIGHTNING PROTECTION**				

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
1.0	5.4	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	Each	24.00		-
2.0	5.6	Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	Each	6.00		-
3.0	5.7	Supplying and laying 6 SWG G.I. wire at 0.50 metre below ground level for conductor earth electrode, including connection/ termination with GI thimble etc. as required.	Meter	700.00		-
4.0	5.14	Supplying & laying of 25 X 5 mm G.I. Strip at 0.50 metre below ground as strip earth, including connection / terminating with G.I. nuts, bolt, spring, washer, etc. as required. (Jointing shall be done by overlapping & 2 sets of G.I. nut bolt & spring washer spaced at 50 mm)	Meter	240.00		-
5.0	5.14	Supplying & laying of 25 X 5 mm Copper Strip at 0.50 metre below ground as strip earth, including connection / terminating with nuts, bolt, spring, washer, etc. as required. (Jointing shall be done by overlapping & 2 sets of brass nut bolt & spring washer spaced at 50 mm)	Meter	60.00		-
6.0	5.15	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	Meter	1,130.00		-
7.0	5.14	Providing and fixing 25 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	Meter	300.00		-
8.0	NSR	Providing and fixing 50 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	Meter	200.00		-
9.0	NSR	Providing and fixing 32 mm X 5 mm copper strip on surface or in recess for connections etc. as required.	Meter	100.00		-
10.0	6.2	Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required.	Each	2.00		-
11.0	6.3	Fixing of lightning conductor finial (single prong) with base plate including holes etc. complete as required.	Each	2.00		-
12.0	6.4	Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc as required.	Each	181.25		-
13.0	6.7	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For horizontal run)	Meter	600.00		-
14.0	6.8	Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or surface of wall for lightning conductor complete as required.(For vertical run)	Meter	850.00		-
15.0	6.12	Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 nos. of G.I. bolts, nuts, chuck nuts and spring washers etc. complete as required.	Each	60.00		-
16.0	6.14	Providing and laying G.I. tape 32 mm X 6 mm from earth electrode directly in ground as required.	Meter	250.00		-
VI.		**CABLES, CABLE TRAY'S, RACE WAYS**				
1.0	NSR	Supplying & laying following 1.1kV grade, heavy duty XLPE insulated PVC Sheathed Aluminum Conductor FRLS type armoured cables suitable for 415V, 50Hz, AC system, with inner and outer PVC sheath, outer sheath provided with FRLS insulation, galvanised steel armouring (round or flat as mentioned) and with all components as mentioned in BOQ, specifications and schedule, complete etc. as required.				
1.1	NSR	3.5 core, 300 sq.mm.	Meter	100.00		-
1.2	NSR	3.5 core, 185 sq.mm.	Meter	150.00		-
1.3	NSR	3.5 core, 150 sq.mm.	Meter	465.00		-
1.4	NSR	3.5 core, 95 sq.mm.	Meter	115.00		-
1.5	NSR	3.5 core, 70 sq.mm.	Meter	190.00		-
1.6	NSR	3.5 core, 50 sq.mm.	Meter	305.00		-
1.7	NSR	3.5 core, 35 sq.mm.	Meter	265.00		-
1.8	NSR	4 core, 25 sq.mm.	Meter	200.00		-
1.10	NSR	4 core, 6 sq.mm.	Meter	600.00		-
1.11	NSR	4 core, 4 sq.mm.	Meter	200.00		-
2.0	NSR	Supplying & laying following 1.1kV grade, heavy duty XLPE insulated PVC Sheathed Copper Conductor FRLS type armoured cables suitable for 415V, 50Hz, AC system, with inner and outer PVC sheath, outer sheath provided with FRLS insulation, galvanised steel armouring (round or flat as mentioned) and with all components as mentioned in BOQ, specifications and schedule, complete etc. as required.				
2.1	NSR	4 core, 16 sq.mm.	Meter	50.00		-
2.2	NSR	4 core, 10 sq.mm.	Meter	350.00		-
3.0	NSR	Supplying & laying of following sizes of XLPE insulated PVC sheathed, Mica Tape Lapped, Fire survival (750 deg. C for duration of 3 hours maintaining circuit integrity as per BS : 6387 / IS 60331) Aluminium conductor armoured cables as per specifications.				
3.1	NSR	3 core, 70 sq.mm.	Meter	70.00		-
4.0	NSR	Supplying & laying of following sizes of XLPE insulated PVC sheathed, Mica Tape Lapped, Fire survival (900 deg. C for duration of 3 hours maintaining circuit integrity as per BS : 6387 / IS 60331) copper conductor armoured cables as per specifications.				

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
4.1	NSR	4 core, 16 sq.mm.	Meter	200.00		-
4.2	NSR	3 core, 10 sq.mm.	Meter	70.00		-
4.3	NSR	3 core, 4 sq.mm.	Meter	1,280.00		-
5.0	9.1	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 kV grade as required.				
5.1	9.1.30	3.5 core, 300 sq.mm. (70mm)	Nos	2.00		-
5.2	9.1.29	3.5 core, 240 sq.mm. (62mm)	Nos	12.00		-
5.3	9.1.27	3.5 core, 185 sq.mm. (57mm)	Nos	4.00		-
5.4	9.1.26	3.5 core, 150 sq.mm. (50mm)	Nos	14.00		-
5.5	9.1.24	3½ X 95 sq. mm (45mm)	Nos	2.00		-
5.6	9.1.23	3½ X 70 sq. mm (38mm) (also used for 3C X 70 sq. mm cable)	Nos	10.00		-
5.7	9.1.22	3½ X 50 sq. mm (35mm)	Nos	18.00		-
5.8	9.1.21	3½ X 35 sq. mm (32mm)	Nos	26.00		-
5.9	9.1.34	4 X 25 sq. mm (28mm)	Nos	16.00		-
5.10	9.1.32	4 X 10 sq. mm (25mm) (also used for 6 sq. mm cable)	Nos	24.00		-
6.0	NSR	Supplying and making end termination with brass compression gland and copper lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 kV grade as required.				
6.1	NSR	4 X 16 sq. mm	Nos	10.00		-
6.2	NSR	4 X 10 sq. mm	Nos	18.00		-
6.3	NSR	3 X 10 sq. mm	Nos	4.00		-
6.4	NSR	3 X 4 sq. mm	Nos	64.00		-
7.0	NSR	Supplying, laying and making end termination with brass compression gland and copper lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 kV grade as required.				
7.1	NSR	1C X 50 sq. mm	Meter	360.00		-
7.2	NSR	1C X 16 sq. mm	Meter	100.00		-
8.0	4.6	Supplying and installing following size of **perforated Hot Dipped Galvanised Iron cable tray** (galvanisation thickness not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
8.1	4.6.1	100 mm width x 50 mm depth x 1.6 mm thickness	Meter	50.00		-
8.2	4.6.2	150 mm width x 50 mm depth x 1.6 mm thickness	Meter	75.00		-
8.3	4.6.4	300 mm width x 50 mm depth x 1.6 mm thickness	Meter	75.00		-
8.4	4.6.6	450 mm wide x 50 mm depth x 2.0 mm thickness.	Meter	80.00		-
8.5	4.6.7	600 mm width X 50 mm depth X 2.0 mm thickness	Meter	50.00		-
8.6	4.6.12	750 mm width X 62.5 mm depth X 2.0 mm thickness	Meter	25.00		-
9.0	4.7	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray **"bends"** (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
9.1	4.7.1	100 mm width x 50 mm depth x 1.6 mm thickness	Nos.	4.00		-
9.2	4.7.2	150 mm width x 50 mm depth x 1.6 mm thickness	Nos.	6.00		-
9.3	4.7.4	300 mm width x 50 mm depth x 1.6 mm thickness	Nos.	8.00		-
9.4	4.7.6	450 mm wide x 50 mm depth x 2.0 mm thickness.	Nos.	4.00		-
9.5	4.7.7	600 mm width X 50 mm depth X 2.0 mm thickness	Nos.	4.00		-
9.6	4.7.12	750 mm width X 62.5 mm depth X 2.0 mm thickness	Nos.	2.00		-
10.0	4.8	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray **"Tee"** (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
10.1	4.8.1	100 mm width x 50 mm depth x 1.6 mm thickness	Nos.	2.00		-
10.2	4.8.2	150 mm width x 50 mm depth x 1.6 mm thickness	Nos.	2.00		-
10.3	4.8.4	300 mm width x 50 mm depth x 1.6 mm thickness	Nos.	2.00		-
10.4	4.8.6	450 mm wide x 50 mm depth x 2.0 mm thickness.	Nos.	1.00		-
10.5	4.8.7	600 mm width X 50 mm depth X 2.0 mm thickness	Nos.	1.00		-
10.6	4.8.12	750 mm width X 62.5 mm depth X 2.0 mm thickness	Nos.	1.00		-
11.0	4.9	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray **"Cross member"** (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
11.1	4.9.1	100 mm width x 50 mm depth x 1.6 mm thickness	Nos.	1.00		-
11.2	4.9.2	150 mm width x 50 mm depth x 1.6 mm thickness	Nos.	1.00		-
11.3	4.9.4	300 mm width x 50 mm depth x 1.6 mm thickness	Nos.	1.00		-
11.4	4.9.6	450 mm wide x 50 mm depth x 2.0 mm thickness.	Nos.	1.00		-
11.5	4.9.7	600 mm wide x 50 mm depth x 2.0 mm thickness.	Nos.	1.00		-
11.6	4.9.12	750 mm wide x 62.5 mm depth x 2.0 mm thickness.	Nos.	1.00		-
12.0	4.10	Supplying and installing following size of perforated Hot Dipped Galvanised Iron cable tray **"Reducer"** (galvanisation not less than 50 microns) with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with G.I. suspenders including G.I. bolts & nuts, etc. as required.				
12.1	4.10.1	100 mm width x 50 mm depth x 1.6 mm thickness	Nos.	1.00		-
12.2	4.10.2	150 mm width x 50 mm depth x 1.6 mm thickness	Nos.	1.00		-
12.3	4.10.4	300 mm width x 50 mm depth x 1.6 mm thickness	Nos.	1.00		-
12.4	4.10.6	450 mm wide x 50 mm depth x 2.0 mm thickness.	Nos.	1.00		-
12.5	4.10.7	600 mm wide x 50 mm depth x 2.0 mm thickness.	Nos.	1.00		-

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
12.6	4.10.12	750 mm wide x 62.5 mm depth x 2.0 mm thickness.	Nos.	1.00		-
13.0	NSR	Supply & fixing of following size (GP RACEWAY- Fabricated from GP Sheet) race ways for electrical & LV wiring including neoprene gasket in joints, cutting the floor & jaming the race way / hanging in ceiling, supporting arrangement as approved by consultant / architect with all necssary hard ware (including civil work) as per site requirement. The thickness of raceway & cover shall be as per technical specification.				
13.1	NSR	100 mm wide x 40 mm deep.	Meter	200.00		-
13.2	NSR	150 mm wide x 40 mm deep	Meter	300.00		-
13.3	NSR	200 mm wide x 40 mm deep.	Meter	100.00		-
14.0	NSR	Supply & fixing of following size of Raceway Junction Box made out of GP Sheet for electrical & LV wiring including, cutting the floor & jaming the junction box / hanging in ceiling, supporting arrangement as approved by consultant / architect with all necssary hard ware (including civil work).(Junction box to be provided as per drawing/ as per site requirement & as per specification). The thickness of junction box shall be a as per thechnical specification.				
14.1	NSR	150 mm wide x 50 mm deep.	Nos.	16.00		-
14.2	NSR	200mm wide x 50 mm deep	Nos.	16.00		-
14.3	NSR	250mm wide x 50 mm deep	Nos.	20.00		-
15.0	19.3	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg), R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size), foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand), finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design :				
15.1	19.30.1	Inside dimensions 455x610 mm and 45 cm deep for single pipe line :				
15.1.1	19.30.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	4.00		-
15.2	19.30.3	Inside dimensions 600x 850 mm and 45 cm deep for pipe line with three or more inlets :				
15.2.1	19.30.3.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	8.00		-
15.3	19.31	Extra for depth beyond 45 cm of brick masonry chamber				
15.3.1	19.31.1	For 455x610 mm size				
15.3.1.1	19.31.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	4.00		-
15.4	19.3	Extra for depth beyond 45 cm of brick masonry chamber				
15.4.1	19.31.3	For 600x850 mm size				
15.4.1.1	19.31.3.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	8.00		-
16.0	14.15	Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc. in the existing trench, complete as required.				
16.1	14.15.1	63 mm dia (OD-63 mm & ID-51 mm nominal)	Meter	250.00		-
16.2	14.15.1	120 mm dia (OD-120 mm & ID-103 mm nominal)	Meter	75.00		-
16.3	14.15.1	160 mm dia (OD-160 mm & ID-135 mm nominal)	Meter	75.00		-
16.4	14.15.1	200 mm dia (OD-200 mm & ID-175 mm nominal)	Meter	200.00		-
17.0	14.13	Providing, laying and fixing following dia G.I. pipe (medium class) in ground complete with G.I. fittings including trenching 75 cm deep)and re-filling etc as required.				
17.1	14.16.3	100 mm dia	Meter	50.00		-
17.2	14.16.4	150 mm dia	Meter	50.00		-
VII.		**UPS SYSTEM**				
1.0	NSR	Supply, installation, testing & commissioing of **50 KVA Online UPS** in paralleling mode at 0.99 input power factor with inbuilt/external K13 rated Copper wound galvanic isolation transformer as per specification given in the document with following broad features. The UPS shall be with an IGBT rectifier & Inverter (as per IEC 62040-1/2/3)				
		THD(i) shall be less than 3% in the entire loading range.				
		UPS shall carry design output at 40 deg.				
		Shall have soft start and hold of for incoming supply.				
		Invertor capability to supply 150% load for 1 min.				
		Three Phase Input and Three Phase Output. (Input - 380V - 470V, Three Phase, 4 wire. / Output - 380-400-415 Volt, Three Phase, 4 Wire.)				
		Shall not allow deep discharge of the battery and shall not go to 10.5 volts in case of 12 volt cells.				
		Battery shall be external type with rack and suitable for 30 minute backup on 100% load.				
		UPS shall be compatible for minimum 3 nos. unit in parallel operation. (Synchronize). Parallel operation kit shall be supplied with UPS.				
		Suitable size copper cable from UPS to battery bank.	No.	2.00		-
		UPS described as above				

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
VIII.		**EXTERNAL ELECTRIFICATION**				
		500KVA CSS				
1.0	NSR	Design, Manufacturing, Supply, Receiving, Unloading, Shifting, Installation, Tesing & Commissioning of 11KV Outdoor type Package Sub-Station consisting of 11/0.433KV, Oil type, OLTC transformer, **HT 3 way 11 KV RMU**, LT Panel inside GI sheet steel enclosure with all interconnections, fully type tested as per the IEC-1330 complete in all respect consisting of following items & as per detailed technical specifications:				
		11KV, 3 way RMU with 2 Nos 630A Load Break Switch and 1 No breaker of 630A VCB with self powered IDMT relay, 21kA/3 sec. All the live parts, modules, isolators, earth switches must be sealed within robotically welded single stainless steel tank filled with SF6 gas as insulation having IP67 degree of protection. Each module of the panel should have hinged arc proof cable doors with self interlocking mechanism to the corresponding earth switch, all cable terminations shall be from the front, ring core CTs for metering & protection purposes, self powered microprocessor based numerical 3 O/C & 1 E/F relay for protection. Transformer auxiliary protection relays for OTI & WTI trip & alarm with 12 window annunciation in outgoings. Arrangement for connecting incoming cable and outgoing to primary of transformer.				
		Multifunction Meter (A, V, KWH, kVAR, PF) in the Line PT panel along with 1set of PT of 11kV/ 110V CL1.0, 50VA.				
		433V LT Indoor panel with Copper Busbars, Fabrication using 1.5/2 MM CRCA sheet steel, Ingress protection IP4X, solidly earthed at substation complete with internal wiring, 1set of LT cast resin CT's, PT's & multifunction meter Load Manager (A, V, kWH, kVA, kVAR), R Y B indication lamps, ON/ OFF/ Trip indication lamps, control MCB's and wiring etc. consisting of following.				
		The panel shall include 800Amp. MDO ACB Fixed, 4 pole, 50 KA with microprocessor based O/C, S/C & E/F releases. Breaker to act as Incomer cum outgoing. Ics=Icu for the breaker.				
		Outdoor type enclosure having modular construction of Galvanized Sheet Steel. The Enclosure shall have IP54 degree of protection for HT and LT switchgear compartment and IP23D degree of protection for Transformer compartment. The enclosure exterior shall be painted with poly urethane paint. Each compartment will be provided with the door and pad locking arrangement. The Compartment illumination lamp with door operated switch shall be provided for each compartment. Interconnection Between HT switchgear and Transformer using XLPE Single core cable & Interconnection between Transformer and LT switchgear using Busbars. All metallic components shall be earthed to a common earthing point.				
		500 KVA, 11kV/ 433V, DYn11, ONAN, Oil type transformer with On Load Tap changer of +5% to -15% in steps of 1.25 %. The transformer losses shall be as per IS 1180, EEL-2 (as per ammendment-4).				
		Internal factory connections Between HT switchgear and transformer shall be done using 1Cx3x240Sq.mm XLPE single core copper condutor cables and interconnection between transformer and LT switchgear using tinned copper busbars. All metallic components shall be earthed to a common earthing point.				
		Unitised substation as described above	No.	1.00		-
		MAIN L.T. PANEL				
2.0	NSR	Design, Manufacturing, Supply of Main LT Panel. The panel will be totally enclosed type with, free standing, floor mounted, indoor duty, dust & vermin proof, compartmentlized, front operated, electrical panel fabricated from 2 mm thick CRCA Sheet as per specifications & drawing laid in this document and will be complete with the main and auxiliary bus bars, interconnection wiring, earth bus and will be powder coated finish with more than 50 microns. The Main LT Panel shall use all draw out type breakers suitable for 415 V AC, 3 phase, 50 Hz, 3 phase 4 wire supply system. The panel shall have Electrically interlocking with buscoupler switching, auto operation of incommer and bus coupler etc and having following incomming and outgoing Air Circuit Breakers, MCCB as per the drawing and specification. Fault level shall be 50 KA.				
		Each Incomming / Outgoing Air Circuit Breaker shall have microprocessor release and variable current setting from front, adjustable overcurrent, short circuit & earth fault protection, front extended lockable handle, pad lockable in off position, shrouding on incomer side, termination shall be suitable for aluminium bus bars / cables and as per SLD. (Fault Level - 50 KA.)				
		The MCCB rating up to 250A shall have thermal megnatic based adjustable over current & short circuit and above 250A MCCB shall have microprocessor based adjustable over current, short circuit, earth fault protection. (36 KA)				
		INCOMING FOR TRANSFORMER				
		1 No. 800 Amp FP Electrically operated horizontal drawout type Air Circuit Breaker microprocessor based releases for O/C,S/C & earth fault protection with instantaneous. (50 KA)				

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
		All the incomings & outgoings of Main LT Panel shall have Multifunction meter with RS-485 communications and integrated to BMS, internal control wiring shall be done. Nothing extra shall be payable.				
		INCOMING FOR SOLAR				
		1 No. 400 Amp FP Moulded Case Circuit Breaker with microprocessor based adjustable O/C, S/C & E/F protections.				
		1 Set of phase indicating lamps with MCB.				
		1 Set of ON/OFF/TRIP indicating lamps with MCB.				
		1 No. Digital MFM with CT's.				
		INCOMING FROM DG SET				
		1 No. 800A feeder incomer and Each incomer breaker feeder shall have following:				
		1 No. 800 Amp FP Electrically operated horizontal drawout type Air Circuit Breaker microprocessor based releases for O/C,S/C & earth fault protection with instantaneous. (50 KA)				
		3 No. indicating lamps to show the incoming power along with protection SP MCB's.				
		1 No. Digital Ammeter 800A wth ASS, CT's.				
		1 No. Voltmeter & VSS.				
		1 No. Multifunction Meter with CT's.				
		1 No. Load Manager EM 6400 with RS 485 port				
		1 No. REF relay				
		Announciation window to cover LLOP, HWT, OIL Pressure, U/V, O/V, U/F, O/F, O/C, E/F, REF relay faults shall be provided. 2 nos phase reversal relay shall be provided.				
		Engine should trip on LLOP, HWT, oil temp, O/V, O/F and breaker should trip on other faults.				
		Initially U/V & U/F will be bye passed till oil pressure is picked up.				
		Indicating lights for ACB ON / OFF, ACB trip, neutral contactor ON, D.G. on mains, D.G. fails to start.				
		Generator start /stop facility through push button from panel, necessary cranking relay shall be provided.				
		Suitable battery charger for 24V with d.c voltmeter & d.c ammeter. D.C voltmeter and ammeter will be analouge type.				
		Whenever D.G. stop through PB, load shall be disconnected first.				
		1 No. master trip relay (one for each Incoming Breaker)**.**				
		BUSBARS				
		1000 Amp TPN busbars of aluminium alloy as per SLD.				
		INSTRUMENTS FOR TRANSFORMER INCOMMER (Each incomer breaker feeder shall have following):				
		1 No. Multifunction Meter with CT's.				
		1 Set of phase indicating lights (RYB) with protection SP MCB's. (one set for each incoming breaker).				
		1 Set breaker 'ON' & 'OFF' indicating lamp (one set for each incoming breaker)**.**				
		1 Set trip circuit healthy indicating lamp (one set for each incoming breaker)**.**				
		1 Set of CT's one of 800/ 5Amp ratio for APFC relay.				
		1 No. master trip relay (one for each Incoming Breaker)**.**				
		1 Nos. 3 phase, over voltage & under voltage relay. (one for each Incoming Breaker).				
		1 No. 3 phase, phase reversal relay with single phasing preventor. (one for each Incoming Breaker).				
		1 No 8 window announciator with accept, reset push button & hooter. (one for each Incoming Breaker).				
		1 No. Transit Voltage Surge Suppressor (TVSS) with control MCB.				
		OUTGOING				
		EACH OUTGOING FEEDER SHALL HAVE DIGITAL MFM				
		2 Nos. 400A FP Moulded Case Circuit Breaker microprocessor based adjustable O/C, S/C & E/F protections, ON /OFF/TRIP indication.				
		4 Nos. 320A FP Moulded Case Circuit Breaker microprocessor based adjustable O/C, S/C & E/F protections, ON /OFF/TRIP indication.				
		2 Nos. 160A FP Moulded Case Circuit Breaker with thermal magnetic based adjustable O/C, S/C & E/F protections, ON /OFF/TRIP.				
		1 No. 125A FP Moulded Case Circuit Breaker with thermal magnetic based adjustable O/C, S/C & E/F protections, ON /OFF/TRIP indication.				
		5 Nos. 100A FP Moulded Case Circuit Breaker with thermal magnetic based adjustable O/C, S/C & E/F protections, ON /OFF/TRIP indication.				
		1 No. 63A FP Moulded Case Circuit Breaker with thermal magnetic based adjustable O/C, S/C & E/F protections, ON /OFF/TRIP indication.				
		5 Nos. 63A FP Miniature Circuit Breaker adjustable O/C, S/C & E/F protections, ON /OFF/TRIP indication.				
		Panel Describe as above.	No.	1.00		-
3.0	NSR	**170 KVAR CAPACITOR PANEL**				
		INCOMING				
		1 No. 320 Amp FP Moulded Case Circuit Breaker with microprocessor based adjustable O/C, S/C & E/F protections.				

SCHEDULE OF QUNATITIES						
		ELECTRIAL WORK				
		1 Nos. 0 to 500 Volt digital voltmeter with Voltmeter Selector Switch & Protective SP MCB (96mm square)**.**				
		1 No. 0 to 320 Amp digital ammeter (96mm square) with CT's)				
		1 Sets of phase indicating lights (RYB) with protection fuses.				
		1 Sets breaker 'ON' & 'OFF' indicating lamp.				
		8 Step Automatic Power Factor Correction relay (APFC relay).				
		BUSBARS				
		400 Amp TPN busbars of aluminium alloy as per SLD.				
		OUTGOING				
		1 No. 125 Amp TP MCCB.				
		2 Nos. 63 Amp TP MCCB.				
		4 Nos. 40 Amp TP MCCB.				
		1 No. 32 Amp TP MCCB.				
		1 No. capacitor duty contactor (one for each 50KVAR capacitor unit).				
		2 Nos. capacitor duty contactor (one for each 25KVAR capacitor unit).				
		4 Nos. capacitor duty contactor (one for each 15KVAR capacitor unit).				
		1 No. capacitor duty contactor (one for each 10KVAR capacitor unit).				
		1 No. 50 KVAR Capacitor Bank 525 Volt with 14% detuned reactor.				
		2 Nos. 25 KVAR Capacitor Bank 525 Volt with 14% detuned reactor.				
		4 Nos. 15 KVAR Capacitor Bank 525 Volt with 14% detuned reactor.				
		1 No. 10 KVAR Capacitor Bank 525 Volt with 14% detuned reactor.				
		8 Sets of push button stations Red and Green for manual operation of capacitor units with auto/manual selector switches.				
		1 Set Indicating lamp for each 50/25/15/10 KVAR capacitor unit to indicate that the unit is 'ON'.				
		1 No. Toggle switch for changing automatic to manual operation of capacitor units.				
		Panel Describe as above.	No.	1.00		-
4.0	NSR	**EXTERNAL PANEL (OUTDOOR TYPE)**				
		Design, Manufacturing, Supply, Receiving, Unloading, Shifting, installation, testing & commissioning of cubicle type totally enclosed free standing type moisture, dust, vermin & weather proof Floor Distribution Panel made out of 2.0 mm thick & front cover 1.6 mm thick CRCA sheet complete with following equipments, including digital ammeter with inbuilt ammeter selector switch, digital voltmeter with inbuilt voltmeter selector switch, indicating lamps, CT's, internal wiring with suitable size wires / cable, MS Angle stand for installation, RCC foundation, interconnection, painting complete as per specification & drawing.				
		INCOMING				
		1 No. 63 Amp FP Moulded Case Circuit Breaker with thermal magnetic based adjustable O/C, S/C protections				
		1 No. 0 to 500 Volt digital voltmeter with inbuilt selector switch.				
		1 No. 40 Amp digital ammeter with inbuilt selector switch and CT's**.**				
		1 Set of phase indicating lamps with Single Pole MCB.				
		1 Set of ON / OFF indicating lamps with Single Pole MCB.				
		BUS BARS				
		100 Amp TPN aluminium busbar.				
		OUTGOING				
		3 No. 40 Amp FP MCB, 10 KA breaking capacity.				
		3 Set 24 Hrs TSQ Timer				
		3 Set 63 Amp, DP Contactor & A/M switch and Push Button.				
		8 Nos. 20 Amp TP MCB, 10 KA breaking capacity.				
		Panel described as above	No.	1.00		-
5.0	NSR	**PLUMBING PANEL**				
		INCOMING				
		1 No. 63 Amp FP Moulded Case Circuit Breaker with thermal magnetic based adjustable O/C, S/C & E/F protections.				
		1 Set of phase indicating lamps with MCB.				
		1 Set of ON/OFF/TRIP indicating lamps with MCB.				
		1 No. Digital MFM with CT's.				
		BUSBAR				
		100 Amp TPN aluminium busbar with coloured heat shrinkable sleeve.				
		OUTGOING				
		1 Nos. 40 Amp TPN Miniature Circuit Breaker.				
		1 Nos. 63 Amp TPN Miniature Circuit Breaker.				
		2 Nos. 20 Amp TPN Miniature Circuit Breaker.				
		2 Nos. 20 Amp TP Miniature Circuit Breaker.				
		1 No. 40 Amp DP Miniature Circuit Breaker.				
		Fully automatic **DOL starter** suitable with MCB for operating upto 7.5 kw motors/fan capacity, complete with contactors, overload protection relay, current sensing type single phase preventer, ON indications, push buttons, auto / manual / off selector switch,timer, other accessories. complete as required-7 Nos.				
		Panel described as above	Nos.	1.00		-

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
1.0	NSR	Supplying of **11 KV grade aluminium conductor**, cross linked polyethylene (XLPE) insulated individual core screened, flat steel/strip armoured PVC sheathed cable (UE) complete as required.				
1.1	NSR	3 core x 240 sq. mm	Meter	100.00		-
2.0	8.3	**Laying** of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size in the existing **RCC/ HUME/ METAL pipe** as required.				
2.1	8.3.2	Above 120 sq. mm and upto 400 sq. mm	Meter	75.00		-
3.0	8.4	**Laying** of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size in the **existing masonry open duct** as required.				
3.1	8.4.2	Above 120 sq. mm and upto 400 sq. mm	Meter	25.00		-
4.0	10.4	supplying and making **indoor cable end termination** with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :				
4.1	10.4.3	240 sq. mm	Nos.	2.00		-
5.0	10.5	Supplying and making outdoor cable end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :				
5.1	10.5.3	240 sq. mm	Nos.	1.00		-
6.0	10.6	Supplying and making straight through cable jointing with heat shrinkable jointing kit complete with all accessories including ferrules suitable for following size of 3 core, XLPE aluminium conductor cable of 11 KV grade as required :				
6.1	10.6.3	240 sq. mm	No.	-		-
7.0	NSR	Supply & Laying of following sizes of 1.1KV grade multicore copper conductor PVC insulated and PVC sheathed armoured control cable conforming to IS:7098 (Part-I) 1988, including end termination with brass compression gland and copper lugs.				
7.1	NSR	2 core, 6.0 sq.mm	Meter	200.00		-
7.2	NSR	4 core, 1.5 sq.mm	Meter	175.00		-
7.3	NSR	8 core, 1.5 sq.mm	Meter	150.00		-
7.4	NSR	12 core, 1.5 sq.mm	Meter	150.00		-
8.0	NSR	**First aid box** as approved by St.John Ambulance Brigade /Indian Red Cross society conforming to IS : 2217 - 1963.	Each	1.00		-
9.0	NSR	**Shock treatment chart** duly mounted on a wooden frame with glass on, as required in 2 languages (Hindi & English).	Each	1.00		-
10.0	NSR	Rubber mat 1000 mm. Wide to withstand **11 KV** dielectric strength as per latest IS 15652 -2006.	Meter	25.00		-
11.0	NSR	Rubber mat 1000 mm. Wide to withstand **1.1 KV** dielectric strength as per latest IS 15652-2006.	Meter	50.00		-
12.0	NSR	Supplying and installing at approved location approved make fire buckets (4 Nos.) of 24 gauge galvanized steel sheet conforming to IS: 2546, standard 9.5 litre capacity and of round bottom shape, painted white inside and red outside and black on the bottom, inscribed with letters “FIRE” in black and gold. Cost shall be inclusive of providing MS stand duly painted over a coat of primer.	Each	2.00		-
13.0	2.21	Providing and fixing M.V. danger notice plate of 200 mm X 150 mm, made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides, and with inscription in single red colour on front side as required.	Each	1.00		-
14.0	2.22	Providing and fixing H.T. danger notice plate of 250 mm X 200 mm, made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides, and with inscription in single red colour on front side as required.	Each	1.00		-
IX.		**DG SET WORK**				
1.0	NSR	Providing, Unloading, shifting, Installing, Testing and Commissioning of 'Silent Type' Diesel Generating set along with having Prime Power Rating of **500 KVA**, 415 volts at 1500 RPM, 0.8 lagging power factor at 415V suitable for 50 Hz, 3 phase system and consisting of the followings: (Total of a to h). complete with all accessories, KG 1500 or equivalent controller, standard specifications tool kit, service manual, self starting device, fly wheel, coupling with guard, V belts, Electronic Governor, instrument panel, common bed plate, anti vibration isolation pads, grouting bolts, first charge of high speed Diesel Oil, 24 volts re-chargeable battery set. The DG set shall be as per the CPCB-IV norms.				
a)		**Diesel Engine:**				
		Diesel engine 4 stroke water cooled, electric start, of suitable BHP at 1500 RPM suitable for above output of alternator at 40 Degree C, 50% RH & at 1000 Meter MSL and conforming to BS 5514, BS 649, IS 10000, capable of taking 10% over loading for one hour after 12 hours of continuous operation. The engine will be fitted complete with all required accessories.				
b)		**Engine mounted Instrument Panel, fitted with power controller, indications and all other standad accessories.**				
c)		Any other equipments required for sync of all the DG sets shall be provided (if required)				
d)		**Alternator:**				

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
		Synchronous alternator rated at **500 KVA**, 415 volts at 1500 RPM, 3 phase 50 Hz, AC Supply with 0.8 lagging power factor at 40 Degree C, 50% RH & AT 1000 Meter MSL. The alternator shall be having SPDP enclosure, brushless, continuous duty, self-excited and self - regulated through AVR conforming to IS: 4722/BS 2613 Suitable for tropical conditions and with class - H insulation.				
e)		**Base Frame & Foundation:**				
		Both the engine and alternator shall be mounted on suitable base frame made of MS channel with necessary reinforcement which shall be installed on suitable cement concrete foundation and vibration isolation arrangement as per recommendations of manufacturer.				
f)		**Fuel Tank:**				
i)		Fuel tank of Minimum 990 litres capacity shall be provided inside the DG Set Canopy as per Maufacturer's Design.				
ii)		Daily service fuel tank of 990 litres capacity fabricated out of 3 mm thick M.S. Sheet complete with all standard accessories and fuel piping between fuel tank and diesel engine with MS class 'C' pipes of suitable dia. Complete with valves, level indications & accessories as required as per specifications.				
g)		**Exhaust System:**				
i)		Dry exhaust mainfold with silencer(suitable for 75dB at 1m) and catalytic convertor.				
h)		**Starting System:**				
i)		24V DC starting system comprising of starter motors: voltage regulator and arrangement for initial excitation complete with 2 nos. of batteries as required as per specifications.				
ii)		Accoustic and weather proof enclosure with arrangement for fresh air intake for cooling of the engine & alternator, extraction, discharging hot air in to the atmosphere as per specifications.				
iii)		Alternator should have LT cable box suitable for termination of 3R x 3.5C x 240sqmm Aluminium XLPE armoured cable.				
		Diesel Generating Set including Acoustic Enclosure described as above.	Set	1.00		-
		EXHAUST PIPING				
2.0	MR	Supply, Installation, Testing and Commissioning of following sizes MS exhaust piping heavy duty conforming to IS:3589 complete with all accessories such as bends, flanges, stainless steel flexible bellows etc. as required.				
2.1	MR	300 mm dia MS pipe. (5.0 mm thick)	Meter	50.00		-
3.0	MR	Providing & Fixing of Insulation and aluminium cladding for exhaust piping using 75 mm thick rockool of density 150 Kg/ M3 & 24 SWG Aluminium Sheet.	Sq. Mtr	50.00		-
4.0	CIVIL 10.25	Steel work welded in built up sections/ framed work, including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required. The contractor shall submit the structure strength calculation for approval before execution.				
4.1	CIVIL 10.25.2	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works.	KG	4,000.00		-
		TOTAL CARRIED OVER TO SUMMARY				
X.		**ON-GRID SOLAR SYSTEM**				

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
1.0	DSR-2019	Supply, Installation, Testing and Commissioning of on grid Solar Photovoltaic Power Plant conforming to MNRE specifications as amended, consisting of Mono/Poly Crystalline silicon solar cells, net metering facility, necessary protections, earthing, mounted on Aluminium/GI structure of suitable strength with following components complete as required:- a) Solar Photovoltaic Module of capacity 330 Wp or above, manufactured in India, conforming to IS 14286/IEC 61215, IS/IEC 61730-Part-1, IS/IEC 61730-Part-2. Solar Photovoltaic Module conversion efficiency shall not be less than 16.5%. PV modules used in solar power plants/ systems must be warranted for their output peak watt capacity, which should not be less than 90% at the end of 10 years and 80% at the end of 25 years. b) Power Conditioning Unit (PCU) of 350-800 V DC Input voltage range and 400 V AC, three phase, 4 wire, 50Hz +/- 2.5 Hz, output voltage suitable to generate AC Power with efficiency not less than 97%, total harmonic distortion less than 3% and suitable for ambient temperature from 0 to 50 degree C. The PCU shall adjust the voltage and frequency level to suit the Grid Voltage Frequency. c) Data Monitoring System complete with accessories. d) Fixing of Array junction box & Main junction box with IP 65 protection and termination arrangement for incoming and outgoing cable along with glands, lugs and other accessories etc. as required. e) Lightning and surge voltage protection. f) Connections & Interconnections by supplying & fixing required size XLPE	KWp	100.00		-
XI.		**LIFT WORK**				
1.0	NSR	**13 PASSENGER LIFT**				
		SAFT SIZE AS PER NBC :- 2550MM (WIDTH) X 1950MM (DEPTH)				
		Supplying, Installation, Testing & Commissioning of **13 Passenger (884 Kg)** Lift (Gearless), without Machine Room (MRL) having contract speed of 1.5 MPS serving different floors in the lift shaft as per detailed specifications enclosed and as under:-				
a)		Speed --> 1.5 MPS				
b)		Floors --> B+G+3				
c)		Travel --> 18.0 Mtrs Approx.				
d)		Stops & door opening - --> 7/1000 mm Wide X 2100mm High				
e)		Pit Depth - --> 1600 mm				
f)		Controller: A.C. variable voltage & variable frequency drive (with close loop).				
g)		Automatic rescue device complete with dry maintenance free batteries as required.				
h)		Operation: Microprocessor based single automatic push button with luminous with segment digital hall position indicator at all floors / Simplex selective collective with / without attendant.				
i)		Power-415 V, 3 phase, 50 Hz, 4 wires system				
j)		Type of doors				
		(i) Car Power operated, Two Speed Stainless Steel hair line finish. (SS 304 Grade).				
		(ii) Landing doors : Automatic center / side opening, Horizontal sliding, Stainless Steel hair line finish. (SS 304 Grade)				
		(iii) Car doors : Automatic center / side opening, Horizontal sliding, Stainless Steel hair line finish. (SS 304 Grade)				
k)		Hand rail not less than 600mm long at 900mm above floor level to be fixed on two sides adjacent to control panel in the lift car.				
l)		The Lift shall be provided with Brail System.				
m)		Ceiling as per manufacturer's standards with Fan & LED Lights.				
n)		On each Landing outside the lift, a steel plate with illumination sign shall be provided with written on it:- DO NOT USE LIFT IN CASE OF FIRE. Fire man switch at ground floor to be provided. Interlocking provision with Fire detection system shall be provided.				
o)		Voice announcement system in the car to announce the position of the elevator in the hoistway as the car passes or stops at a floor served by the elevator.				
p)		IP based CCTV interfaced to be provided.				
q)		BMS interface for lift position & 3 way Intercom system.				
r)		2 Hour Fire rated door. Manufacturer shall be submit the certificate alongwith supply of material from NABL approved Lab.				
s)		All the doors shall have the Full height infra-red curtain for safety.				
t)		Emergency Alarm shall be provided.				
u)		Over load warning shall be provided				
v)		Auto Light/Fan Cutoff shall be provided				
w)		Door open/ Door Close shall be provided				
x)		ARD operation indication in car shall be provided				
y)		Emergency Alarm Button shall be provided				
z)		Out of Service Mode shall be provided				
aa)		Attendant Operation shall be provided				
bb)		Anti nuisance feature shall be provided.				
cc)		Fire Man Control shall be provided.				
dd)		Over Load detection Device shall be provided				

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
ee)		Elevators Uptime & Connectivity - The manufactuer must ensure the maximum uptime of the elevators for which elevator shall be equipped with the in-built device to capture the data like door movement or lifecycle utilization are collected, pre-analyzed, and transmitted to the Cloud Platform which could be access online from any-where.				
ff)		Lift Car Flooring - 20mm recess shall be required for flooring.				
gg)		As per norms barrier free provision of lifts				
hh)		The Lift shall be BMS compatible with Ethernet / Modbus Port connectivity.				
		Lift described as above	Each	2.00		-
2.0	NSR	**16 PASSENGER LIFT**				
		SAFT SIZE AS PER NBC :- 2750MM (WIDTH) X 2500MM (DEPTH)				
		Supplying, Installation, Testing & Commissioning of 1.0 Ton Goods Lift (Gearless), without Machine Room (MRL) having contract speed of 0.5 MPS serving different floors in the lift shaft as per detailed specifications enclosed and as under:-				
a)		Speed --> 0.5 MPS				
b)		Floors --> B+G+3				
c)		Travel --> 18.0 Mtrs Approx.				
d)		Stops & door opening - --> 7/1000 mm Wide X 2100mm High				
e)		Pit Depth - --> 1600 mm				
f)		Controller: A.C. variable voltage & variable frequency drive (with close loop).				
g)		Automatic rescue device complete with dry maintenance free batteries as required.				
h)		Operation: Microprocessor based single automatic push button with luminous with segment digital hall position indicator at all floors / Simplex selective collective with / without attendant.				
i)		Power-415 V, 3 phase, 50 Hz, 4 wires system				
j)		Type of doors				
		(i) Car Power operated, Two Speed Stainless Steel hair line finish. (SS 304 Grade).				
		(ii) Landing doors : Automatic center / side opening, Horizontal sliding, Stainless Steel hair line finish. (SS 304 Grade)				
		(iii) Car doors : Automatic center / side opening, Horizontal sliding, Stainless Steel hair line finish. (SS 304 Grade)				
k)		Hand rail not less than 600mm long at 900mm above floor level to be fixed on two sides adjacent to control panel in the lift car.				
l)		The Lift shall be provided with Brail System.				
m)		Ceiling as per manufacturer's standards with Fan & LED Lights.				
n)		On each Landing outside the lift, a steel plate with illumination sign shall be provided with written on it:- DO NOT USE LIFT IN CASE OF FIRE. Fire man switch at ground floor to be provided. Interlocking provision with Fire detection system shall be provided.				
o)		Voice announcement system in the car to announce the position of the elevator in the hoistway as the car passes or stops at a floor served by the elevator.				
p)		IP based CCTV interfaced to be provided.				
q)		BMS interface for lift position & 3 way Intercom system.				
r)		2 Hour Fire rated door. Manufacturer shall be submit the certificate alongwith supply of material from NABL approved Lab.				
s)		All the doors shall have the Full height infra-red curtain for safety.				
t)		Emergency Alarm shall be provided.				
u)		Over load warning shall be provided				
v)		Auto Light/Fan Cutoff shall be provided				
w)		Door open/ Door Close shall be provided				
x)		ARD operation indication in car shall be provided				
y)		Emergency Alarm Button shall be provided				
z)		Out of Service Mode shall be provided				
aa)		Attendant Operation shall be provided				
bb)		Anti nuisance feature shall be provided.				
cc)		Fire Man Control shall be provided.				
dd)		Over Load detection Device shall be provided				
ee)		Elevators Uptime & Connectivity - The manufactuer must ensure the maximum uptime of the elevators for which elevator shall be equipped with the in-built device to capture the data like door movement or lifecycle utilization are collected, pre-analyzed, and transmitted to the Cloud Platform which could be access online from any-where.				
ff)		Lift Car Flooring - 20mm recess shall be required for flooring.				
gg)		As per norms barrier free provision of lifts				
hh)		The Lift shall be BMS compatible with Ethernet / Modbus Port connectivity.				
		Lift described as above	Each	1.00		-
ESTIMATE FOR ELV INSTALLATION WORK						
		SECTION - I- STRUCTURED CABLING SYSTEM PASSIVE				
1		Supply, Installation, Testing & Commissioning of armoured 6 core Singlemode OS2 (9/125 Micro), Corrugated ECCS Armor, HDPE (UV) Sheathing, Theoxtropic gel filled OFC cable with 2 Nos steel music wire embedded in side sheathing as stregth member for switch connectivity. Cable should be ROHS compliant and as per IEC60749-1 with product warranty of 30 years.	Mtr	50.00		-

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
2		Supply, Installation, Testing & Commissioning of 6F SM loaded LIU with LC adaptor plates, pigtel cables, Spilce tray, cable holder and 4 nos of cable entry exist point with rubber gurment along with the LIU, Powder Coaded 1.2mm steel sheet metal, 1U etc complete as required. LIU should be in accordance with YD/T 778-2006 Optical Distribution Frame & YD/T 1272.1-2003 Optical Fiber Connector Part 1: Type LC and should have 30 years of product warranty.	Nos.	1.00		-
3		Supply, Installation, Testing & Commissioning of 24F SM loaded LIU with LC adaptor plates, pigtel cables, Spilce tray, cable holder and 4 nos of cable entry exist point with rubber gurment along with the LIU, Powder Coaded 1.2mm steel sheet metal, 1U etc complete as required. LIU should be in accordance with YD/T 778-2006 Optical Distribution Frame & YD/T 1272.1-2003 Optical Fiber Connector Part 1: Type LC and should have 30 years of product warranty.	Nos.	1.00		-
4		Supply, Installation, Testing & Commissioning of LC-LC singlemode OS2 (9/125) duplex, LSZH fiber patch cord for LIU to switch connectivity. Patch Cord should have aramid yarn as strenght member with 1000 time mating cycle.	Nos.	24.00		-
5		Supply, Installation, Testing & Commissioning of CAT 6A UTP LSZH Cable, 23 AWG solid copper conductors in accordance to TIA/EIA 568 C.2 (Category 6a) & ISO/IEC 11801 2nd ed(Class Ea), UL Approved, tested @500 Mhz, with HDPE insulation of individual conductor and over all Dia of 7.2 mm for Connectivity of Hub room to End Point. Grey Color	Mtr	9,150.00		-
6		Supply, Installation, Testing & Commissioning of CAT 6A UTP Universal (both tool & toolless) information outlet (I/O) in accordance with ANSI TIA 568 C.2, IEC 60603-7-4 2nd Edition, ISO/IEC TR 11801-9901-2014, ROHS Compliant. The I/O should have minimum 750 mating cycle and 200 insertion cycle and UL approved,for Data, Voice, & Wi-Fi at user end.	Nos.	183.00		-
7		Supply, Installation, Testing & Commissioning of loaded 24 port CAT 6A UTP, Transparent shutter jack panel, 1U height, UL-94V-0, Black with cable support bar, clear label marks and earthing plug for CAT6A cable termination at rack end.	Nos.	9.00		-
8		Supply, Installation, Testing & Commissioning of CAT 6A UTP, LSZH Patch Cord as per ANSI/TIA/EIA 568C.2 and UL 94-V-0, ROHS Compliant, patch cord 1 Mtr for rack side switch to jack panel connectivity.	Nos.	183.00		-
9		Supply, Installation, Testing & Commissioning of CAT 6A UTP, LSZH Patch Cord as per ANSI/TIA/EIA 568C.2 and UL 94-V-0, ROHS Compliant, patch cord 2 Mtr for rack side switch to end user connectivity.	Nos.	183.00		-
10		Supply, Installation, Testing & Commissioning of 1, 2 and 4 port face plate, British Style with Shutter, 2 Plate system clear finish with transparent labelling, ABS-UL94-V2, ROHS Compliant, in accorandce with standards like ANSI/TIA-568-C.2, ISO/IEC 11801:2002 AMMD.2:2010, YD/T 926.3-2009 & ISO/IEC 60603-7 white for I/O fixing at user side.	Nos.	183.00		-
11		Supply, Installation, Testing & Commissioning of 42 U (600W/1000D) floor mount rack with fans , 2 cable managers , satationary shelf , 2 Nos. of hardware pkts.	Nos.	1.00		-
12		Supply, Installation, Testing & Commissioning of 27 U floor mount rack with fans , 2 cable managers , satationary shelf , 2 Nos. of hardware pkts.	Nos.	1.00		-
		SECTION - II- IP-PBX SYSTEM				
1		Supply, Installation, Testing & Commissioning of Pure IP at core server Based voice solution with 04 Port Voicemail ,04 Port FXS ,04 Port FXO ,1 PRI Trunk lines (30 Ch) Circuit with CLIP Facility ,63 IP users License ,01 Nos. IP Operator Console, 100 Party Conference ,Speed Dial, Music on Hold , Internal/ External ring difference ,Call Barring, Call Pickup, TEC should be with GR Number, - Should Support Redundant server in active-Active mode.	Set.	1.00		-
2		Supply, Installation, Testing & Commissioning of Type 1 IP Phone 1 VoIP account , Full duplex speaker phone, IPV6, 2xLAN, PoE .	Nos.	53.00		-
3		Supply, Installation, Testing & Commissioning of Type 2 IP Phone with 2 Voip accounts, 2 Lines , HD Voice,Graphic LCD display with backligh.	Nos.	10.00		-
		SECTION - III- LOCAL AREA NETWORK (LAN)				
1		Supply, Installation, Testing & Commissioning of core switch with 24x10G SFP+,4x 40G/100G(QSFP28) Port, 800 Gbps or higher Backplane capacity and minimum 600 Mpps of forwarding rate Should Non Blocking architecture , 32K MAC address. Should have Static Routing ,RIP,VRRP, OSPF & BGP from day 1,Should support ISSU from day 1 ,Should support stacking with min 12 members in a stack, Neighbor discovery, system logging, Telnet, SSH, SNMP, Network Time Protocol (NTP),IPv6 features from day 1 , MTBF Min 198000 Hr, RPS .	Nos.	1.00		-

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
2		Supply, Installation, Testing & Commissioning of 24 Port POE+ Access Switches with switching capaticy of 128 Gbps, forwarding performance 92 Mpps, having 24 x 10/100/1000BASE-T PoE-plus(RJ45) with minimum PoE budget of 370W, with 4 x 10G SFP+ uplink ports. Should Non Blocking architecture , 16K MAC address. Should have Static Routing ,RIP,VRRP, OSPF from day 1,Should support ISSU from day 1 ,Should support stacking with min 12 members in a stack, Neighbor discovery, system logging, Telnet, SSH, SNMP, Network Time Protocol (NTP), IPv6 features from day 1 , MTBF Min 198000 Hr	Nos.	9.00		-
3		Supply, Installation, Testing & Commissioning of fiber Modules 1000BASE	Nos.	4.00		-
4		Supply, Installation, Testing & Commissioning of fiber Modules 10G BASE	Nos.	4.00		-
5		Supply, Installation, Testing & Commissioning of Appliance based customised ITAM for asset inventory management with ability to map physical locations and exact rack elevations for audit and support control. Appliance shall be Intel x86 based device with secure intranet server with Linux Based operating system and relational databases for long term storage. Appliance includes license for 100 units under control.	Nos.	1.00		-
6		Supply, Installation, Testing & Commissioning of 4x4 Access Point Ceilling Mount having 1 x 2.5GE (PoE/PoE+) port , 1 x G Copper port .For 2.4G 2*2 MIMO, For 5G 4*4 MIMO.Built-in omnidirectional internal antennas, Dual frequency with min 6 Stream .For 2.4G: 3dBi and for 5G: 3dBi.200 square meter coverage (without any obstacle).Maximum number of users per band should be minimum 128. power consumption:18W.Encryption: AES, WPA3\802.11i: Supported, Authentication: MAC Address/PSK, Client isolation: Both Layer-2 wireless client isolation and SSID isolation,Forwarding security: Packet filter, MAC address filter, and broadcast storm suppression,SSID-VLAN binding: Supported,Management frame protection (802.11w): Supported.Should be CE, FCC, CCC, ROHS certified	Nos.	20.00		-
7		Supply, Installation, Testing & Commissioning of UTM Firewall with 4 X 10G SFP+ Ports, 8 x 1G ports. The device should have 9Gbps of Firewall throughput and 1.5 Gbps of NGFW throughput. 4 Gbps IPS througput, 3 Gbps of IPSec VPN with 1500 VPN tunnels support. Should have min 16GB internal DRAM. Should have redundant power supply.	Nos.	1.00		-
		SUB-HEAD -IV- IP CCTV SYSTEM				
1		Supply , Installation , Testing and commissioning of CAT 6 UTP cable 23 AWG LSZH as per ANSI/TIA 568 C.2 and ISO/ IEC 11801–2nd Edition, ROHS Compliant, solid copper conductors, tested @250 Mhz, with HDPE insulation of individual conductor and over all Dia of 5.8mm for Connectivity of Hub room to End Point.	Mtr	4,850.00		-
2		Supply, Installation, Testing & Commissioning of CAT 6 UTP Universal (both tool & toolless) information outlet (I/O) in accordance with ANSI TIA 568 C.2, IEC 60603-7-4 2nd Edition, ISO/IEC TR 11801-9901-2014, ROHS Compliant. The I/O should have minimum 750 mating cycle and 200 insertion cycle and UL approved,for Camera at user end.	Nos.	97.00		-
3		Supply, Installation, Testing & Commissioning of loaded 24 port CAT 6 UTP, Transparent shutter jack panel, 1U height, UL-94V-0, Black with cable support bar, clear label marks and earthing plug for CAT6 cable termination at rack end.	Nos.	5.00		-
4		Supply, Installation, Testing & Commissioning of CAT 6 UTP, LSZH Patch Cord as per ANSI/TIA/EIA 568C.2 and UL 94-V-0, ROHS Compliant, patch cord 1 Mtr for rack side switch to jack panel connectivity.	Nos.	97.00		-
5		Supply, Installation, Testing & Commissioning of CAT 6 UTP, LSZH Patch Cord as per ANSI/TIA/EIA 568C.2 and UL 94-V-0, ROHS Compliant, patch cord 2 Mtr for rack side switch to end user connectivity.	Nos.	97.00		-
6		Supply, Installation, Testing & Commissioning of 1, 2 and 4 port face plate, British Style with Shutter, 2 Plate system clear finish with transparent labelling, ABS-UL94-V2, ROHS Compliant, in accorandce with standards like ANSI/TIA-568-C.2, ISO/IEC 11801:2002 AMMD.2:2010, YD/T 926.3-2009 & ISO/IEC 60603-7 white for I/O fixing at user side.	Nos.	97.00		-

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
7		Supply, installation, testing and commissioning of 5 MP Dome camera ,ONVIF profile S,G & T. UL , CE , FCC,BIS Certified ,OEM defined MAC address.1/2.7" Progressive Scan CMOS ,3.6 mm fixed lens , Quad stream Each stram support H.265 compression simultaneously ,min illumination : Color 0.05lux @ F1.2(AGC ON) ; B/W 0 lux @ IR ON , Shutter speed : 1 / 5s ~ 1 / 100,000 s , WDR , Compression : H.265/H.265+/H.264/H.264+ .SD card support upto 256GB , frame rate : Main stream should support 25/30 fps@5MP, Built in Mic, Edge analytics : Customer Flow staistics, Heat Map, Human & Vehicle Detection, Pedestrian Intrusion Detection & Line cross Detection. Queue length detection Regional population statistics, SOD-Stationaary Object Detection, Motion Detection, Tempring Detection, Rare Sound Detection, License Plate Detection. Defog. Protocols:- TCP/IP, HTTP, DHCP, DNS, DDNS, RTP/RTSP, SMTP, NTP, UPnP, SNMP, HTTPS, FTP, P2P, UDP,PPPoE, Bonjour. In built IR LED , IR Distance upto 30 meters , IP 66 , POE.	Nos.	74.00		-
8		Supply, installation, testing and commissioning of 5 MP Bullet camera ,ONVIF profile S,G & T. UL , CE , FCC,BIS Certified,OEM defined MAC address,1/2.7" Progressive Scan CMOS ,3.6 mm fixed lens , Quad stream Each stram support H.265 compression simultaneously ,min illumination : Color 0.05lux @ F1.2(AGC ON) ; B/W 0 lux @ IR ON , Shutter speed : 1 / 5s ~ 1 / 100,000 s , WDR , Compression : H.265/H.265+/H.264/H.264+ .SD card support upto 256GB , frame rate : Main stream should support 25/30 fps@5MP, Built in Mic, Edge analytics : Customer Flow staistics, Heat Map, Human & Vehicle Detection, Pedestrian Intrusion Detection & Line cross Detection. Queue length detection Regional population statistics, SOD-Stationaary Object Detection, Motion Detection, Tempring Detection, Rare Sound Detection, License Plate Detection. Defog. Protocols:- TCP/IP, HTTP, DHCP, DNS, DDNS, RTP/RTSP, SMTP, NTP, UPnP, SNMP, HTTPS, FTP, P2P, UDP,PPPoE, Bonjour. In built IR LED , IR Distance upto 30 meters , IP 66 , POE	Nos.	23.00		-
9		Supply, installation, testing and commissioning of 128 channel NVR upgradable upto 256 channel, Live and recording resolution up to 12MP, Recording bandwidth Incoming 1024 Mbps and outgoing 800 Mbps, RAM 32 Gb*2, Support RAID 0/1/5/6/10, Support Face detection and Recognition with Face Capture/Register quantity 1000000/ 10000, 512 User list, display out 3 HDMI and 1 VGA port, HDD: 16 SATA HDD Slots, Each SATA support up to 18TB, NVR support Power Supply redundancy, Operating temperature -10°C~+50°C Approved	Nos.	1.00		-
10		Supply, Installation, Testing & Commissioning of 8TB Surviellance Hard Disk.	Nos.	16.00		-
11		Supply, Installation, Testing and Commissioning of Full HD 55" LED Professional Display Panel.	Nos.	3.00		-
12		Supply, Installation, Testing & Commissioning of L2+ managed industrial PoE switch with 24*10/100/1000M RJ45 ports and 4*1/10G SFP+ fiber slot ports, Port 1-24 can support IEEE 802.3af/at PoE standard, switching capaticy of 598 Gbps, forwarding performance 95.23 Mpps, maximum PoE output power is 400W(at-600W), with 32K MAC address. Should have Static Routing , system logging, Telnet, SSH2.0, SNMP V1/V2C/V3, Network Time Protocol (NTP), FTP, TFTP, Xmodem.	Nos.	5.00		-
13		Supply, Installation, Testing and Commissioning of Workstation PC: Intel(R) Core(TM) i7-3770 Processor (8M Cache, up to 3.90 GHz); RAM: 8GB (1x8GB) Non-ECC DDR3 1600MHz ; Keyboard: 12 function keys; Chassis: Tower/Workstation; DVD: 8X Slimline DVD+/-RW, Data Only; Dual Graphics Card; Network interface card: Integrated Intel(R) 82579LM Gigabit1 Ethernet LAN 10/100/1000; Hard disk: 250GB, 7200 RPM 3.5" SATA 6Gb/s Hard Drive; Operating system: Windows 7 Professional 64 Bit or latest.	Nos.	1.00		-
		SUB-HEAD-V-FAS with Integrated PA System				
A		**INTELLIGENT FIRE ALARM SYSTEM**				
1	17.2.1	Supplying, installation, testing and commissioning of micro processor based intelligent addressable main fire alarm panel, central processing unit with the following loop modules and capable of supporting not less than 240 devices (including detectors) and minimum 120 detectors per loop and loop length up to 2 km, network communication card, minimum 320 character graphics/ LCD display with touch screen or other keypad and minimum 4000 events history log in the non volatile memory (EPROM), power supply unit (230 ± 5% V, 50 hz), 48 hrs back-up with 24 volt sealed maintenance free batteries with automatic charger. The panel shall have facility to connect printer to printout log and facility to have seamless integration with analog/digital voice evacuation system (which is part of the schedule of work under SH: PA System) and shall be complete with all accessories . The panel shall be compatible for IBMS system with open protocol BACnet/ Modbus over IP complete as per specifications.				
	17.2.1.1	Ten Loop Panel.	Nos	1.00		-
		Repeater Panel				

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
2	17.2.3	Supplying, installation, testing & commissioning of repeater panel wih 320 character/ Touch screen LCD display with inbuilt reset, acknowledge and silence switches complete as required.	Nos	1.00		-
3		**Supplying, installing, testing and commissioning approved make Digital Audio Amplifier. Amplifier shall be capable of N:N configuration and** shall be dual channel capable of processing Two of 8 audio channels and total of 100 W at 70.7 VRMS output along with necessary enclosures **with local FFT Raiser**. The Digital Audio Amplifier shall be fully monitored for fault and alarm reporting. The proposed Digital Audio Amplifiers shall (be Wall/Panel Mounted) not be rail mounted / dependant on Fire Panel CPU for operation. **Failure of Fire Panel CPU shall not result in failure of Amplifier operation. The Amplifiers shall be distributed accros the building/floor to manage the sound attenuation problem & for the best sound intelligibility. All amplifiers shall provide back up of minimum 5 hours using secondary power source(battery power/UPS power).**	Nos	2.00		-
B		**Detectors**				
1	17.2.4	Supplying, installation, testing & commissioning of intelligent analog addressable photothermal detector complete with mounting base complete as required.	Nos	365.00		-
2	17.2.9	Supplying, installation, testing & commissioning of intelligent addressable thermal detector with rate of rise cum fixed tempreature thermistor complete with base as required.	Nos	83.00		-
3	17.2.5	Supplying, installation, testing & commissioning of response indicator on surface/recessed MS Box having two LED metallic cover complete with all connections etc as required.	Nos	165.00		-
4	17.2.12	Supplying, installation, testing & commissioning of addressable beam detector with short circuit isolator (inbuilt or seperate) complete with emitter and receiver including connections with remote test features etc complete as required.	Nos	1.00		-
C		**Modules**				
1	17.2.14	Supplying, installation, testing & commissioning of addressable manual call point complete as required.	Nos	20.00		-
2	17.2.10	Supplying, installation, testing & commissioning of addressable fire control module complete as required.	Nos	20.00		-
3	17.2.7	Supplying, installation, testing & commissioning of fault isolator complete with base as required.	Nos	23.00		-
D		**Notification Devices**				
1	17.2.15	Supplying, installation, testing & commissioning of addressable horn cum strobe complete as required.	Nos	20.00		-
2	17.3.2	Supplying, installation, testing & commissioning of 1.5/3/6W ceiling speaker complete as required.	Nos	75.00		-
3	17.3.3	Supplying, installation, testing & commissioning of 1.5/3/6W metal box ceiling/wall speakers complete as required.	Nos	18.00		-
4		Supplying, installing, testing and commissioning approved make Addressable Power Supply Unit: 24V DC for Notification Appliances. The PSU shall be UL Listed, supervised by Fire Panel & of the same make as Fire Alarm System	Nos	1.00		-
E		**Cables & Conduits**				
1		Supply and drawing of 2 C X 1.5 Sq mm multi stranded twisted shielded FRLS Copper cable.	Mtrs.	6,750.00		-
		TOTAL				
		SUB-HEAD VI- SECURITY SYSTEM				
1		Supply, installation, testing and commissioning of automatic electromechanical boom barrier suitable road width 5-7 mtrs for intensive applications, high speed with 4-6 second opening/closing time with Aluminium housing & aluminium boom with fork rest, IP 67 Protection etc. (for Gate Entry/Exit)	Nos.	3.00		-
2		Supply , Installation , Testing and Commissioning of a set of Entry/Exit push buttons for manual open and closing of barriers etc. complete as required.(for Gate Entry/Exit).	Nos.	3.00		-
3		Supply , Installation , Testing and Commissioning of Photocell based safety device to avoid closing of the barrier when a Vehicle is crossing the barrier. (Anti Fall Protection).	Nos.	3.00		-
4		Supply installation, testing and commissioning of Remote & Receiver.	Nos.	3.00		-
5		Supply , Installation , Testing and Commissioning of Loop detector for closing of the barrier when a Vehicle crosses the barrier.	Nos.	3.00		-

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
6		Supply, installation, testing and commissioning of ANPR System for capturing the license plates of four wheeler vehicles with high resolution camera (for Gate Entry/Exit) Blacklisting feature to be available for blacklisting of unauthorized vehicles. Reports to be generated for IN/OUT of vehicles. ANPR sysytem to be integrated with Boom Barrier for automatic opening and closing of barrier for authorized vehicles. Detailed Reporting to be furnished for entry & exit of vehicles along with the logs of manual operation. Suitable mounting poles to be provided for mounting the ANPR Cameras. Functionality of system shall be :For every authorized or unauthorized vehicles the camera should capture the image with date and time.For Authorized vehicles the barrier will open and for non authorized barrier shall be in down position only. With every operation when the vehicle has crossed the barrier, the boom should close automatically without any manual hinderance.	Nos.	3.00		-
		SECTION -VII- ACCESS CONTROL SYSTEM:				
1		Supply ,Installation ,Testing & Commissioning of 4 Door 4 reader access control panel with with buttons for entering and reading cards and exiting the door, Large capacity of 24,000 users, 100,000 offline storage records. TCP/IP high-speed communication, convenient LAN and WAN wiring, The card reader can be connected to the international standard Wiegand 26bit-34bit Powerful functions. In addition to the access control function, the software also presents attendance, online patrol, conference sign-in, fixed consumption, WEB mother card function, and more cost-effective.	Nos.	5.00		-
2		Supply, Installation , testing and commissioning of 12 V SMPS DC Power Supply Unit, highly regulated and spikes free terminal voltage and heavy sourcing current for regulated terminal voltage.	Nos.	5.00		-
3		Supply & Installation of Operation system: Windows xp and the upward system, such as: Windows 2000、Windows XP 、Windows7、Windows Vista、windows nt、Windows 2000 sever、Windows 2003、Windows Server 2008 and so on Database :MS Access (the default database after installation is the bringing small database of operating system) MS SQL Server (suggest more than 200 people, or swiping card every day more than 1000 records, had better choose to use this article database.)	Set.	1.00		-
4		Supply, Installing, Testing & Commissioning of fingerprint, IC/ID swipe card Fingerprint capacity: 1000 pieces Short Range Multi Technology Smart Card Reader UL Listed For Exit of Lift Access Doors, tripod/Flap barrier- Entry & Exit (doors) as per the specification, with back plate & Back Box.	Nos.	18.00		-
5		Supply ,Installation ,Testing & Commissioning of Smart Card Contactless transmission of data and supply energy (No battery needed), Operating Distance: Upto 100mm (Depending on Antenna Geometry), Operating Frequency: 13.56 MHZ.	Nos.	40.00		-
6		Supply ,Installation ,Testing & Commissioning of Electromagnetic Lock 600 lbs, Single leaf, LED Status Display,	Nos.	7.00		-
7		Supply ,Installation ,Testing & Commissioning of Electromagnetic Lock 1200 lbs, Single leaf, LED Status Display,	Nos.	11.00		-
8		Supply , Installation , Testing and commissioning of CAT 6 UTP cable 23 AWG LSZH as per ANSI/TIA 568 C.2 and ISO/ IEC 11801–2nd Edition, ROHS Compliant, solid copper conductors, tested @250 Mhz, with HDPE insulation of individual conductor and over all Dia of 5.8mm for Connectivity of Hub room to End Point.	Nos.	300.00		-
9		Supply and Laying of 8 Core x 1.0 sq mm multi strand, copper, unarmoured shielded Cable as per specification (between the every card readers & the access controllers)	RM	270.00		-
10		Supply and Laying of 4 Core x 1.0 sq mm multi strand, copper, unarmoured shielded Cable as per specification (between the every card readers & the access controllers)	RM	550.00		-
11		Supply ,Installation ,Testing & Commissioning of U/L Clamp made of aluminium anodised for EM Lock.	Nos.	18.00		-
12		Supply , Installation , Testing and commissioning of Exit push button	Nos.	18.00		-
		SECTION -VIII- AV for Conference Room				
1		Supply, Installation, Testing & comissioning of 86"Professional Display with UHD Resolution (3840 x 2160), Panel :VA/IPS,Brightness:Better: 330 Nits,Response Time:5ms,Display Colors:1.07 Billion,Audio: Built in Speaker,INPUT Type:HDMI 2.0 X 2,USB 2.0 x 2 , RS232 x 1, RJ45 x1, OUTPUT Type:Audio Out, RS232,Speacial features:Temperature Sensor,Pivot Display, Wireless Mirrioring, 8GB internal memory,EXTERNAL CONTROL:RS232C(in) thru stereo jack, RJ45, IR,Power Consumpstion:200W	Nos	1.00		-
2		Mounting system for above display	Nos	1.00		-

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
6		SITC of Connects any of 8 HDMI sources to any of to 8 HDMI displays, Multiple means for system configuration including front-panel pushbuttons, RS-232 control, and Ethernet connections for web-based GUI or Telnet, Seamless Switch™ , real-time switching, and stable signal transmissions, Scaler, selects optimum EDID settings for smooth power-up, high-quality display, and use of the best resolution across different screens, prevents image tearing by synchronizing the scaler output frame rate to the input signal frame rate, Superior video quality – HDTV resolution of 480p, 720p, 1080i and 1080p (1920 x 1080), HDMI (3D, Deep color); HDCP 1.4 compatible, Consumer Electronics Control (CEC) support, Local HDMI output –allows multiple preview of 8 video sources, Audio-enabled; HDMI audio can be extracted to stereo audio, Supports Dolby True HD and DTS HD Master audio, ESD protection for HDMI, Rack-mountable (2U design).	Nos	1.00		-
7		SITC of Wireless presenter having Resolution: Supports 4K UHD (3840 x 2160) at 30Hz., Connectivity: 802.11 a/g/n/ac wireless transmission protocol, Operating System: Compatible with Windows 10 and higher, macOS 11 and higher, Android 9 and higher, iOS 12 and higher, Video Outputs: HDMI 1.4b, USB-C DisplayPort 1.2 (only Gen2), Audio Output: HDMI, USB, Buttons: 1 or 2 ClickShare Buttons for easy content sharing, Touchback, Annotation, and Blackboarding: Interactive features for engaging presentations, Maximum Sources Simultaneously on Screen: 2 sources, Frequency Band: 2.4 GHz and 5 GHz, Connections: Ethernet LAN 1Gbit, USB-C 2.0, USB-A 2.0 (Gen2: USB-C 3.0, USB-A 3.0), Temperature Range: Operating: 0°C to +40°C, Storage: -20°C to +60°C, Certifications: FCC/CE.	Nos	1.00		-
8		SITC of Extends HDMI signals to one local and two remote displays up to 100 m over a single Cat 5e/6/6a, Up to 4K @ 35 m (Cat 5e/6) / 40 m; 1080p @ 60 m (Cat 5e/6) / 70 m, *4K supported:4096 x 2160 / 3840 x 2160 @ 60 Hz (4:2:0);4096 x 2160 / 3840 x 2160 @ 30 Hz (4:4:4), Max. Data Rate 10.2 Gbps (3.4 Gbps per Lane), RS-232 control, Connector: 1 x Terminal Block, 3 pole, Baud Rate: 19200, Data Bits:8, Stop Bits:1, no parity and flow control, Power 1 x DC Jack (Black) with locking or 1 x RJ-45 (Power over HDBaseT, PoH), 1 x DC Jack (Black) with locking, Operating Temperature 0 - 50°C.	Nos	4.00		-
9		SITC of Super Telephoto professional 4K PTZ AI tracking camera with 30x Optical zoom. High quality 1/1.8 Inch large CMOS sensor and pixel density is 8.42 megapixels, Whose Field of View is Horizontal: 59.2° & Vertical: 34.6. Equiped with 3D noise reduction and backlight compensation technology for dynamic exposure correction & clarity in various lighting environments, even low light. Tally ligh for active streaming indication, also supports simultaneous transmissions of audio & video through NDI Port. PTZ Camera supports multiple output interface - HDMI 2.0, 3G-SDI, USB & LAN. Video compression supports h.264/h.265/MJPEG	Nos	1.00		-
10		Supply, Installation, Testing & Commissioning of Cable Cubby with 2 X powwr socket and 4 or more passthrough holes for HDMi and LAN connectivity.	Nos	4.00		-
12		Supply of 2-way passive loudspeaker with a power rating of 70 W at 8 Ohms for low impedance. For high impedance, it offers 32 W at 312 Ohms, 16 W at 625 Ohms, 8 W at 1.25 kOhms, and 4 W at 2.5 kOhms for L100V; and 16 W at 625 Ohms, 8 W at 1.25 kOhms, 4 W at 2.5 kOhms, and 2 W at 5 kOhms for L70V. The speaker has a nominal impedance of 8 Ohms and features an 8-inch woofer along with a 1-inch tweeter. It has a sensitivity of 93 dB at 1W/1m and a maximum SPL of 111 dB. The coverage angle is 120º x 90º, and it operates within a frequency range of 75 Hz to 20 kHz. The connections are via Euroblock, and the enclosure is made of polypropylene with an aluminum grill. It includes wall brackets for mounting and is available in white (RAL 9003) and black (RAL 9004). The speaker is also IP54 rated for protection against dust and water.	Nos	4.00		-
13		Supply, installation and testing & Commissioning of 2 channel Class D Amplifier with 300W @ 8 Ohm 2-channel, Freq Range 20 Hz - 20 KHz, THD+N <0.15 %, S/N Rate >100 dB, Damping Factor >500, Gain 36 dB, Input Sensitvity 0.775 V / 1 V / 32 dB, Protections \Soft start, VHF, DC, Overload, Clip, Limiting, Short-circuit, Over-temperature, Progressive volume.	Nos	1.00		-
14		SITC of Digital signal processor with min. 08AEC enabled Mic/Line inputs, 08 Line outputs or better , Input channel processing should include Pre amplifier, Signal generator, Expander, Compressor, 10 band Parametric EQ or better, Output Channel processing should include 31 band Graphic equilizer, Delay, Crossover, limiter or better, Other features should include Automatic mixing console, Ducker, Feedback elimination, Noise elimination, echo elimination or better, Should have built-in Bi directional USB for Software based VC as well as for playing digital audio, Should have built in Camera tracking Module, 8 Port Freely configurable GPIO or better with Analog/Digital dynamic range of 114dB or better, Sampling rate of 48Khz or better, Frequency response of 20Hz – 20Khz or better, per channel phantom power module or better. Should be configurable thru software.	Nos	1.00		-

SCHEDULE OF QUNATITIES						
ELECTRIAL WORK						
15		SITC of Beamforming Ceiling Microphone having Microphones 24 or more, Audio Output 1 x DANTE out, Ethernet / Control 1 x RJ-45 Ethernet Port, AF Frequency response 200 Hz to 18 Khz, Sensitivity 0 dBV, Signal-to-noise ratio 80 dB (A), Pick-up pattern Beam pattern, Max. sound pressure level 100 dB SPL, Dynamic Range 87 dB (A), Certification BIS, CE/ UL/ FCC	Nos	1.00		-
18		SITC of network switch having Ports: 16 10/100/1000 Mbps Ethernet ports, 2 SFP ports, Power over Ethernet (PoE): Supports IEEE 802.3af/at with a total power budget of 150W, PoE Ports: Ports 1-8 support PoE devices up to 250 meters distance, Flow Control: 802.3x flow control on each port minimizes dropped packets, Lightning Protection: 6kV protection, Operating Temperature: 0°C to 40°C (32°F to 104°F).	Nos	1.00		-
20		SITC of Ultra Flexible Premium High Speed HDMI Cable 1m, Max. Video Resolution: 4096x2160@60Hz (4:4:4), Operating Temperature 80℃, HDMI Ethernet Channel functionality: additional dedicated data channel supports networking, HDMI (3D, Deep Color, 4K); HDCP 2.2 compliant, RoHS compliant, Bend Radius 90°.	Nos	8.00		-
21		SITC of Ultra Flexible Premium High Speed HDMI Cable 10m, Max. Video Resolution: 4096x2160@60Hz (4:4:4), Operating Temperature 80℃, HDMI Ethernet Channel functionality: additional dedicated data channel supports networking, HDMI (3D, Deep Color, 4K); HDCP 2.2 compliant, RoHS compliant, Bend Radius 91°	Nos	1.00		-
22		Supply, Installation, Testing & Commissioning of Category 6A F/UTP EN Series 23 AWG 4 Pair Shielded Cable. Solid annealed bare copper conductors, High density polyethylene insulation, 4 pairs twisted in varying lays and cabled, Flame rated PVC jacket, TIA/EIA-568-C Category 6A, NEC CMR, CEC CMR FT4, RoHS compliant.	Mtrs	75.00		-
23		Supply, Installation, Testing and Commissioning of 13 AWG Speaker Cable (80/0.20 mm) x 2 core cable ATC copper conductor PVC insulated, core twisted, outer jacketed with Vasiform Type PVC Sheath	Mtrs	75.00		-
24		Supply, Installation, Testing and Commissioning of 18 AWG (24/0.20mm) x 2 core ATC copper conductor, PE insulated, core twisted in a circular form, Inner sheathed with moisture Proof Polymer, braid shielded (80%) with ATC copper, outer Jacketed with Matt finish Rugged Flexible PVC.	Mtrs	75.00		-
25		RJ45, XLR, EP Jack, BNC connector	Lot	1.00		-
26		Supply installation & comissioning of 24U Equipment Rack with PDU & two tray & floor wheels .	Nos	1.00		-
		TOTAL CARRIED OVER TO SUMMARY				**-**

SCHEDULE OF QUNATITIES						
EXTERNAL DEVELOPMENT WORKS (Construction of Boundary Wall, UG Tank, Road Work, Landscaping and Horticulture, Sewrage Treatment Plant, WTP, Rain Water Harvesting, Drainage Work and Faccad Lighting)						
S.NO.	**DSR (CIVIL-2023) & (HORTICULTURE-2018)**	**ITEM DESCRIPTION**	**UNIT**	**QTY.**	**QUOTED UNIT RATE (IN RS.)**	**AMOUNT (IN RS.)**
		EARTH WORK				
1.0	2.6	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.				
	2.6.1	All kinds of soil	cum	547.81		-
2.0	2.7	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-incharge.				
	2.7.1	Ordinary rock	cum	261.53		-
3.0	2.8	Earth work in excavation by mechanical means (Hydraulic excavator)/manual means over areas (exceeding 30 cm in depth, 1.5 m in width as well as 10 sqm on plan) including getting out and disposal of excavated earth lead upto 50 m and lift upto 1.5 m, as directed by Engineer-in-charge.				
	2.8.1	All kinds of soil	cum	745.80		-
4.0	2.25	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	cum	743.28		-
5.0	2.26	Extra for every additional lift of 1.5 m or part thereof in excavation /banking excavated or stacked materials.				
	2.26.1	All kinds of soil	cum	256.00		-
		CONCRETE WORK				
6.0	4.1	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shttering - All work up to plinth level				
6.1	4.1.6	1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size)	cum	17.00		-
6.2	4.1.8	1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size)	cum	4.15		-
		REINFORCED CEMENT CONCRETE				
7.0	5.9	Centering and shuttering including strutting, propping etc. and removal of form for all heights :				
7.1	5.9.1	Foundations, footings, bases of columns etc. for mass concrete.	sqm	124.76		-
7.2	5.9.2	Walls (any thickness) including attached pilasters, butteresses, plinth and string courses etc.	sqm	447.60		-
7.3	5.9.3	Suspended floors, roofs, landings, balconies and access platform.	sqm	149.22		-
7.4	5.9.5	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	sqm	38.60		-
7.5	5.9.6	Columns, Pillars, Piers, Abutments, Posts and Struts	sqm	64.80		-
7.6	5.9.16	Edges of slabs and breaks in floors and walls				
	5.9.16.1	Under 20 cm wide	metre	63.00		-

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
8.0	5.22	Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete upto plinth level and above plinth level.				
	5.22.6	Thermo-Mechanically Treated bars.	Kg	43636.59		-
		Design Mix				
9.0	5.33	Providing and laying in position ready mixed or site batched design mix cement concrete for reinforced cement concrete work; using coarse aggregate and fine aggregate derived from natural sources, Portland Pozzolana / Ordinary Portland /Portland Slag cement, admixtures in recommended proportions as per IS: 9103 to accelerate / retard setting of concrete, to improve durability and workability without impairing strength; including pumping of concrete to site of laying, curing, carriage for all leads; but excluding the cost of centering, shuttering, finishing and reinforcement as per direction of the engineer-in-charge; for the following grades of concrete. Note: Extra cement up to 10% of the minimum specified cement content in design mix shall be payable separately. In case the cement content in design mix is more than 110% of the specified minimum cement content, the contractor shall have discretion to either re-design the mix or bear the cost of extra cement.Concrete of M25 grade with minimum cement content of 330 kg /cum				
	5.33.1	**All works upto plinth level**				
9.1	5.33.1.1	Concrete of M25 grade with minimum cement content of 330 kg /cum	cum	16.07		-
9.2	5.33.1.2	Concrete of M30 grade with minimum cement content of 350 kg /cum	cum	146.40		-
		BRICK WORK				
10.0	6.1	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in:				
	6.1.2	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	2.00		-
11.0	6.38	Providing and laying autoclaved aerated cement blocks masonry with 100 mm thick AAC blocks in super structure above plinth level up to floor V level in cement mortar 1:4 (1 cement : 4 coarse sand). The rate includes providing and placing in position 2 Nos 6 mm dia M.S. bars at every third course of masonry work.	cum	2.00		-
12.0	6.47	Providing and laying autoclaved aerated cement blocks masonry with 150mm/230mm/300 mm thick AAC blocks in super structure above plinth level up to floor V level with RCC band at sill level and lintel level with approved block laying polymer modified adhesive mortar all complete as per direction of Engineer-in-Charge. (The payment of RCC	cum	10.00		-
		WOOD WORK				
13.0	9.48	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete.				
	9.48.1	Fixed to steel windows by welding	K.g	9.00		-
14.0	9.63	Providing and fixing ISI marked oxidised M.S. tower bolt black finish, (Barrel type) with necessary screws etc. complete :				

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
	9.63.4	100x10 mm	each	3.00		-
		STEEL WORK				
15.0	10.5	Providing and fixing 1mm thick M.S. sheet door with frame of 40x40x6 mm angle iron and 3 mm M.S. gusset plates at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.				
	10.5.2	Using flats 30x6mm for diagonal braces and central cross piece	sqm	3.00		-
16.0	10.11	Providing and fixing factory made ISI marked steel glazed doors, windows and ventilators, side /top /centre hung, with beading and all members such as F7D, F4B, K11 B and K12 B etc. complete of standard rolled steel sections, joints mitred and flash butt welded and sash bars tenoned and riveted, including providing and fixing of hinges, pivots, including priming coat of approved steel primer, but excluding the cost of other fittings, complete all as per approved design, (sectional weight of only steel members shall be measured for payment).				
	10.11.1	Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)	Kg	7.00		-
17.0	10.12	Extra for providing and fixing steel beading of size 10 x 10 x 1.6 mm (box type), approved shape and section with screws instead of glazing clips and metal sash putty, in steel doors, windows, ventilators and composite units.	metre	4.00		-
18.0	10.25	Steel work welded in built up sections/framed work including cutting hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc.as required.				
18.1	10.25.1	In stringers, treads, landings etc. of stair cases, including use of chequered plate wherever required, all complete	KG	198.00		-
18.2	10.25.2	In gratings, frames, guard bar, ladders, railings, brackets, gates & similar works.	Kg	10040.00		-
19.0	10.27	Providing and fixing carbon steel galvanised (minimum coating 5 micron) dash fastener of 10 mm dia double threaded 6.8 grade (yield strength 480 N/mm2), counter sunk head, comprising of 10 m dia polyamide PA 6 grade sleeve, including drilling of hole in frame , concrete/ masonry, etc. as per direction of Engineer-in-charge.				
	10.27.4	10 x 140 mm	each	10.00		-
20.0	10.30.1	Providing & fixing glass panes with putty and glazing clips in steel doors, windows, clerestory windows, all complete with : 4.0 mm thick glass panes	sqm	0.36		-
		FLOORING				
21.0	8.20	Providing and fixing dry cladding upto 10 metre heights with 30mm thick gang saw cut stone with (machine cut edges) of uniform colour and size upto 1mx1m, fixed to structural steel frame work and/ or with the help of cramps, pins etc. and sealing the joints with approved weather sealant as per Architectural drawing and direction of Engineer-in-charge. (The steel frame work, stainless steel cramps and pins etc. shall be paid for separately).				
	8.20.1	Red sand stone - 30mm thick gang saw cut stone	sqm	18.00		-

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
22.0	8.21	Providing and fixing structural steel frame (for dry cladding with 30 mm thick gang saw cut with machine cut edges sand stone) on walls at all heights using M.S. square/ rectangular tube in the required pattern as per architectural drawing, including cost of cutting, bending, welding etc. The frame work shall be fixed to the wall with the help of M.S. brackets/ lugs of angle iron/ flats etc. which shall be welded to the frame and embedded in brick wall with cement concrete block 1:2:4 (1 cement :2 coarse sand :4 graded stone aggregate 20 mm nominal size) of size 300x230x300 mm, including cost of necessary centring and shuttering and with approved expansion hold fasteners on CC/RCC surface, including drilling necessary holes. Approved cramps/ pins etc. shall be welded to the frame work to support stone cladding, the steel work will be given a priming coat of Zinc primer as approved by Engineerin- charge and painted with two or more coats of epoxy paint (Shop drawings shall be submitted by the contractor to the Engineer-in-charge for approval before execution). The frame work shall be fixed in true horizontal & vertical lines/planes. (Only structural steel frame work shall be measured for the purpose of payment, stainless steel cramps shall be paid for separately and nothing extra shall be paid).	Kg	54.00		-
23.0	8.15	Providing and fixing stainless steel cramps of required size and shape for anchoring stone wall lining to the backing or securing adjacent stones in stone wall lining in cement mortar 1:2 (1 cement : 2 coarse sand), including making the necessary chases in stone and holes in walls wherever required.	each	30.00		-
		ROOFING				
24.0	12.41	Providing and fixing on wall face unplasticised Rigid PVC rainwater pipes confirming to IS:13592 Type A including jointing with seal ring confirming to IS:5382 leaving 10 mm gap for thermal expansion.(I)single socketed pipes.				
	12.41.2	110 mm diameter	metre	13.60		-
25.0	12.42	Providing and fixing on wall face unplasticised PVC moulded fitting acessories for unplasticised Rigid PVC rain water pipes confirming to IS-13592 type A including jointing with seal ring confirming to IS 5382 leaving 10mm gap for thermal expansion.				
	12.42.1	Coupler				
25.1	12.42.1.2	110 mm	each	1.00		-
	12.42.3	Single tee with door				
25.2	12.42.3.2	110x110x110	each	1.00		-
25.3	12.42.5	Bend 87.5*				
	12.42.5.2	110 mm bend	each	1.00		-
25.4	12.42.6	Shoes (plain)				
	12.42.6.2	110 mm shoe	each	1.00		-
26.0	12.43	Providing and fixing unplasticised -PVC pipe clips of approved design to unplasticised - PVC rain water pipes by means of 50x50x50 mm hard wood plugs, screwed with M.S. screws of required length including cutting brick work and fixing in cement mortar 1:4 (1 cement : 4 coarse sand) and making good the wall etc. complete.				
	12.43.2	110 mm	each	1.00		-
27.0	12.44	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams.	each	1.00		-

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
28.0	12.21	Providing gola 75x75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge), including finishing with cement mortar 1:3 (1 cement : 3 fine sand) as per standard design :				
	12.21.1	In 75x75 mm deep chase	metre	12.00		-
29.0	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	each	1.00		-
		FINISHING				
30.0	13.1	12 mm cement plaster of mix :				
30.1	13.1.1	1:4 (1 cement : 4 fine sand)	sqm	50.00		-
30.2	13.1.2	1:6 (1 cement: 6 fine sand)	sqm	7.91		-
31.0	13.2	15 mm cement plaster on the rough side of single or half brick wall of mix:				
	13.2.2	1:6 (1 cement: 6 fine sand)	sqm	19.07		-
32.0	13.16.1	6mm cement plaster 1:3 (1 cement : 3 fine sand) on ceiling / R.C.C. Beams etc.	sqm	596.82		-
33.0	13.18	Neat cement punning.	sqm	596.82		-
34.0	13.21	Extra for providing and mixing water proofing material in cement plaster work in proportion recommended by the manufacturers.	Per bag of 50kg cement used in the mix	44.00		-
35.0	13.41	Distempering with 1st quality acrylic distemper, having VOC (Volatile Organic Compound) content less than 50 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required, to achieve even shade and colour.				
	13.41.1	Two coats	sqm	79.00		-
36.0	13.44	Finishing walls with water proofing cement paint of required shade :				
	13.44.1	New work (Two or more coats applied @ 3.84 kg/10 sqm)	sqm	10.00		-
37.0	13.48A	Finishing walls with 100% Premium Acrylic emulsion paint having VOC less than 50gm/litre and UV resistance as per IS 15489:2004, Alkali & fungal resistance, dirt resistance exterior paint of required shade (company Depot Tinted) with silicon additive				
	13.48A.1	New work (Two or more coats applied @ 1.43 ltr/10 sqm over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm)	sqm	1166.76		-
		Applying priming coat:				
38.0	13.50.4	With ready mixed red oxide zinc chromate primer of approved brand and manufacture on steel work (second coat)	sqm	161.10		-
39.0	13.80	Providing and applying white cement based putty of average thickness 1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.	sqm	79.00		-
		MISCELLANEOUS WORK				

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
40.0	16.1	Preparation and consolidation of sub grade with power road roller of 8 to 12 tonne capacity after excavating earth to an average of 22.5 cm. depth, dressing to camber and consolidating with road roller including making good the undulations etc. and re-rolling the sub grade and disposal of surplus earth lead upto 50 metres.	sqm	2456.79		-
41.0	16.2	Extra for compaction of earth work in embankment under optimum moisture conditions to give at least 95% of the maximum dry density (proctor density).	cum	737.04		-
42.0	16.53	Providing and fixing concertina coil fencing with punched tape concertina coil 600 mm dia 10 metre openable length (total length 90 m), having 50 nos rounds per 6 metre length, upto 3 m height of wall with existing angle iron 'Y' shaped placed 2.4m or 3.00 m apart and with 9 horizontal R.B.T. reinforced barbed wire, stud tied with G.I. staples and G.I. clips to retain horizontal, including necessary bolts or G.I. barbed wire tied to angle iron, all complete as per direction of Engineer-in-charge, with reinforced barbed tape(R.B.T.) / Spring core (2.5mm thick) wire of high tensile strength of 165 kg/ sq.mm with tape (0.52 mm thick) and weight 43.478 gm/ metre (cost of M.S. angle, C.C. blocks shall be paid separately)	metre	217.00		-
43.0	16.78	Construction of granular sub-base by providing close graded Material conforming to specifications, mixing in a mechanical mix plant at OMC, carriage of mixed material by tippers to work site, for all leads & lifts, spreading in uniform layers of specified thickness with motor grader on prepared surface and compacting with vibratory power roller to achieve the desired density, complete as per specifications and directions of Engineer-in-Charge.				
	16.78.2	With material conforming to Grade-II (size range 53 mm to 0.075 mm) having CBR Value-25	cum	271.28		-
44.0	16.80	Construction of dry lean cement concrete sub base over a prepared sub-grade with coarse and fine aggregate conforming to IS:383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per specifications, cement content not to be less than 150 Kg/cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, for all leads & lifts, laid with a mechanical paver, compacting with 8-10 tonne vibratory roller, finishing and curing etc. complete as per direction of Engineer-incharge.	sqm	273.90		-

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
45.0	16.43	"Providing and laying design mix cement concrete of M-30 grade, in roads/ taxi tracks/ runways, using cement content as per design mix, using coarse sand and graded stone aggregate of 40 mm nominal size in appropriate proportions as per approved & specified design criteria, providing dowel bars with sleeve/ tie bars wherever required, laying at site, spreading and compacting mechanically by using needle and surface vibrators, levelling to required slope/ camber, finishing with required texture, including steel form work with sturdy M.S. channel sections, curing, making provision for contraction/ expansion, construction & longitudinal joints (10 mm wide x 50 mm deep) by groove cutting machine, providing and filling joints with approved joint filler and sealants, complete all as per direction of Engineer-in-charge (Item of joint				
	16.43.2	Cement concrete manufactured in automatic batching plant (RMC plant) i/c transportation to site in transit mixer	cum	365.20		-
46.0	16.69	Providing and laying at or near ground level factory made kerb stone of M-25 grade cement concrete in position to the required line, level and curvature, jointed with cement mortar 1:3 (1 cement: 3 coarse sand), including making joints with or without grooves (thickness of joints except at sharp curve shall not to more than 5mm), including making drainage opening wherever required complete etc. as per direction of Engineer-in-charge (length of finished kerb edging shall be measured for payment). (Precast C.C. kerb stone shall be approved by Engineer-in-charge).	cum	75.60		-
47.0	16.46	Providing and laying in position bitumen hot sealing compound for expansion joints etc.				
	16.46.1	Using grade 'A' sealing compound.	per cm depth per cm width per m length	12026.00		-
48.0	17.35	Providing and fixing soil, waste and vent pipes :				
	17.35.1	100 mm dia.				
	17.35.1.2	Centrifugally cast (spun) iron S&S pipe as per IS:3989	metre	0.50		-
		WATER PROOFING				
49.0	22.1	Providing and laying integral cement based treatment for water proofing on horizontal surface at all depth below ground level for under ground structures as directed by Engineer-in-Charge and consisting of :				
	(i)	Ist layer of 22 mm to 25 mm thick approved and specified rough stone slab over a 25 mm thick base of cement mortar 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound conforming to IS:2645 in the recommended proportion over the leveling course (leveling course to be paid separately). Joints sealed and grouted with cement slurry mixed with water proofing compound.				
	(ii)	2nd layer of 25 mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions.				

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
	(iii)	2nd layer of 25 mm thick cement mortar 1:3 (1 cement: 3 coarse sand) mixed with water proofing compound in recommended proportions.				
	22.1.1	Using Roungh Kota stone	sqm	74.19		-
50.0	22.2	Providing and laying integral cement based treatment for water proofing on the vertical surface by fixing specified stone slab 22 mm to 25 mm thick with cement slurry mixed with water proofing compound conforming to IS:2645 in recommended proportions with a gap of 20 mm (minimum) between stone slabs and the receiving surfaces and filling the gaps with neat cement slurry mixed with water proofing compound and finishing the exterior of stone slab with cement mortar 1:3 (1 cement : 3 coarse sand) 20 mm thick with neat cement punning mixed with water proofing compound in recommended proportion complete at all levels and as directed by Engineer-in-charge :				
	22.2.1	Using rough Kota stone	sqm	168.60		-
51.0	22.22	Providing and mixing integral crystalline admixture for waterproofing treatment to RCC structures like basement raft , retaining walls, re servior, sewage & water treatment plant , tunnels / subway and bridge deck etc. At the time of transporting of concrete into the drum of the ready- mix truck, using integral crystalline admixture @0.80% (minimum) to the weight of cement content per cubic metre of concrete) of higher as recommended by the manufacture's specifictaion in renforced cement concrete at site of work. The material shall meet the requirments as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90%, compared with control concrete as per DIN 1048 and resistant to 16 bar hydrostatic pressure. The crystalline admixture shall be capable of self-healing of cracks up to a width of 0.50mm. The work shall be carried out all complete as per specification and the direction of the Engineer-in-charge. The product performance shall carry guarantee for 10 years against any leakage.	kilogram	146.00		-
52.0	22.26	Providing and applying of swellable type water stop tape 19mm x 25mm thick in linear meter (expansive nature) for construction joints treatment of RCC stucture, such as raft slab, retaining walls, water storage tank and at the junctions of raft slab with the rataining primer for swellable water stop tape shall be applied throughout the length of the joint @3.78 litre per 240 running meter. Over the primed surface swellable type water stop tape shall be placed. The work shall be carried out all comlete as per specification and the direction of the engineer-in- chagre. The product performance shall carry guaranteed for 10 years against any leakage.	metre	111.54		-
53.0	MR	Providing and laying Grooming over finshed surface of CC road to make the surface rough as approved by architect and complete in all respect..	sqm	1808.50		-

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
54.0	MR	Providing grooves in CC road as per architecture drawing and design as approved by architect and complete in all respect..	mtr	357.50		-
		SEWAGE TREATMENT PLANT (30 KLD)				
55.0	NS	**Note**: All works to be carried out to the relevant IS Specifications whether so mentioned in the description of works or not. Ion exhange dealer required				
		Design, Supplying, Installation, Testing, Commissioning of 30 KLD capacity Sewage Treatment Plant complete in all respects based on MBBR (Moving Bed Bio Reactor) with ultra filtration undergroundground with sewage handling capacity 30 kld per day. All the equipment, piping, pumps, blowers and electrical Panel to be housed in a plant room. All accessories and connection to the pumps etc with the STP shall be included for operational.				
		integrator: Semak / SD infosis / P.tech / Kanbe				
		The STP shall be designed based on the following parameters (Raw water characteristics) :				
		PH : 6.5 - 8.5 BODs : 300 - 400 Mg/l S. Solids : 200 - 450 Mg/l COD : 600 - 800 mg/L Oil & Grease : 50-100 mg/L				
		Effluent discharge standard after treatment :-				
		PH : 6.0 - 8.5 BODs : less than 5 mg/l S. Solids : Less than 10 mg/l COD : Less than 30 mg/l Oil & Grease : Nil	Job	1.00		-
		WTP PUMPING SYSTEM				
56.0	NS	**Raw Water Pump (Filter Feed Pump)**				
		Providing and fixing In-line horizontal / vertical multistage centrifugal clear water pump set SS-304 casing, SS-304 impeller, SS-316 shaft, CI base with CED coating, complete directly coupled with TEFC induction motor of class "F" insulation & efficiency class EFF-1, 2900 RPM, suitable for operation on 415 volts ±10%, 3 phase, 50 Hz, A.C. supply (with mechanical seal), pressure gauges with gunmetal isolation cocks, vibration elimination pads, etc. mounted on a MS base frame bolted to cement concrete foundation including suction header, discharge header, isolation valve & matching companion flanges, etc. complete in all respects and as per speicification with the following capacities:				
56.1	a)	**Filter Feed Pump :**				
		No. of Pumps : 2 (1W + 1S)				
		Capacity : 100 LPM				
		Head : 30 M				
		Note:-1 set consists of 2 nos. of pumps (1Working + 1Standby)	Set	1.00		-
56.2	b)	**Domestic Water Transfer Pump :**				
		No. of Pumps : 2 (1W + 1S)				
		Capacity : 100 LPM				
		Head : 50 M				
		Note:-1 set consists of 2 nos. of pumps (1Working + 1Standby)	Set	1.00		-
56.3	C)	**Flushing Water Transfer Pump :**				
		No. of Pumps : 2 (1W + 1S)				

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
		Capacity : 100 LPM				
		Head : 50 M				
		Note:-1 set consists of 2 nos. of pumps (1Working + 1Standby)	Set	1.00		-
56.4	d)	**Garden Hydrant Pump :**				
		No. of Pumps : 2 (1W + 1S)				
		Capacity : 100 LPM				
		Head : 40 M				
		Note:-1 set consists of 2 nos. of pumps (1Working + 1Standby)	Set	1.00		-
57.0	NS	**Pressure Sand Filter**				
		Supply, Installation, Testing and Commissioning of vertical **Pressure Sand Filter** (comprising of minimum 750mm media in four graded layer and minimum Height on Straight 1500mm) fabricated from high performance M.S plate of minimum 10mm thick for shell & 12mm thick for dished ends,(Quality of Steel as per IS:2062 Grade B, thickness as per ASME Section 8),Tested to 5.0 Kg/m2 , internally treated with coal-tar epoxy, air scouring, collection system initial charge of media, M.S face piping with necessary flanges, gaskets, isolating valves, accessories, nuts & bolts, external painting with 2 coats of red oxide primer and enamel paint etc. with suitable foundation boits & other accessories, mounting frame, complete as required & as specified as per directions of the engineer-in-charge. with the following:				
		Discharge : 36000 LPH Each				
		Filtration Rate : .35000 LPH/M2				
		Dia. : 1000 mm I.D.	Set	1.00		-
58.0	NS	**Activated Carbon Filter**				
		Supply, Installation, Testing and Commissioning of vertical **Activated Carbon Filter** (comprising of minimum 750mm media in four graded layer and minimum Height on Straight 1500mm) fabricated from high performance M.S plate of minimum 10mm thick for shell & 12mm thick for dished ends,(Quality of Steel as per IS:2062 Grade B, thickness as per ASME Section 8),Tested to 5.0 Kg/m2 , internally treated with coal-tar epoxy, air scouring, collection system initial charge of media, M.S face piping with necessary flanges, gaskets, isolating valves, accessories, nuts & bolts, external painting with 2 coats of red oxide primer and enamel paint etc. with suitable foundation boits & other accessories, mounting frame, complete as required & as specified as per directions of the engineer-in-charge. with the following:				
		Discharge : 36000 LPH Each				
		Filtration Rate : .35000 LPH/M2				
		Dia. : 1000 mm I.D.	Set	1.00		-
59.0	NS	**Softener (For Blending of Domestic Water)**				

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
		Providing, fixing, testing & commissioning of FRP water **softener** (suitable for 3.5 Kg/Sqcm working pressure) complete with initial charge with T-40 NA Resin, multiport valve with built in ejector for controlling all operations), frontrol piping, regeneration system, pressure gauge at inlet, outlet and back wash (each with isolation cock), valves, fittings and water hardness testing kit & associated works. Softener shall be suitable for the following duty:				
		Minimum expected rate of flow: 8000 lph				
		Total soft water to be produced between two regenerations: 40 Cu.m				
		Expected raw water hardness : app. 450-500 ppm				
		Expected treated water hardness: less than 5 ppm (Zero Commercial Hardness)				
		Max. working pressure : 3.5Kg/cm^2				
		Suggested Dia of Vessel : 1000mm	Each	1.00		-
60.0	NS	**Chlorinator**				
		Supply, Installation, Testing and Commissioning **chemical dozing system** consisting of 1 no. electronic dosing pumps of approved make with all accessories, suitable to doze chemical solution upto 1 ppm doze (of Sodium Hypo-chloride solution) to a filtered water flow of 3000 lph against a pressure of 1.5 kg/cm2 complete with FRP moulded solution holding tank of min. 200 litre with all standard accessories & structural arrangement including suitable foundation bolts & other accessories etc.complete as per technical specifications.	Set	1.00		-
61.0	NS	**Salt Saturator assembly (For Softener)**				
		Supply, Installation, Testing and Commissioning Salt Saturator assembly (for supply of salt solution to softener) consisting of HDPE tanks with automatic agitators and all required accessories for holding and supplying salt for softener complete in all respects, including providing and fixing vertical, inline multistage centrifugal pumping set with stainless steel SS-316 L stage casing and SS-316 L impellers with stainless steel shaft and suction & discharge casing . The effective capacity of the system to be of minimum 10% greater than actual salt required for approx. 3 Days with complete structural arrangement including RCC foundation etc. as per instructions of engineer-in-charge and approved fabrication shop drawings.				
		(i) Recommended no. of tanks = 1 Nos.				
		(ii) Total Capacity of Tank = 100 Liters				
		(complete set as mentioned above)	Set	1.00		-
62.0		**Drainage Submersible Pump:**				
		Providing and fixing compact monoblock dry motor submersible pumps for suitable rating, with non-clog free flow open impeller, minimum solid handling capacity of 28 mm suitable for operation on 415 volts + 5% -15%, 50 C/s A.C single/3 phase supply, speed 2900 RPM including oil chamber, guide wire for lifting & lowering of pump, M.S. galvanized lifting chain with following specifications:				
		The above pump sets must be supplied complete with following accessories.				

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
		Piping of 80mm dia for individual pump delivery line and 100mm dia for common delivery line, to be terminated outside the sump. (The pipe material should be Medium duty G.I) -- 1 Set				
		80mm dia Butterfly valve.-- 2 Nos				
		80 mm dia reflux valve.-- 2 Nos				
		Necessary cables from pump set to control panel (position of panel marked in enclosed layout in plant room).-- 1 Set				
		Electrical switch panel with DOL starter having all necessary accessories & safety devices of standard specifications. (Panels with sump pumps near each sump as per site conditions). --1 No.				
		Automatic built-up water level controller with necessary length of cable upto control panel.				
		Each set consist of 2 nos.of pumps - 1 working & 1 stand by (Complete set as above with 2 nos. pumps including cost for valves, piping, Control Panel and Cabling, Level Controllers etc as required and as specified) 2.The entire system alongwith pumps & control panel must be sourced from single manufacturer only for unit responsibility.				
63.0	NS	**Plumbing Plant Room**				
		No. of Pumps per set : 2 nos (1 working + 1 stand by)				
		Discharge - 200 LPM				
		Total head - 12 -15 m				
		(Complete set as above with 2 nos. pumps. No extra payment shall be made for valves & piping)	Set	1.00		-
64.0	NS	**Pump motor controller cum water level indicating panel at WTP Plant Room**				
		Supply, installation, testing and commissioning of **Centralised PLC control panel** front operated, cubicle construction, wall mounted type, fabricated out of 1.6 mm thick CRCA Sheet, with hinged lockable doors, dust and vermin proof, powder coated of approved shade, inter-connections, having, internal wiring, earth terminals, Top / Bottom control cable entry, numberings etc.comprises of touch-screen display board (Min.Diag. size 8") along with all accessories for complete Programmable logical controls & indications,having necessary interlocks, Inputs/Outputs, required number of repeater amplifiers, all audio-visual alarms as per the requirements listed below i/c emergency stop push button on the panel etc. The panel shall have BMS compatible Modbus protocol complete as required and as specified.				
		Water level indicators and controllers : The hydrostatic pressure sensor (Water level indicator) is working on hydrostatic pressure measurement principle made of Stainless Steel for installation in storage tanks, and capable of providnig 4 to 20 mA analog signal compatible with PLC signal inputs and all control outputs to MCC panel (Plumbing/Water supply),complete as per working requirements for equipment detailed below.				
		Raw Water tanks-				
		Real-Time water level indication monitoring				

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
		Low Level audio-visual alarm at less than 30% total capacity.				
		High Level audio-visual alarm at more than 100% total capacity.				
		Auto cut-out of raw water pumps at 100%				
		Domestic Water tanks-				
		Real-Time water level indication monitoring				
		Low Level audio-visual alarm at less than 30% total capacity.				
		High Level audio-visual alarm at more than 100% total capacity.				
		Auto cut-out of domestic water hydronuematic pumps at 100%				
		Complete Set as mentioned above	Lot	1.00		-
65.0	0	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling complete in all respect				
65.1	a)	50 mm dia nominal bore	RM	50.00		-
65.2	b)	65 mm dia nominal bore	RM	70.00		-
65.3	c)	80 mm dia nominal bore	RM	35.00		-
65.4	d)	100 mm dia nominal bore	RM	35.00		-
66.0	NS	Providing and fixing forged brass lever operated ball valve of full flow with forged brass ball (Machined to mirror smooth finsh with hard chrome plated) and spindle with setting and gland of superior quality having minimum working pressure of 10 kg/cm2 etc. complete in all respect**. (Make: - Zoloto Valve - Art No. 1008B)**				
66.1		50mm dia nominal bore	Each	4.00		-
67.0	NS	Providing and fixing C.I butterfly valve, wafer end type class PN 1.6 as per I.S:13095 or BS:5155, including necessary nuts, bolts, gaskets etc., complete (including cost of flanges) (Make: - Sant Valve - HSN Code 84818030)				
		65mm nominal bore	Nos.	6.00		-
68.0		Providing and fixing non-return valve of approved quality :				
68.1	a)	50mm nominal bore	Each	4.00		-
68.2	b)	65mm nominal bore	Each	4.00		-
69.0	NS	Providing and fixing C.I double flanged "Y" type strainer with S.S. mesh, including nuts, bolts and 3 mm thick gasket complete as required **(Make: - Zoloto -Art No. 1070)**				
	a)	65mm nominal bore	Nos.	2.00		-
		RAIN WATER HARVESTING				
70.0	23.1	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer-in-charge, upto 90 metre depth below ground level.				
70.1	23.1.1	All types of soil				
	23.1.1.1	300 mm dia	Metre	150.00		-

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
71.0	23.2	Boring/drilling bore well of required dia for casing/ strainer pipe, by suitable method prescribed in IS: 2800 (part I), including collecting samples from different strata, preparing and submitting strata chart/ bore log, including hire & running charges of all equipments, tools, plants & machineries required for the job, all complete as per direction of Engineer -in-charge, beyond 90 metre & upto 150 metre depth below ground level.				
71.1	23.2.1	All types of soil				
	23.2.1.1	300 mm dia	Metre	150.00		-
72.0	23.3	Supplying, assembling, lowering and fixing in vertical position in bore well, unplasticized PVC medium well casing (CM) pipe of required dia, conforming to IS: 12818, including required hire and labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer -in-charge.				
72.1	23.3.2	150 mm nominal size dia	Metre	250.00		-
73.0	23.4	Supplying, assembling, lowering and fixing in vertical position in bore well unplasticized PVC medium well screen (RMS) pipes with ribs, conforming to IS: 12818, including hire & labour charges, fittings & accessories etc. all complete, for all depths, as per direction of Engineer-in-charge.				
73.1	23.4.2	150 mm nominal size dia	Metre	150.00		-
74.0	23.5	Supplying, filling, spreading & leveling stone boulders of size range 5 cm to 20 cm, in recharge pit, in the required thickness, for all leads & lifts, all complete as per direction of Engineer-in-charge.	Cum	2.00		-
75.0	23.6	Supplying, filling, spreading & leveling gravels of size range 5 mm to 10 mm, in the recharge pit, over the existing layer of boulders, in required thickness, for all leads & lifts, all complete as per direction of Engineer- in-charge.	Cum	2.00		-
76.0	23.7	Supplying, filling, spreading & leveling coarse sand of size range 1.5 mm to 2 mm in recharge pit, in required thickness over gravel layer, for all leads & lifts, all complete as per direction of Engineer -in-charge.	Cum	2.00		-
77.0	23.8	Gravel packing in tubewell construction in accordance with IS: 4097, including providing gravel fine/ medium/ coarse, in required grading & sizes as per actual requirement, all complete as per direction of Engineer- in-charge.	Cum	170.00		-
78.0	23.12	Development of tube well in accordance with IS : 2800 (part I) and IS: 11189, to establish maximum rate of useable water yield without sand content (beyond permissible limit), with required capacity air compressor, running the compressor for required time till well is fully developed, measuring yield of well by “V” notch method or any other approved method, measuring static level & draw down etc. by step draw down method, collecting water samples & getting tested in approved laboratory, including disinfection of tubewell, all complete, including hire	Hour	96.00		-

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
79.0	23.13	Providing and fixing suitable size threaded mild steel cap or spot welded plate to the top of bore well housing/ casing pipe, removable as per requirement, all complete for borewell of:				
	23.13.2	150 mm dia	Each	1.00		-
80.0	23.14	Providing and fixing M.S. clamp of required dia to the top of casing/ housing pipe of tubewell as per IS: 2800 (part I), including necessary bolts & nuts of required size complete.				
	23.14.2	150 mm dia	Each	1.00		-
81.0	23.15	Providing and fixing Bail plug/ Bottom plug of required dia to the bottom of pipe assembly of tubewell as per IS:2800 (part I).				
	23.15.2	150 mm dia	Each	1.00		-
		DRAINAGE				
82.0	19.1	Providing, laying and jointing glazed stoneware pipes class SP-1 with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand)				
82.1	19.1.2	150 mm diameter	metre	70.00		-
82.2	19.1.3	200 mm diameter	metre	125.00		-
83.0	19.2	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W.				
83.1	19.2.2	150 mm diameter S.W. pipe	metre	70.00		-
83.2	19.2.3	200 mm diameter S.W. pipe	metre	125.00		-
84.0	19.3	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) up to haunches of S.W. pipes including bed concrete as per standard design :				
84.1	19.3.2	150 mm diameter S.W. pipe	metre	70.00		-
84.2	19.3.3	150 mm diameter S.W. pipe	metre	125.00		-
85.0	19.4	Providing and fixing square-mouth S.W. gully trap class SP-1 complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x 300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design:				
	19.4.2	150 x 100 mm size P type				
	19.4.2.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	6.00		-
86.0	19.6	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete :				
86.1	19.6.2	150 mm dia. R.C.C. pipe	metre	200.00		-
86.2	19.6.3	250 mm dia. R.C.C. pipe	metre	185.00		-
86.3	19.6.4	300 mm dia. R.C.C. pipe	metre	63.30		-

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
87.0	19.7	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand) with R.C.C. top slab with 1:1.5:3 mix (1 cement : 1.5 coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 mix (1 cement : 4 coarse sand (zone-III) : 8 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design :				
	19.7.1	Inside size 90x80 cm and 45 cm deep including C.I.cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) :				
87.1	19.7.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	20.00		-
88.0	19.8	Extra for depth for manholes :				
	19.8.1	Size 90x80 cm				
	19.8.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	metre	1.50		-
89.0	19.9	Constructing brick masonry circular type manhole 0.91 m internal dia at bottom and 0.56 m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand), inside cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement : 3 coarse sand : 6 graded stone aggregate 40 mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement, all complete as per standard design :				
90.0	19.9.1	0.91 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560 mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182 kg., fixed in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including centering, shuttering all complete. (Excavation, foot rests and 12 mm thick cement plaster at the external surface shall be paid for separately)				
	19.9.1.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	2.00		-
91.0	19.10	Extra depth for circular type manhole 0.91m internal dia (at bottom) beyond 0.91 m to 1.67 m				
	19.10.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	metre	2.00		-
92.0	19.15	Providing M.S. foot rests including fixing in manholes with 20x20x10 cm cement concrete blocks 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) as per standard design :				
	19.15.1	With 20x20 mm square bar	Each	300.00		-

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
93.0	19.16	Providing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS : 10910, on 12 mm dia steel bar conforming to IS : 1786, having minimum cross section as 23 mmx25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specifications and having manufacture's permanent identification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	Each	15.00		-
94.0	19.18	Supplying and fixing C.I. cover without frame for manholes :				
	19.18.1	455x610 mm rectangular C.I. cover (light duty) the weight of the cover to be not less than 23 kg	Each	2.00		-
95.0	19.19	Providing and fixing in position pre-cast R.C.C. manhole cover and frame of required shape and approved quality				
	19.19.1	L D- 2.5				
95.1	19.19.1.1.	Rectangular shape 600x450 mm internal dimensions	Each	20.00		-
95.2	19.19.2	M D - 10				
	19.19.2.2	Circular shape 500 mm internal diameter	Each	10.00		-
96.0	19.27	Constructing brick masonry road gully chamber 50x45x60 cm with bricks in cement mortar 1:4 (1 cement : 4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design :				
	19.27.1	With common burnt clay F.P.S. (non modular) bricks of class designation 7.5	Each	25.00		-
97.0	12.22	Making khurras 45x45 cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate of 20 mm nominal size) over P.V.C. sheet 1 m x1 m x 400 micron, finished with 12 mm cement plaster 1:3 (1 cement : 3 coarse sand) and a coat of neat cement, rounding the edges and making and finishing the outlet complete.	Each	11.00		-
		EXTERNAL LIGHTING SYSTEM				
		FAÇADE LIGHTING				

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
98.0	NSR	Supply, Installation, Testing and Commissioning of IP67 outdoor recessed ground 10W LED Narrow beam optics with recessing box, monochrome white CCT 3000K. Load type 100-277V AC, Minimum luminous flux 720 lm, Minimum LED lumen 66 lm Lamp life ≥50,000 hrs L80/B10, MacAdam≤ 3, CRI ≥ 80, R9 range is 50-70 with minimum IK07+,class I impact and safety protection, Ground-recessed LED projector luminaire should be designed for high-performance with optics, trim, lenses and control options. The fixture should be plug and play design for simplifies installation, protecting the system from water infiltration and ensuring long-lasting performance. Built with robust, high quality materials, with an option of resistance to harsh environments, has a Drive-Over load bearing capacity of 5000kg. Silicone rubber gasket. Factory-sealed termination chamber complete with cable gland and 0.5 m of flexible PVC free cable. Integral EC electronic converter. Advanced thermal management to protect LEDs and to optimise lumens output. Removable LED boards for upgrading. Finish to match with adjoining mounting surface finish color. Final Optics to be determined after mockup and to be confirmed with Lighting designer, Architect and Engineer in-charge prior to order. Vendor to Supply fixture with LED, Dimmable Power supply and control unit, all mounting and	Nos.	12.00		-
99.0	NSR	Supply, Installation, Testing and Commissioning of outdoor linear flood light luminaire made of high purity pressure die cast aluminum of 24W with system lumen 1414 - 1725 lm /109 - 133 lm/W outdoor rated IP66, IK08 with weight of 2.1Kg made of low copper LM6 alloy aluminum with UV stablized powder coated ensure corrosion resistant and color stablity with stainless steel fastner marine grade 304 with Zinc flake Coating (,ZFC) durable silicone gasket suitable for corrosive CCT RGBW, Luminaire should have compliance to L80/B10 at 60000 hrs , 3 SDCM (3-Step MacAdam ellipse) reports. Offered brand should have In house testing facility for TM30-15 as per CIE Ra and CIE R9 can be verified by the client . Luminaire should have CE mark and confirming to EN standards. Painting prep should have 15 minutes chemical chromatisation for high corrision resistance with 3 years warranty.	Nos.	35.00		-
100.0	NSR	Supply, Installation, Testing and Commissioning of outdoor linear flood light luminaire made of high purity pressure die cast aluminum of 40W with system lumen 3294 lm /110 - 137 lm/W ith narrow beam outdoor rated IP65, IK08 with weight of 1.9 Kg made of low copper LM6 alloy aluminum with UV stablized powder coated ensure corrosion resistant and color stablity with stainless steel fastner marine grade 304 with Zinc flake Coating (,ZFC) durable silicone gasket suitable for corrosive CCT RGBW, Luminaire should have compliance to L80/B10 at 60000 hrs , 3 SDCM (3-Step MacAdam ellipse) reports. Offered brand should have In house testing facility for TM30-15 as per CIE Ra and CIE R9 can be verified by the client . Luminaire should have CE mark and confirming to EN standards. Painting prep should have 15 minutes chemical chromatisation for high corrision resistance with 3 years warranty.	Nos.	30.00		-

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
101.0	NSR	Supply, Installation, Testing and Commissioning of continous LED strip luminaire of 12W/M with system lumen of 460 lm/m in 3000K with efficacy of 38 lm/w outdoor rated min. IP67 in modern shape having dimension:16mm X 17mm with flexible mounting channel having minimum bend radius of 150mm and beam angle of 160 degrees with remote driver, made of UV and flame resistant, chemical & salt stable PVC with end & central connectors extra as per site requirements, . Luminaire should have compliance to L80/B10 at 50000 hrs , 3 SDCM (3-Step MacAdam ellipse) reports. Available in following colour temperature option (to be selected at the time of execution) 3000K/ 4000K. The light fixture manufacturer should have In house testing facility for TM30-15, LM79 as per IEC60598 and IEC62722 & CIE.The same can be verified by the client. Luminaire should have CE mark and confirming to EN standards with 3years of Warranty with electronic driver, complete as required.	Meter	135.00		-
102.0	NSR	Supply, Installation, Testing and Commissioning of Elegant and powerful fixed-base gobo projector to match the entire ODESSA luminaire made of high purity pressure die cast aluminum of 37W with system lumen 249lm, outdoor rated IP66, IK08 CCT 3000K Non Dim in modern shape having Diameter of 130mm & Height 259mm with weight of 1.7 Kg made of low copper LM6 alloy aluminum with UV stablized powder coated ensure corrosion resistant and color stablity with stainless steel fastner marine grade 316, durable silicone gasket suitable for corrosion, Luminaire should have compliance to L80/B10 at 50000 hrs , 3 SDCM (3-Step MacAdam ellipse) reports. Offered brand should have In house testing facility for TM30-15 as per CIE Ra and CIE R9 can be verified by the client . Luminaire should have CE mark and confirming to EN standards. Painting prep should have 15 minutes chemical chromatisation for high corrision resistance with 5 years warranty.	Nos.	1.00		-
103.0	NSR	Supply, Installation, Testing and Commissioning of Surface Mounted flexible Linear with lens light fixture, housing made of clear PU with surface mounted flexible aluminum profile claimp.Colour tolerance ,3 SCDM to avoid color deviation. IP67 protection is required to immersion in rainy season. Luminaire must have remote LED driver. luminaire having Maximum 18W-MTR,3000K Delivered lumen 79lm/W , Beam: lense forward through T3/ T4/ Diffused Light Throw , fixture Length to be as per site measurment and height of the profile Lumaire and CRI>85 LED. To prevent from capillary action Luminare must containaccessories like IP68 connector from every electrical joint. with back profile to carry wire .	Meter	135.00		-
104.0	NSR	Supply, Installation, Testing and Commissioning of Surface mounted decorative beautifull planter bollard 1.5w LED diffuse ambient light /3000K diacast aluminium with flexible arrangement with cluster set	Nos.	70.00		-
105.0	NSR	Supply, Installation, Testing and Commissioning of Niclodia SLESA-U11 DMX Controller	Nos.	1.00		-
106.0	NSR	Supply, Installation, Testing and Commissioning of Dmx Splitter 4 port 512	Nos.	1.00		-

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
107.0	NSR	Supply, Installation, Testing and Commissioning of HG/CBL -DMX -201 /D 2 AWG, 7/0.254 mm Annealed Tinned Copper.Banded Aluminum Foil With 100 % Black / As Per Customer Coverage.Soft PVC Insulation 1.50 ± 0.05 mm	Nos.	1.00		-
108.0	NSR	Supplying, Installation, Testing and Commissioning of Ip Rated PVC Enclosure for Drivers of Size(mm) : Length : 230 x Width: 80 x Depth:60 etc as rqd.	Nos.	1.00		-
109.0	NSR	Supplying, Installation, Testing and Commissioning of Power Connect IP-68 2/3-Pin I-Shape Connector with Durable-Finish Waterproof, Heat & Fire Resistant IP-68 T-Shape Connector. Rated connecting range - 0.5 To 2.5 sq. mm. Material: Plastic part Nylon, Strips Brass and screw alloy steel , Washers Silicon rubber etc as rqd.	Nos.	1.00		-
110.0	NSR	Supplying, Installation, Testing and Commissioning of Power Connect IP-68 3-Pin T-Shape Connector Durable-Finish Waterproof, Heat & Fire Resistant IP-68 T-Shape Connector. Rated connecting range - 0.5 To 2.5 sq. mm. Material: Plastic part Nylon, Strips Brass and screw alloy steel Washers Silicon rubber etc as rqd.	Nos.	1.00		-
	Horticulture 2018					
111.0	2.2	Supplying and stacking of good earth at site including royalty and carriage up to 5 km (earth measured in stacks will be reduced by 20% for payment).	cum	300.00		-
112.0	2.3	Supplying and stacking sludge at site including royalty and carriage up to 5 km (sludge measured in stacks will be reduced by 8% for payment).	cum	150.00		-
113.0	2.4	Supplying and stacking at site dump manure from approved source, including carriage up to 1 km (manure measured in stacks will be reduced by 8% for payment) :				
	2.4.2	Screened through sieve of I.S. designation 16 mm	cum	150.00		-
114.0	2.7	Fine dressing of the ground.	sqm	2000.00		-
115.0	2.8	Spreading of sludge, dump manure and / or good earth in required thickness as per direction of Officer-in-charge (Cost of sludge, dump manure and / or good earth to be paid separately).	cum	600.00		-
116.0	2.9	Mixing earth and sludge or manure in the required proportion specified or directed by the Officer-in-charge..	cum	600.00		-
117.0	2.10	Grassing with selection No.1 grass including watering and maintenance of the lawn for 30 days or more till the grass forms a thick lawn, free from weeds and fit for mowing including supplying good earth, if needed (the good earth shall be paid for separately).				
		In rows 5 cm apart in both directionS	Sqm	2000.00		-

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
118.0	2.14	Digging holes in ordinary soil and refilling the same with the excavated earth mixed with manure or sludge in the ratio of 2:1 by volume (2 parts of stacked volume of earth after reduction by 20% : 1 part of stacked volume of manure after reduction by 8%) flooding with water, dressing including removal of rubbish and surplus earth, if any, with all leads and lifts (cost of manure, sludge or extra good earth if needed to be paid for separately) :				
	2.14.2	Holes 90 cm dia, and 90 cm deep	each	2100.00		-
119.0	2.13	Preparation of beds for hedging and shrubbery by excavating 60 cm deep and trenching the excavated base to a further depth of 30 cm, refilling the excavated earth after breaking clods and mixing with sludge or manure in the ratio of 8:1 (8 parts of stacked volume of earth after reduction by 20% : one part of stacked volume of sludge or manure after reduction by 8%), flooding with water, filling with earth if necessary, watering and finally fine dressing, leveling etc. including stacking and disposal of materials declared unserviceable and surplus earth by spreading and leveling as directed,	cum	108.00		-
120.0	2.39	Complete maintaince of the entire garden features in the garden area i.e. lawn trees, shurbs, hedges, flower beds, creepers etc. including hoeing, pruning replacements of plants, gap filling, watering, mowing of lawn, clipping of hedges, removal of garden waste, applying inseticide, pesticide & fertilizer(whenever required) top dressing of lawn with good earth and manure and maintenace of other garden related works for 12 months (1 year) as directed by officer-in-charge. (Note:-Good earth, maure, fertilizer, insecticide, pesticide etc & all T&P articles & stock material will				
	2.39.6	Open spaces(as per yard stick 1Mali =3.00Acre).	per sqm per month	24000.00		-
121.0	2.35	Supply and stacking of selection No. 1 doob grass at the fresh & fre from weeds having proper roots.	per sqm	2500.00		-
122.0	4.91	Providing and Displaying plants Budded Rose (H.T. variety) 3 to 4 healthy branch 30 cm and above ht. well developed with one and above flower plant in 20 cm Earthen Pot, as per direction of the officer-in-charge.	each	500.00		-
123.0	4.92	Providing and Displaying plants Creeper Rose variety 3 to 4 healthy branch 60 cm and above ht. well developed with one and above flowers in 25 cm Earthen Pot, as per direction of the officer-in-charge.	each	500.00		-
124.0	4.93	Providing and Displaying plants Standard Rose (H.T. variety) 3 to 4 healthy branch 90 cm and above ht. well developed with one and above flowers in 25 cm Earthen Pot, as per direction of the officer-in-charge.	each	500.00		-
		Timber and Flowering tree				
125.0	7.45	Supply and stacking of Grevillea robusta (Silver Oak) plant of height 150- 165 cm. in big poly bags of size 25 cm as per direction of the officer-incharge	each	100.00		-

S.NO.	DSR (CIVIL-2023) & (HORTICULTURE-2018)	ITEM DESCRIPTION	UNIT	QTY.	QUOTED UNIT RATE (IN RS.)	AMOUNT (IN RS.)
126.0	7.74	Supply and stacking of Polyalthia longifolia (Ashok) plant of height 150- 165 cm. in earthen pots of size 25 cm as per direction of the officer-incharge.	each	200.00		-
127.0	7.1	Supply and stacking of Acacia auriculiformis (Amaltas) plant of ht 150-165 cm in bag size of 25 cm as per direction of the officer-in-charge.	each	100.00		-
128.0	7.57	Supply and stacking of Millingtonia hortensis plant of height 150-165 cm.in big poly bag of size 25 cm as per direction of the officer-in-charge.v	each	100.00		-
129.0	7.82	Supply and stacking of Spathodea campanulata plant of height 150-165 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge.	each	100.00		-
130.0	7.24	Supply and stacking of Delonix regia (Gulmohar) plant of height 150-165 cm. in big poly bags of size 25 cm as per direction of the officer-in-charge	each	100.00		-
		Total				**-**

SCHEDULE OF QUNATITIES							
FURNITURE BOQ							
S.NO	ROOM	ITEM DESCRIPTION	UNIT	QTY	QUOTED UNIT RATE (IN Rs.)	AMOUNT (In Rs.)	REFERENCE IMAGE
1	RECEPTION AREA / WAITING / DISPATCH DEALING	Supplying, and placing in position of Reception Table as per photograph.Size: 2700(w) x 900(D) x 1100(Ht)mm. Table top made up of 25mm thick pre-laminated particle board with 2mm thk pvc edge banding . side panel shall be 25mm thk prelam particle board with 2mm thk pvc edge banding.Modesty panel shall be 18mm thk prelam particle board with 2mm thk pvc edge banding .Table top height will be 750mm from floor level & one additional top at the height of 300 mm above the table top rest on SS stud/prelam vertical panel . overall ht of the table 1100mm. The working edges shall be provided with machine pressed 2mm thick PVC edging using special hot melt glue at hot temperature. Mobile pedestal of 400Lx 450Dx600HT (2 drawer + 1filling). Pedestal Top made out of 18mm thick pre laminated particle board and understructure shall be made out of 18 mm thick prelaminated particle board.All exposed edges shall be provided with machine pressed 2 mm thick PVC lipping glued with hot melt EVA glue.Table having wire manager hole cut on the table top for wires. Table having cable tray for the provision for switch mounting. Table having metal wire riser leg provide for the wires carring from the floor.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	1.00		-	
2		Providing and placing Back Storage as per photograph.Size: 6000(w) x 400(D) x 750(Ht)mm.The Storage top shall be made out of 25 mm thick Pre-Laminated Particle Board of approved shade, design and colour, all exposed edges are sealed with 2mm thick pvc edge banding tape pressed at 200 degree C with hot melt glue on special machines. The understructure shall be made out of 18 mm thick Pre-Laminated Particle Board. The storage is having openable shutter with locking arrangement.The storage is having 18mm thk. PLPB shelves.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	1.00		-	
3		Supplying and placing ergonomically designed, comfortable & aesthetically appealing Medium back chair. The seat shall be made of 12mm thick hot pressed commercial plywood upholstered with high resilience moulded polyurethane foam having density 48kg/m³ with foam net tapestry. The seat shall be upholstered with fabric tapestry 0.8mm thick and 300 GSM and the back shall be made of polypropylene net cover upholstered with breathable mesh tapestry. The backrest shall be made with contoured lumbar support and maintain the natural curvature of the spine. The chair shall be supplied with PU adjustable arm. The chair shall have synchro tilt 360 degree revolving mechanism with upright position locking. The Pedestal should have five legged injection moulded black nylon having pitch circle dia. 650 mm fitted with 5 nos. twin wheel castors which shall be made of injection moulded in 30% glass filled nylon having self lubricating property for friction free movement, confirming to ANSI/BIFMA standards . The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	4.00		-	
4		Supplying and placing sofa that shall be constructed from natural hard wood and commercial plywood having inner frame. The thickness of the wood should allow for the heavy tension webbing. The sofa shall have spring attached and also be padded separately. The frame shall be padded with high resilience polyurethane foam having density 48Kg/m³ in seat and having density 32Kg/m³ in back. There shall be cushion arm provided padded with high resilience polyurethane foam having density 32Kg/m³. The complete structure shall be fully upholstered with leatherite tapestry 0.7mm thick and 535 GSM. The understructure shall be supported by pipe frame loop leg ss 304 grade of chrome finish having size with cross-section area 40mm X 20mm. There shall be shoe provided at the bottom to avoid scratches on the floor.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.					
a		3 Seater sofa size :- 1950 (w) x 750 (d) x 800(ht)	NOS.	4.00		-	
b		2 Seater sofa size :- 1350 (w) x 750 (d) x 800(ht)	NOS.	9.00		-	
5		Supply and placing Centre table in position as per photograph.SIZE-1200 (W) X 600 (D) X 450 (HT) Table with top made of 10mm thick glass top supported on SS Studs on understructure of 18 mm thick Prelaminated Particle Board. The Table shall have another shelf at lower level, all exposed edges sealed with 2 mm thick pvc edge banding tape.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	4.00		-	
6		Supply and placing Side table in position as per photograph.SIZE-450 (W) X 450 (D) X 450 (HT) Table with top made of 10mm thick glass top supported on SS Studs on understructure of 18 mm thick Prelaminated Particle Board. The Table shall have another shelf at lower level, all exposed edges sealed with 2 mm thick pvc edge banding tape.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	11.00		-	

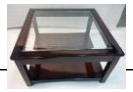
S.NO	ROOM	ITEM DESCRIPTION	UNIT	QTY	QUOTED UNIT RATE (IN Rs.)	AMOUNT (In Rs.)	REFERENCE IMAGE
7	CANTEEN AREA	Providing & Placing of Round table as per photograph.Size :- 1200 mm dia x 750 ht The Table Top shall be made out of 25mm pre laminated particle board . All exposed edges are sealed with the 2 mm thick pvc edge banding tape and all unexposed edges sealed with 0.6mm edge banding tape pressed at 200o C with hot melt glue on special machines. The understructure shall be made out of duly powder coated base legs.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	6.00		-	
8		Supplying & Placing Cafe Chair as per photograph. The seat and back shall be made of injection moulded high impact strength polypropylene polymer compound with indoor grade UV resistance shell and legs shall be made of wood. The seat shall be upholstered with high resilience polyurethane foam having density 32Kg/m³ with leatherite tapestry. Buffers shall be provided at the base to avoid the scratches on the floor. The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	24.00		-	
9	MAINTENCE & CONTROL STAFF AREA / MARKS & MIGRATION STAFF AREA / STAFF AREA / I.T. STAFF AREA / CONFIDENCIAL HALL CLASS-XII / CONFIDENCIAL HALL CLASS-X	Providing & placing Linear Workstation along with 45mm thick partition of workstation with Drawer size 400(w)x450(d)x 600 ht .Partition - 45mm thick Panel Based Partition System of 1200mm main and side spine of the workstation, having Fabric / White marker tile above table top and Lam Tile Below table top. Partitions in Main Spine (Front) .Table top & Gable end shall be made up of 25mm thick prelaminated particle board with 2mm thick pvc edge banding tape..Wiremanager Cutout hole on worktop. Pedestal are made of 18mm thick Pre-Laminated Particle Board with 2 drawer + 1Filing .The drawer are made mobile with use of castors.The Drawer units are provided with center locking arrangement. The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.					 
a		Size: 900(w) x 600(D) x 1200(Ht)mm. WITHOUT PEDESTAL	NOS.	1.00		-	
b		Size: 1200(w) x 600(D) x 1200(Ht)mm. WITHOUT PEDESTAL	NOS.	1.00		-	
c		Size: 1200(w) x 600(D) x 1200(Ht)mm. WITH PEDESTAL	NOS.	57.00		-	
d		Size: 1300(w) x 600(D) x 1200(Ht)mm. WITHOUT PEDESTAL	NOS.	1.00		-	
e		Size: 1350(w) x 600(D) x 1200(Ht)mm. WITHOUT PEDESTAL	NOS.	2.00		-	
10		Providing & placing L SHAPE as per photograph.Partition Systems:- panel based System of 45mm thick of 1200mm high factory made finely tolerance partition. The partitions framework shall have horizontal and vertical anodized Aluminum sections of 1.2 to 1.5mm thickness. Tiles : The frame work shall be cladded with 9mm thick Pre Laminated Particle board of approved colour and texture laminate at Lower Level from outside and inside.Upper level inside tiles shall be of Pin up panel of 5 mm-6mm thick soft board made of PP sheet claded with fabric / White Marker Tile of 5mm thickness is made of MDF board pasted with 0.8mm white marker laminate . Outer panel above the work surface to be fabric. Electrical & Data Slots will be provided on raceway.Worktop: Top is made up of 25mm thick Prelaminated Particle board with 2mm thick pvc edge banding tape on all exposed surface.Gable end :Gable end is made up of 25mm thick Prelaminated Particle board with 2mm thick pvc edge banding tape on all exposed surface.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.					
a		Size: 1050(w1) / 1300 (w2) x 600(D) x 1200(Ht)mm **Without Pedestal**	NOS.	1.00		-	
b		Size: 1200(w1) / 1200 (w2) x 450(D) x 1200(Ht)mm **Without Pedestal**	NOS.	15.00		-	
11		Supplying and placing ergonomically designed, comfortable & aesthetically appealing Medium back chair. The seat shall be made of 12mm thick hot pressed commercial plywood upholstered with high resilience moulded polyurethane foam having density 48kg/m³ with foam net tapestry. The seat shall be upholstered with fabric tapestry 0.8mm thick and 300 GSM and the back shall be made of polypropylene net cover upholstered with breathable mesh tapestry. The backrest shall be made with contoured lumbar support and maintain the natural curvature of the spine. The chair shall be supplied with PU adjustable arm. The chair shall have synchro tilt 360 degree revolving mechanism with upright position locking. The Pedestal should have five legged injection moulded black nylon having pitch circle dia. 650 mm fitted with 5 nos. twin wheel castors which shall be made of injection moulded in 30% glass filled nylon having self lubricating property for friction free movement, confirming to ANSI/BIFMA standards . The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	73.00		-	
12		Providing and placing Back Storage as per photograph .The Storage top shall be made out of 25 mm thick Pre-Laminated Particle Board of approved shade, design and colour, all exposed edges are sealed with 2mm thick pvc edge banding tape pressed at 200 degree C with hot melt glue on special machines. The understructure shall be made out of 18 mm thick Pre-Laminated Particle Board. The storage is having openable shutter with locking arrangement.The storage is having 18mm thk. PLPB shelves.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.					
a		Size 2000(L)x400(d)X1200(ht)	NOS.	1.00		-	
b		Size 5400(L)x400(d)X1200(ht)	NOS.	2.00		-	
c		Size 6400(L)x400(d)X1200(ht)	NOS.	1.00		-	
d		Size 10150(L)x400(d)X1200(ht)	NOS.	1.00		-	

S.NO	ROOM	ITEM DESCRIPTION	UNIT	QTY	QUOTED UNIT RATE (IN Rs.)	AMOUNT (In Rs.)	REFERENCE IMAGE
13	ASSIT.SECTION OFFICER / UNDER SECRETARY / DEPUTY SECRETARY / ASSIT. SECRETARY /JOINT. ACCOUNTANT OFFICER / SECTION OFFICER	Providing and supplying in position of Table, Pedestal with Side unit as per photograph.Table Size :-1650(L)x750(d)X750(ht), Side unit Size :- 1050(L)x400(d)X750(ht) Table having Worktop is made of 25mm thick Pre-Laminated Particle Board and having 2mm thick pvc edge lipping, Understructure is made of 18mm thick Pre-Laminated Particle Board and having 2mm thick pvc edge lipping. Storage unit is made of combination of hinged door unit and 3 Drawer unit - Storage body is made of 18mm thick pre laminated partical Board .All the exposed edges are with 2mm PVC egde Imported banding & sealed edges are with 0.8mm thick PVC Imported edge banding. The top, side and hinged shutters are sealed with 2mm thick PVC edge banding.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	18.00		-	
14		Providing and placing Back Storage as per photograph.Back storage size :- 2800(L)x400(d)X750(ht) The Storage top shall be made out of 25 mm thick Pre-Laminated Particle Board of approved shade, design and colour, all exposed edges are sealed with 2mm thick pvc edge banding tape pressed at 200 degree C with hot melt glue on special machines. The understructure shall be made out of 18 mm thick Pre-Laminated Particle Board. The storage is having openable shutter with locking arrangement.The storage is having 18mm thk. Pre-Laminated Particle Board shelves.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.					
a		size :- 2200(L)x400(d)X750(ht)	NOS.	2.00		-	
b		size :- 3250(L)x400(d)X750(ht)	NOS.	4.00		-	
c		size :- 4400(L)x400(d)X750(ht)	NOS.	1.00		-	
d		size :- 2700(L)x400(d)X750(ht)	NOS.	5.00		-	
e		size :- 2800(L)x400(d)X750(ht)	NOS.	7.00		-	
f		size :-3300(L)x400(d)X750(ht)	NOS.	1.00		-	
15		Supplying and placing ergonomically designed, comfortable & aesthetically appealing High Back chair. The seat shall be made of 12mm thick hot pressed commercial plywood upholstered with high resilience polyurethane foam.The seat shall be upholstered with fabric tapestry and the back shall be made of polypropylene net cover with breathable mesh tapestry. The backrest shall be made by keeping contoured lumbar support which helps to provide full back support and maintain the natural curvature of the spine. The chair shall be supplied with PU adjustable arms. The chair shall have synchro tilt 360 degree revolving mechanism with upright position locking. The Pedestal shall be made up of injection moulded black nylon having pitch circle Dia 650 mm fitted with 5 nos. twin wheel castors which shall be made of injection moulded black nylon 30% glass filled having self lubricating property for friction free movement, confirming to ANSI/BIFMA standards. The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	18.00		-	
16		Supplying and placing ergonomically designed, comfortable & aesthetically appealing visitor chair. The seat shall be made of 12mm thick hot pressed commercial plywood upholstered with high resilience polyurethane foam.The seat shall be upholstered with fabric tapestry and the back shall be made of polypropylene net cover with breathable mesh tapestry. The backrest shall be made by keeping contoured lumbar support which helps to provide full back support and maintain the natural curvature of the spine. The chair shall be supplied with PU adjustable arms. The chair shall have synchro tilt 360 degree revolving mechanism with upright position locking.The Pedestal shall be made up of injection moulded black nylon having pitch circle Dia 650 mm fitted with 5 nos. twin wheel castors which shall be made of injection moulded black nylon 30% glass filled having self lubricating property for friction free movement, confirming to ANSI/BIFMA standards. The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	36.00		-	
17		Providing and Placing a 2 SEATER sofa of that shall be constructed from natural hard wood and commercial plywood having inner frame.2 Seater Size - 1350X 750X 750HT)(-+10)The thickness of the wood should allow for the heavy tension webbing. The sofa shall have spring attached and also be padded separately. The frame shall be padded with high resilience polyurethane foam having density 48Kg/m³ in seat and having density 32Kg/m³ in back. There shall be cushion arm provided padded with high resilience polyurethane foam density 32Kg/m³. The complete structure shall be fully upholstered with leatherite tapestry 0.7 mm thick and 535 GSM. The understructure shall be supported by pipe frame of SS shiny chrome finish and leg of height 100mm. There shall be shoe provided at the bottom to avoid scratches on the floor. The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	10.00		-	
18		Supply and placing Centre table in position as per photograph.SIZE-1200 (W) X 600 (D) X 450 (HT) Table with top made of 10mm thick glass top supported on SS Studs on understructure of 18 mm thick Prelaminated Particle Board. The Table shall have another shelf at lower level, all exposed edges sealed with 2 mm thick pvc edge banding tape.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	5.00		-	

S.NO	ROOM	ITEM DESCRIPTION	UNIT	QTY	QUOTED UNIT RATE (IN Rs.)	AMOUNT (In Rs.)	REFERENCE IMAGE
19		Supply and placing Side table in position as per photograph.SIZE-450 (W) X 450 (D) X 450 (HT) Table with top made of 10mm thick glass top supported on SS Studs on understructure of 18 mm thick Prelaminated Particle Board. The Table shall have another shelf at lower level, all exposed edges sealed with 2 mm thick pvc edge banding tape.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	13.00		-	
20		Providing and supplying in position of Table, Pedestal with Side unit as per photograph.Table Size :-1950(L)x750(d)X750(ht), Side unit Size :- 1750(L)(1000+750)x400(d)X650(ht) Table having Worktop is made of 25mm thick Pre-Laminated Particle Board and having 2mm thick pvc edge lipping, Understructure is made of 18mm thick Pre-Laminated Particle Board and having 2mm thick pvc edge lipping. Storage unit is made of combination of hinged door unit and 3 Drawer unit - Storage body is made of 18mm thick pre laminated partical Board .All the exposed edges are with 2mm PVC egde Imported banding & sealed edges are with 0.8mm thick PVC Imported edge banding. The top, side and hinged shutters are sealed with 2mm thick PVC edge banding.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	4.00		-	
21		Providing and placing Back Storage as per photograph.The Storage top shall be made out of 25 mm thick Pre-Laminated Particle Board of approved shade, design and colour, all exposed edges are sealed with 2mm thick pvc edge banding tape pressed at 200 degree C with hot melt glue on special machines. The understructure shall be made out of 18 mm thick Pre-Laminated Particle Board. The storage is having openable shutter with locking arrangement.The storage is having 18mm thk. Pre-Laminated Particle Board shelves.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.					
a		Size :- 1950(L)x400(d)X750(ht)	NOS.	2.00		-	
b		Size :- 5200(L)x400(d)X750(ht)	NOS.	2.00		-	
22		Providing and supplying a High back chair with ergonomic design, comfortable & aesthetically appealing. The seat shall be made of 12mm thick hot pressed commercial plywood padded with high resilience moulded polyurethane foam having density 48kg/m³ in seat and having density 32Kg/m³ in back. The same shall be upholstered with fabric tapestry 0.8mm thick and 300 GSM. The back and base of chair shall be supplied with polypropylene/ABS moulded cover and the backrest shall be made by keeping the natural curvature of the spine which helps to provide back support. The chair shall be supplied with PU fixed ring type arm joint with seat. For seating durability the chair shall have Centre tilt 360 degree revolving mechanism with upright position locking and tilt tension adjustment with the assistance of HR steel spine (Powder coated).The Pedestal should have five legged injection moulded black nylon in 30% glass filled having pitch circle dia. 650 mm fitted with 5 nos. 50mm twin wheel castors. The castors of the chair should be injection moulded in black 30% glass filled nylon having self-lubricating property for friction free movement, confirming to ANSI/BIFMA standards.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	4.00		-	
23	SECTION OFFICER / PA/WAITING / LIBRARY	Providing and supplying a medium back chair with ergonomic design, comfortable & aesthetically appealing. The seat shall be made of 12mm thick hot pressed commercial plywood padded with high resilience moulded polyurethane foam having density 48kg/m³ in seat and having density 32Kg/m³ in back. The same shall be upholstered with fabric tapestry 0.8mm thick and 300 GSM. The back and base of chair shall be supplied with polypropylene/ABS moulded cover and the backrest shall be made by keeping the natural curvature of the spine which helps to provide back support. The chair shall be supplied with PU fixed ring type arm joint with seat. For seating durability the chair shall have Centre tilt 360 degree revolving mechanism with upright position locking and tilt tension adjustment with the assistance of HR steel spine (Powder coated).The Pedestal should have five legged injection moulded black nylon in 30% glass filled having pitch circle dia. 650 mm fitted with 5 nos. 50mm twin wheel castors. The castors of the chair should be injection moulded in black 30% glass filled nylon having self-lubricating property for friction free movement, confirming to ANSI/BIFMA standards.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	12.00		-	
24		Providing & Placing a 2 Seater sofa that shall be constructed from wood and commercial plywood having inner frame. Two seater of size :- 1350 (w) x 750 (d) x 800(ht) The thickness of the wood should allow for the heavy tension webbing. The sofa shall have spring attached and also be padded separately. The frame shall be padded with high resilience polyurethane foam having density 48Kg/m³ in seat and having density 32Kg/m³ in back. There shall be cushion arm provided padded with high resilience polyurethane foam density 32Kg/m³. The structure shall be upholstered with fabric tapestry 0.7 mm thick and 535 GSM. The sofa shall be supported on Wooden leg .There shall be shoe provided at the bottom to avoid scratches on the floor. The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	5.00		-	

S.NO	ROOM	ITEM DESCRIPTION	UNIT	QTY	QUOTED UNIT RATE (IN Rs.)	AMOUNT (In Rs.)	REFERENCE IMAGE
25		Providing and Placing a L shape seater sofa that shall be constructed from natural hard wood and commercial plywood having inner frame. size :- 2400 (w) x 1800 (d) x 800(ht)The thickness of the wood should allow for the heavy tension webbing. The sofa shall have spring attached and also be padded separately. The frame shall be padded with high resilience polyurethane foam having density 48Kg/m³ in seat and having density 32Kg/m³ in back. There shall be cushion arm provided padded with high resilience polyurethane foam density 32Kg/m³. The complete structure shall be fully upholstered with fabric. The understructure shall be supported by Woodenl leg of height 100mm. There shall be shoe provided at the bottom to avoid scratches on the floor.The top, side and hinged shutters are sealed with 2mm thick PVC edge banding. The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	4.00		-	
26		Supply and placing Centre table in position as per photograph.SIZE-1200 (W) X 600 (D) X 450 (HT) Table with top made of 10mm thick glass top supported on SS Studs on understructure of 18 mm thick Prelaminated Particle Board. The Table shall have another shelf at lower level, all exposed edges sealed with 2 mm thick pvc edge banding tape.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	8.00		-	
27		Supply and placing Side table in position as per photograph.SIZE-450 (W) X 450 (D) X 450 (HT) Table with top made of 10mm thick glass top supported on SS Studs on understructure of 18 mm thick Prelaminated Particle Board. The Table shall have another shelf at lower level, all exposed edges sealed with 2 mm thick pvc edge banding tape.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	7.00		-	
28	TRAINING HALL	Providing and supplying student/training room Chair with ergonomic design for user comfort. The seat and back shall be made of 12mm thick hot pressed commercial plywood padded with high resilience moulded polyurethane foam having density 32kg/m3 in seat and back. The seat shall be upholstered with fabric tapestry 0.8mm thick and 300 GSM. The Back of the chair shall be made of PP perforated shell. The armrest shall be used black integral polyurethane arm completely joint with metal frame on one side and on other side the chair shall be supplied with folding writing pad made of PP . The frame structure shall be four legged support type made up of MS chrome finish leg round pipe of dia. 25.4mm with 1.6mm thick. There shall be PPCP shoe provided at the base to avoid scratches on the floor. The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	142.00		-	
29	CONFERENCE	Providing & Placing of CONFERENCE Table as per photograph. Size :-8700mm (w1) x 5550(w2) x 600(d) x 750(HT) Table Top shall be made out of 25 mm thick particle board (Interior grade) of approved shade, design and colour.All exposed edges sealed with the 2 mm thick pvc edge banding tape. The Metal Flipper is fixed on worktop of size 400 x 120mm without switch & socket with metal cable tray below table top for Electrical points with metal wire riser for carrying wires.Understructure is made of 25mm thick Prelaminated particle board (Interior grade) panels interconnected with 18mm thick Prelaminated particle board (Interior grade) modesty panels with metal strip on all side, with levelers to take care of uneven floors.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	1.00		-	
30		Supplying and placing ergonomically designed, comfortable & aesthetically appealing Medium back chair. The Seat and Back of the chair is upholstered with Leatherite.The seat shall be made of 15mm thick hot pressed commercial plywood upholstered with high resilience moulded polyurethane foam 40 mm thick density 32kg/m³ with leatherite tapestry. The chair shall have deep cushioned in seat comfort to body contours for proper alignment, posture and all day comfort. The chair is featured with Torison bar Mechanism and Chrome Base. and Chrome Base. The prong (base) is made of Chrome.The chair has chrome finish arms and they has attached with the seat and back. The chair is featured with Gas lift mechanism for Seat height adjustment.The Pedestal shall be made up of MS CRCA chrome plated having pitch circle Dia 650 mm fitted with 5 nos. 50mm twin wheel castors which shall be made of injection moulded black nylon 30% glass filled having self-lubricating property for friction free movement, confirming to ANSI/BIFMA standards.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	31.00		-	
31		Providing and supplying in position of Table, Pedestal with Side unit as per photograph.Table Size :-1800(L)x700(d)X750(ht), Side unit Size :-1200(L)x 400(d)X750(ht) Table having Worktop is made of 25mm thick Pre-Laminated Particle Board and having 2mm thick pvc edge lipping, Understructure is made of 18mm thick Pre-Laminated Particle Board and having 2mm thick pvc edge lipping. Storage unit is made of combination of hinged door unit and 3 Drawer unit - Storage body is made of 18mm thick pre laminated partical Board .All the exposed edges are with 2mm PVC egde Imported banding & sealed edges are with 0.8mm thick PVC Imported edge banding. The top, side and hinged shutters are sealed with 2mm thick PVC edge banding.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	1.00		-	

S.NO	ROOM	ITEM DESCRIPTION	UNIT	QTY	QUOTED UNIT RATE (IN Rs.)	AMOUNT (In Rs.)	REFERENCE IMAGE
32		Providing & Placing Single Sided Book Rack of overall size 925(w) x 300(d) x 2100(ht)mmThe Rack shall have five fixed shelf with 1 bottom shelf makes six storage levels. Racks. All metal part (shelves, back support etc) shall be made of CRCA 0.8mm thickness high yield strength CRCA sheet of grade 'D' confirming to IS: 513. Side panels Shall be made of 25mm thick pre laminated particle board with decorative laminate on both sides, edges duly sealed with PVC edge banding tape. The skirting and top panel shall be made of metal/Pre-laminated board. Stackbility shall have add -on units width wise to form a bank of racks having common side panel . Label holder on each main unit to insert labels for identification. Finish shall be Epoxy polyester powder coated to the thickness of 40-50 microns after 7 tank pre-treatment process flow for metal parts.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	42.00		-	
33	LIBRARY	Providing & Placing Table with Mobile drawer as per photograph.Table Size: 900(w) x 600(D) x 750(Ht)mm. The Table Top shall be made out of 25 mm thick Pre-Laminated Particle Board of approved shade, design and colour.The Gable end shall be made out of 25 mm thick Pre laminated particle board of approved shade, design and colour. The modesty panel of the table shall be 600mm height made of 18mm thick Pre laminated particle board. Pedestal are made of 18mm thick Pre-Laminated Particle Board with 2 drawer + 1Filing .The drawer are made mobile with use of castors.The Drawer units are provided with center locking arrangement.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	18.00		-	
34		Providing and supplying reading Chair with ergonomic design for user comfort. The seat and back shall be made of 12mm thick hot pressed commercial plywood padded with high resilience moulded polyurethane foam having density 32kg/m3 in seat and back. The seat and back shall be upholstered with leatherite tapestry 0.8mm thick and 300 GSM. The frame structure shall be four legged support type made up of MS chrome finish leg round pipe of dia. 25.4mm with 1.6mm thick. There shall be PPCP shoe provided at the base to avoid scratches on the floor.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	18.00		-	
35		Supplying and placing ergonomically designed, comfortable & aesthetically appealing visitor chair. The seat shall be made of 12mm thick hot pressed commercial plywood upholstered with high resilience polyurethane foam.The seat shall be upholstered with fabric tapestry and the back shall be made of polypropylene net cover with breathable mesh tapestry. The backrest shall be made by keeping contoured lumbar support which helps to provide full back support and maintain the natural curvature of the spine. The chair shall be supplied with PU adjustable arms. The chair shall have synchro tilt 360 degree revolving mechanism with upright position locking. The Pedestal shall be made up of injection moulded black nylon having pitch circle Dia 650 mm fitted with 5 nos. twin wheel castors which shall be made of injection moulded black nylon 30% glass filled having self lubricating property for friction free movement, confirming to ANSI/BIFMA standards. The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	1.00		-	
36	ANSWER BOOK STORAGE HALL FOR CLASS - X & XII	Providing and placing in position of Office Steel Almirah without locker of size 910(w) x 480(d) x 1980(ht)mm. Almirah carcass made of 0.8mm thikness high yield strength CRCA steel sheet of grade 'D' confirming to IS: 513. Almirah shall have 4 shelves making 5 compartments. Almirah is having door made of 1mm thick high yield strength CRCA steel sheet of grade 'D' confirming to IS: 513 with locking arrangement. Almirah shelves shall be made of CRCA steel sheet of 1mm thickness with stiffners below the shelfs for good Strength & support.The Almirah is having Mazak Handle with hidden rod & lock. The Almirah shall have metal legs. Almirah shall be powder coated of approved colour and shade with 40-50 microns with 7 tank pre-treatment process.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	180.00		-	
		Supplying and Fixing of Executive Table as per photograph. Size of the Over all Table size 2600 mm x 1050 mm x 750 mm. Side Storage Overall Size:- 2400(w)x600(d)x650(ht).Size:- 2800(w) x 450(d) x 1800(ht).Table Work Surface Made of 43 mm thick Pre laminated Partical board. Modesty Panel shall be made of 18 mm thick Pre lam Partical board. Gable end shall be made of 43 mm Thick pre Lam on Partical board.All exposed edges are sealed with 2mm thick pvc edge banding tape pressed at 200 degree C with hot melt glue on special machines. Table top shall be support on the one side with gable end and other side rest on the side unit.The Side Storage top shall be made out of 25 mm thick Pre lam Partical board of approved shade, design and colour and understructure shall be made out of 18 mm thick Pre Lam Partical board of approved shade, design and colour.The storage is having 18mm thk.Pre lam Partical					 

S.NO	ROOM	ITEM DESCRIPTION	UNIT	QTY	QUOTED UNIT RATE (IN Rs.)	AMOUNT (In Rs.)	REFERENCE IMAGE
37		board shelves & Openable shutter with locking arrangement, all exposed edges are sealed with 2mm thick pvc edge banding tape pressed at 200 degree C with hot melt glue on special machines. Pedestal are made of 18mm thick Pre Lam Partical board with 2 drawer + 1Filing .The drawer are made mobile with use of castors.The Drawer units are provided with center locking arrangement.The Drawer units are provided with center locking arrangement, all exposed edges are sealed with 2mm thick pvc edge banding tape pressed at 200 degree C with hot melt glue on special machines.Table have metal flipper without switch & socket along with the cable tray duly powder coated below the table top for electrical wires. Hardware make ebco or equivalent. Back Storage with top is made up of 25mm thick plpb with 2mm thick Pvc edge banding tape. Storage carcass & shutter is 18mm thick plpb having openable shutter with locking arrangement & 18mm thk. pre laminated particle board shelves. The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	2.00		-	
38		Providing and placing Storage as per photograph.Back storage size :- 2600(L)x400(d)X750(ht) The Storage top shall be made out of 25 mm thick Pre-Laminated Particle Board of approved shade, design and colour, all exposed edges are sealed with 2mm thick pvc edge banding tape pressed at 200 degree C with hot melt glue on special machines. The understructure shall be made out of 18 mm thick Pre-Laminated Particle Board. The storage is having openable shutter with locking arrangement.The storage is having 18mm thk. PLPB shelves.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	2.00		-	
39		Providing and placing Storage as per photograph.Back storage size :- 2300(L)x600(d)X1200(ht) The Storage top shall be made out of 25 mm thick Pre-Laminated Particle Board of approved shade, design and colour, all exposed edges are sealed with 2mm thick pvc edge banding tape pressed at 200 degree C with hot melt glue on special machines. The understructure shall be made out of 18 mm thick Pre-Laminated Particle Board. The storage is having openable shutter with locking arrangement.The storage is having 18mm thk. PLPB shelves.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	2.00		-	
40	C.O.E ROOM / RO ROOM	Supplying and placing Single Seater Sofa that shall be constructed from natural hard wood and commercial plywood having inner frame. Single seater sofa of size :- 800 (w) x 750 (d) x 800(ht)The thickness of the wood should allow for the heavy tension webbing. The sofa shall have spring attached and also be padded separately. The frame shall be padded with high resilience polyurethane foam having density 48Kg/m³ in seat and having density 32Kg/m³ in back. There shall be cushion arm provided padded with high resilience polyurethane foam having density 32Kg/m³. The complete structure shall be upholstered with leatherite tapestry 0.7mm thick and 535 GSM.The understructure shall have SS leg with shiny chrome finish.There shall be shoe provided at the bottom to avoid scratches on the floor.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	6.00		-	
41		Providing and Placing a L shape seater sofa that shall be constructed from natural hard wood and commercial plywood having inner frame. size :- 2400 (w) x 1800 (d) x 800(ht)The thickness of the wood should allow for the heavy tension webbing. The sofa shall have spring attached and also be padded separately. The frame shall be padded with high resilience polyurethane foam having density 48Kg/m³ in seat and having density 32Kg/m³ in back. There shall be cushion arm provided padded with high resilience polyurethane foam density 32Kg/m³. The complete structure shall be fully upholstered with fabric. The understructure shall be supported by Woodenl leg of height 100mm. There shall be shoe provided at the bottom to avoid scratches on the floor.The top, side and hinged shutters are sealed with 2mm thick PVC edge banding. The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	2.00		-	 
42		Supplying and Placing Side table for as per photograph. Size 600(W) x 600 (d) x 425(ht.)mm.The Table Top shall be made out of Wooden Frame with glass top.Understructure in wooden with polish.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	4.00		-	
43		Supplying and Placing Centre table for as per photograph. Size 1200(W) x 600 (d) x 425(ht.)mm.The Table Top shall be made out of Wooden Frame with glass top.Understructure in wooden with polish.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	3.00		-	

S.NO	ROOM	ITEM DESCRIPTION	UNIT	QTY	QUOTED UNIT RATE (IN Rs.)	AMOUNT (In Rs.)	REFERENCE IMAGE
44		Providing and supplying a High back chair with ergonomic design, comfortable & aesthetically appealing. The seat shall be made of 15mm thick hot pressed commercial plywood padded with high resilience polyurethane foam having density 48kg/m³ and the back shall be made of moulded plywood padded with high resilience polyurethane foam having density 32kg/m³. The seat and back shall be upholstered with leatherite tapestry 0.7mm thick and 535 GSM. The backrest shall be made by keeping the natural curvature of the spine which helps to provide full back support as well. For seating durability the chair shall have Torsion Bar 360 degree revolving mechanism and tilt tension adjustment which provides back strength for the chair.The Pedestal should have five legged made of Chrome Base having pitch circle dia. 700 mm fitted with 5 nos. twin wheel castors. The castors of the chair should be injection moulded in black 30% glass filled nylon having self lubricating property for friction free movement , confirming to ANSI/BIFMA standards. The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	2.00		-	
45		Providing and supplying a Mid back chair with ergonomic design, comfortable & aesthetically appealing. The seat shall be made of 15mm thick hot pressed commercial plywood padded with high resilience polyurethane foam having density 48kg/m³ and the back shall be made of moulded plywood padded with high resilience polyurethane foam having density 32kg/m³. The seat and back shall be upholstered with leatherite tapestry 0.7mm thick and 535 GSM. The backrest shall be made by keeping the natural curvature of the spine which helps to provide full back support as well. For seating durability the chair shall have Torsion Bar 360 degree revolving mechanism and tilt tension adjustment which provides back strength for the chair.The Pedestal should have five legged made of Chrome Base having pitch circle dia. 700 mm fitted with 5 nos. twin wheel castors. The castors of the chair should be injection moulded in black 30% glass filled nylon having self lubricating property for friction free movement , confirming to ANSI/BIFMA standards. The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	6.00		-	
46		Providing & Placing of Double Bed as per photograph with box made of best quality Pre Laminated Partical Board for structure and plywood is used in bed seat as per the design. Overall size 1800x1800mm. Bed Height 400mm. Inner Frame 50 x 25mm with cross members at min. distance of 600mm centre to centre. Bed seat is made up of 12mm BWP plywood lipping on all edges. complete with all necesssary hardawre **(WITHOUT MATTERSS)** of approved make.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification..	NOS.	2.00		-	
47		Supplying and placing in position of bed side storage of size :- (L)450mm X (D)450mm X (H)450mm as per photograph. The Nightstand is a stylish unit that complements the bed. The unit comes in a single finish that matches the bed frame, drawer shall be with handles. The overal side unit shall be made with an engineer wood of Partical Board..The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	4.00		-	

S.NO	ROOM	ITEM DESCRIPTION	UNIT	QTY	QUOTED UNIT RATE (IN Rs.)	AMOUNT (In Rs.)	REFERENCE IMAGE
48	BED ROOM / RO ROOM	Providing & Placing in position T.V Unit of standard size :-1350(L) x 400(D) x 600 (ht)mm. The T.V Unit top shall be made out of 18 mm thick Pre-Laminated partical Board of approved shade, design and colour The unit have bottom & shelf made out of 18 mm thick Pre-Laminated partical of approved shade, design and colour. All exposed edges are sealed with 2mm thick pvc edge banding tape pressed at 200 degree C with hot melt glue on special machines. The understructure shall be made out of 18 mm thick Pre-Laminated partical with combination with 18 mm thick Pre-Laminated partical.The T.V Unit is having drawer made of 18 mm thick Pre-Laminated partical run on the channel. The drawer size is 600x400x150. The unit on th levellers .The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification..	NOS.	2.00		-	
49		Providing & Placing Wardrobe as per photograph.Size:-900(L)x600mm (D)X 1950mm(H)Wardrobe Top ,Carcass & shutter, shelf made of 18mm thick pralamianted partical board . All exposed edges sealedwith 2mm thick PVC edge band of matching colour of Reahu make . Back Panel made up of 9mm thick prelaminated partical board. drawers with telescopic slides and lock.In the bottom of the wardrobe provision for the shoe .The Wardrobe Provision of Hanger Rod , shutter with spring loaded latch and lock. All hardware ate of Ebco make. In the Wardrobe Drawer for shoe in the bottom .The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification..	NOS.	4.00		-	
50		Supplying and placing a Single seater sofa that shall be constructed from natural hard wood and commercial plywood having inner frame. The thickness of the wood should allow for the heavy tension webbing. The sofa shall have spring attached and also be padded separately. The frame shall be padded with high resilience polyurethane foam having density 48Kg/m³ in seat and having density 32Kg/m³ in back. There shall be cushion arm provided padded with high resilience polyurethane foam 30mm thick having density 32Kg/m³. The complete structure shall be upholstered with leatherite tapestry 0.7 mm thick and 535 GSM. The understructure shall be supported by cantilivered type frame leg of SS shiny chrome finish. There shall be shoe provided at the bottom to avoid scratches on the floor. The manufacturer shall have basic quality and safety certifications like ISO-9001:2015, ISO-14001: 2015, ISO-18001:2007, BIFMA Certification.	NOS.	4.00		-	 
51		Providing & Supplying SideTable as per photograph. Size:450(dia) x 425 made out of wood finished with melamine polish complete as per drawing.Table have a small buffer to avoiding the scracing on the floor.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	2.00		-	
52	DRAWING ROOM	Providing and Placing a L shape seater sofa that shall be constructed from natural hard wood and commercial plywood having inner frame. size :- 2400 (w) x 1800 (d) x 800(ht)The thickness of the wood should allow for the heavy tension webbing. The sofa shall have spring attached and also be padded separately. The frame shall be padded with high resilience polyurethane foam having density 48Kg/m³ in seat and having density 32Kg/m³ in back. There shall be cushion arm provided padded with high resilience polyurethane foam density 32Kg/m³. The complete structure shall be fully upholstered with fabric. The understructure shall be supported by Woodenl leg of height 100mm. There shall be shoe provided at the bottom to avoid scratches on the floor.The top, side and hinged shutters are sealed with 2mm thick PVC edge banding. The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	2.00		-	
53		Supplying and Placing a sofa that shall be constructed from wood and commercial plywood having inner frame. The thickness of the wood should allow for the heavy tension webbing. The sofa shall have spring attached and also be padded separately. The frame shall be padded with high resilience polyurethane foam having density 48Kg/m³ in seat and having density 32Kg/m³ in back. There shall be cushion arm provided padded with high resilience polyurethane foam density 32Kg/m³. The structure shall be upholstered with leatherite tapestry 0.7 mm thick and 535 GSM. The sofa shall be supported on Wooden leg .There shall be shoe provided at the bottom to avoid scratches on the floor.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.					
a		Single Seater Size :- 750 (w) x 750 (d) x 800(ht)	NOS.	2.00		-	
b		2 Seater sofa size :- 1350 (w) x 750 (d) x 800(ht)	NOS.	2.00		-	
54		Providing & Supplying CentreTable as per photograph.Side Table Size:1200 x 600 x 425 made out of wood finished with melamine polish complete as per drawing.Table have a small buffer to avoiding the scracing on the floor.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	4.00		-	
55		Providing & Supplying SideTable as per photograph.Side Table Size:450x450x 425 made out of wood finished with melamine polish complete as per drawing.Table have a small buffer to avoiding the scracing on the floor.The product should be from the manufacturer which have ISO 9001:2015 (QMS), ISO 14001:2015 (EMS), ISO 45001:2018 (OHSMS) form IAF accredited firm, ISO 50001:2018 (EMS), BIFMA Compliance Certification, GREENGUARD Compliance/ FSC, & IGBC Certification.	NOS.	4.00		-	
					TOTAL	-	